

20080423_F_59071_PCT_sequence_listing.txt
SEQUENCE LISTING

<110> BASF SE

<120> Plant Productivity Enhancement by Combining Chemical Agents with Transgenic Modifications

<130> PF59071

<160> 277

<170> PatentIn version 3.4

<210> 1

<211> 141

<212> PRT

<213> Physcomitrella patens

<400> 1

Met Arg Leu Ala Ala Lys Asp Thr Ser Gly Arg Asn Ala Phe Lys Phe
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Arg Asn Ile Asp Leu Asn Lys Ala Pro Ser Ala Trp Asp Thr Glu Glu
20 25 30

Val Ser Ala Ser Asn Thr Gly Asp Thr Thr Ser Phe Arg Gly Val Arg
35 40 45

His Arg Pro Glu Leu Asn Lys Trp Val Thr Glu Ile Arg Pro Thr Ser
50 55 60

Gln Lys Arg Lys Ile Trp Leu Gly Thr Tyr Glu Thr Pro Glu Glu Ala
65 70 75 80

Ala Arg Ala Tyr Asp Val Gly Ile Phe Tyr Thr Lys Lys Lys Ile Pro
85 90 95

Tyr Asn Phe Glu Asp Ser Pro Gln Gln Leu Gln Leu Tyr Pro Ile Pro
100 105 110

Pro Glu Leu Pro Trp Glu Ser Phe Ala Ala Leu Val Lys Gln Arg Ala
115 120 125

Thr Ser Ala Ala Lys Arg Ala Arg Val Pro Ser Ser Ser
130 135 140

<210> 2

<211> 401

<212> PRT

<213> Arabidopsis thaliana

<400> 2

Met Arg Gly Arg Ser Leu Thr Leu Ser Arg Val Lys Leu Glu Leu Ala
1 5 10 15

Arg Arg Ser Met Ser Ala Thr Ser Val Pro Ser Met Ala Asp Phe Leu
20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Thr Lys Lys Pro Tyr Ser Pro Pro Ser Trp Ala Ser His Leu Arg Pro
35 40 45

Leu Pro Ser His Thr Phe Ser Leu Ala His Leu Pro Thr Pro Ile His
50 55 60

Arg Trp Asn Leu Pro Gly Leu Pro Asn Gly Thr Glu Leu Trp Ile Lys
65 70 75 80

Arg Asp Asp Phe Thr Gly Met Glu Leu Ser Gly Asn Lys Val Arg Lys
85 90 95

Leu Glu Phe Leu Met Ala Glu Ala Val Asp Gln His Ala Asp Thr Val
100 105 110

Ile Thr Ile Gly Gly Ile Gln Ser Asn His Cys Arg Ala Thr Ala Thr
115 120 125

Ala Ser Asn Tyr Leu Asn Leu Asn Ser His Leu Ile Leu Arg Thr Ser
130 135 140

Lys Leu Leu Ala Asp Glu Asp Pro Gly Leu Val Gly Asn Leu Leu Val
145 150 155 160

Glu Arg Leu Val Gly Ala Asn Val His Leu Ile Ser Lys Glu Glu Tyr
165 170 175

Ser Ser Ile Gly Ser Glu Ala Leu Thr Asn Ala Leu Lys Glu Lys Leu
180 185 190

Glu Lys Glu Gly Lys Lys Pro Tyr Val Ile Pro Val Gly Gly Ser Asn
195 200 205

Ser Leu Gly Thr Trp Gly Tyr Ile Glu Ala Ala Arg Glu Ile Glu Glu
210 215 220

Gln Leu Asn Tyr Arg Pro Asp Asp Leu Lys Phe Asp Asp Ile Val Val
225 230 235 240

Ala Cys Gly Ser Gly Gly Thr Ile Ala Gly Ile Ser Leu Gly Ser Trp
245 250 255

Leu Gly Ala Leu Lys Ala Lys Val His Ala Phe Ser Val Cys Asp Asp
260 265 270

Pro Asp Tyr Phe Tyr Asp Phe Val Gln Gly Leu Leu Asp Gly Leu His
275 280 285

Ala Gly Val Asn Ser Arg Asp Ile Val Asn Ile His Asn Ala Lys Gly
290 295 300

20080423_F_59071_PCT_sequence_listing.txt

Lys Gly Tyr Ala Met Asn Thr Ser Glu Glu Leu Glu Phe Val Lys Lys
305 310 315 320

Val Ala Ser Ser Thr Gly Val Ile Leu Asp Pro Val Tyr Ser Gly Lys
325 330 335

Ala Ala Tyr Gly Leu Ile Asn Glu Ile Thr Lys Asp Pro Lys Cys Trp
340 345 350

Glu Gly Arg Lys Ile Leu Phe Ile His Thr Gly Gly Leu Leu Gly Leu
355 360 365

Tyr Asp Lys Val Asp Gln Met Ala Ser Leu Met Gly Asn Trp Ser Arg
370 375 380

Met Asp Val Ser Glu Ser Val Pro Arg Lys Asp Gly Val Gly Lys Met
385 390 395 400

Phe

<210> 3
<211> 424
<212> PRT
<213> Arabidopsis thaliana

<400> 3

Met Ala Ile Pro Phe Met Glu Thr Val Val Gly Phe Met Ile Val Met
1 5 10 15

Tyr Ile Phe Glu Thr Tyr Leu Asp Leu Arg Gln Leu Thr Ala Leu Lys
20 25 30

Leu Pro Thr Leu Pro Lys Thr Leu Val Gly Val Ile Ser Gln Glu Lys
35 40 45

Phe Glu Lys Ser Arg Ala Tyr Ser Leu Asp Lys Ser Tyr Phe His Phe
50 55 60

Val His Glu Phe Val Thr Ile Leu Met Asp Ser Ala Ile Leu Phe Phe
65 70 75 80

Gly Ile Leu Pro Trp Phe Trp Lys Met Ser Gly Ala Val Leu Pro Arg
85 90 95

Leu Gly Leu Asp Pro Glu Asn Glu Ile Leu His Thr Leu Ser Phe Leu
100 105 110

Ala Gly Val Met Thr Trp Ser Gln Ile Thr Asp Leu Pro Phe Ser Leu
115 120 125

Tyr Ser Thr Phe Val Ile Glu Ser Arg His Gly Phe Asn Lys Gln Thr
Seite 3

20080423_F_59071_PCT_sequence_listing.txt

130

135

140

Ile Trp Met Phe Ile Arg Asp Met Ile Lys Gly Thr Phe Leu Ser Val
 145 150 155 160

Ile Leu Gly Pro Pro Ile Val Ala Ala Ile Ile Phe Ile Val Gln Lys
 165 170 175

Gly Gly Pro Tyr Leu Ala Ile Tyr Leu Trp Ala Phe Met Phe Ile Leu
 180 185 190

Ser Leu Val Met Met Thr Ile Tyr Pro Val Leu Ile Ala Pro Leu Phe
 195 200 205

Asn Lys Phe Thr Pro Leu Pro Asp Gly Asp Leu Arg Glu Lys Ile Glu
 210 215 220

Lys Leu Ala Ser Ser Leu Lys Phe Pro Leu Lys Lys Leu Phe Val Val
 225 230 235 240

Asp Gly Ser Thr Arg Ser Ser His Ser Asn Ala Tyr Met Tyr Gly Phe
 245 250 255

Phe Lys Asn Lys Arg Ile Val Leu Tyr Asp Thr Leu Ile Gln Gln Cys
 260 265 270

Lys Asn Glu Asp Glu Ile Val Ala Val Ile Ala His Glu Leu Gly His
 275 280 285

Trp Lys Leu Asn His Thr Thr Tyr Ser Phe Ile Ala Val Gln Ile Leu
 290 295 300

Ala Phe Leu Gln Phe Gly Gly Tyr Thr Leu Val Arg Asn Ser Thr Asp
 305 310 315 320

Leu Phe Arg Ser Phe Gly Phe Asp Thr Gln Pro Val Leu Ile Gly Leu
 325 330 335

Ile Ile Phe Gln His Thr Val Ile Pro Leu Gln His Pro Val Ser Phe
 340 345 350

Gly Leu Asn Leu Val Ser Arg Ala Phe Glu Phe Gln Ala Asp Ala Phe
 355 360 365

Ala Val Lys Leu Gly Tyr Ala Lys Asp Leu Arg Pro Thr Leu Val Lys
 370 375 380

Leu Gln Glu Glu Asn Leu Ser Ala Met Asn Thr Asp Pro Leu Tyr Ser
 385 390 395 400

Ala Tyr His Tyr Ser His Pro Pro Leu Val Glu Arg Leu Arg Ala Ile
 405 410 415

20080423_F_59071_PCT_sequence_listing.txt

Asp Gly Glu Asp Lys Lys Thr Asp
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<210> 4
<211> 303
<212> PRT
<213> Physcomitrella patens

<400> 4

Met Asp Leu Asp Gln Trp Leu Glu Lys Val Lys Ser Gly Asn Tyr Leu
1 5 10 15

Leu Glu Asp Glu Leu Lys Gln Leu Cys Glu Tyr Val Lys Glu Ile Leu
20 25 30

Val Glu Glu Ser Asn Val Gln Pro Val Asn Ser Pro Val Thr Val Cys
35 40 45

Gly Asp Ile His Gly Gln Phe His Asp Leu Met Lys Leu Phe Gln Thr
50 55 60

Gly Gly His Val Pro Ser Thr Asn Tyr Ile Phe Met Gly Asp Phe Val
65 70 75 80

Asp Arg Gly Tyr Asn Ser Leu Glu Val Phe Thr Ile Leu Leu Leu Leu
85 90 95

Lys Ala Arg Tyr Pro Ala His Met Thr Leu Leu Arg Gly Asn His Glu
100 105 110

Ser Arg Gln Ile Thr Gln Val Tyr Gly Phe Tyr Asp Glu Cys Gln Arg
115 120 125

Lys Tyr Gly Asn Pro Asn Ala Trp Arg Tyr Cys Thr Asp Val Phe Asp
130 135 140

Tyr Leu Thr Leu Ser Ala Ile Ile Asp Gly Arg Val Leu Cys Val His
145 150 155 160

Gly Gly Leu Ser Pro Asp Ile Arg Thr Ile Asp Gln Ile Arg Val Ile
165 170 175

Glu Arg Gln Cys Glu Ile Pro His Glu Gly Pro Phe Cys Asp Leu Met
180 185 190

Trp Ser Asp Pro Glu Asp Ile Glu Thr Trp Ala Val Ser Pro Arg Gly
195 200 205

Ala Gly Trp Leu Phe Gly Ala Arg Val Thr Ser Glu Phe Asn His Ile
210 215 220

20080423_F_59071_PCT_sequence_listing.txt

Asn Gly Leu Glu Leu Val Cys Arg Ala His Gln Leu Val Gln Glu Gly
225 230 235 240

Leu Lys Tyr Met Phe Pro Asp Lys Gly Leu Val Thr Val Trp Ser Ala
245 250 255

Pro Asn Tyr Cys Tyr Arg Cys Gly Asn Val Ala Ser Ile Leu Ser Phe
260 265 270

Asn Glu Asn Met Glu Arg Asp Val Lys Phe Phe Thr Glu Thr Glu Glu
275 280 285

Asn Gln Ala Met Met Ala Pro Arg Ala Gly Val Pro Tyr Phe Leu
290 295 300

<210> 5
<211> 339
<212> PRT
<213> Physcomitrella patens
<400> 5

Met Val Val Pro Ser Leu Pro Ala Phe Gly Gly Gln Asn Ala Met Leu
1 5 10 15

Arg Arg Asn Ile Asp Asn Asn Thr Asp Thr Leu Ile Ser Leu Leu Gln
20 25 30

Gly Ser Cys Ser Pro Arg Val Ser Met Gln Gln Val Pro Arg Ser Ser
35 40 45

Glu Ser Leu Glu Asn Met Met Gly Ala Cys Gly Gln Lys Leu Pro Tyr
50 55 60

Phe Ser Ser Phe Asp Gly Pro Ser Val Glu Glu Gln Glu Asp Val Asp
65 70 75 80

Glu Gly Ile Asp Glu Phe Ala His His Val Glu Lys Lys Arg Arg Leu
85 90 95

Ser Leu Glu Gln Val Arg Ser Leu Glu Arg Asn Phe Glu Val Glu Asn
100 105 110

Lys Leu Glu Pro Glu Arg Lys Met Gln Leu Ala Lys Glu Leu Gly Leu
115 120 125

Arg Pro Arg Gln Val Ala Val Trp Phe Gln Asn Arg Arg Ala Arg Trp
130 135 140

Lys Thr Lys Gln Leu Glu His Asp Tyr Glu Thr Leu Lys Lys Ala Tyr
145 150 155 160

Asp Arg Leu Lys Ala Asp Phe Glu Ala Val Thr Leu Asp Thr Asn Ala
165 170 175

20080423_F_59071_PCT_sequence_listing.txt

Leu Lys Ala Glu Val Ser Arg Leu Lys Gly Ile Ser Asn Asp Asp Val
180 185 190

Lys Pro Ala Glu Phe Val Gln Gly Lys Cys Asp Thr Thr Ser His Pro
195 200 205

Ala Ser Pro Ala Gln Ser Glu Arg Ser Asp Ile Val Ser Ser Arg Asn
210 215 220

Arg Thr Thr Pro Thr Ile His Val Asp Pro Val Ala Pro Glu Glu Ala
225 230 235 240

Gly Ala His Leu Thr Met Ser Ser Asp Ser Asn Ser Ser Glu Val Met
245 250 255

Asp Ala Asp Ser Pro Arg Thr Ser His Thr Ser Ala Ser Arg Ser Thr
260 265 270

Leu Ser Thr Ser Val Val Gln Pro Asp Glu Gly Leu Gly Val Ala Gln
275 280 285

Tyr Pro His Phe Ser Pro Glu Asn Phe Val Gly Pro Asn Met Pro Glu
290 295 300

Ile Cys Ala Asp Gln Ser Leu Ala Ser Gln Val Lys Leu Glu Glu Ile
305 310 315 320

His Ser Phe Asn Pro Asp Gln Thr Phe Leu Leu Leu Pro Asn Trp Trp
325 330 335

Asp Trp Ala

<210> 6
<211> 516
<212> PRT
<213> Physcomitrella patens

<400> 6

Met Ile Thr Val Ile Ala Leu Ala Ser Val Met Gly Val Leu Leu Phe
1 5 10 15

Ile Gly Ile Val Trp Leu Ile Leu Leu Arg Arg Ser Leu Asp Glu Lys
20 25 30

Thr Ser Pro Ser Val Val Gly Pro Leu His Ala Tyr Phe Asn Pro Lys
35 40 45

Pro Glu Gly Val Gln Leu Ile Gln Leu Arg Met Asn Ala Tyr Phe Asn
50 55 60

20080423_F_59071_PCT_sequence_listing.txt

Ser Lys Pro Glu Gly Ser Leu Leu Ser Gly Ser Met Ala Ser Ser Thr
65 70 75 80

Thr Ile Ser Tyr Gly Ser Ser Met Ala Asn Tyr Thr Cys Thr Ala Lys
85 90 95

Thr Phe Thr Leu Ala Glu Leu Glu Arg Ala Thr Asp Asn Phe Arg Pro
100 105 110

Asp Asn Val Val Gly Glu Gly Gly Phe Gly Arg Val Tyr Gln Gly Val
115 120 125

Leu Asp Ser Gly Ile Glu Val Ala Val Lys Val Leu Thr Arg Asp Asp
130 135 140

His Glu Gly Gly Arg Glu Phe Val Ala Glu Val Glu Met Leu Ser Arg
145 150 155 160

Leu His His Arg Asn Leu Ala Lys Leu Ile Gly Ile Cys Thr Glu Glu
165 170 175

Ile Arg Cys Leu Val Tyr Glu Leu Ile Thr Asn Gly Ser Val Glu Ser
180 185 190

His Leu His Gly Leu Asp Lys Tyr Thr Ala Pro Leu Asn Trp Asp Ala
195 200 205

Arg Val Lys Ile Ala Leu Gly Ala Ala Arg Gly Leu Ala Tyr Leu His
210 215 220

Glu Asp Ser Gln Pro Arg Val Ile His Arg Asp Phe Lys Gly Ser Asn
225 230 235 240

Ile Leu Leu Glu Asp Asp Tyr Thr Pro Lys Val Ser Asp Phe Gly Leu
245 250 255

Ala Lys Ser Ala Thr Glu Gly Gly Lys Glu His Ile Ser Thr Arg Val
260 265 270

Met Gly Thr Phe Gly Tyr Val Ala Pro Glu Tyr Ala Met Thr Gly His
275 280 285

Leu Leu Val Lys Ser Asp Val Tyr Ser Tyr Gly Val Val Leu Leu Glu
290 295 300

Leu Leu Ser Gly Arg Lys Pro Val Asp Met Ser Gln Pro Pro Gly Gln
305 310 315 320

Glu Asn Leu Val Thr Trp Ala Arg Pro Leu Leu Thr Ser Lys Asp Gly
325 330 335

Leu Glu Gln Leu Val Asp Pro Tyr Leu Lys Asp Asn Phe Pro Phe Asp
Seite 8

20080423_F_59071_PCT_sequence_listing.txt

340

345

350

His Phe Ala Lys Val Ala Ala Ile Ala Ser Met Cys Val Gln Pro Glu
355 360 365

Val Ser His Arg Pro Phe Met Gly Glu Val Val Gln Ala Leu Lys Leu
370 375 380

Val Cys Asn Glu Thr Glu Ala Lys Asp Val Gly Gln Ala Lys Gly Thr
385 390 395 400

Val Ser Pro Thr Ser Asp Leu Ala Glu Thr Gln Asn Thr Gly Phe Leu
405 410 415

Arg Asp Ala Thr Phe Ile Ser Val Asp Tyr Asp Ser Gly Pro Phe Glu
420 425 430

Thr Leu Asp Leu Glu Gln Arg Lys Arg Lys Pro Leu Ser Ala Ser Ala
435 440 445

Thr Met Ser Gly Ser Gly Gly Phe Leu Arg Gln Leu Ser Asp Ser Phe
450 455 460

Arg Arg Tyr Ser Val Ser Ala Pro Pro Lys Ala Ala Ser Leu Pro Arg
465 470 475 480

Thr Ser Trp Tyr Ala Leu Gly Ser Ser Lys Pro Val Gly Ser Met Ser
485 490 495

Glu Ala Arg Ala Ala Arg Phe Leu Asp Pro Gln Arg Arg Arg Phe Tyr
500 505 510

Gly Phe Trp Pro
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<210> 7
<211> 258
<212> PRT
<213> Physcomitrella patens

<400> 7

Met Ser Thr Glu Lys Glu Arg Glu Ser Tyr Val Tyr Met Ala Lys Leu
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Ala Glu Gln Ala Glu Arg Tyr Asp Glu Met Val Glu Ser Met Lys Lys
20 25 30

Val Ala Lys Leu Asp Val Glu Leu Thr Val Glu Glu Arg Asn Leu Leu
35 40 45

Ser Val Gly Tyr Lys Asn Val Ile Gly Ala Arg Arg Ala Ser Trp Arg
50 55 60

20080423_F_59071_PCT_sequence_listing.txt

Ile Met Ser Ser Ile Glu Gln Lys Glu Glu Ser Lys Gly Asn Glu Gln
65 70 75 80

Asn Val Lys Arg Ile Lys Asp Tyr Arg His Lys Val Glu Glu Glu Leu
85 90 95

Ser Lys Ile Cys Asn Asp Ile Leu Ser Ile Ile Asp Gly His Leu Ile
100 105 110

Pro Ser Ser Ser Thr Gly Glu Ser Thr Val Phe Tyr Tyr Lys Met Lys
115 120 125

Gly Asp Tyr Tyr Arg Tyr Leu Ala Glu Phe Lys Thr Gly Asn Glu Arg
130 135 140

Lys Glu Ala Ala Asp Gln Ser Leu Lys Ala Tyr Gln Ala Ala Ser Ser
145 150 155 160

Thr Ala Val Thr Asp Leu Ala Pro Thr His Pro Ile Arg Leu Gly Leu
165 170 175

Ala Leu Asn Phe Ser Val Phe Tyr Tyr Glu Ile Leu Asn Ser Pro Glu
180 185 190

Arg Ala Cys His Leu Ala Lys Gln Ala Phe Asp Glu Ala Ile Ala Glu
195 200 205

Leu Asp Thr Leu Ser Glu Glu Ser Tyr Lys Asp Ser Thr Leu Ile Met
210 215 220

Gln Leu Leu Arg Asp Asn Leu Thr Leu Trp Thr Ser Asp Leu Gln Asp
225 230 235 240

Glu Gly Gly Asp Asp Gln Gly Lys Gly Asp Asp Met Arg Pro Glu Glu
245 250 255

Ala Glu

<210> 8

<211> 634

<212> PRT

<213> Physcomitrella patens

<400> 8

Met Cys Ser Ile Pro Phe Gly Arg Lys Lys Ser Lys Lys Gly Asp Leu
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Ala Gln Asp Leu Leu Gly Asp Val Phe Ser Thr Tyr Ser Glu Asn Gly
20 25 30

Lys Leu Asp Ala Glu Gly Leu Leu Lys Phe Leu Gln Thr Glu Gln Gly
Seite 10

35

40

45

Asp Ser Lys Ser Ser Leu Asp Asp Ala Lys His Leu Val Glu Leu Ile
 50 55 60

Arg Asn Glu Arg His Lys Ser Lys Phe Pro Gly Phe Ile Val Ser Ser
 65 70 75 80

Asp Leu Ser Lys Gly Asp Phe Lys Asn Tyr Val Leu Ser Pro Asp Leu
 85 90 95

Asn Gly Val Leu Glu Ser Thr Val His Gln Asp Met Thr Gln Pro Leu
 100 105 110

Ser His Tyr Phe Ile Phe Thr Gly His Asn Ser Tyr Leu Thr Gly Asn
 115 120 125

Gln Leu Ser Ser Asp Ser Ser Asp Val Pro Ile Ala Ala Ala Leu Gln
 130 135 140

Arg Gly Val Arg Val Val Glu Leu Asp Leu Trp Pro Asp Asp Lys Gly
 145 150 155 160

Gly Ile Lys Val Thr His Gly Asn Thr Leu Thr Ser Pro Val Ala Phe
 165 170 175

Glu Lys Cys Ile Lys Ala Ile Lys Ala Asn Ala Phe Val Ser Ser Lys
 180 185 190

Tyr Pro Val Val Ile Thr Leu Glu Asp His Leu Ser Ser Pro Leu Gln
 195 200 205

Ala Leu Ala Ala Glu Thr Leu Thr Asn Ile Leu Gly Glu Asp Leu Tyr
 210 215 220

Tyr Pro Pro Ser Ser Asp Gly Phe Lys Glu Leu Pro Ser Pro Glu Ser
 225 230 235 240

Leu Lys Gly Lys Ile Leu Ile Ser Thr Lys Pro Pro Lys Glu Tyr Leu
 245 250 255

Glu Ala Ala Val Ala Gln Lys Ser Ala Leu Lys Asp Glu Lys Ile Leu
 260 265 270

Asn Glu Phe Lys Lys Ala Asp Lys Leu Gln Glu Gln Ser Thr Ala Pro
 275 280 285

Val Lys Ser Pro Val Glu Lys Lys Ile Ala Val Pro Pro Ser Glu Lys
 290 295 300

Thr Lys Ser Ile Ser Glu Glu Lys Asp Leu Ser Glu Lys Val Gly Asn
 305 310 315 320

20080423_F_59071_PCT_sequence_listing.txt

Leu Arg Val Asp Ser Glu Gly Glu Ser Ala Asp Pro Ala Pro Ala Ser
 325 330 335
 Ser Pro Asp Gly Lys Lys Ala Thr Leu Thr Ala Asp Ser Glu Ser Asp
 340 345 350
 Asp Asp Asp Asn Lys Lys Asn Pro Glu Tyr Ala Arg Leu Ile Thr Ile
 355 360 365
 His Gln Ser Lys Pro Ser Lys Gly Thr Thr Val Glu Asp Arg Leu Lys
 370 375 380
 Val Glu Gly Thr Val Val Arg Ile Ser Leu Ser Glu Thr Lys Leu Glu
 385 390 395 400
 Lys Val Thr Glu Glu Phe Pro Glu Leu Val Val Lys Phe Thr Gln Arg
 405 410 415
 Asn Ile Leu Arg Val Tyr Pro Ala Gly Asn Arg Val Asn Ser Ser Asn
 420 425 430
 Tyr Asp Pro Thr Ala Ala Trp Ile His Gly Ala Gln Met Val Ala Gln
 435 440 445
 Asn Met Gln Gly Tyr Gly Lys Glu Leu Trp Gln Ala His Gly Lys Phe
 450 455 460
 Arg Gly Asn Gly Gly Cys Gly Tyr Ile Leu Lys Pro Lys Tyr Leu Leu
 465 470 475 480
 Glu Asp Leu Pro Asn Gly Lys Pro Phe Asn Pro Ser Ala Pro Gly Asp
 485 490 495
 Thr Lys Met Ile Leu Lys Val Lys Val Met Thr Thr Met Gly Trp Asp
 500 505 510
 Lys Ala Phe Pro Lys Tyr His Phe Asp Leu Phe Ser Pro Pro Asp Phe
 515 520 525
 Phe Thr Arg Leu Leu Val Thr Gly Val Pro Ala Asp Val Ala Lys Trp
 530 535 540
 Lys Thr Ser Val Ile Asp Asp Val Trp Glu Pro His Trp Asn Glu Asp
 545 550 555 560
 His Glu Phe Tyr Leu Lys Cys Pro Glu Leu Ala Leu Leu Arg Ile Glu
 565 570 575
 Val Arg Asp His Asp Glu Glu Ser Gln Asp Glu Phe Glu Gly Gln Ala
 580 585 590

20080423_F_59071_PCT_sequence_listing.txt

Cys Leu Pro Met His Glu Ile Lys Asp Gly Tyr Arg Cys Val Gln Met
595 600 605

Tyr Asp Lys Lys Gly Ser Val Leu Lys Gly Val Lys Met Leu Phe His
610 615 620

Phe Gln Lys Arg Ser Phe Ser Pro Val Gln
625 630

<210> 9
<211> 333
<212> PRT
<213> Physcomitrella patens

<400> 9

Met Ser Lys Ala Arg Val Tyr Thr Asp Val Asn Val Gln Arg Pro Lys
1 5 10 15

Asp Tyr Trp Asp Tyr Glu Ala Leu Thr Val Gln Trp Gly Asp Gln Asp
20 25 30

Asp Tyr Glu Val Val Arg Lys Val Gly Arg Gly Lys Tyr Ser Glu Val
35 40 45

Phe Glu Gly Val Asn Ala Val Asn Ser Glu Arg Cys Val Met Lys Ile
50 55 60

Leu Lys Pro Val Lys Lys Lys Lys Ile Lys Arg Glu Ile Lys Ile Leu
65 70 75 80

Gln Asn Leu Cys Gly Gly Pro Asn Ile Val Lys Leu Leu Asp Ile Val
85 90 95

Arg Asp Gln Gln Ser Lys Thr Pro Ser Leu Ile Phe Glu Tyr Val Asn
100 105 110

Asn Thr Asp Phe Lys Val Leu Tyr Pro Thr Leu Thr Asp Phe Asp Ile
115 120 125

Arg Tyr Tyr Ile His Glu Leu Leu Lys Ala Leu Asp Tyr Cys His Ser
130 135 140

Gln Gly Ile Met His Arg Asp Val Lys Pro His Asn Val Met Ile Asp
145 150 155 160

His Glu Gln Arg Lys Leu Arg Leu Ile Asp Trp Gly Leu Ala Glu Phe
165 170 175

Tyr His Pro Gly Lys Glu Tyr Asn Val Arg Val Ala Ser Arg Tyr Phe
180 185 190

Lys Gly Pro Glu Leu Leu Val Asp Leu Gln Asp Tyr Asp Tyr Ser Leu
Seite 13

195

200

205

Asp Met Trp Ser Leu Gly Cys Met Phe Ala Gly Met Ile Phe Arg Lys
 210 215 220

Glu Pro Phe Phe Tyr Gly His Asp Asn Tyr Asp Gln Leu Val Lys Ile
 225 230 235 240

Ala Lys Val Leu Gly Thr Asp Glu Leu Asn Ser Tyr Leu Asn Lys Tyr
 245 250 255

Arg Leu Glu Leu Asp Pro His Leu Glu Ala Leu Val Gly Arg His Ser
 260 265 270

Arg Lys Pro Trp Ser Lys Phe Ile Asn Ala Asp Asn Gln Arg Leu Val
 275 280 285

Val Pro Glu Ala Val Asp Phe Leu Asp Lys Leu Leu Arg Tyr Asp His
 290 295 300

Gln Asp Arg Leu Thr Ala Lys Glu Ala Met Ala His Pro Tyr Phe Tyr
 305 310 315 320

Pro Val Lys Val Ser Glu Val Ser Asn Arg Arg Ser Ala
 325 330

<210> 10

<211> 751

<212> PRT

<213> Physcomitrella patens

<400> 10

Met Arg Gly Ala Val Val Asp Ala Pro Met Lys Gly Asp Arg Arg Ala
 1 5 10 15

Cys Ile Leu Gly Gly Met Gly Arg Pro Asn Gly Gly Thr Ile Leu Tyr
 20 25 30

Val Leu Val Ile Ser Phe Ile Ala Leu Val Asn Gly Ala Thr Asp Pro
 35 40 45

Asn Asp Val Ser Ala Leu Asn Thr Met Phe Thr Gly Phe Asn Ser Asp
 50 55 60

Pro Lys Leu Thr Asn Trp Val Gln Asn Ala Gly Asp Pro Cys Gly Thr
 65 70 75 80

Asn Trp Leu Gly Val Thr Cys Asp Gly Thr Phe Val Thr Ser Ile Lys
 85 90 95

Leu Ser Asn Met Gly Leu Asn Gly Lys Val Glu Gly Trp Val Leu Gln
 100 105 110

20080423_F_59071_PCT_sequence_listing.txt

Lys Phe Gln His Leu Ser Val Leu Asp Leu Ser His Asn Asn Leu Ala
 115 120 125
 Ser Gly Ile Pro Glu Met Phe Pro Pro Lys Leu Thr Glu Leu Asp Leu
 130 135 140
 Ser Tyr Asn Gln Leu Thr Gly Ser Phe Pro Tyr Leu Ile Ile Asn Ile
 145 150 155 160
 Pro Thr Leu Thr Ser Ile Lys Leu Asn Asn Lys Leu Ser Gly Thr
 165 170 175
 Leu Asp Gly Gln Val Phe Ser Lys Leu Thr Asn Leu Ile Thr Leu Asp
 180 185 190
 Ile Ser Asn Asn Ala Ile Thr Gly Pro Ile Pro Glu Gly Met Gly Asp
 195 200 205
 Met Val Ser Leu Arg Phe Leu Asn Met Gln Asn Asn Lys Leu Thr Gly
 210 215 220
 Pro Ile Pro Asp Thr Leu Ala Asn Ile Pro Ser Leu Glu Thr Leu Asp
 225 230 235 240
 Val Ser Asn Asn Ala Leu Thr Gly Phe Leu Pro Pro Asn Leu Asn Pro
 245 250 255
 Lys Asn Phe Arg Tyr Gly Gly Asn Pro Leu Asn Thr Gln Ala Pro Pro
 260 265 270
 Pro Pro Pro Phe Thr Pro Pro Pro Pro Ser Lys Asn Pro Lys Pro Ile
 275 280 285
 Pro Pro Pro Pro His Pro Gly Ser Arg Thr Pro Asp Thr Ala Pro Lys
 290 295 300
 Ala Glu Gly Gly Ile Val Ser Gly Ala Ala Ile Ala Gly Ile Val Val
 305 310 315 320
 Gly Ala Ile Leu Val Leu Ala Ala Ile Phe Ile Ala Val Trp Phe Phe
 325 330 335
 Val Val Arg Lys Arg Ser Glu Leu Thr Lys Pro Leu Asp Leu Glu Ala
 340 345 350
 Asn His Ser Ser Arg Arg Thr Trp Phe Leu Pro Leu Ile Pro Ala Gly
 355 360 365
 Lys Glu Lys Pro Pro Lys Met Lys Val Phe Glu Ala Asp Thr Phe Glu
 370 375 380

20080423_F_59071_PCT_sequence_listing.txt

Lys Glu Val Glu Glu Pro Lys Ile Lys Ala Leu Pro Pro Leu Lys Ser
385 390 395 400

Leu Lys Val Pro Pro Ala Leu Lys Val Glu Glu Ala Thr Tyr Lys Val
405 410 415

Glu Ser Glu Gly Lys Val Asn Lys Ser Asn Ile Thr Ala Arg Glu Phe
420 425 430

Ser Val Ala Glu Leu Gln Ala Ala Thr Asp Ser Phe Ser Glu Asp Asn
435 440 445

Leu Leu Gly Glu Gly Ser Leu Gly Cys Val Tyr Arg Ala Glu Phe Pro
450 455 460

Asp Gly Glu Val Leu Ala Val Lys Lys Leu Asp Thr Thr Ala Ser Met
465 470 475 480

Val Arg Asn Glu Asp Asp Phe Leu Ser Val Val Asp Gly Leu Ala Arg
485 490 495

Leu Gln His Thr Asn Ser Asn Glu Leu Val Gly Tyr Cys Ala Glu His
500 505 510

Gly Gln Arg Leu Leu Val Tyr Lys Phe Ile Ser Arg Gly Thr Leu His
515 520 525

Glu Leu Leu His Gly Ser Ala Asp Ser Pro Lys Glu Leu Ser Trp Asn
530 535 540

Val Arg Val Lys Ile Ala Leu Gly Cys Ala Arg Ala Leu Glu Tyr Phe
545 550 555 560

His Glu Ile Val Ser Gln Pro Val Val His Arg Asn Phe Arg Ser Ser
565 570 575

Asn Ile Leu Leu Asp Asp Glu Leu Asn Pro His Val Ser Asp Cys Gly
580 585 590

Leu Ala Ala Phe Thr Pro Ser Ser Ala Glu Arg Gln Val Ser Ala Gln
595 600 605

Val Leu Gly Ser Phe Gly Tyr Ser Pro Pro Glu Phe Ser Thr Ser Gly
610 615 620

Met Tyr Asp Val Lys Ser Asp Val Tyr Ser Phe Gly Val Val Met Leu
625 630 635 640

Glu Leu Met Thr Gly Arg Lys Pro Leu Asp Ser Ser Arg Pro Arg Ser
645 650 655

Glu Gln Asn Leu Val Arg Trp Ala Thr Pro Gln Leu His Asp Ile Asp

660

665

670

Ala Leu Ala Arg Met Val Asp Pro Ala Leu Glu Gly Ala Tyr Pro Ala
 675 680 685

Lys Ser Leu Ser Arg Phe Ala Asp Ile Val Ala Leu Cys Val Gln Pro
 690 695 700

Glu Pro Glu Phe Arg Pro Pro Ile Ser Glu Val Val Gln Ser Leu Val
 705 710 715 720

Arg Leu Met Gln Arg Ala Ala Leu Ser Lys Arg Arg His Glu Tyr Asn
 725 730 735

Ala Gly Val Pro Gln Thr Asp Met Glu Asp Pro Ser Asp Tyr Leu
 740 745 750

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<211> 901

<212> PRT

<213> Physcomitrella patens

<400> 11

Met Glu Asn Asn Asp Ala Leu Asp Ile Gly Ala Val Ser Ser Pro Tyr
 1 5 10 15

Pro Ser Gln Ser Glu Gly Val Ser Thr Pro Leu Pro Gln Val Thr Ser
 20 25 30

Pro Ser Phe Asp Asn Ala Ala Ser Pro Val Ala Gly Arg Arg Ala Val
 35 40 45

Arg Gln Thr Pro Thr Ser Ala Val Arg Arg Arg Gly Arg Glu Thr Asp
 50 55 60

Ser Ala Arg Arg Arg Arg Ser Arg Ser Arg Ser Leu Gly Asn Ser Val
 65 70 75 80

Tyr Ser Ser Pro Tyr Asp Ala Gly Thr Pro Gly Thr Pro Gly Thr Pro
 85 90 95

Val Ala Thr Pro Val Tyr Ala Thr Pro Val Gly Thr Pro Met Gly Thr
 100 105 110

Pro Ser Phe His Arg Gly Thr Pro Gln Tyr Lys Gln Arg Ser Glu Leu
 115 120 125

Gly Ser Gln Gly Lys Pro Leu His Arg Arg Arg Arg Ser Gln Ser Arg
 130 135 140

Glu Pro Gly His Arg Ser Pro Ser Arg Glu Pro Ser Ala Asp Gly Arg
 145 150 155 160

20080423_F_59071_PCT_sequence_listing.txt

Pro Ser Glu Ser Ala Glu Pro Asp Asp Thr Leu Gly Gly Glu Tyr Ala
165 170 175

Tyr Val Trp Gly Thr Asn Val Asn Ile Pro Asp Val Leu Arg Ala Ile
180 185 190

Arg Arg Phe Leu His Asn Tyr Arg Ser Ser Ala His Asp Leu Asn Ser
195 200 205

Lys Tyr Ile Gln Ile Ile Glu Glu Thr Val Glu Arg Glu Glu Asp Thr
210 215 220

Leu Asn Ile Asp Met Ser Asp Ile Tyr Asp His Asp Pro Asp Leu Tyr
225 230 235 240

Ala Lys Ile Val Arg Tyr Pro Leu Asp Ile Ile Pro Leu Leu Asp Thr
245 250 255

Glu Cys Gln Glu Val Ala Thr Ser Leu Leu Pro Thr Phe Glu Lys His
260 265 270

Ile Glu Ala Arg Pro Phe Asn Leu Lys Ala Ser Val His Met Arg Glu
275 280 285

Leu Asn Pro Ser Asp Ile Asp Lys Leu Val Ser Val Lys Gly Met Val
290 295 300

Ile Arg Cys Ser Ser Ile Ile Pro Glu Ile Lys Gly Ala Phe Phe Lys
305 310 315 320

Cys Leu Val Cys Gly His Ser Pro Pro Leu Val Thr Val Val Lys Gly
325 330 335

Arg Val Glu Glu Pro Thr Arg Cys Glu Lys Pro Glu Cys Ala Ala Arg
340 345 350

Asn Ala Met Ser Leu Ile His Asn Arg Cys Thr Phe Ala Asn Lys Gln
355 360 365

Ile Val Arg Leu Gln Glu Thr Pro Asp Ala Ile Pro Glu Gly Glu Thr
370 375 380

Pro His Thr Val Ser Met Cys Leu Tyr Asn Thr Met Val Asp Ala Val
385 390 395 400

Lys Pro Gly Asp Arg Ile Glu Val Thr Gly Val Phe Lys Ala Met Ala
405 410 415

Val Arg Val Gly Pro Asn Gln Arg Thr Leu Arg Ala Leu Tyr Lys Thr
420 425 430

20080423_F_59071_PCT_sequence_listing.txt

Tyr Ile Asp Cys Val His Val Lys Lys Ser Asp Arg Gly Arg Leu Gln
435 440 445

Thr Glu Asp Pro Met Glu Met Asp Lys Glu Asn Asp Met Tyr Ala Gly
450 455 460

Tyr His Glu Ser Asp Thr Ser Glu Ala Ala Asn Glu Ala Lys Ile Gln
465 470 475 480

Lys Leu Lys Glu Leu Ser Lys Leu Pro Gly Ile Tyr Asp Arg Leu Ser
485 490 495

Arg Ser Leu Ala Pro Ser Ile Trp Glu Leu Glu Asp Ile Lys Lys Gly
500 505 510

Leu Leu Cys Gln Leu Phe Gly Gly Lys Ala Lys Lys Ile Pro Ser Gly
515 520 525

Ala Ser Phe Arg Gly Asp Ile Asn Val Leu Leu Val Gly Asp Pro Gly
530 535 540

Thr Ser Lys Ser Gln Leu Leu Gln Tyr Val His Lys Ile Ala Pro Arg
545 550 555 560

Gly Ile Tyr Thr Ser Gly Arg Gly Ser Ser Ala Val Gly Leu Thr Ala
565 570 575

Tyr Val Thr Lys Asp Pro Glu Thr Arg Glu Thr Val Leu Glu Ser Gly
580 585 590

Ala Leu Val Leu Ser Asp Arg Gly Ile Cys Cys Ile Asp Glu Phe Asp
595 600 605

Lys Met Ser Asp Asn Ala Arg Ser Met Leu His Glu Val Met Glu Gln
610 615 620

Gln Thr Val Ser Val Ala Lys Gly Gly Ile Ile Ala Ser Leu Asn Ala
625 630 635 640

Arg Thr Ser Val Leu Ala Cys Ala Asn Pro Ser Gly Ser Arg Tyr Asn
645 650 655

Ala Arg Leu Ser Val Ile Asp Asn Ile Gln Leu Pro Pro Thr Leu Leu
660 665 670

Ser Arg Phe Asp Leu Ile Tyr Leu Met Leu Asp Lys Pro Asp Glu Gln
675 680 685

Asn Asp Arg Arg Leu Ala Arg His Leu Val Ala Leu His Tyr Glu Asn
690 695 700

Tyr Glu Val Ser Lys Gln Asp Ala Leu Asp Leu Gln Thr Leu Thr Ala

705 710 715 720

Tyr Ile Thr Tyr Ala Arg Gln His Val His Pro Thr Leu Ser Asp Glu
725 730 735

Ala Ala Glu Asp Leu Ile Asn Gly Tyr Val Glu Met Arg Gln Lys Gly
740 745 750

Asn Phe Pro Gly Ser Ser Lys Lys Val Ile Thr Ala Thr Pro Arg Gln
755 760 765

Leu Glu Ser Met Ile Arg Ile Ser Glu Ala Leu Ala Arg Met Arg Phe
770 775 780

Ser Glu Val Val Glu Lys Val Asp Ala Ala Glu Ala Val Arg Leu Leu
785 790 795 800

Asp Val Ala Leu Gln Gln Ser Ala Thr Asp His Ala Thr Gly Thr Ile
805 810 815

Asp Met Asp Leu Ile Thr Thr Gly Val Ser Ala Ser Glu Arg Ile Arg
820 825 830

Arg Ala Asn Leu Leu Ala Ala Leu Arg Glu Leu Ile Ala Asp Lys Ile
835 840 845

Ser Pro Gly Ser Ser Ser Gly Leu Lys Thr Ser Gln Leu Leu Glu Asp
850 855 860

Ile Arg Ser Gln Ser Ser Val Asp Val Ser Leu Gln Asp Ile Lys Asn
865 870 875 880

Ala Leu Gly Ser Leu Gln Gly Glu Gly Phe Leu Thr Val His Gly Asp
885 890 895

Ile Val Lys Arg Val
900

<210> 12

<211> 311

<212> PRT

<213> Physcomitrella patens

<400> 12

Met Ser Val Pro Pro Ile Ser Ser Asn Gly Gln Leu Asp Thr Gln Ile
1 5 10 15

Ala Gln Leu Ile Gln Cys Lys Pro Leu Ser Glu Val Glu Val Arg Gly
20 25 30

Leu Cys Glu Lys Ala Lys Glu Ile Leu Met Arg Glu Asn Asn Val Gln
35 40 45

20080423_F_59071_PCT_sequence_listing.txt

Pro Val Lys Cys Pro Val Thr Ile Cys Gly Asp Ile His Gly Gln Phe
50 55 60

His Asp Leu Ala Glu Leu Phe Arg Ile Gly Gly Met Cys Pro Asp Thr
65 70 75 80

Asn Tyr Leu Phe Met Gly Asp Tyr Val Asp Arg Gly Tyr Tyr Ser Val
85 90 95

Glu Thr Ala Thr Leu Leu Val Ala Leu Lys Val Arg Tyr Pro Asp Arg
100 105 110

Ile Thr Ile Leu Arg Gly Asn His Glu Ser Arg Gln Ile Thr Gln Val
115 120 125

Tyr Gly Phe Tyr Asp Glu Cys Leu Arg Lys Tyr Gly Asn Ala Asn Val
130 135 140

Trp Lys Ile Phe Thr Asp Leu Phe Asp Tyr Phe Pro Leu Thr Ala Leu
145 150 155 160

Val Glu Ser Glu Ile Phe Cys Leu His Gly Gly Leu Ser Pro Ser Ile
165 170 175

Asp Ser Leu Asp His Ile Arg Asp Leu Asp Arg Val Gln Glu Val Pro
180 185 190

His Glu Gly Pro Met Cys Asp Leu Leu Trp Ser Asp Pro Asp Asp Arg
195 200 205

Cys Gly Trp Gly Ile Ser Pro Arg Gly Ala Gly Tyr Thr Phe Gly Gln
210 215 220

Asp Ile Ser Glu Gln Phe Asn His Asn Asn Asn Leu Lys Leu Val Ala
225 230 235 240

Arg Ala His Gln Leu Val Met Glu Gly Tyr Asn Trp Gly His Glu His
245 250 255

Lys Val Val Thr Ile Phe Ser Ala Pro Asn Tyr Cys Tyr Arg Cys Gly
260 265 270

Asn Met Ala Ser Ile Leu Glu Val Asp Asp Asn Met Gly His Thr Phe
275 280 285

Ile Gln Phe Glu Pro Ala Pro Arg Arg Gly Glu Pro Asp Val Thr Arg
290 295 300

Arg Thr Pro Asp Tyr Phe Leu
305 310

20080423_F_59071_PCT_sequence_listing.txt

<210> 13

<211> 450

<212> PRT

<213> Physcomitrella patens

<400> 13

Met Val Met Arg Lys Val Gly Lys Tyr Glu Val Gly Arg Thr Ile Gly
1 5 10 15

Glu Gly Thr Phe Ala Lys Val Lys Phe Ala Gln Asn Thr Glu Thr Gly
20 25 30

Glu Ser Val Ala Met Lys Val Leu Asp Arg Gln Thr Val Leu Lys His
35 40 45

Lys Met Val Glu Gln Ile Arg Arg Glu Ile Ser Ile Met Lys Leu Val
50 55 60

Arg His Pro Asn Val Val Arg Leu His Glu Val Leu Ala Ser Arg Cys
65 70 75 80

Lys Ile Tyr Ile Ile Leu Glu Phe Val Thr Gly Gly Glu Leu Phe Asp
85 90 95

Lys Ile Val His Gln Gly Arg Leu Asn Glu Asn Asp Ser Arg Lys Tyr
100 105 110

Phe Gln Gln Leu Met Asp Gly Val Asp Tyr Cys His Ser Lys Gly Val
115 120 125

Ser His Arg Asp Leu Lys Pro Glu Asn Leu Leu Leu Asp Ser Leu Asp
130 135 140

Asn Leu Lys Ile Ser Asp Phe Gly Leu Ser Ala Leu Pro Gln Gln Val
145 150 155 160

Arg Glu Asp Gly Leu Leu His Thr Thr Cys Gly Thr Pro Asn Tyr Val
165 170 175

Ala Pro Glu Val Leu Asn Asp Lys Gly Tyr Asp Gly Ala Val Ala Asp
180 185 190

Ile Trp Ser Cys Gly Val Ile Leu Phe Val Leu Met Ala Gly Phe Leu
195 200 205

Pro Phe Asp Glu Ala Asp Leu Asn Thr Leu Tyr Ser Lys Ile Arg Glu
210 215 220

Ala Asp Phe Thr Cys Pro Pro Trp Phe Ser Ser Gly Ala Lys Thr Leu
225 230 235 240

Ile Thr Asn Ile Leu Asp Pro Asn Pro Leu Thr Arg Ile Arg Met Arg
245 250 255

20080423_F_59071_PCT_sequence_listing.txt

Gly Ile Arg Asp Asp Glu Trp Phe Lys Lys Asn Tyr Val Pro Val Arg
260 265 270

Met Tyr Asp Asp Glu Asp Ile Asn Leu Asp Asp Val Glu Thr Ala Phe
275 280 285

Asp Asp Ser Lys Glu Gln Phe Val Lys Glu Gln Arg Glu Val Lys Asp
290 295 300

Val Gly Pro Ser Leu Met Asn Ala Phe Glu Leu Ile Ser Leu Ser Gln
305 310 315 320

Gly Leu Asn Leu Ser Ala Leu Phe Asp Arg Arg Gln Asp His Val Lys
325 330 335

Arg Gln Thr Arg Phe Thr Ser Lys Lys Pro Ala Arg Asp Ile Ile Asn
340 345 350

Arg Met Glu Thr Ala Ala Lys Ser Met Gly Phe Gly Val Gly Thr Arg
355 360 365

Asn Tyr Lys Met Arg Leu Glu Ala Ala Ser Glu Cys Arg Ile Ser Gln
370 375 380

His Leu Ala Val Ala Ile Glu Val Tyr Glu Val Ala Pro Ser Leu Phe
385 390 395 400

Met Ile Glu Val Arg Lys Ala Ala Gly Asp Thr Leu Glu Tyr His Lys
405 410 415

Phe Tyr Lys Ser Phe Cys Thr Arg Leu Lys Asp Ile Ile Trp Thr Thr
420 425 430

Ala Val Asp Lys Asp Glu Val Lys Thr Leu Thr Pro Ser Val Val Lys
435 440 445

Asn Lys
450

<210> 14
<211> 822
<212> PRT
<213> Physcomitrella patens

<400> 14

Met Glu Thr Ser Ala Val Glu Leu Gln Met Ser Thr Asp Ala Val His
1 5 10 15

Gln Arg Glu Thr Gly Glu Arg Pro Pro Leu Glu Gln Thr Ala Gln Asp
20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Glu Glu Thr Ser Arg Glu Ala Leu His Ala Asp Glu Ala Ala Tyr Arg
35 40 45

Glu Lys Glu Gly Pro Phe Arg Arg Leu Ser Arg Lys Leu Thr Arg Pro
50 55 60

Asp Ser Leu Asp Val Glu Ser Met Arg Val Lys Glu Met Asp His Ala
65 70 75 80

Ala Pro Val Ala Ser Phe Ser Phe Ile Leu Lys Leu Ala Tyr Gln Ser
85 90 95

Ile Gly Val Val Tyr Gly Asp Leu Gly Thr Ser Pro Leu Tyr Val Tyr
100 105 110

Ser Ser Thr Phe Thr Ser Gly Ile Lys Thr Asn Asp Asp Ile Leu Gly
115 120 125

Val Leu Cys Leu Ile Ile Tyr Thr Ile Ile Ala Thr Pro Leu Val Lys
130 135 140

Tyr Ile Phe Ile Val Leu Arg Ala Asn Asp Asn Gly Glu Gly Gly Thr
145 150 155 160

Phe Ala Leu Tyr Ser Leu Ile Cys Arg His Val Lys Leu Ser Gly Ala
165 170 175

His Ala Gln Gln Pro Thr Asp Leu Asn Ile Ser Ser Tyr Lys Leu Glu
180 185 190

Thr Pro Ser Thr Lys Met Ala Arg Ala Thr Arg Ile Lys Glu Ala Leu
195 200 205

Glu Lys Ser Arg Ala Trp Gln Asn Val Leu Leu Leu Ile Val Leu Leu
210 215 220

Gly Pro Cys Leu Val Ile Gly Asp Gly Ser Leu Thr Pro Ala Ile Ser
225 230 235 240

Val Leu Ser Ala Ile Gln Gly Ile Ser Val Asn Val Ser Gly Leu Ser
245 250 255

Pro Asn Val Ser Val Ile Ile Thr Val Val Val Leu Ala Ala Leu Phe
260 265 270

Ser Leu Gln Arg Phe Gly Thr His Arg Val Ala Phe Leu Phe Gly Pro
275 280 285

Ala Met Leu Ala Trp Phe Phe Ser Ile Gly Ile Ile Gly Leu Tyr Asn
290 295 300

Ile Phe Arg Trp Asp Pro Ser Val Phe Lys Ala Leu Asn Pro Trp Tyr
Seite 24

305 310 315 320
 Gly Leu Asn Tyr Phe Ile Arg Asn Lys Val Asp Ala Trp Ala Ser Leu
 325 330 335
 Gly Gly Ile Val Leu Cys Ile Thr Gly Ser Glu Ala Met Phe Ala Asp
 340 345 350
 Leu Gly His Phe Thr Val Lys Ser Met Gln Val Ala Phe Thr Phe Leu
 355 360 365
 Val Phe Pro Ser Leu Leu Cys Ala Tyr Ile Gly Gln Ala Ser Phe Leu
 370 375 380
 Met Lys Asn Gln Leu Asp Asp Asp Val Ala Tyr Thr Phe Tyr Arg Ser
 385 390 395 400
 Val Pro Lys Pro Ile Tyr Trp Pro Met Phe Gly Val Ala Thr Cys Ala
 405 410 415
 Ala Ile Ile Ala Ser Gln Ala Met Ile Ser Ala Thr Tyr Ser Met Ile
 420 425 430
 Arg Asn Ala Met Ser Leu Gly Cys Phe Pro Arg Val Thr Ile Val His
 435 440 445
 Thr Ser Lys Lys Val His Gly Gln Ile Tyr Ile Pro Glu Ile Asn Trp
 450 455 460
 Ile Ile Met Val Leu Ser Ile Thr Ile Val Gly Gly Phe Arg Ser Thr
 465 470 475 480
 Thr Gln Ile Gly His Ala Tyr Gly Ile Ala Val Val Gly Val Phe Phe
 485 490 495
 Ile Ser Thr Cys Leu Leu Thr Leu Ile Met Leu Met Ile Trp Gln Thr
 500 505 510
 Asn Ile Phe Leu Cys Ala Leu Phe Phe Thr Val Phe Phe Ile Ile Glu
 515 520 525
 Gly Ile Tyr Phe Ser Ala Val Leu Ser Lys Val Thr Gln Gly Gly Trp
 530 535 540
 Val Pro Leu Val Ile Ala Ala Cys Phe Leu Thr Ile Met Tyr Ser Trp
 545 550 555 560
 Asn Phe Gly Thr Arg Met Lys Arg Leu Tyr Glu Val Ser His Lys Ile
 565 570 575
 Ser Leu Asp Trp Val Leu Ser Leu Gly His Ser Leu Gly Ile Ser Arg
 580 585 590

20080423_F_59071_PCT_sequence_listing.txt

Val Pro Gly Val Gly Leu Val Tyr Thr Glu Leu Pro Gln Gly Val Pro
595 600 605

Ala Ile Phe Arg His Phe Ile Ser Asn Leu Pro Ala Ile His Ser Thr
610 615 620

Leu Val Phe Val Cys Ile Arg His Ile Ser Val Ser Thr Val Pro Glu
625 630 635 640

Asp Glu Arg Ile Leu Ile Arg Arg Leu Gly Pro Arg Asn Tyr Arg Met
645 650 655

Phe Arg Cys Ala Val Arg Tyr Gly Tyr Thr Asp His Val Asp Gly Ala
660 665 670

Glu Ser Asp Gly Gln Thr Phe Glu Asn Met Leu Leu Ala Ser Leu Glu
675 680 685

Arg Phe Ile Arg Thr Glu Ala Ala Glu Val Thr Pro Glu Ser Gly Leu
690 695 700

Ala Ser Ser His Ala Ala Ser Pro Ser His His Lys Leu Asp Arg Pro
705 710 715 720

Cys Glu Ser Ser Val Ser Asn Asp Ser Cys Gly Ser Asp Ile Gly Ala
725 730 735

Lys Thr Val Asp Glu Leu Glu Ala Asp Gln Glu Ala Tyr Thr Asn Glu
740 745 750

Glu Val Leu Phe Leu Gln Lys Ala Arg Glu Ala Gly Val Val Tyr Val
755 760 765

Leu Gly Asp Ser Asp Ile His Ala Lys Ser Asp Ser Trp Phe Pro Lys
770 775 780

Arg Ile Ile Ile Asn Lys Ile Tyr Lys Phe Leu Arg Arg Asn Cys Arg
785 790 795 800

Asn Asn Thr Leu Tyr Leu Ser Ile Pro Lys Asp Arg Leu Leu Lys Val
805 810 815

Gly Met Glu Tyr Tyr Val
820

<210> 15
<211> 657
<212> PRT
<213> Physcomitrella patens
<400> 15

20080423_F_59071_PCT_sequence_listing.txt

Met Ser Val Gln Tyr Arg Pro Glu Leu Gly Thr Met Val Leu Thr Pro
1 5 10 15

Gly Tyr Pro Pro Gly Lys Glu Arg Glu Tyr Leu Ser Asp Thr Ala Asn
20 25 30

Ser Gln Gln Thr Pro Ser Tyr Tyr Gly Ala Gln Lys Ser Tyr Ala Asp
35 40 45

Gly Gln Arg Gln Ser Ala Tyr Gly Met Lys Asn Lys Ser His Ser Ser
50 55 60

Pro Val Ser Pro Leu Ser Pro Gln Asp Ser Ser Gln Ala Ala Ser Asp
65 70 75 80

Asn Gly Gln Arg Met Ser Ala Gly Trp Ser Ser Ala Ser Tyr Gln Ser
85 90 95

Glu Ser Ser Ser His Ser Asp Gly Ser Leu Glu Gly Pro Gly Lys Leu
100 105 110

Glu Glu Ala Asp Tyr Tyr Gly Arg Gln His Arg His Gly Glu Gln Leu
115 120 125

Thr Gly Ser Val Ala Tyr His Asn Thr Pro Ser Ser Val Leu Arg Pro
130 135 140

Met Gly Tyr Pro Ala Glu Thr Ala Gln Ala Tyr Gln Met Pro Asn Tyr
145 150 155 160

Gln Gln Ala Val Arg Tyr Ile Pro Glu Glu Gln Tyr Ala Gln Ser Gln
165 170 175

Ser Asn Tyr Ala Gln Arg Asn Pro Glu Met Ala His Met Leu Gln Val
180 185 190

Leu Glu Ser Ala Leu Leu Asp Asp Asp Gly Ala Asp Leu Pro Gly
195 200 205

Ser Leu Gly Asn Gly His Asp Pro Ala Ser Glu Gly Asn Trp Ala Asp
210 215 220

Thr Ile Glu Glu Phe Met Ala Ala Asp Ala Ser Pro Ala Asp Ser Ser
225 230 235 240

Thr Val Thr Ser Ala Thr Thr Pro Pro Glu Tyr Gly Lys Gln Cys Arg
245 250 255

Asn Gly Ser Thr Asn Asn Tyr Thr Gly Ala Ala Thr Ala Arg Val Glu
260 265 270

Glu Pro Pro Pro Gln Lys Leu Val Val Gly Thr Arg Ser Arg Ser Glu
Seite 27

20080423_F_59071_PCT_sequence_listing.txt

275

280

285

Gln Leu Leu Val Ala Cys Ala Glu Ala Leu Ser Asn Asn Asp Met Pro
 290 295 300

Leu Ala Asn Val Leu Ile Ala Gln Leu Asn Gln Val Val Ser Ile Tyr
 305 310 315 320

Gly Asp Pro Met Gln Arg Leu Ala Ala Tyr Met Val Glu Gly Leu Val
 325 330 335

Ala Arg Val Ala Ala Ser Gly Lys Gly Ile Tyr Arg Ser Leu Lys Cys
 340 345 350

Lys Asp Pro Pro Thr Arg Asp Leu Leu Ser Ala Met Gln Ile Leu Tyr
 355 360 365

Glu Val Cys Pro Tyr Phe Lys Phe Gly Tyr Met Ala Ala Asn Gly Ser
 370 375 380

Ile Ala Glu Ala Phe Gln Asn Glu Ser Arg Val His Ile Ile Asp Phe
 385 390 395 400

Gln Ile Ala Gln Gly Thr Gln Trp Thr Thr Leu Ile Gln Ala Leu Ala
 405 410 415

Ala Arg Pro Gly Gly Pro Pro His Leu Arg Ile Thr Gly Ile Asp Asp
 420 425 430

Pro Met Pro Gly Pro Asn Ser Asn Ala Gly Val Glu Met Val Gly Lys
 435 440 445

Arg Leu Ala Lys Leu Ala Glu Ala Val Gly Val Pro Phe Asp Phe His
 450 455 460

Pro Val Ala Lys Lys Gly Pro Glu Val Glu Ala Trp Met Leu Glu Arg
 465 470 475 480

Gln Pro Gly Glu Ala Leu Ala Val Asn Phe Ala Leu His Leu His His
 485 490 495

Met Pro Asp Glu Ser Val Cys Thr Ser Asn Pro Arg Asp Arg Ile Leu
 500 505 510

His Met Val Lys Ala Leu Asn Pro Lys Val Val Thr Leu Val Glu Gln
 515 520 525

Glu Ser Asn Thr Asn Thr Ala Pro Phe Phe Pro Arg Phe Leu Glu Ala
 530 535 540

Met Asn Tyr Tyr Ala Ala Ile Phe Glu Ser Leu Asp Ile Thr Leu Ala
 545 550 555 560

20080423_F_59071_PCT_sequence_listing.txt

Arg Glu Ser Lys Glu Arg Val Asn Val Glu Gln Gln Cys Leu Ala Arg
565 570 575

Asp Ile Val Asn Ile Ile Ala Cys Glu Gly Ile Asp Arg Val Glu Arg
580 585 590

His Glu Met Met Gly Lys Trp Arg Ala Arg Leu Thr Met Ala Gly Phe
595 600 605

Arg Pro Tyr Pro Leu Ser Gln Thr Val Asn Asn Thr Ile Lys Thr Leu
610 615 620

Leu Glu Ser Tyr Ser Asp Lys Tyr Arg Leu Lys Asp Glu Gly Gly Ala
625 630 635 640

Leu Tyr Leu Gly Trp Lys Asn Arg Ser Leu Ile Val Ser Ser Ala Trp
645 650 655

Gln

<210> 16
<211> 204
<212> PRT
<213> Physcomitrella patens

<400> 16

Met Asn Pro Glu Tyr Asp Tyr Leu Phe Lys Leu Leu Leu Ile Gly Asp
1 5 10 15

Ser Gly Val Gly Lys Ser Cys Leu Leu Leu Arg Phe Ala Asp Asp Ser
20 25 30

Tyr Leu Glu Ser Tyr Ile Ser Thr Ile Gly Val Asp Phe Lys Ile Arg
35 40 45

Thr Val Glu Leu Asp Gly Lys Thr Ile Lys Leu Gln Ile Trp Asp Thr
50 55 60

Ala Gly Gln Glu Arg Phe Arg Thr Ile Thr Ser Ser Tyr Tyr Arg Gly
65 70 75 80

Ala His Gly Ile Ile Val Val Tyr Asp Val Thr Asp Gln Glu Ser Phe
85 90 95

Asn Asn Val Lys Gln Trp Leu Ser Glu Ile Asp Arg Tyr Ala Ser Glu
100 105 110

Asn Val Asn Lys Leu Leu Val Gly Asn Lys Ser Asp Leu Ala Ser Lys
115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Lys Val Val Asp Tyr Ala Thr Ala Lys Ala Phe Ala Asp Glu Ile Gly
130 135 140

Ile Pro Phe Leu Glu Thr Ser Ala Lys Asn Ala Thr Asn Val Glu Gln
145 150 155 160

Ala Phe Met Thr Met Ala Ala Glu Ile Lys Asn Arg Met Ala Ser Gln
165 170 175

Pro Ala Leu Ser Ser Thr Ser Arg Pro Asn Asn Val Thr Asn Leu Arg
180 185 190

Gly Gln Ala Ile Pro Gln Lys Ser Gly Cys Cys Ser
195 200

<210> 17
<211> 385
<212> PRT
<213> Bromus inermis

<400> 17

Met Ala Val Met Ser Arg Ser Arg Arg Leu Ala Ala Pro Ala Leu Leu
1 5 10 15

Val Leu Leu Ala Leu Ala Ala Val Ala Val Ala Glu Thr Thr Leu Asp
20 25 30

Gly Ala Glu Val Ala Pro Gly Lys Glu Glu Ser Ser Trp Ala Gly Trp
35 40 45

Ala Lys Asp Lys Val Ser Glu Gly Leu Gly Leu Asp Lys Ile Ser Glu
50 55 60

Gly Leu Gly Leu Lys His His Ala Asp Glu Glu Glu Ala Ala Arg Lys
65 70 75 80

Ala Gly His Thr Val Lys Ser Ala Arg Glu Thr Ala Gln His Ala Ala
85 90 95

Ser Glu Thr Gly Arg Gln Ala Ser Gly Lys Val Gly Asp Ala Lys Glu
100 105 110

Ala Ala Glu Gln Ala Ala Thr Gly Ala Ala Asn Lys Ala Gly Gln Ala
115 120 125

Lys Asp Lys Ala Ala Glu Thr Val Lys Gly Thr Ala Gly Glu Ala Ser
130 135 140

Lys Lys Ala Glu Gln Ala Lys His Lys Thr Lys Glu Ala Ala Glu Ala
145 150 155 160

Ala Ala Lys Thr Gly Ala Glu Thr His Glu Arg Ser Lys Gln Gly Lys
165 170 175

20080423_F_59071_PCT_sequence_listing.txt

Ala Lys Val Glu Glu Met Ala Arg Glu Trp Tyr Glu Arg Ala Lys His
180 185 190

Thr Ala Gly Glu Gly Tyr Glu Thr Leu Lys Gln Thr Lys Asp Ala Ala
195 200 205

Ala Glu Lys Ala Ala Ala Ala Lys Asp Ala Ala Thr Asn Lys Ala Gly
210 215 220

Ala Ala Thr Gln Thr Ala Ala Glu Lys Ala Ala Ala Lys Asp Thr
225 230 235 240

Ala Ala Gly Lys Ala Lys Ala Ala Lys Asp Ala Ala Trp Glu Glu Thr
245 250 255

Gly Ser Ala Lys Asp Ala Thr Trp Gln Ala Gln Glu Lys Leu Lys Gln
260 265 270

Tyr Asn Asp Ala Ala Ser Glu Lys Ala Ala Ala Ala Lys Asp Ala Asp
275 280 285

Ala Glu Lys Ala Ala Ala Ala Lys Asp Ala Ala Trp Lys Asn Ala Glu
290 295 300

Ala Ala Lys Gly Thr Val Gly Glu Lys Ala Gly Ala Ala Lys Asp Ala
305 310 315 320

Thr Leu Glu Lys Thr Glu Ser Ala Lys Asp Ala Ala Trp Glu Thr Ala
325 330 335

Glu Ala Ala Lys Gly Lys Ala Asn Glu Gly Tyr Glu Lys Val Lys Glu
340 345 350

Lys Asp Ala Thr Lys Glu Lys Leu Gly Glu Val Lys Asp Lys Val Thr
355 360 365

Gly Ala Ala Ser Asp Gly Lys Ala Lys Lys His Arg Asn Gly Asp Glu
370 375 380

Leu
385

<210> 18
<211> 256
<212> PRT
<213> Arabidopsis thaliana

<400> 18

Met Val Ala Asp Lys Ser Lys Lys Ser Lys Ile Glu Glu Lys Gly Glu
1 5 10 15

20080423_F_59071_PCT_sequence_listing.txt

Glu Glu Asn Leu Glu Gln Ile Asp Ala Glu Leu Val Leu Ser Ile Glu
20 25 30

Lys Leu Gln Glu Ile Gln Asp Asp Leu Glu Lys Ile Asn Glu Lys Ala
35 40 45

Ser Asp Glu Val Leu Glu Val Glu Gln Lys Tyr Asn Val Ile Arg Lys
50 55 60

Pro Val Tyr Asp Lys Arg Asn Glu Val Ile Gln Ser Ile Pro Gly Phe
65 70 75 80

Trp Met Thr Ala Phe Leu Ser His Pro Ala Leu Gly Asp Leu Leu Thr
85 90 95

Glu Glu Asp Gln Lys Ile Phe Lys Tyr Leu Asn Ser Leu Glu Val Glu
100 105 110

Asp Ala Lys Asp Val Lys Ser Gly Tyr Ser Ile Thr Phe His Phe Thr
115 120 125

Ser Asn Pro Phe Phe Glu Asp Ala Lys Leu Thr Lys Thr Phe Thr Phe
130 135 140

Leu Glu Glu Gly Thr Thr Lys Ile Thr Ala Thr Pro Ile Lys Trp Lys
145 150 155 160

Glu Gly Lys Gly Leu Pro Asn Gly Val Asn His Asp Asp Lys Lys Gly
165 170 175

Asn Lys Arg Ala Leu Pro Glu Glu Ser Phe Phe Thr Trp Phe Thr Asp
180 185 190

Ala Gln His Lys Glu Asp Ala Gly Asp Glu Ile His Asp Glu Val Ala
195 200 205

Asp Ile Ile Lys Glu Asp Leu Trp Ser Asn Pro Leu Thr Tyr Phe Asn
210 215 220

Asn Asp Ala Asp Glu Glu Asp Phe Asp Gly Asp Asp Asp Gly Asp Glu
225 230 235 240

Glu Gly Glu Glu Asp Asp Asp Asp Glu Glu Glu Glu Asp Gly Glu Glu
245 250 255

<210> 19

<211> 501

<212> PRT

<213> Arabidopsis thaliana

<400> 19

Met Ala Asn Leu Arg Leu Met Ile Thr Leu Ile Thr Val Leu Met Ile
1 5 10 15

20080423_F_59071_PCT_sequence_listing.txt

Thr Lys Ser Ser Asn Gly Ile Lys Ile Asp Leu Pro Lys Ser Leu Asn
 20 25 30
 Leu Thr Leu Ser Thr Asp Pro Ser Ile Ile Ser Ala Ala Ser His Asp
 35 40 45
 Phe Gly Asn Ile Thr Thr Val Thr Pro Gly Gly Val Ile Cys Pro Ser
 50 55 60
 Ser Thr Ala Asp Ile Ser Arg Leu Leu Gln Tyr Ala Ala Asn Gly Lys
 65 70 75 80
 Ser Thr Phe Gln Val Ala Ala Arg Gly Gln Gly His Ser Leu Asn Gly
 85 90 95
 Gln Ala Ser Val Ser Gly Gly Val Ile Val Asn Met Thr Cys Ile Thr
 100 105 110
 Asp Val Val Val Ser Lys Asp Lys Lys Tyr Ala Asp Val Ala Ala Gly
 115 120 125
 Thr Leu Trp Val Asp Val Leu Lys Lys Thr Ala Glu Lys Gly Val Ser
 130 135 140
 Pro Val Ser Trp Thr Asp Tyr Leu His Ile Thr Val Gly Gly Thr Leu
 145 150 155 160
 Ser Asn Gly Gly Ile Gly Gly Gln Val Phe Arg Asn Gly Pro Leu Val
 165 170 175
 Ser Asn Val Leu Glu Leu Asp Val Ile Thr Gly Lys Gly Glu Met Leu
 180 185 190
 Thr Cys Ser Arg Gln Leu Asn Pro Glu Leu Phe Tyr Gly Val Leu Gly
 195 200 205
 Gly Leu Gly Gln Phe Gly Ile Ile Thr Arg Ala Arg Ile Val Leu Asp
 210 215 220
 His Ala Pro Lys Arg Ala Lys Trp Phe Arg Met Leu Tyr Ser Asp Phe
 225 230 235 240
 Thr Thr Phe Thr Lys Asp Gln Glu Arg Leu Ile Ser Met Ala Asn Asp
 245 250 255
 Ile Gly Val Asp Tyr Leu Glu Gly Gln Ile Phe Leu Ser Asn Gly Val
 260 265 270
 Val Asp Thr Ser Phe Phe Pro Pro Ser Asp Gln Ser Lys Val Ala Asp
 275 280 285

20080423_F_59071_PCT_sequence_listing.txt

Leu Val Lys Gln His Gly Ile Ile Tyr Val Leu Glu Val Ala Lys Tyr
290 295 300

Tyr Asp Asp Pro Asn Leu Pro Ile Ile Ser Lys Val Ile Asp Thr Leu
305 310 315 320

Thr Lys Thr Leu Ser Tyr Leu Pro Gly Phe Ile Ser Met His Asp Val
325 330 335

Ala Tyr Phe Asp Phe Leu Asn Arg Val His Val Glu Glu Asn Lys Leu
340 345 350

Arg Ser Leu Gly Leu Trp Glu Leu Pro His Pro Trp Leu Asn Leu Tyr
355 360 365

Val Pro Lys Ser Arg Ile Leu Asp Phe His Asn Gly Val Val Lys Asp
370 375 380

Ile Leu Leu Lys Gln Lys Ser Ala Ser Gly Leu Ala Leu Leu Tyr Pro
385 390 395 400

Thr Asn Arg Asn Lys Trp Asp Asn Arg Met Ser Ala Met Ile Pro Glu
405 410 415

Ile Asp Glu Asp Val Ile Tyr Ile Ile Gly Leu Leu Gln Ser Ala Thr
420 425 430

Pro Lys Asp Leu Pro Glu Val Glu Ser Val Asn Glu Lys Ile Ile Arg
435 440 445

Phe Cys Lys Asp Ser Gly Ile Lys Ile Lys Gln Tyr Leu Met His Tyr
450 455 460

Thr Ser Glu Glu Asp Trp Ile Glu His Phe Gly Ser Lys Trp Asp Asp
465 470 475 480

Phe Ser Lys Arg Lys Asp Leu Phe Asp Pro Lys Lys Leu Leu Ser Pro
485 490 495

Gly Gln Asp Ile Phe
500

<210> 20
<211> 363
<212> PRT
<213> Arabidopsis thaliana

<400> 20

Met Asp Lys Tyr Glu Leu Val Lys Asp Ile Gly Ala Gly Asn Phe Gly
1 5 10 15

Val Ala Arg Leu Met Lys Val Lys Asn Ser Lys Glu Leu Val Ala Met
Seite 34

20

25

30

Lys Tyr Ile Glu Arg Gly Pro Lys Ile Asp Glu Asn Val Ala Arg Glu
 35 40 45

Ile Ile Asn His Arg Ser Leu Arg His Pro Asn Ile Ile Arg Phe Lys
 50 55 60

Glu Val Val Leu Thr Pro Thr His Leu Ala Ile Ala Met Glu Tyr Ala
 65 70 75 80

Ala Gly Gly Glu Leu Phe Glu Arg Ile Cys Ser Ala Gly Arg Phe Ser
 85 90 95

Glu Asp Glu Ala Arg Tyr Phe Phe Gln Gln Leu Ile Ser Gly Val Ser
 100 105 110

Tyr Cys His Ala Met Gln Ile Cys His Arg Asp Leu Lys Leu Glu Asn
 115 120 125

Thr Leu Leu Asp Gly Ser Pro Ala Pro Arg Leu Lys Ile Cys Asp Phe
 130 135 140

Gly Tyr Ser Lys Ser Ser Leu Leu His Ser Arg Pro Lys Ser Thr Val
 145 150 155 160

Gly Thr Pro Ala Tyr Ile Ala Pro Glu Val Leu Ser Arg Arg Glu Tyr
 165 170 175

Asp Gly Lys Met Ala Asp Val Trp Ser Cys Gly Val Thr Leu Tyr Val
 180 185 190

Met Leu Val Gly Ala Tyr Pro Phe Glu Asp Gln Glu Asp Pro Lys Asn
 195 200 205

Phe Arg Lys Thr Ile Gln Lys Ile Met Ala Val Gln Tyr Lys Ile Pro
 210 215 220

Asp Tyr Val His Ile Ser Gln Asp Cys Lys Asn Leu Leu Ser Arg Ile
 225 230 235 240

Phe Val Ala Asn Ser Leu Lys Arg Ile Thr Ile Ala Glu Ile Lys Lys
 245 250 255

His Ser Trp Phe Leu Lys Asn Leu Pro Arg Glu Leu Thr Glu Thr Ala
 260 265 270

Gln Ala Ala Tyr Phe Lys Lys Glu Asn Pro Thr Phe Ser Leu Gln Thr
 275 280 285

Val Glu Glu Ile Met Lys Ile Val Ala Asp Ala Lys Thr Pro Pro Pro
 290 295 300

20080423_F_59071_PCT_sequence_listing.txt

Val Ser Arg Ser Ile Gly Gly Phe Gly Trp Gly Gly Asn Gly Asp Ala
305 310 315 320

Asp Gly Lys Glu Glu Asp Ala Glu Asp Val Glu Glu Glu Glu Glu Glu
325 330 335

Val Glu Glu Glu Glu Asp Asp Glu Asp Glu Tyr Asp Lys Thr Val Lys
340 345 350

Glu Val His Ala Ser Gly Glu Val Arg Ile Ser
355 360

<210> 21
<211> 81
<212> PRT
<213> Arabidopsis thaliana
<400> 21

Met Ser Cys Cys Gly Gly Asn Cys Gly Cys Gly Ser Gly Cys Lys Cys
1 5 10 15

Gly Asn Gly Cys Gly Gly Cys Lys Met Tyr Pro Asp Leu Gly Phe Ser
20 25 30

Gly Glu Thr Thr Thr Thr Glu Thr Phe Val Leu Gly Val Ala Pro Ala
35 40 45

Met Lys Asn Gln Tyr Glu Ala Ser Gly Glu Ser Asn Asn Ala Glu Asn
50 55 60

Asp Ala Cys Lys Cys Gly Ser Asp Cys Lys Cys Asp Pro Cys Thr Cys
65 70 75 80

Lys

<210> 22
<211> 210
<212> PRT
<213> Arabidopsis thaliana
<400> 22

Met Gln Gln His Leu Met Gln Met Gln Pro Met Met Ala Gly Tyr Tyr
1 5 10 15

Pro Ser Asn Val Thr Ser Asp His Ile Gln Gln Tyr Leu Asp Glu Asn
20 25 30

Lys Ser Leu Ile Leu Lys Ile Val Glu Ser Gln Asn Ser Gly Lys Leu
35 40 45

Ser Glu Cys Ala Glu Asn Gln Ala Arg Leu Gln Arg Asn Leu Met Tyr
Seite 36

50

55

60

Leu Ala Ala Ile Ala Asp Ser Gln Pro Gln Pro Pro Ser Val His Ser
65 70 75 80

Gln Tyr Gly Ser Ala Gly Gly Gly Met Ile Gln Gly Glu Gly Gly Ser
85 90 95

His Tyr Leu Gln Gln Gln Gln Ala Thr Gln Gln Gln Gln Met Thr Gln
100 105 110

Gln Ser Leu Met Ala Ala Arg Ser Ser Met Leu Tyr Ala Gln Gln Gln
115 120 125

Arg Gln Gln Gln Pro Tyr Ala Thr Leu Gln His Gln Gln Ser His His
130 135 140

Ser Gln Leu Gly Met Ser Ser Ser Ser Gly Gly Gly Gly Ser Ser Gly
145 150 155 160

Leu His Ile Leu Gln Gly Glu Ala Gly Gly Phe His Asp Phe Gly Arg
165 170 175

Gly Lys Pro Glu Met Gly Ser Gly Gly Gly Gly Glu Gly Arg Gly Gly
180 185 190

Ser Ser Gly Asp Gly Gly Glu Thr Leu Tyr Leu Lys Ser Ser Asp Asp
195 200 205

Gly Asn
210

<210> 23

<211> 453

<212> PRT

<213> Arabidopsis thaliana

<400> 23

Met Glu Asn Lys Ser His Ser Asn His His Arg Tyr His His Leu Ser
1 5 10 15

Ser Arg Ser His Glu Gln Asn Gln Arg Gly Leu Ile Ser Ile Asn Ala
20 25 30

Ile Ile Ile Ile Gly Ile Ser Ile Ile Ser Ile Phe Ile Ile Leu Ala
35 40 45

Ile Leu Leu Ile Ile Ile Leu Leu His Arg Leu Lys Ser Ala Arg Val
50 55 60

Lys Ala Gln Glu Leu Ser Cys Lys Glu Ser Phe Asn Asn Met Asn Asn
65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Gly Gly Ala Ser Thr Asn Tyr Ser Tyr Thr Ser Ser Pro Asp Asp Ile
85 90 95

Lys Arg Asp Cys Leu Tyr Ser Arg Asn Pro Thr Ser Phe Arg Gln Leu
100 105 110

Pro Pro Gln Thr Lys Ser Cys Arg Arg Ser Arg Ala Glu Gly Val Glu
115 120 125

Val Tyr Thr Tyr Lys Glu Leu Glu Ile Ala Thr Asn Asn Phe Ser Glu
130 135 140

Glu Lys Lys Ile Gly Asn Gly Asp Val Tyr Lys Gly Val Leu Ser Asp
145 150 155 160

Gly Thr Val Ala Ala Ile Lys Lys Leu His Met Phe Asn Asp Asn Ala
165 170 175

Ser Asn Gln Lys His Glu Glu Arg Ser Phe Arg Leu Glu Val Asp Leu
180 185 190

Leu Ser Arg Leu Gln Cys Pro Tyr Leu Val Glu Leu Leu Gly Tyr Cys
195 200 205

Ala Asp Gln Asn His Arg Ile Leu Ile Tyr Glu Phe Met Pro Asn Gly
210 215 220

Thr Val Glu His His Leu His Asp His Asn Phe Lys Asn Leu Lys Asp
225 230 235 240

Arg Pro Gln Pro Leu Asp Trp Gly Ala Arg Leu Arg Ile Ala Leu Asp
245 250 255

Cys Ala Arg Ala Leu Glu Phe Leu His Glu Asn Thr Ile Ser Thr Val
260 265 270

Ile His Arg Asn Phe Lys Cys Thr Asn Ile Leu Leu Asp Gln Asn Asn
275 280 285

Arg Ala Lys Val Ser Asp Phe Gly Leu Ala Lys Thr Gly Ser Asp Lys
290 295 300

Leu Asn Gly Glu Ile Ser Thr Arg Val Ile Gly Thr Thr Gly Tyr Leu
305 310 315 320

Ala Pro Glu Tyr Ala Ser Thr Gly Lys Leu Thr Thr Lys Ser Asp Val
325 330 335

Tyr Ser Tyr Gly Ile Val Leu Leu Gln Leu Leu Thr Gly Arg Thr Pro
340 345 350

20080423_F_59071_PCT_sequence_listing.txt

Ile Asp Ser Arg Arg Pro Arg Gly Gln Asp Val Leu Val Ser Trp Ala
355 360 365

Leu Pro Arg Leu Thr Asn Arg Glu Lys Ile Ser Glu Met Val Asp Pro
370 375 380

Thr Met Lys Gly Gln Tyr Ser Gln Lys Asp Leu Ile Gln Val Ala Ala
385 390 395 400

Ile Ala Ala Val Cys Val Gln Pro Glu Ala Ser Tyr Arg Pro Leu Met
405 410 415

Thr Asp Val Val His Ser Leu Ile Pro Leu Val Lys Ala Phe Asn Lys
420 425 430

Ser Thr Asp Ser Ser Arg Phe Pro Ser Arg Arg Glu Ser Leu Ser Phe
435 440 445

Asp Asp Ile Met Pro
450

<210> 24
<211> 744
<212> PRT
<213> Arabidopsis thaliana
<400> 24

Met Glu Ala Met Leu Val Asp Cys Val Asn Asn Ser Leu Arg His Phe
1 5 10 15

Val Tyr Lys Asn Ala Ile Phe Met Cys Glu Arg Leu Cys Ala Glu Phe
20 25 30

Pro Ser Glu Val Asn Leu Gln Leu Leu Ala Thr Ser Tyr Leu Gln Asn
35 40 45

Asn Gln Ala Tyr Ser Ala Tyr His Leu Leu Lys Gly Thr Gln Met Ala
50 55 60

Gln Ser Arg Tyr Leu Phe Ala Leu Ser Cys Phe Gln Met Asp Leu Leu
65 70 75 80

Asn Glu Ala Glu Ser Ala Leu Cys Pro Val Asn Glu Pro Gly Ala Glu
85 90 95

Ile Pro Asn Gly Ala Ala Gly His Tyr Leu Leu Gly Leu Ile Tyr Lys
100 105 110

Tyr Thr Asp Arg Arg Lys Asn Ala Ala Gln Gln Phe Lys Gln Ser Leu
115 120 125

Thr Ile Asp Pro Leu Leu Trp Ala Ala Tyr Glu Glu Leu Cys Ile Leu
130 135 140

20080423_F_59071_PCT_sequence_listing.txt

Gly Ala Ala Glu Glu Ala Thr Ala Val Phe Gly Glu Thr Ala Ala Leu
145 150 155 160

Ser Ile Gln Lys Gln Tyr Met Gln Gln Leu Ser Thr Ser Leu Gly Leu
165 170 175

Asn Thr Tyr Asn Glu Glu Arg Asn Ser Thr Ser Thr Lys Asn Thr Ser
180 185 190

Ser Glu Asp Tyr Ser Pro Arg Gln Ser Lys His Thr Gln Ser His Gly
195 200 205

Leu Lys Asp Ile Ser Gly Asn Phe His Ser His Gly Val Asn Gly Gly
210 215 220

Val Ser Asn Met Ser Phe Tyr Asn Thr Pro Ser Pro Val Ala Ala Gln
225 230 235 240

Leu Ser Gly Ile Ala Pro Pro Pro Leu Phe Arg Asn Phe Gln Pro Ala
245 250 255

Val Ala Asn Pro Asn Ser Leu Ile Thr Asp Ser Ser Pro Lys Ser Thr
260 265 270

Val Asn Ser Thr Leu Gln Ala Pro Arg Arg Lys Phe Val Asp Glu Gly
275 280 285

Lys Leu Arg Lys Ile Ser Gly Arg Leu Phe Ser Asp Ser Gly Pro Arg
290 295 300

Arg Ser Ser Arg Leu Ser Ala Asp Ser Gly Ala Asn Ile Asn Ser Ser
305 310 315 320

Val Ala Thr Val Ser Gly Asn Val Asn Asn Ala Ser Lys Tyr Leu Gly
325 330 335

Gly Ser Lys Leu Ser Ser Leu Ala Leu Arg Pro Val Thr Leu Arg Lys
340 345 350

Gly His Ser Trp Ala Asn Glu Asn Met Asp Glu Gly Val Arg Gly Glu
355 360 365

Pro Phe Asp Asp Ser Arg Pro Asn Thr Ala Ser Thr Thr Gly Ser Met
370 375 380

Ala Ser Asn Asp Gln Glu Asp Glu Thr Met Ser Ile Gly Gly Ile Ala
385 390 395 400

Met Ser Ser Gln Thr Ile Thr Ile Gly Val Ser Glu Ile Leu Asn Leu
405 410 415

20080423_F_59071_PCT_sequence_listing.txt

Leu Arg Thr Leu Gly Glu Gly Cys Arg Leu Ser Tyr Met Tyr Arg Cys
420 425 430

Gln Glu Ala Leu Asp Thr Tyr Met Lys Leu Pro His Lys His Tyr Asn
435 440 445

Thr Gly Trp Val Leu Ser Gln Val Gly Lys Ala Tyr Phe Glu Leu Ile
450 455 460

Asp Tyr Leu Glu Ala Glu Lys Ala Phe Arg Leu Ala Arg Leu Ala Ser
465 470 475 480

Pro Tyr Cys Leu Glu Gly Met Asp Ile Tyr Ser Thr Val Leu Tyr His
485 490 495

Leu Lys Glu Asp Met Lys Leu Ser Tyr Leu Ala Gln Glu Leu Ile Ser
500 505 510

Thr Asp Arg Leu Ala Pro Gln Ser Trp Cys Ala Met Gly Asn Cys Tyr
515 520 525

Ser Leu Gln Lys Asp His Glu Thr Ala Leu Lys Asn Phe Leu Arg Ala
530 535 540

Val Gln Leu Asn Pro Arg Phe Ala Tyr Ala His Thr Leu Cys Gly His
545 550 555 560

Glu Tyr Thr Thr Leu Glu Asp Phe Glu Asn Gly Met Lys Ser Tyr Gln
565 570 575

Asn Ala Leu Arg Val Asp Thr Arg His Tyr Asn Ala Trp Tyr Gly Leu
580 585 590

Gly Met Ile Tyr Leu Arg Gln Glu Lys Leu Glu Phe Ser Glu His His
595 600 605

Phe Arg Met Ala Phe Leu Ile Asn Pro Ser Ser Ser Val Ile Met Ser
610 615 620

Tyr Leu Gly Thr Ser Leu His Ala Leu Lys Arg Ser Glu Glu Ala Leu
625 630 635 640

Glu Ile Met Glu Gln Ala Ile Val Ala Asp Arg Lys Asn Pro Leu Pro
645 650 655

Met Tyr Gln Lys Ala Asn Ile Leu Val Cys Leu Glu Arg Leu Asp Glu
660 665 670

Ala Leu Glu Val Leu Glu Glu Leu Lys Glu Tyr Ala Pro Ser Glu Ser
675 680 685

20080423_F_59071_PCT_sequence_listing.txt

Ser Val Tyr Ala Leu Met Gly Arg Ile Tyr Lys Arg Arg Asn Met His
690 695 700

Asp Lys Ala Met Leu His Phe Gly Leu Ala Leu Asp Met Lys Pro Pro
705 710 715 720

Ala Thr Asp Val Ala Ala Ile Lys Ala Ala Met Glu Lys Leu His Val
725 730 735

Pro Asp Glu Ile Asp Glu Ser Pro
740

<210> 25
<211> 354
<212> PRT
<213> Arabidopsis thaliana
<400> 25

Met Glu Leu Leu Met Cys Ser Gly Gln Ala Glu Ser Gly Gly Ser Ser
1 5 10 15

Ser Thr Glu Ser Ser Ser Leu Ser Gly Gly Leu Arg Phe Gly Gln Lys
20 25 30

Ile Tyr Phe Glu Asp Gly Ser Gly Ser Arg Ser Lys Asn Arg Val Asn
35 40 45

Thr Val Arg Lys Ser Ser Thr Thr Ala Arg Cys Gln Val Glu Gly Cys
50 55 60

Arg Met Asp Leu Ser Asn Val Lys Ala Tyr Tyr Ser Arg His Lys Val
65 70 75 80

Cys Cys Ile His Ser Lys Ser Ser Lys Val Ile Val Ser Gly Leu His
85 90 95

Gln Arg Phe Cys Gln Gln Cys Ser Arg Phe His Gln Leu Ser Glu Phe
100 105 110

Asp Leu Glu Lys Arg Ser Cys Arg Arg Arg Leu Ala Cys His Asn Glu
115 120 125

Arg Arg Arg Lys Pro Gln Pro Thr Thr Ala Leu Phe Thr Ser His Tyr
130 135 140

Ser Arg Ile Ala Pro Ser Leu Tyr Gly Asn Pro Asn Ala Ala Met Ile
145 150 155 160

Lys Ser Val Leu Gly Asp Pro Thr Ala Trp Ser Thr Ala Arg Ser Val
165 170 175

Met Gln Arg Pro Gly Pro Trp Gln Ile Asn Pro Val Arg Glu Thr His
180 185 190

20080423_F_59071_PCT_sequence_listing.txt

Pro His Met Asn Val Leu Ser His Gly Ser Ser Ser Phe Thr Thr Cys
195 200 205

Pro Glu Met Ile Asn Asn Asn Ser Thr Asp Ser Ser Cys Ala Leu Ser
210 215 220

Leu Leu Ser Asn Ser Tyr Pro Ile His Gln Gln Gln Leu Gln Thr Pro
225 230 235 240

Thr Asn Thr Trp Arg Pro Ser Ser Gly Phe Asp Ser Met Ile Ser Phe
245 250 255

Ser Asp Lys Val Thr Met Ala Gln Pro Pro Pro Ile Ser Thr His Gln
260 265 270

Pro Pro Ile Ser Thr His Gln Gln Tyr Leu Ser Gln Thr Trp Glu Val
275 280 285

Ile Ala Gly Glu Lys Ser Asn Ser His Tyr Met Ser Pro Val Ser Gln
290 295 300

Ile Ser Glu Pro Ala Asp Phe Gln Ile Ser Asn Gly Thr Thr Met Gly
305 310 315 320

Gly Phe Glu Leu Tyr Leu His Gln Gln Val Leu Lys Gln Tyr Met Glu
325 330 335

Pro Glu Asn Thr Arg Ala Tyr Asp Ser Ser Pro Gln His Phe Asn Trp
340 345 350

Ser Leu

<210> 26
<211> 546
<212> PRT
<213> Beta vulgaris

<400> 26

Met Asp Glu Tyr Ser Asn Arg Lys Ser Ser Gly Leu Ala Ile Ser Arg
1 5 10 15

Arg Gly Pro Ser Leu Val Leu Arg Asp Ser Ala Glu Asn Asn Lys Asp
20 25 30

Arg Asn Val Gln Val Cys Ser Arg Val Gly Cys Gly Ser Lys Leu Asn
35 40 45

Ser Val Lys Asp Ala Lys Val Ser Ser Pro Ser Lys Val Lys Ser Pro
50 55 60

20080423_F_59071_PCT_sequence_listing.txt

Lys Thr Pro Phe Arg Ser Ser Ala Gln Gly Lys Glu Thr Ile Gly Ser
 65 70 75 80
 Ser Ser Arg Thr Leu Ala Ser Pro Ser Pro Phe Lys Lys Ser Leu Ser
 85 90 95
 Asp Arg Lys Lys Lys Leu Pro Ser Asn Leu Asp Thr Asp Ser Glu Met
 100 105 110
 Cys Ser Leu Gln Asp Glu Ser Glu Glu Val Ser Gly Lys Thr Arg Ile
 115 120 125
 Arg Val Gln Pro Glu Pro Glu Asp His Asp Ser Ile Glu Ala Ser Ser
 130 135 140
 Ser Glu Ala Gly Ser Ser Ser Ser Gly Pro Ser Asn Arg Leu Ala Asn
 145 150 155 160
 Arg Asn Thr Gln Arg Phe Gly Leu Gly Arg Gln Asp Ser Ala Ala Ser
 165 170 175
 Ser Ala Ser Phe Ser Leu Asn Lys Thr Asn Gln Gly Gln Arg Asn Gly
 180 185 190
 Gly Gly Gly Gly Ala Ser Ala Asn Arg Tyr Asn Leu Arg Gln Leu Lys
 195 200 205
 Cys Asn Ser Ile Ser Asp Val Val Pro Ser Gly Ser Pro Gln Ser Ala
 210 215 220
 Glu Ser Ser Leu Ser Lys Lys Arg Asp Thr Gly Cys Arg Lys Arg Asn
 225 230 235 240
 Gly Glu Ala Glu Ser Ser Leu Pro Val Arg Gly Lys Lys Ile Asn Gly
 245 250 255
 Ala Thr Gln Asp Asp Arg Arg Asn Asp Tyr Pro Asn Arg Gly Ile Ser
 260 265 270
 Ile Ser Asp Thr Arg Arg Thr Arg Ser Ser Ser Pro Gly Asn Asn Asp
 275 280 285
 Val Thr Ser Val Arg Ser Arg Arg Ser Val Ala Arg Thr Arg Leu Ser
 290 295 300
 Asn Gln Asp Thr Arg Asp Arg Leu Pro Leu Val Glu Ser Pro Leu Arg
 305 310 315 320
 Asn Pro Ser Ser Pro Leu Pro Glu Ser Ser Thr Gly Gly Thr Asp Phe
 325 330 335
 Ser Leu Glu Asn Gln Phe Ser Gly Arg Thr Pro Ala Gly Ser Leu Ser
 Seite 44

340

345

350

Ser Tyr Asn Arg Pro Gly Gly Gly Ser Glu His Met Arg Pro Ser Arg
 355 360 365

Ser Ile Asp Pro Tyr Glu Ala Gly Ile Ala Arg Ser Phe Met Asn Arg
 370 375 380

Asp Thr Leu Arg Gln Tyr Asn Leu Asp Gly Ile Ala Glu Met Leu Leu
 385 390 400

Ala Leu Glu Arg Ile Glu Gln Glu Glu Asp Pro Thr Tyr Glu Gln Leu
 405 410 415

Leu Val Leu Glu Thr Asn Leu Phe Leu Gly Gly Leu Ser Phe His Asp
 420 425 430

Gln His Arg Asp Met Arg Leu Asp Ile Asp Asn Met Ser Tyr Glu Glu
 435 440 445

Leu Leu Ala Leu Glu Glu Ser Met Gly Thr Val Ser Thr Ala Val Pro
 450 455 460

Glu Asp Asp Leu Ala Lys Cys Leu Lys Arg Asn Ile Tyr Gln Gly Val
 465 470 475 480

Ala Asp Cys Arg Glu Asp Glu His Asp Ile Lys Cys Ser Ile Cys Gln
 485 490 495

Glu Glu Tyr Gly Gly Gly Glu Glu Val Gly Arg Leu Ser Cys Asp His
 500 505 510

Ser Tyr His Ile Glu Cys Ile Asn Gln Trp Leu Arg Leu Lys Asn Trp
 515 520 525

Cys Pro Ile Cys Lys Ala Ser Ala Ser Pro Ser Thr Ser Ala Thr Pro
 530 535 540

Pro Pro
 545

<210> 27
 <211> 589
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 27

Met Thr Ile Ser Ser Ala His Pro Glu Thr Glu Pro Lys Trp Trp Lys
 1 5 10 15

Glu Ala Thr Ile Tyr Gln Ile Tyr Pro Ala Ser Phe Lys Asp Ser Asn
 20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Asn Asp Gly Trp Gly Asp Met Lys Gly Ile Ala Ser Lys Leu Glu Tyr
 35 40 45
 Ile Lys Glu Leu Gly Thr Asp Ala Ile Trp Ile Ser Pro Phe Tyr Asp
 50 55 60
 Ser Pro Gln Asp Asp Met Gly Tyr Asp Ile Ala Asn Tyr Glu Lys Val
 65 70 75 80
 Trp Pro Thr Tyr Gly Thr Asn Glu Asp Cys Phe Ala Leu Ile Glu Lys
 85 90 95
 Thr His Lys Leu Gly Met Lys Phe Ile Thr Asp Leu Val Ile Asn His
 100 105 110
 Cys Ser Ser Glu His Glu Trp Phe Lys Glu Ser Arg Ser Ser Lys Thr
 115 120 125
 Asn Pro Lys Arg Asp Trp Phe Phe Trp Arg Pro Pro Lys Gly Tyr Asp
 130 135 140
 Ala Glu Gly Lys Pro Ile Pro Pro Asn Asn Trp Arg Ser Tyr Phe Gly
 145 150 155 160
 Gly Ser Ala Trp Thr Phe Asp Glu Lys Thr Gln Glu Phe Tyr Leu Arg
 165 170 175
 Leu Phe Cys Ser Thr Gln Pro Asp Leu Asn Trp Glu Asn Glu Asp Cys
 180 185 190
 Arg Lys Ala Ile Tyr Glu Ser Ala Val Gly Tyr Trp Leu Asp His Gly
 195 200 205
 Val Asp Gly Phe Arg Ile Asp Val Gly Ser Leu Tyr Ser Lys Val Ala
 210 215 220
 Gly Leu Pro Asp Ala Pro Val Ile Asp Glu Asn Ser Lys Trp Gln Leu
 225 230 235 240
 Ser Asp Pro Phe Thr Met Asn Gly Pro Arg Ile His Glu Phe His Gln
 245 250 255
 Glu Met Asn Lys Phe Ile Arg Asn Arg Val Lys Asp Gly Arg Glu Ile
 260 265 270
 Met Thr Val Gly Glu Met Arg His Ala Thr Asp Glu Thr Lys Arg Leu
 275 280 285
 Tyr Thr Ser Ala Ser Arg His Glu Leu Ser Glu Leu Phe Asn Phe Ser
 290 295 300

20080423_F_59071_PCT_sequence_listing.txt

His Thr Asp Val Gly Thr Ser Pro Lys Phe Arg Gln Asn Leu Ile Pro
305 310 315 320

Tyr Glu Leu Lys Asp Trp Lys Val Ala Leu Ala Glu Leu Phe Arg Tyr
325 330 335

Val Asn Gly Thr Asp Cys Trp Ser Thr Ile Tyr Leu Glu Asn His Asp
340 345 350

Gln Pro Arg Ser Ile Thr Arg Phe Gly Asp Asp Ser Pro Lys Asn Arg
355 360 365

Val Ile Ser Gly Lys Leu Leu Ser Val Leu Leu Val Ser Leu Ser Gly
370 375 380

Thr Leu Tyr Val Tyr Gln Gly Gln Glu Leu Gly Glu Ile Asn Phe Lys
385 390 395 400

Asn Trp Pro Ile Glu Lys Tyr Glu Asp Val Glu Val Arg Asn Asn Tyr
405 410 415

Asp Ala Ile Lys Glu Glu His Gly Glu Asn Ser Lys Glu Met Lys Arg
420 425 430

Phe Leu Glu Ala Ile Ala Leu Ile Ser Arg Asp His Ala Arg Thr Pro
435 440 445

Met Gln Trp Ser Arg Glu Glu Pro Asn Ala Gly Phe Ser Gly Pro Asn
450 455 460

Ala Lys Pro Trp Phe Tyr Leu Asn Glu Ser Phe Arg Glu Gly Ile Asn
465 470 475 480

Ala Glu Asp Glu Ser Lys Asp Pro Asn Ser Val Leu Asn Phe Trp Lys
485 490 495

Glu Ala Leu Arg Phe Arg Lys Ala His Lys Asp Ile Thr Val Tyr Gly
500 505 510

Tyr Asp Phe Glu Phe Ile Asp Leu Asp Asn Lys Lys Leu Phe Ser Phe
515 520 525

Thr Lys Lys Tyr Asp Asn Lys Thr Leu Phe Ala Ala Leu Asn Phe Ser
530 535 540

Ser Asp Ser Ile Asp Phe Thr Ile Pro Asn Asn Ser Ser Ser Phe Lys
545 550 555 560

Leu Glu Phe Gly Asn Tyr Pro Arg Ser Glu Val Asp Ala Ser Ser Arg
565 570 575

Thr Leu Lys Pro Trp Glu Gly Arg Ile Tyr Ile Ser Glu
Seite 47

<210> 28
<211> 525
<212> PRT
<213> Saccharomyces cerevisiae
<400> 28

Met Ala Ala Gly Glu Gln Val Ser Asn Met Phe Asp Thr Ile Leu Val
1 5 10 15

Leu Asp Phe Gly Ser Gln Tyr Ser His Leu Ile Thr Arg Arg Leu Arg
20 25 30

Glu Phe Asn Ile Tyr Ala Glu Met Leu Pro Cys Thr Gln Lys Ile Ser
35 40 45

Glu Leu Gly Trp Thr Pro Lys Gly Val Ile Leu Ser Gly Gly Pro Tyr
50 55 60

Ser Val Tyr Ala Glu Asp Ala Pro His Val Asp His Ala Ile Phe Asp
65 70 75 80

Leu Asn Val Pro Ile Leu Gly Ile Cys Tyr Gly Met Gln Glu Leu Ala
85 90 95

Trp Ile Asn Gly Lys Gln Val Gly Arg Gly Asp Lys Arg Glu Tyr Gly
100 105 110

Pro Ala Thr Leu Lys Val Ile Asp Asp Ser Asn Ser Leu Phe Lys Gly
115 120 125

Met Asn Asp Ser Thr Val Trp Met Ser His Gly Asp Lys Leu His Gly
130 135 140

Leu Pro Thr Gly Tyr Lys Thr Ile Ala Thr Ser Asp Asn Ser Pro Tyr
145 150 155 160

Cys Gly Ile Val His Glu Thr Lys Pro Ile Tyr Gly Ile Gln Phe His
165 170 175

Pro Glu Val Thr His Ser Thr Gln Gly Lys Thr Leu Leu Lys Asn Phe
180 185 190

Ala Val Asp Leu Cys His Ala Lys Gln Asn Trp Thr Met Glu Asn Phe
195 200 205

Ile Asp Thr Glu Ile Asn Arg Ile Arg Lys Leu Val Gly Pro Thr Ala
210 215 220

Glu Val Ile Gly Ala Val Ser Gly Gly Val Asp Ser Thr Val Ala Ser
225 230 235 240

20080423_F_59071_PCT_sequence_listing.txt

Lys Leu Met Thr Glu Ala Ile Gly Asp Arg Phe His Ala Ile Leu Val
 245 250 255
 Asp Asn Gly Val Leu Arg Leu Asn Glu Ala Ala Asn Val Lys Lys Thr
 260 265 270
 Leu Val Glu Gly Leu Gly Ile Asn Leu Met Val Val Asp Ala Ser Glu
 275 280 285
 Glu Phe Leu Ser Lys Leu Lys Gly Val Thr Asp Pro Glu Lys Lys Arg
 290 295 300
 Lys Ile Ile Gly Asn Thr Phe Ile His Val Phe Glu Arg Glu Ala Glu
 305 310 315 320
 Lys Ile Lys Pro Lys Asp Gly Lys Glu Ile Gln Phe Leu Leu Gln Gly
 325 330 335
 Thr Leu Tyr Pro Asp Val Ile Glu Ser Ile Ser Phe Lys Gly Pro Ser
 340 345 350
 Gln Thr Ile Lys Thr His His Asn Val Gly Gly Leu Leu Glu Asn Met
 355 360 365
 Lys Leu Lys Leu Ile Glu Pro Leu Arg Glu Leu Phe Lys Asp Glu Val
 370 375 380
 Arg His Leu Gly Glu Leu Leu Gly Ile Pro His Asp Leu Val Trp Arg
 385 390 395 400
 His Pro Phe Pro Gly Pro Gly Ile Ala Ile Arg Val Leu Gly Glu Val
 405 410 415
 Thr Lys Glu Gln Val Glu Ile Ala Arg Lys Ala Asp Asn Ile Tyr Ile
 420 425 430
 Glu Glu Ile Lys Lys Ala Gly Leu Tyr Asn Gln Ile Ser Gln Ala Phe
 435 440 445
 Ala Cys Leu Leu Pro Val Lys Ser Val Gly Val Met Gly Asp Gln Arg
 450 455 460
 Thr Tyr Asp Gln Val Ile Ala Leu Arg Ala Ile Glu Thr Thr Asp Phe
 465 470 475 480
 Met Thr Ala Asp Trp Phe Pro Phe Glu His Ser Phe Leu Lys Lys Val
 485 490 495
 Ala Ser Arg Ile Val Asn Glu Val Asp Gly Val Ala Arg Val Thr Tyr
 500 505 510

20080423_F_59071_PCT_sequence_listing.txt

Asp Ile Thr Ser Lys Pro Pro Ala Thr Val Glu Trp Glu
515 520 525

<210> 29
<211> 249
<212> PRT
<213> Oryza sativa
<400> 29

Met Gly Arg Gly Pro Val Gln Leu Arg Arg Ile Glu Asn Lys Ile Asn
1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Asp Val Ala Leu Ile Val Phe
35 40 45

Ser Thr Lys Gly Lys Leu Tyr Glu Phe Ser Ser His Ser Ser Met Glu
50 55 60

Gly Ile Leu Glu Arg Tyr Gln Arg Tyr Ser Phe Asp Glu Arg Ala Val
65 70 75 80

Leu Glu Pro Asn Thr Glu Asp Gln Glu Asn Trp Gly Asp Glu Tyr Gly
85 90 95

Ile Leu Lys Ser Lys Leu Asp Ala Leu Gln Lys Ser Gln Arg Gln Leu
100 105 110

Leu Gly Glu Gln Leu Asp Thr Leu Thr Ile Lys Glu Leu Gln Gln Leu
115 120 125

Glu His Gln Leu Glu Tyr Ser Leu Lys His Ile Arg Ser Lys Lys Asn
130 135 140

Gln Leu Leu Phe Glu Ser Ile Ser Glu Leu Gln Lys Lys Glu Lys Ser
145 150 155 160

Leu Lys Asn Gln Asn Asn Val Leu Gln Lys Leu Met Glu Thr Glu Lys
165 170 175

Glu Lys Asn Asn Ala Ile Ile Asn Thr Asn Arg Glu Glu Gln Asn Gly
180 185 190

Ala Thr Pro Ser Thr Ser Ser Pro Thr Pro Val Thr Ala Pro Asp Pro
195 200 205

Ile Pro Thr Thr Asn Asn Ser Gln Ser Gln Pro Arg Gly Ser Gly Glu
210 215 220

Ser Glu Ala Gln Pro Ser Pro Ala Gln Ala Gly Asn Ser Lys Leu Pro
225 230 235 240

20080423_F_59071_PCT_sequence_listing.txt

Pro Trp Met Leu Arg Thr Ser His Thr
245

<210> 30
<211> 275
<212> PRT
<213> Oryza sativa
<400> 30

Met Lys Arg Lys Arg Pro Ala Ala Leu Arg Gly Gly Glu Glu Ala Ala
1 5 10 15

Ala Ala Ala Leu Lys Arg Gly Pro Trp Thr Pro Glu Glu Asp Glu Val
20 25 30

Leu Ala Arg Phe Val Ala Arg Glu Gly Cys Asp Arg Trp Arg Thr Leu
35 40 45

Pro Arg Arg Ala Gly Leu Leu Arg Cys Gly Lys Ser Cys Arg Leu Arg
50 55 60

Trp Met Asn Tyr Leu Arg Pro Asp Ile Lys Arg Cys Pro Ile Ala Asp
65 70 75 80

Asp Glu Glu Asp Leu Ile Leu Arg Leu His Arg Leu Leu Gly Asn Arg
85 90 95

Trp Ser Leu Ile Ala Gly Arg Leu Pro Gly Arg Thr Asp Asn Glu Ile
100 105 110

Lys Asn Tyr Trp Asn Ser His Leu Ser Lys Lys Leu Ile Ala Gln Gly
115 120 125

Ile Asp Pro Arg Thr His Lys Pro Leu Thr Ala Ala Ala Asp His Ser
130 135 140

Asn Ala Ala Ala Ala Val Ala Ala Thr Ser Tyr Lys Lys Ala Val Pro
145 150 155 160

Ala Lys Pro Pro Arg Thr Ala Ser Ser Pro Ala Ala Gly Ile Glu Cys
165 170 175

Ser Asp Asp Arg Ala Arg Pro Ala Asp Gly Gly Gly Asp Phe Ala Ala
180 185 190

Met Val Ser Ala Ala Asp Ala Glu Gly Phe Glu Gly Gly Phe Gly Asp
195 200 205

Gln Phe Cys Ala Glu Asp Ala Val His Gly Gly Phe Asp Met Gly Ser
210 215 220

20080423_F_59071_PCT_sequence_listing.txt

Ala Ser Ala Met Val Gly Asp Asp Asp Phe Ser Ser Phe Leu Asp Ser
225 230 235 240

Leu Ile Asn Asp Glu Gln Leu Gly Asp Leu Phe Val Val Glu Gly Asn
245 250 255

Asp His Glu His Gly Asn Gly Glu Ile Gly His Gly Asp Val Met Glu
260 265 270

Ser Lys Gln
275

<210> 31
<211> 105
<212> PRT
<213> Oryza sativa

<400> 31

Met Glu Gly Val Gly Ala Arg Gln Arg Arg Asn Pro Leu Ile Pro Arg
1 5 10 15

Pro Asn Gly Ser Lys Arg His Leu Gln His Gln His Gln Pro Asn Ala
20 25 30

Ala Glu Lys Lys Thr Ala Ala Thr Ser Asn Tyr Phe Ser Ile Glu Ala
35 40 45

Phe Leu Val Leu Val Phe Leu Thr Met Ser Leu Leu Ile Leu Pro Leu
50 55 60

Val Leu Pro Pro Leu Pro Pro Pro Pro Ser Leu Leu Leu Leu Leu Pro
65 70 75 80

Val Cys Leu Leu Ile Leu Leu Val Val Leu Ala Phe Met Pro Thr Asp
85 90 95

Val Arg Ser Met Ala Ser Ser Tyr Leu
100 105

<210> 32
<211> 487
<212> PRT
<213> Oryza sativa

<400> 32

Met Ala Ser Ser Thr Gly Gly Leu Asp His Gly Phe Thr Phe Thr Pro
1 5 10 15

Pro Pro Phe Ile Thr Ser Phe Thr Glu Leu Leu Ser Gly Gly Gly Gly
20 25 30

Asp Leu Leu Gly Ala Gly Gly Glu Glu Arg Ser Pro Arg Gly Phe Ser
35 40 45

20080423_F_59071_PCT_sequence_listing.txt

Arg Gly Gly Ala Arg Val Gly Gly Gly Val Pro Lys Phe Lys Ser Ala
50 55 60

Gln Pro Pro Ser Leu Pro Leu Ser Pro Pro Pro Val Ser Pro Ser Ser
65 70 75 80

Tyr Phe Ala Ile Pro Pro Gly Leu Ser Pro Thr Glu Leu Leu Asp Ser
85 90 95

Pro Val Leu Leu Ser Ser Ser His Ile Leu Ala Ser Pro Thr Thr Gly
100 105 110

Ala Ile Pro Ala Gln Arg Tyr Asp Trp Lys Ala Ser Ala Asp Leu Ile
115 120 125

Ala Ser Gln Gln Asp Asp Ser Arg Gly Asp Phe Ser Phe His Thr Asn
130 135 140

Ser Asp Ala Met Ala Ala Gln Pro Ala Ser Phe Pro Ser Phe Lys Glu
145 150 155 160

Gln Glu Gln Gln Val Val Glu Ser Ser Lys Asn Gly Ala Ala Ala Ala
165 170 175

Ser Ser Asn Lys Ser Gly Gly Gly Gly Asn Asn Lys Leu Glu Asp Gly
180 185 190

Tyr Asn Trp Arg Lys Tyr Gly Gln Lys Gln Val Lys Gly Ser Glu Asn
195 200 205

Pro Arg Ser Tyr Tyr Lys Cys Thr Tyr Asn Gly Cys Ser Met Lys Lys
210 215 220

Lys Val Glu Arg Ser Leu Ala Asp Gly Arg Ile Thr Gln Ile Val Tyr
225 230 235 240

Lys Gly Ala His Asn His Pro Lys Pro Leu Ser Thr Arg Arg Asn Ala
245 250 255

Ser Ser Cys Ala Thr Ala Ala Ala Cys Ala Asp Asp Leu Ala Ala Pro
260 265 270

Gly Ala Gly Ala Asp Gln Tyr Ser Ala Ala Thr Pro Glu Asn Ser Ser
275 280 285

Val Thr Phe Gly Asp Asp Glu Ala Asp Asn Ala Ser His Arg Ser Glu
290 295 300

Gly Asp Glu Pro Glu Ala Lys Arg Trp Lys Glu Asp Ala Asp Asn Glu
305 310 315 320

20080423_F_59071_PCT_sequence_listing.txt

Gly Ser Ser Gly Gly Met Gly Gly Gly Ala Gly Gly Lys Pro Val Arg
325 330 335

Glu Pro Arg Leu Val Val Gln Thr Leu Ser Asp Ile Asp Ile Leu Asp
340 345 350

Asp Gly Phe Arg Trp Arg Lys Tyr Gly Gln Lys Val Val Lys Gly Asn
355 360 365

Pro Asn Pro Arg Ser Tyr Tyr Lys Cys Thr Thr Val Gly Cys Pro Val
370 375 380

Arg Lys His Val Glu Arg Ala Ser His Asp Thr Arg Ala Val Ile Thr
385 390 395 400

Thr Tyr Glu Gly Lys His Asn His Asp Val Pro Val Gly Arg Gly Gly
405 410 415

Gly Gly Gly Arg Ala Pro Ala Pro Ala Pro Pro Thr Ser Gly Ala Ile
420 425 430

Arg Pro Ser Ala Val Ala Ala Ala Gln Gln Gly Pro Tyr Thr Leu Glu
435 440 445

Met Leu Pro Asn Pro Ala Gly Leu Tyr Gly Gly Tyr Gly Ala Gly Ala
450 455 460

Gly Gly Ala Ala Phe Pro Arg Thr Lys Asp Glu Arg Arg Asp Asp Leu
465 470 475 480

Phe Val Glu Ser Leu Leu Cys
485

<210> 33
<211> 429
<212> PRT
<213> Escherichia coli

<400> 33

Met Glu Thr Thr Gln Thr Ser Thr Ile Ala Ser Lys Asp Ser Arg Ser
1 5 10 15

Ala Trp Arg Lys Thr Asp Thr Met Trp Met Leu Gly Leu Tyr Gly Thr
20 25 30

Ala Ile Gly Ala Gly Val Leu Phe Leu Pro Ile Asn Ala Gly Val Gly
35 40 45

Gly Met Ile Pro Leu Ile Ile Met Ala Ile Leu Ala Phe Pro Met Thr
50 55 60

Phe Phe Ala His Arg Gly Leu Thr Arg Phe Val Leu Ser Gly Lys Asn
65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Pro Gly Glu Asp Ile Thr Glu Val Val Glu Glu His Phe Gly Ile Gly
85 90 95

Ala Gly Lys Leu Ile Thr Leu Leu Tyr Phe Phe Ala Ile Tyr Pro Ile
100 105 110

Leu Leu Val Tyr Ser Val Ala Ile Thr Asn Thr Val Glu Ser Phe Met
115 120 125

Ser His Gln Leu Gly Met Thr Pro Pro Pro Arg Ala Ile Leu Ser Leu
130 135 140

Ile Leu Ile Val Gly Met Met Thr Ile Val Arg Phe Gly Glu Gln Met
145 150 155 160

Ile Val Lys Ala Met Ser Ile Leu Val Phe Pro Phe Val Gly Val Leu
165 170 175

Met Leu Leu Ala Leu Tyr Leu Ile Pro Gln Trp Asn Gly Ala Ala Leu
180 185 190

Glu Thr Leu Ser Leu Asp Thr Ala Ser Ala Thr Gly Asn Gly Leu Trp
195 200 205

Met Thr Leu Trp Leu Ala Ile Pro Val Met Val Phe Ser Phe Asn His
210 215 220

Ser Pro Ile Ile Ser Ser Phe Ala Val Ala Lys Arg Glu Glu Tyr Gly
225 230 235 240

Asp Met Ala Glu Gln Lys Cys Ser Lys Ile Leu Ala Phe Ala His Ile
245 250 255

Met Met Val Leu Thr Val Met Phe Phe Val Phe Ser Cys Val Leu Ser
260 265 270

Leu Thr Pro Ala Asp Leu Ala Ala Ala Lys Glu Gln Asn Ile Ser Ile
275 280 285

Leu Ser Tyr Leu Ala Asn His Phe Asn Ala Pro Val Ile Ala Trp Met
290 295 300

Ala Pro Ile Ile Ala Ile Ile Ala Ile Thr Lys Ser Phe Leu Gly His
305 310 315 320

Tyr Leu Gly Ala Arg Glu Gly Phe Asn Gly Met Val Ile Lys Ser Leu
325 330 335

Arg Gly Lys Gly Lys Ser Ile Glu Ile Asn Lys Leu Asn Arg Ile Thr
340 345 350

20080423_F_59071_PCT_sequence_listing.txt

Ala Leu Phe Met Leu Val Thr Thr Trp Ile Val Ala Thr Leu Asn Pro
355 360 365

Ser Ile Leu Gly Met Ile Glu Thr Leu Gly Gly Pro Ile Ile Ala Met
370 375 380

Ile Leu Phe Leu Met Pro Met Tyr Ala Ile Gln Lys Val Pro Ala Met
385 390 395 400

Arg Lys Tyr Ser Gly His Ile Ser Asn Val Phe Val Val Val Met Gly
405 410 415

Leu Ile Ala Ile Ser Ala Ile Phe Tyr Ser Leu Phe Ser
420 425

<210> 34
<211> 302
<212> PRT
<213> Saccharomyces cerevisiae

<400> 34

Met Phe Ser Arg Leu Ser Arg Ser His Ser Lys Ala Leu Pro Ile Ala
1 5 10 15

Leu Gly Thr Val Ala Ile Ala Ala Ala Thr Ala Phe Tyr Phe Ala Asn
20 25 30

Arg Asn Gln His Ser Phe Val Phe Asn Glu Ser Asn Lys Val Phe Lys
35 40 45

Gly Asp Asp Lys Trp Ile Asp Leu Pro Ile Ser Lys Ile Glu Glu Glu
50 55 60

Ser His Asp Thr Arg Arg Phe Thr Phe Lys Leu Pro Thr Glu Asp Ser
65 70 75 80

Glu Met Gly Leu Val Leu Ala Ser Ala Leu Phe Ala Lys Phe Val Thr
85 90 95

Pro Lys Gly Ser Asn Val Val Arg Pro Tyr Thr Pro Val Ser Asp Leu
100 105 110

Ser Gln Lys Gly His Phe Gln Leu Val Val Lys His Tyr Glu Gly Gly
115 120 125

Lys Met Thr Ser His Leu Phe Gly Leu Lys Pro Asn Asp Thr Val Ser
130 135 140

Phe Lys Gly Pro Ile Met Lys Trp Lys Trp Gln Pro Asn Gln Phe Lys
145 150 155 160

Ser Ile Thr Leu Leu Gly Ala Gly Thr Gly Ile Asn Pro Leu Tyr Gln
Seite 56

Leu Ala His His Ile Val Glu Asn Pro Asn Asp Lys Thr Lys Val Asn
180 185 190

Leu Leu Tyr Gly Asn Lys Thr Pro Gln Asp Ile Leu Leu Arg Lys Glu
195 200 205

Leu Asp Ala Leu Lys Glu Lys Tyr Pro Asp Lys Phe Asn Val Thr Tyr
210 215 220

Phe Val Asp Asp Lys Gln Asp Asp Gln Asp Phe Asp Gly Glu Ile Ser
225 230 235 240

Phe Ile Ser Lys Asp Phe Ile Gln Glu His Val Pro Gly Pro Lys Glu
245 250 255

Ser Thr His Leu Phe Val Cys Gly Pro Pro Pro Phe Met Asn Ala Tyr
260 265 270

Ser Gly Glu Lys Lys Ser Pro Lys Asp Gln Gly Glu Leu Ile Gly Ile
275 280 285

Leu Asn Asn Leu Gly Tyr Ser Lys Asp Gln Val Phe Lys Phe
290 295 300

<210> 35
<211> 199
<212> PRT
<213> Saccharomyces cerevisiae
<400> 35

Met Asp Lys Ile Arg Glu Lys Leu Ser Asn Leu Lys Leu Glu Ala Glu
1 5 10 15

Ser Trp Gln Glu Lys Tyr Glu Glu Leu Lys Glu Lys Asn Lys Asp Leu
20 25 30

Glu Gln Glu Asn Val Glu Lys Glu Asn Gln Ile Lys Ser Leu Thr Val
35 40 45

Lys Asn Gln Gln Leu Glu Asp Glu Ile Glu Lys Leu Glu Ala Gly Leu
50 55 60

Ser Asp Ser Lys Gln Thr Glu Gln Asp Asn Val Glu Lys Glu Asn Gln
65 70 75 80

Ile Lys Ser Leu Thr Val Lys Asn His Gln Leu Glu Glu Glu Ile Glu
85 90 95

Lys Leu Glu Ala Glu Leu Ala Glu Ser Lys Gln Leu Ser Glu Asp Ser
100 105 110

20080423_F_59071_PCT_sequence_listing.txt

His His Leu Gln Ser Asn Asn Asp Asn Phe Ser Lys Lys Asn Gln Gln
115 120 125

Leu Glu Glu Asp Leu Glu Glu Ser Asp Thr Lys Leu Lys Glu Thr Thr
130 135 140

Glu Lys Leu Arg Glu Ser Asp Leu Lys Ala Asp Gln Leu Glu Arg Arg
145 150 155 160

Val Ala Ala Leu Glu Glu Gln Arg Glu Glu Trp Glu Arg Lys Asn Glu
165 170 175

Glu Leu Thr Val Lys Tyr Glu Asp Ala Lys Lys Glu Leu Asp Glu Ile
180 185 190

Ala Ala Ser Leu Glu Asn Leu
195

<210> 36
<211> 620
<212> PRT
<213> Saccharomyces pastorianus
<400> 36

Met Arg Asp Ser Asn His Arg Ser Leu Thr Ser Asn Lys Pro Ile Val
1 5 10 15

Thr Ile Thr Ser Thr Val Tyr Asp Arg Arg Ala Leu Asp Ile Asn Ser
20 25 30

Ser Ile Pro Leu Ile Asn Ser Leu Asn Tyr Leu Thr Tyr Leu Thr Ser
35 40 45

Asn Ser Ser Lys Val Arg Glu Thr Val Ala Asn Asp Gly Ala Leu Glu
50 55 60

Arg Leu Val Ser Ile Leu Arg Ser Cys His Leu Ser Leu Phe Glu Leu
65 70 75 80

Leu Asp Leu Asp Leu Glu Asn Phe Asn Glu His Glu Asn Ile Lys Asp
85 90 95

Leu Trp Lys Glu Lys Arg Leu Ala Leu Cys Ala Trp Lys Trp Thr Leu
100 105 110

Thr Phe Gln Cys Leu Val Leu Thr Gly Thr Arg Gly Thr Glu Gln Ile
115 120 125

Arg Lys Lys Val Val Met Ser Gly Val Leu Ser Val Leu Val Thr Val
130 135 140

Leu Asp Asn Tyr Leu Leu Tyr His Lys Asn Tyr Asp Phe Ile Lys Asp

145 150 155 160
 Gln Thr Met Thr Phe Asp Phe Lys Gly Ile Thr Thr Glu Thr Met Tyr
 165 170 175
 Lys Phe Met Arg Lys Asp Glu Asn Glu Thr Tyr Gln Gln Tyr Ile Glu
 180 185 190
 Phe Ile Thr Gly Gln Asp Lys Leu Lys Leu Ser Thr Asp Lys Asn Phe
 195 200 205
 Leu Asn Glu Arg Leu Val Ala Pro Ser Met Thr Ile Pro Thr Asp Phe
 210 215 220
 Ser Asp Ile Trp Gly Arg Phe Ala Asp Leu Ala Ser Asn Phe Glu Pro
 225 230 235 240
 Asp Gln Glu Arg His Asp Asp Asp Ile Asp Ile Asp Ser Glu Val Glu
 245 250 255
 Ser Glu Asn Phe Asp Ala His Lys Asn Phe Phe Ser Gln Pro Asp Ile
 260 265 270
 Asn Arg Pro Thr Ile Ser Thr Pro Arg Glu Phe Phe Leu Gly Arg Ile
 275 280 285
 Val Pro Lys Gln Asp Asp Val Ile Trp Ser Leu Gln Leu Leu Ala Phe
 290 295 300
 Val Ser Lys Tyr Thr Tyr Met Lys Ser Thr Leu Gln Asn Val Glu Leu
 305 310 315 320
 Val Glu Ser Leu Ser Phe Arg Ser Met Ala Tyr Lys Ile Lys Gln Arg
 325 330 335
 Ile Ser Glu Glu Asn Asp Leu Glu Glu Gln Glu Arg Asp Val Thr Val
 340 345 350
 Lys Leu Ser Ser Leu Tyr Pro Tyr Leu Ser Lys Asn Pro Glu Asn Asn
 355 360 365
 Ser Lys Val Lys Ala Leu Asp Thr Ser Lys Met Asp Pro Phe Phe Lys
 370 375 380
 Glu Leu Glu Glu Leu Ser Asn Arg Cys Gln Gln Glu Glu Gln Asn Glu
 385 390 395 400
 Ile Cys Asn Asn His Cys Pro Val Leu Asn Leu Phe Glu Arg Tyr Arg
 405 410 415
 Val Pro Lys Pro Ser Asp Asp Asn Ala Tyr Gly Lys Asp Lys Glu Arg
 420 425 430

20080423_F_59071_PCT_sequence_listing.txt

Ile Asn Leu Arg Lys Lys Ile Ser Asp Asn Phe Glu Arg Arg Trp Ser
435 440 445

Tyr Asp Lys Met Lys Lys Glu Leu Thr Asn Ile Val Tyr Lys Asn Lys
450 455 460

Val Leu Thr Asn Val Val Asn Ile Phe Pro Leu Val Glu Lys Tyr Thr
465 470 475 480

Val Ser Ala Glu Asn Thr His Asp Val Ile Tyr Trp Ser Ser Val Ile
485 490 495

Met Arg Asn Ser Cys Arg Lys Asn Glu Ile Leu Gly Val Arg Gln Cys
500 505 510

Ala Asn Phe Ser Cys Gly Lys Trp Glu Asp Phe Pro Arg Gln Phe Ala
515 520 525

Lys Cys Arg Arg Cys Lys Arg Thr Lys Tyr Cys Ser Arg Lys Cys Gln
530 535 540

Leu Lys Ala Trp Gly Tyr His Arg Tyr Trp Cys His Glu Val Gly Ser
545 550 555 560

Ser His Met Arg Ser Thr Asn Thr Thr Thr Gly Val Asn Thr Pro Asn
565 570 575

Glu Pro Ser Ser Leu Asn Ala Thr Ala Thr Thr Ala Ala Asp Val Ser
580 585 590

Asn Ser Thr Ser Thr Phe Thr Pro Asn Ile Ser Thr Thr Val Pro Asp
595 600 605

Glu Ile Ser Asn Arg Asp Glu Asn Ser Ile Pro Glu
610 615 620

<210> 37
<211> 246
<212> PRT
<213> Saccharomyces cerevisiae
<400> 37

Met Glu Ser Ile Phe Gly Gly Phe Gly Asp Leu Val Val Pro Arg Pro
1 5 10 15

Lys Glu His Leu Gly Gln Thr Asp Leu Ser Phe Gly Gly Lys Leu Leu
20 25 30

Pro Ala Leu Lys Ile Cys Glu Asp Gly Gly Glu Ser Gly Cys Gly Gly
35 40 45

20080423_F_59071_PCT_sequence_listing.txt

Lys Val Trp Ile Ala Gly Glu Leu Leu Cys Glu Tyr Ile Leu Glu Lys
50 55 60

Ser Val Asp His Leu Leu Ser Lys Thr Val Asn Gly Thr Lys Gln Phe
65 70 75 80

Lys Lys Val Leu Glu Leu Gly Ser Gly Thr Gly Leu Val Gly Leu Cys
85 90 95

Val Gly Leu Leu Glu Lys Asn Thr Phe His Asp Gly Thr Lys Val Tyr
100 105 110

Val Thr Asp Ile Asp Lys Leu Ile Pro Leu Leu Lys Arg Asn Ile Glu
115 120 125

Leu Asp Glu Val Gln Tyr Glu Val Leu Ala Arg Glu Leu Trp Trp Gly
130 135 140

Glu Pro Leu Ser Ala Asp Phe Ser Pro Gln Glu Gly Ala Met Gln Ala
145 150 155 160

Asn Asn Val Asp Leu Val Leu Ala Ala Asp Cys Val Tyr Leu Glu Glu
165 170 175

Ala Phe Pro Leu Leu Glu Lys Thr Leu Leu Asp Leu Thr His Cys Ile
180 185 190

Asn Pro Pro Val Ile Leu Met Ala Tyr Lys Lys Arg Arg Lys Ala Asp
195 200 205

Lys His Phe Phe Asn Lys Ile Lys Arg Asn Phe Asp Val Leu Glu Ile
210 215 220

Thr Asp Phe Ser Lys Phe Glu His Tyr Leu Lys Glu Arg Thr His Leu
225 230 235 240

Phe Gln Leu Ile Arg Lys
245

<210> 38
<211> 244
<212> PRT
<213> Saccharomyces cerevisiae

<400> 38

Met Thr Val Val Glu Ile Lys Ser Gln Asp Gln Phe Thr Gln Leu Thr
1 5 10 15

Thr Thr Asn Ala Ala Asn Lys Leu Ile Val Leu Tyr Phe Lys Ala Gln
20 25 30

Trp Ala Asp Pro Cys Lys Thr Met Ser Gln Val Leu Glu Ala Val Ser
35 40 45

20080423_F_59071_PCT_sequence_listing.txt

Glu Lys Val Arg Gln Glu Asp Val Arg Phe Leu Ser Ile Asp Ala Asp
50 55 60

Glu His Pro Glu Ile Ser Asp Leu Phe Glu Ile Ala Ala Val Pro Tyr
65 70 75 80

Phe Val Phe Ile Gln Asn Gly Thr Ile Val Lys Glu Ile Ser Ala Ala
85 90 95

Asp Pro Lys Glu Phe Val Lys Ser Leu Glu Ile Leu Ser Asn Ala Ser
100 105 110

Ala Ser Leu Ala Asn Asn Ala Lys Gly Pro Lys Ser Thr Ser Asp Glu
115 120 125

Glu Ser Ser Gly Ser Ser Asp Asp Glu Glu Asp Glu Thr Glu Glu Glu
130 135 140

Ile Asn Ala Arg Leu Val Lys Leu Val Gln Ala Ala Pro Val Met Leu
145 150 155 160

Phe Met Lys Gly Ser Pro Ser Glu Pro Lys Cys Gly Phe Ser Arg Gln
165 170 175

Leu Val Gly Ile Leu Arg Glu His Gln Ile Arg Phe Gly Phe Phe Asp
180 185 190

Ile Leu Arg Asp Glu Asn Val Arg Gln Ser Leu Lys Lys Phe Ser Asp
195 200 205

Trp Pro Thr Phe Pro Gln Leu Tyr Ile Asn Gly Glu Phe Gln Gly Gly
210 215 220

Leu Asp Ile Ile Lys Glu Ser Ile Glu Glu Asp Pro Glu Tyr Phe Gln
225 230 235 240

His Ala Leu Gln

<210> 39
<211> 244
<212> PRT
<213> Saccharomyces cerevisiae

<400> 39

Met Thr Val Val Glu Ile Lys Ser Gln Asp Gln Phe Thr Gln Leu Thr
1 5 10 15

Thr Thr Asn Ala Ala Asn Lys Leu Ile Val Leu Tyr Phe Lys Ala Gln
20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Trp Ala Asp Pro Cys Lys Thr Met Ser Gln Val Leu Glu Ala Val Ser
35 40 45

Glu Lys Val Arg Gln Glu Asp Val Arg Phe Leu Ser Ile Asp Ala Asp
50 55 60

Glu His Pro Glu Ile Ser Asp Leu Phe Glu Ile Ala Ala Val Pro Tyr
65 70 75 80

Phe Val Phe Ile Gln Asn Gly Thr Ile Val Lys Glu Ile Ser Ala Ala
85 90 95

Asp Pro Lys Glu Phe Val Lys Ser Leu Glu Ile Leu Ser Asn Ala Ser
100 105 110

Ala Ser Leu Ala Asn Asn Ala Lys Gly Pro Lys Ser Thr Ser Asp Glu
115 120 125

Glu Ser Ser Gly Ser Ser Asp Asp Glu Glu Asp Glu Thr Glu Glu Glu
130 135 140

Ile Asn Ala Arg Leu Val Lys Leu Val Gln Ala Ala Pro Val Met Leu
145 150 155 160

Phe Met Lys Gly Ser Pro Ser Glu Pro Lys Cys Gly Phe Ser Arg Gln
165 170 175

Leu Val Gly Ile Leu Arg Glu His Gln Ile Arg Phe Gly Phe Phe Asp
180 185 190

Ile Leu Arg Asp Glu Asn Val Arg Gln Ser Leu Lys Lys Phe Ser Asp
195 200 205

Trp Pro Thr Phe Pro Gln Leu Tyr Ile Asn Gly Glu Phe Gln Gly Gly
210 215 220

Leu Asp Ile Ile Lys Glu Ser Ile Glu Glu Asp Pro Glu Tyr Phe Gln
225 230 235 240

His Ala Leu Gln

<210> 40
<211> 309
<212> PRT
<213> Saccharomyces cerevisiae

<400> 40

Met Ser Ala Val Phe Asn Asn Ala Thr Leu Ser Gly Leu Val Gln Ala
1 5 10 15

Ser Thr Tyr Ser Gln Thr Leu Gln Asn Val Ala His Tyr Gln Pro Gln
20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Leu Asn Phe Met Glu Lys Tyr Trp Ala Ala Trp Tyr Ser Tyr Met Asn
 35 40 45
 Asn Asp Val Leu Ala Thr Gly Leu Met Phe Phe Leu Leu His Glu Phe
 50 55 60
 Met Tyr Phe Phe Arg Cys Leu Pro Trp Phe Ile Ile Asp Gln Ile Pro
 65 70 75 80
 Tyr Phe Arg Arg Trp Lys Leu Gln Pro Thr Lys Ile Pro Ser Ala Lys
 85 90 95
 Glu Gln Leu Tyr Cys Leu Lys Ser Val Leu Leu Ser His Phe Leu Val
 100 105 110
 Glu Ala Ile Pro Ile Trp Thr Phe His Pro Met Cys Glu Lys Leu Gly
 115 120 125
 Ile Thr Val Glu Val Pro Phe Pro Ser Leu Lys Thr Met Ala Leu Glu
 130 135 140
 Ile Gly Leu Phe Phe Val Leu Glu Asp Thr Trp His Tyr Trp Ala His
 145 150 155 160
 Arg Leu Phe His Tyr Gly Val Phe Tyr Lys Tyr Ile His Lys Gln His
 165 170 175
 His Arg Tyr Ala Ala Pro Phe Gly Leu Ser Ala Glu Tyr Ala His Pro
 180 185 190
 Ala Glu Thr Leu Ser Leu Gly Phe Gly Thr Val Gly Met Pro Ile Leu
 195 200 205
 Tyr Val Met Tyr Thr Gly Lys Leu His Leu Phe Thr Leu Cys Val Trp
 210 215 220
 Ile Thr Leu Arg Leu Phe Gln Ala Val Asp Ser His Ser Gly Tyr Asp
 225 230 235 240
 Phe Pro Trp Ser Leu Asn Lys Ile Met Pro Phe Trp Ala Gly Ala Glu
 245 250 255
 His His Asp Leu His His His Tyr Phe Ile Gly Asn Tyr Ala Ser Ser
 260 265 270
 Phe Arg Trp Trp Asp Tyr Cys Leu Asp Thr Glu Ser Gly Pro Glu Ala
 275 280 285
 Lys Ala Ser Arg Glu Glu Arg Met Lys Lys Arg Ala Glu Asn Asn Ala
 290 295 300

20080423_F_59071_PCT_sequence_listing.txt

Gln Lys Lys Thr Asn
305

<210> 41
<211> 294
<212> PRT
<213> Arabidopsis thaliana

<400> 41

Met Asp Gln Tyr Glu Lys Val Glu Lys Ile Gly Glu Gly Thr Tyr Gly
1 5 10 15

Val Val Tyr Lys Ala Arg Asp Glu Val Thr Asn Glu Thr Ile Ala Leu
20 25 30

Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met Gln His Ser Asn Ile Val
50 55 60

Lys Leu Gln Asp Val Val His Ser Glu Lys Arg Leu Tyr Leu Val Phe
65 70 75 80

Glu Tyr Leu Asp Leu Asp Leu Lys Lys His Met Asp Ser Thr Pro Asp
85 90 95

Phe Ser Lys Asp Leu His Met Ile Lys Thr Tyr Leu Tyr Gln Ile Leu
100 105 110

Arg Gly Ile Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ser Leu Lys Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
145 150 155 160

Thr His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser His His Tyr Ser Thr Pro Val Asp Ile Trp Ser Val Gly Cys
180 185 190

Ile Phe Ala Glu Met Ile Ser Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Gln Leu Phe Lys Ile Phe Arg Ile Met Gly Thr Pro Tyr
210 215 220

Glu Asp Thr Trp Arg Gly Val Thr Ser Leu Pro Asp Tyr Lys Ser Ala
Seite 65

225 230 235 240

Phe Pro Lys Trp Lys Pro Thr Asp Leu Glu Thr Phe Val Pro Asn Leu
245 250 255

Asp Pro Asp Gly Val Asp Leu Leu Ser Lys Met Leu Leu Met Asp Pro
260 265 270

Thr Lys Arg Ile Asn Ala Arg Ala Ala Leu Glu His Glu Tyr Phe Lys
275 280 285

Asp Leu Gly Gly Met Pro
290

<210> 42
<211> 129
<212> PRT
<213> Arabidopsis thaliana

<400> 42

Met Glu Lys Tyr Glu Lys Leu Glu Lys Val Gly Glu Gly Thr Tyr Gly
1 5 10 15

Lys Val Tyr Lys Ala Met Glu Lys Thr Thr Gly Lys Leu Val Ala Leu
20 25 30

Lys Lys Thr Arg Leu Glu Met Asp Glu Glu Gly Ile Pro Pro Thr Ala
35 40 45

Leu Arg Glu Ile Ser Leu Leu Gln Met Leu Ser Gln Ser Ile Tyr Ile
50 55 60

Val Arg Leu Leu Cys Val Glu His Val Ile Gln Ser Lys Asp Ser Thr
65 70 75 80

Val Ser His Ser Pro Lys Ser Asn Leu Tyr Leu Val Phe Glu Tyr Leu
85 90 95

Asp Thr Asp Leu Lys Lys Phe Ile Asp Ser His Arg Lys Gly Ser Asn
100 105 110

Pro Arg Pro Leu Glu Ala Ser Leu Val Gln Arg Phe Met Phe Gln Leu
115 120 125

Phe

<210> 43
<211> 310
<212> PRT
<213> Arabidopsis thaliana

<400> 43

20080423_F_59071_PCT_sequence_listing.txt

Met Ala Asn Pro Trp Trp Val Gly Asn Val Ala Ile Gly Gly Val Glu
1 5 10 15

Ser Pro Val Thr Ser Ser Ala Pro Ser Leu His His Arg Asn Ser Asn
20 25 30

Asn Asn Asn Pro Pro Thr Met Thr Arg Ser Asp Pro Arg Leu Asp His
35 40 45

Asp Phe Thr Thr Asn Asn Ser Gly Ser Pro Asn Thr Gln Thr Gln Ser
50 55 60

Gln Glu Glu Gln Asn Ser Arg Asp Glu Gln Pro Ala Val Glu Pro Gly
65 70 75 80

Ser Gly Ser Gly Ser Thr Gly Arg Arg Pro Arg Gly Arg Pro Pro Gly
85 90 95

Ser Lys Asn Lys Pro Lys Ser Pro Val Val Val Thr Lys Glu Ser Pro
100 105 110

Asn Ser Leu Gln Ser His Val Leu Glu Ile Ala Thr Gly Ala Asp Val
115 120 125

Ala Glu Ser Leu Asn Ala Phe Ala Arg Arg Arg Gly Arg Gly Val Ser
130 135 140

Val Leu Ser Gly Ser Gly Leu Val Thr Asn Val Thr Leu Arg Gln Pro
145 150 155 160

Ala Ala Ser Gly Gly Val Val Ser Leu Arg Gly Gln Phe Glu Ile Leu
165 170 175

Ser Met Cys Gly Ala Phe Leu Pro Thr Ser Gly Ser Pro Ala Ala Ala
180 185 190

Ala Gly Leu Thr Ile Tyr Leu Ala Gly Ala Gln Gly Gln Val Val Gly
195 200 205

Gly Gly Val Ala Gly Pro Leu Ile Ala Ser Gly Pro Val Ile Val Ile
210 215 220

Ala Ala Thr Phe Cys Asn Ala Thr Tyr Glu Arg Leu Pro Ile Glu Glu
225 230 235 240

Glu Gln Gln Gln Glu Gln Pro Leu Gln Leu Glu Asp Gly Lys Lys Gln
245 250 255

Lys Glu Glu Asn Asp Asp Asn Glu Ser Gly Asn Asn Gly Asn Glu Gly
260 265 270

Ser Met Gln Pro Pro Met Tyr Asn Met Pro Pro Asn Phe Ile Pro Asn

20080423_F_59071_PCT_sequence_listing.txt

275

280

285

Gly His Gln Met Ala Gln His Asp Val Tyr Trp Gly Gly Pro Pro Pro
290 295 300

Arg Ala Pro Pro Ser Tyr
305 310

<210> 44

<211> 575

<212> PRT

<213> Arabidopsis thaliana

<400> 44

Met Gly Leu Thr Ser Ser Leu Arg Phe His Arg Gln Asn Asn Lys Thr
1 5 10 15

Phe Leu Gly Ile Phe Met Ile Leu Val Leu Ser Cys Ile Pro Gly Arg
20 25 30

Thr Asn Leu Cys Ser Asn His Ser Val Ser Thr Pro Lys Glu Leu Pro
35 40 45

Ser Ser Asn Pro Ser Asp Ile Arg Ser Ser Leu Val Ser Leu Asp Leu
50 55 60

Glu Gly Tyr Ile Ser Phe Asp Asp Val His Asn Val Ala Lys Asp Phe
65 70 75 80

Gly Asn Arg Tyr Gln Leu Pro Pro Leu Ala Ile Leu His Pro Arg Ser
85 90 95

Val Phe Asp Ile Ser Ser Met Met Lys His Ile Val His Leu Gly Ser
100 105 110

Thr Ser Asn Leu Thr Val Ala Ala Arg Gly His Gly His Ser Leu Gln
115 120 125

Gly Gln Ala Leu Ala His Gln Gly Val Val Ile Lys Met Glu Ser Leu
130 135 140

Arg Ser Pro Asp Ile Arg Ile Tyr Lys Gly Lys Gln Pro Tyr Val Asp
145 150 155 160

Val Ser Gly Gly Glu Ile Trp Ile Asn Ile Leu Arg Glu Thr Leu Lys
165 170 175

Tyr Gly Leu Ser Pro Lys Ser Trp Thr Asp Tyr Leu His Leu Thr Val
180 185 190

Gly Gly Thr Leu Ser Asn Ala Gly Ile Ser Gly Gln Ala Phe Lys His
195 200 205

20080423_F_59071_PCT_sequence_listing.txt

Gly Pro Gln Ile Asn Asn Val Tyr Gln Leu Glu Ile Val Thr Gly Lys
210 215 220

Gly Glu Val Val Thr Cys Ser Glu Lys Arg Asn Ser Glu Leu Phe Phe
225 230 235 240

Ser Val Leu Gly Gly Leu Gly Gln Phe Gly Ile Ile Thr Arg Ala Arg
245 250 255

Ile Ser Leu Glu Pro Ala Pro His Met Val Lys Trp Ile Arg Val Leu
260 265 270

Tyr Ser Asp Phe Ser Ala Phe Ser Arg Asp Gln Glu Tyr Leu Ile Ser
275 280 285

Lys Glu Lys Thr Phe Asp Tyr Val Glu Gly Phe Val Ile Ile Asn Arg
290 295 300

Thr Asp Leu Leu Asn Asn Trp Arg Ser Ser Phe Ser Pro Asn Asp Ser
305 310 315 320

Thr Gln Ala Ser Arg Phe Lys Ser Asp Gly Lys Thr Leu Tyr Cys Leu
325 330 335

Glu Val Val Lys Tyr Phe Asn Pro Glu Glu Ala Ser Ser Met Asp Gln
340 345 350

Glu Thr Gly Lys Leu Leu Ser Glu Leu Asn Tyr Ile Pro Ser Thr Leu
355 360 365

Phe Ser Ser Glu Val Pro Tyr Ile Glu Phe Leu Asp Arg Val His Ile
370 375 380

Ala Glu Arg Lys Leu Arg Ala Lys Gly Leu Trp Glu Val Pro His Pro
385 390 395 400

Trp Leu Asn Leu Leu Ile Pro Lys Ser Ser Ile Tyr Gln Phe Ala Thr
405 410 415

Glu Val Phe Asn Asn Ile Leu Thr Ser Asn Asn Asn Gly Pro Ile Leu
420 425 430

Ile Tyr Pro Val Asn Gln Ser Lys Trp Lys Lys His Thr Ser Leu Ile
435 440 445

Thr Pro Asn Glu Asp Ile Phe Tyr Leu Val Ala Phe Leu Pro Ser Ala
450 455 460

Ala Pro Asn Ser Ser Gly Lys Asn Asp Leu Glu Tyr Leu Leu Lys Gln
465 470 475 480

20080423_F_59071_PCT_sequence_listing.txt

Asn Gln Arg Val Met Asn Phe Cys Ala Ala Ala Asn Leu Asn Val Lys
485 490 495

Gln Tyr Leu Pro His Tyr Glu Thr Gln Lys Glu Trp Lys Ser His Phe
500 505 510

Gly Lys Arg Trp Glu Thr Phe Ala Gln Arg Lys Gln Ala Tyr Asp Pro
515 520 525

Leu Ala Ile Leu Ala Pro Gly Gln Arg Ile Phe Gln Lys Thr Thr Gly
530 535 540

Lys Leu Ser Pro Ile Gln Leu Ala Lys Ser Lys Ala Thr Gly Ser Pro
545 550 555 560

Gln Arg Tyr His Tyr Ala Ser Ile Leu Pro Lys Pro Arg Thr Val
565 570 575

<210> 45
<211> 506
<212> PRT
<213> Arabidopsis thaliana
<400> 45

Met Asp Arg Val Val Ala Lys Ile Ala Lys Ile Arg Ser Gln Leu Thr
1 5 10 15

Lys Leu Arg Ser Leu Phe Phe Leu Tyr Phe Ile Tyr Phe Leu Phe Phe
20 25 30

Ser Phe Leu Gly Phe Leu Ala Leu Lys Ile Thr Lys Pro Arg Thr Thr
35 40 45

Ser Arg Pro His Asp Phe Asp Leu Phe Phe Thr Ser Val Ser Ala Ile
50 55 60

Thr Val Ser Ser Met Ser Thr Val Asp Met Glu Val Phe Ser Asn Thr
65 70 75 80

Gln Leu Ile Phe Leu Thr Ile Leu Met Phe Leu Gly Gly Glu Ile Phe
85 90 95

Thr Ser Phe Leu Asn Leu Tyr Val Ser Tyr Phe Thr Lys Phe Val Phe
100 105 110

Pro His Asn Lys Ile Arg His Ile Leu Gly Ser Tyr Asn Ser Asp Ser
115 120 125

Ser Ile Glu Asp Arg Cys Asp Val Glu Thr Val Thr Asp Tyr Arg Glu
130 135 140

Gly Leu Ile Lys Ile Asp Glu Arg Ala Ser Lys Cys Leu Tyr Ser Val
145 150 155 160

20080423_F_59071_PCT_sequence_listing.txt

Val Leu Ser Tyr His Leu Val Thr Asn Leu Val Gly Ser Val Leu Leu
165 170 175

Leu Val Tyr Val Asn Phe Val Lys Thr Ala Arg Asp Val Leu Ser Ser
180 185 190

Lys Glu Ile Ser Pro Leu Thr Phe Ser Val Phe Thr Thr Val Ser Thr
195 200 205

Phe Ala Asn Cys Gly Phe Val Pro Thr Asn Glu Asn Met Ile Ile Phe
210 215 220

Arg Lys Asn Ser Gly Leu Ile Trp Leu Leu Ile Pro Gln Val Leu Met
225 230 235 240

Gly Asn Thr Leu Phe Pro Cys Phe Leu Val Leu Leu Ile Trp Gly Leu
245 250 255

Tyr Lys Ile Thr Lys Arg Asp Glu Tyr Gly Tyr Ile Leu Lys Asn His
260 265 270

Asn Lys Met Gly Tyr Ser His Leu Leu Ser Val Arg Leu Cys Val Leu
275 280 285

Leu Gly Val Thr Val Leu Gly Phe Leu Ile Ile Gln Leu Leu Phe Phe
290 295 300

Cys Ala Phe Glu Trp Thr Ser Glu Ser Leu Glu Gly Met Ser Ser Tyr
305 310 315 320

Glu Lys Leu Val Gly Ser Leu Phe Gln Val Val Asn Ser Arg His Thr
325 330 335

Gly Glu Thr Ile Val Asp Leu Ser Thr Leu Ser Pro Ala Ile Leu Val
340 345 350

Leu Phe Ile Leu Met Met Tyr Leu Pro Pro Tyr Thr Leu Phe Met Pro
355 360 365

Leu Thr Glu Gln Lys Thr Ile Glu Lys Glu Gly Gly Asp Asp Asp Ser
370 375 380

Glu Asn Gly Lys Lys Val Lys Lys Ser Gly Leu Ile Val Ser Gln Leu
385 390 395 400

Ser Phe Leu Thr Ile Cys Ile Phe Leu Ile Ser Ile Thr Glu Arg Gln
405 410 415

Asn Leu Gln Arg Asp Pro Ile Asn Phe Asn Val Leu Asn Ile Thr Leu
420 425 430

20080423_F_59071_PCT_sequence_listing.txt

Glu Val Ile Ser Ala Tyr Gly Asn Val Gly Phe Thr Thr Gly Tyr Ser
435 440 445

Cys Glu Arg Arg Val Asp Ile Ser Asp Gly Gly Cys Lys Asp Ala Ser
450 455 460

Tyr Gly Phe Ala Gly Arg Trp Ser Pro Met Gly Lys Phe Val Leu Ile
465 470 475 480

Ile Val Met Phe Tyr Gly Arg Phe Lys Gln Phe Thr Ala Lys Ser Gly
485 490 495

Arg Ala Trp Ile Leu Tyr Pro Ser Ser Ser
500 505

<210> 46
<211> 275
<212> PRT
<213> Arabidopsis thaliana

<400> 46

Met Gly Gly Ser Met Ser Glu Arg Ala Arg Gln Ala Asn Ile Pro Pro
1 5 10 15

Leu Ala Gly Pro Leu Lys Cys Pro Arg Cys Asp Ser Ser Asn Thr Lys
20 25 30

Phe Cys Tyr Tyr Asn Asn Tyr Asn Leu Thr Gln Pro Arg His Phe Cys
35 40 45

Lys Gly Cys Arg Arg Tyr Trp Thr Gln Gly Gly Ala Leu Arg Asn Val
50 55 60

Pro Val Gly Gly Gly Cys Arg Arg Asn Asn Lys Lys Gly Lys Asn Gly
65 70 75 80

Asn Leu Lys Ser Ser Ser Ser Ser Ser Lys Gln Ser Ser Ser Val Asn
85 90 95

Ala Gln Ser Pro Ser Ser Gly Gln Leu Arg Thr Asn His Gln Phe Pro
100 105 110

Phe Ser Pro Thr Leu Tyr Asn Leu Thr Gln Leu Gly Gly Ile Gly Leu
115 120 125

Asn Leu Ala Ala Thr Asn Gly Asn Asn Gln Ala His Gln Ile Gly Ser
130 135 140

Ser Leu Met Met Ser Asp Leu Gly Phe Leu His Gly Arg Asn Thr Ser
145 150 155 160

Thr Pro Met Thr Gly Asn Ile His Glu Asn Asn Asn Asn Asn Asn Asn
Seite 72

Glu Asn Asn Leu Met Ala Ser Val Gly Ser Leu Ser Pro Phe Ala Leu
180 185 190

Phe Asp Pro Thr Thr Gly Leu Tyr Ala Phe Gln Asn Asp Gly Asn Ile
195 200 205

Gly Asn Asn Val Gly Ile Ser Gly Ser Ser Thr Ser Met Val Asp Ser
210 215 220

Arg Val Tyr Gln Thr Pro Pro Val Lys Met Glu Glu Gln Pro Asn Leu
225 230 235 240

Ala Asn Leu Ser Arg Pro Val Ser Gly Leu Thr Ser Pro Gly Asn Gln
245 250 255

Thr Asn Gln Tyr Phe Trp Pro Gly Ser Asp Phe Ser Gly Pro Ser Asn
260 265 270

Asp Leu Leu
275

<210> 47
<211> 209
<212> PRT
<213> Arabidopsis thaliana
<400> 47

Met Glu Asn Gly Lys Arg Asp Arg Gln Asp Met Glu Val Asn Thr Thr
1 5 10 15

Pro Arg Lys Pro Arg Val Leu Leu Ala Ala Ser Gly Ser Val Ala Ala
20 25 30

Ile Lys Phe Gly Asn Leu Cys His Cys Phe Thr Glu Trp Ala Glu Val
35 40 45

Arg Ala Val Val Thr Lys Ser Ser Leu His Phe Leu Asp Lys Leu Ser
50 55 60

Leu Pro Gln Glu Val Thr Leu Tyr Thr Asp Glu Asp Glu Trp Ser Ser
65 70 75 80

Trp Asn Lys Ile Gly Asp Pro Val Leu His Ile Glu Leu Arg Arg Trp
85 90 95

Ala Asp Val Leu Val Ile Ala Pro Leu Ser Ala Asn Thr Leu Gly Lys
100 105 110

Ile Ala Gly Gly Leu Cys Asp Asn Leu Leu Thr Cys Ile Ile Arg Ala
115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Trp Asp Tyr Thr Lys Pro Leu Phe Val Ala Pro Ala Met Asn Thr Leu
130 135 140

Met Trp Asn Asn Pro Phe Thr Glu Arg His Leu Leu Ser Leu Asp Glu
145 150 155 160

Leu Gly Ile Thr Leu Ile Pro Pro Ile Lys Lys Arg Leu Ala Cys Gly
165 170 175

Asp Tyr Gly Asn Gly Ala Met Ala Glu Pro Ser Leu Ile Tyr Ser Thr
180 185 190

Val Arg Leu Phe Trp Glu Ser Gln Ala His Gln Gln Thr Gly Gly Thr
195 200 205

Ser

<210> 48
<211> 223
<212> PRT
<213> Arabidopsis thaliana
<400> 48

Met Gln Gln Ser Pro Gln Met Ile Pro Met Val Leu Pro Ser Phe Pro
1 5 10 15

Pro Thr Asn Asn Ile Thr Thr Glu Gln Ile Gln Lys Tyr Leu Asp Glu
20 25 30

Asn Lys Lys Leu Ile Met Ala Ile Leu Glu Asn Gln Asn Leu Gly Lys
35 40 45

Leu Ala Glu Cys Ala Gln Tyr Gln Ala Leu Leu Gln Lys Asn Leu Met
50 55 60

Tyr Leu Ala Ala Ile Ala Asp Ala Gln Pro Gln Pro Pro Ala Ala Thr
65 70 75 80

Leu Thr Ser Gly Ala Met Thr Pro Gln Ala Met Ala Pro Asn Pro Ser
85 90 95

Ser Met Gln Pro Pro Pro Ser Tyr Phe Met Gln Gln His Gln Ala Val
100 105 110

Gly Met Ala Gln Gln Ile Pro Pro Gly Ile Phe Pro Pro Arg Gly Pro
115 120 125

Leu Gln Phe Gly Ser Pro His Gln Phe Leu Asp Pro Gln Gln Gln Leu
130 135 140

His Gln Gln Ala Met Gln Gly His Met Gly Ile Arg Pro Met Gly Leu
Seite 74

145 150 155 160

Asn Asn Asn Asn Gly Leu Gln His Gln Met His His His Glu Thr Ala
165 170 175

Leu Ala Ala Asn Asn Ala Gly Pro Asn Asp Ala Ser Gly Gly Gly Lys
180 185 190

Pro Asp Gly Thr Asn Met Ser Gln Ser Gly Ala Asp Gly Gln Gly Gly
195 200 205

Ser Ala Ala Arg His Gly Gly Gly Asp Ala Lys Thr Glu Gly Lys
210 215 220

<210> 49
<211> 349
<212> PRT
<213> Oryza sativa

<400> 49

Met Asp Pro Gly Arg Val Val Phe Asp Ser Gly Val Ala Arg Arg Ala
1 5 10 15

Cys Pro Gly Gly Ala Gln Met Leu Leu Phe Gly Gly Gly Gly Ser Ala
20 25 30

Asn Ser Gly Gly Phe Phe Arg Gly Val Pro Ala Ala Val Leu Gly Met
35 40 45

Asp Glu Ser Arg Ser Ser Ser Ser Ala Ala Gly Ala Gly Ala Lys Arg
50 55 60

Pro Phe Phe Thr Thr His Glu Glu Leu Leu Glu Glu Glu Tyr Tyr Asp
65 70 75 80

Glu Gln Ala Pro Glu Lys Lys Arg Arg Leu Thr Ala Glu Gln Val Gln
85 90 95

Met Leu Glu Arg Ser Phe Glu Glu Glu Asn Lys Leu Glu Pro Glu Arg
100 105 110

Lys Thr Glu Leu Ala Arg Arg Leu Gly Met Ala Pro Arg Gln Val Ala
115 120 125

Val Trp Phe Gln Asn Arg Arg Ala Arg Trp Lys Thr Lys Gln Leu Glu
130 135 140

His Asp Phe Asp Arg Leu Lys Ala Ala Tyr Asp Ala Leu Ala Ala Asp
145 150 155 160

His His Ala Leu Leu Ser Asp Asn Asp Arg Leu Arg Ala Gln Val Ile
165 170 175

20080423_F_59071_PCT_sequence_listing.txt

Ser Leu Thr Glu Lys Leu Gln Asp Lys Glu Thr Ser Pro Ser Ser Ala
180 185 190

Thr Ile Thr Thr Ala Ala Gln Glu Val Asp Gln Pro Asp Glu His Thr
195 200 205

Glu Ala Ala Ser Thr Thr Gly Phe Ala Thr Val Asp Gly Ala Leu Ala
210 215 220

Ala Pro Pro Pro Gly His Gln Gln Pro Pro His Lys Asp Asp Leu Val
225 230 235 240

Ser Ser Gly Gly Thr Asn Asp Asp Gly Asp Gly Gly Ala Ala Val Val
245 250 255

Val Phe Asp Val Thr Glu Gly Ala Asn Asp Arg Leu Ser Cys Glu Ser
260 265 270

Ala Tyr Phe Ala Asp Ala Ala Glu Ala Tyr Glu Arg Asp Cys Ala Gly
275 280 285

His Tyr Ala Leu Ser Ser Glu Glu Glu Asp Gly Gly Ala Val Ser Asp
290 295 300

Glu Gly Cys Ser Phe Asp Leu Pro Asp Ala Ala Ala Ala Ala Ala
305 310 315 320

Met Phe Gly Ala Ala Gly Val Val His His Asp Ala Ala Asp Asp Glu
325 330 335

Glu Ala Gln Leu Gly Ser Trp Thr Ala Trp Phe Trp Ser
340 345

<210> 50
<211> 224
<212> PRT
<213> Oryza sativa

<400> 50

Met Lys Ser Arg Lys Asn Ser Thr Thr Ser Thr Lys Ala Ala Gly Ser
1 5 10 15

Cys His Thr Ser Ser Ser Gly Gly Gly Gly Gly Gly Gly Asn Cys Tyr
20 25 30

Ser Ser Ser Ser Ser Lys Met Glu Arg Lys Asp Val Glu Lys Asn Arg
35 40 45

Arg Leu His Met Lys Gly Leu Cys Leu Lys Leu Ser Ser Leu Ile Pro
50 55 60

Ala Ala Ala Pro Arg Arg His His His His Tyr Ser Thr Ser Ser Ser

65 70 75 80
 Ser Ser Pro Pro Ser Ser Thr Lys Glu Ala Val Thr Gln Leu Asp His
 85 90 95
 Leu Glu Gln Ala Ala Ala Tyr Ile Lys Gln Leu Lys Gly Arg Ile Asp
 100 105 110
 Glu Leu Lys Lys Arg Lys Gln Gln Ala Ala Ala Leu Thr Thr Ser Thr
 115 120 125
 Ser Asn Gly Gly Gly Gly Gly Met Pro Val Val Glu Val Arg Cys Gln
 130 135 140
 Asp Gly Thr Leu Asp Val Val Val Val Ser Glu Ala Ile Arg Glu Glu
 145 150 155 160
 Arg Glu Arg Ala Val Arg Leu His Glu Val Ile Gly Val Leu Glu Glu
 165 170 175
 Glu Gly Ala Glu Val Val Asn Ala Ser Phe Ser Val Val Gly Asp Lys
 180 185 190
 Ile Phe Tyr Thr Leu His Ser Gln Ala Leu Cys Ser Arg Ile Gly Leu
 195 200 205
 Asp Ala Ser Arg Val Ser His Arg Leu Arg Asn Leu Leu Leu Gln Tyr
 210 215 220

 <210> 51
 <211> 294
 <212> PRT
 <213> Oryza sativa

 <400> 51
 Met Glu Gln Tyr Glu Lys Glu Glu Lys Ile Gly Glu Gly Thr Tyr Gly
 1 5 10 15
 Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Ile Ala Leu
 20 25 30
 Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
 35 40 45
 Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
 50 55 60
 Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
 65 70 75 80
 Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
 85 90 95

20080423_F_59071_PCT_sequence_listing.txt

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Lys Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
145 150 155 160

Asp His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
180 185 190

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
260 265 270

Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
275 280 285

Asp Leu Glu Met Val Gln
290

<210> 52
<211> 227
<212> PRT
<213> Arabidopsis thaliana

<400> 52

Met Ala Leu Glu Ala Leu Thr Ser Pro Arg Leu Ala Ser Pro Ile Pro
1 5 10 15

Pro Leu Phe Glu Asp Ser Ser Val Phe His Gly Val Glu His Trp Thr
20 25 30

Lys Gly Lys Arg Ser Lys Arg Ser Arg Ser Asp Phe His His Gln Asn
Seite 78

35

40

45

Leu Thr Glu Glu Glu Tyr Leu Ala Phe Cys Leu Met Leu Leu Ala Arg
 50 55 60

Asp Asn Arg Gln Pro Pro Pro Pro Pro Ala Val Glu Lys Leu Ser Tyr
 65 70 75 80

Lys Cys Ser Val Cys Asp Lys Thr Phe Ser Ser Tyr Gln Ala Leu Gly
 85 90 95

Gly His Lys Ala Ser His Arg Lys Asn Leu Ser Gln Thr Leu Ser Gly
 100 105 110

Gly Gly Asp Asp His Ser Thr Ser Ser Ala Thr Thr Thr Ser Ala Val
 115 120 125

Thr Thr Gly Ser Gly Lys Ser His Val Cys Thr Ile Cys Asn Lys Ser
 130 135 140

Phe Pro Ser Gly Gln Ala Leu Gly Gly His Lys Arg Cys His Tyr Glu
 145 150 155 160

Gly Asn Asn Asn Ile Asn Thr Ser Ser Val Ser Asn Ser Glu Gly Ala
 165 170 175

Gly Ser Thr Ser His Val Ser Ser Ser His Arg Gly Phe Asp Leu Asn
 180 185 190

Ile Pro Pro Ile Pro Glu Phe Ser Met Val Asn Gly Asp Asp Glu Val
 195 200 205

Met Ser Pro Met Pro Ala Lys Lys Pro Arg Phe Asp Phe Pro Val Lys
 210 215 220

Leu Gln Leu
 225

<210> 53
 <211> 273
 <212> PRT
 <213> Arabidopsis thaliana

<400> 53

Met Ala Leu Glu Ala Met Asn Thr Pro Thr Ser Ser Phe Thr Arg Ile
 1 5 10 15

Glu Thr Lys Glu Asp Leu Met Asn Asp Ala Val Phe Ile Glu Pro Trp
 20 25 30

Leu Lys Arg Lys Arg Ser Lys Arg Gln Arg Ser His Ser Pro Ser Ser
 35 40 45

20080423_F_59071_PCT_sequence_listing.txt

Ser Ser Ser Ser Pro Pro Arg Ser Arg Pro Lys Ser Gln Asn Gln Asp
50 55 60

Leu Thr Glu Glu Glu Tyr Leu Ala Leu Cys Leu Leu Met Leu Ala Lys
65 70 75 80

Asp Gln Pro Ser Gln Thr Arg Phe His Gln Gln Ser Gln Ser Leu Thr
85 90 95

Pro Pro Pro Glu Ser Lys Asn Leu Pro Tyr Lys Cys Asn Val Cys Glu
100 105 110

Lys Ala Phe Pro Ser Tyr Gln Ala Leu Gly Gly His Lys Ala Ser His
115 120 125

Arg Ile Lys Pro Pro Thr Val Ile Ser Thr Thr Ala Asp Asp Ser Thr
130 135 140

Ala Pro Thr Ile Ser Ile Val Ala Gly Glu Lys His Pro Ile Ala Ala
145 150 155 160

Ser Gly Lys Ile His Glu Cys Ser Ile Cys His Lys Val Phe Pro Thr
165 170 175

Gly Gln Ala Leu Gly Gly His Lys Arg Cys His Tyr Glu Gly Asn Leu
180 185 190

Gly Gly Gly Gly Gly Gly Gly Ser Lys Ser Ile Ser His Ser Gly Ser
195 200 205

Val Ser Ser Thr Val Ser Glu Glu Arg Ser His Arg Gly Phe Ile Asp
210 215 220

Leu Asn Leu Pro Ala Leu Pro Glu Leu Ser Leu His His Asn Pro Ile
225 230 235 240

Val Asp Glu Glu Ile Leu Ser Pro Leu Thr Gly Lys Lys Pro Leu Leu
245 250 255

Leu Thr Asp His Asp Gln Val Ile Lys Lys Glu Asp Phe Ser Leu Lys
260 265 270

Ile

<210> 54
<211> 542
<212> PRT
<213> Saccharomyces cerevisiae

<400> 54

Met Ala Gly Ala Thr Ser Ser Ile Ile Arg Glu Asn Asp Phe Glu Asp
Seite 80

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1           5           10           15
Glu Leu Ala Glu Ser Met Gln Ser Tyr Asn Arg Glu Thr Ala Asp Lys
      20      25      30
Leu Ala Leu Thr Arg Thr Glu Ser Val Lys Pro Glu Pro Glu Ile Thr
      35      40      45
Ala Pro Pro His Ser Arg Phe Ser Arg Ser Phe Lys Thr Val Leu Ile
      50      55      60
Ala Gln Cys Ala Phe Thr Gly Phe Phe Ser Thr Ile Ala Gly Ala Ile
      65      70      75      80
Tyr Tyr Pro Val Leu Ser Val Ile Glu Arg Lys Phe Asp Ile Asp Glu
      85      90      95
Glu Leu Val Asn Val Thr Val Val Val Tyr Phe Val Phe Gln Gly Leu
      100      105      110
Ala Pro Thr Phe Met Gly Gly Phe Ala Asp Ser Leu Gly Arg Arg Pro
      115      120      125
Val Val Leu Val Ala Ile Val Ile Tyr Phe Gly Ala Cys Ile Gly Leu
      130      135      140
Ala Cys Ala Gln Thr Tyr Ala Gln Ile Ile Val Leu Arg Cys Leu Gln
      145      150      155      160
Ala Ala Gly Ile Ser Pro Val Ile Ala Ile Asn Ser Gly Ile Met Gly
      165      170      175
Asp Val Thr Thr Arg Ala Glu Arg Gly Gly Tyr Val Gly Tyr Val Ala
      180      185      190
Gly Phe Gln Val Leu Gly Ser Ala Phe Gly Ala Leu Ile Gly Ala Gly
      195      200      205
Leu Ser Ser Arg Trp Gly Trp Arg Ala Ile Phe Trp Phe Leu Ala Ile
      210      215      220
Gly Ser Gly Ile Cys Phe Leu Ala Ser Phe Leu Ile Leu Pro Glu Thr
      225      230      235      240
Lys Arg Asn Ile Ser Gly Asn Gly Ser Val Thr Pro Lys Ser Tyr Leu
      245      250      255
Asn Arg Ala Pro Ile Leu Val Leu Pro Thr Val Arg Lys Ser Leu His
      260      265      270
Leu Asp Asn Pro Asp Tyr Glu Thr Leu Glu Leu Pro Thr Gln Leu Asn
      275      280      285

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20080423_F_59071_PCT_sequence_listing.txt

Leu Leu Ala Pro Phe Lys Ile Leu Lys Ala Tyr Glu Ile Cys Ile Leu
290 295 300

Met Leu Val Ala Gly Leu Gln Phe Ala Met Tyr Thr Thr His Leu Thr
305 310 315 320

Ala Leu Ser Thr Ala Leu Ser Lys Gln Tyr His Leu Thr Val Ala Lys
325 330 335

Val Gly Leu Cys Tyr Leu Pro Ser Gly Ile Cys Thr Leu Cys Ser Ile
340 345 350

Val Ile Ala Gly Arg Tyr Leu Asn Trp Asn Tyr Arg Arg Arg Leu Lys
355 360 365

Tyr Tyr Gln Asn Trp Leu Gly Lys Lys Arg Ser Lys Leu Leu Glu Glu
370 375 380

His Asp Asn Asp Leu Asn Leu Val Gln Arg Ile Ile Glu Asn Asp Pro
385 390 395 400

Lys Tyr Thr Phe Asn Ile Phe Lys Ala Arg Leu Gln Pro Ala Phe Val
405 410 415

Thr Leu Leu Leu Ser Ser Ser Gly Phe Cys Ala Tyr Gly Trp Cys Ile
420 425 430

Thr Val Lys Ala Pro Leu Ala Ala Val Leu Cys Met Ser Gly Phe Ala
435 440 445

Ser Leu Phe Ser Asn Cys Ile Leu Thr Phe Ser Thr Thr Leu Ile Val
450 455 460

Asp Leu Phe Pro Thr Lys Thr Ser Thr Ala Thr Gly Cys Leu Asn Leu
465 470 475 480

Phe Arg Cys Ile Leu Ser Ala Val Phe Ile Ala Ala Leu Ser Lys Met
485 490 495

Val Glu Lys Met Lys Phe Gly Gly Val Phe Thr Phe Leu Gly Ala Leu
500 505 510

Thr Ser Ser Ser Ser Ile Leu Leu Phe Ile Leu Leu Arg Lys Gly Lys
515 520 525

Glu Leu Ala Phe Lys Arg Lys Lys Gln Glu Leu Gly Val Asn
530 535 540

<210> 55
<211> 542
<212> PRT

<213> Saccharomyces cerevisiae

<400> 55

Met Ala Gly Ala Thr Ser Ser Ile Ile Arg Glu Asn Asp Phe Glu Asp
1 5 10 15

Glu Leu Ala Glu Ser Met Gln Ser Tyr Asn Arg Glu Thr Ala Asp Lys
20 25 30

Leu Ala Leu Thr Arg Thr Glu Ser Val Lys Pro Glu Pro Glu Ile Thr
35 40 45

Ala Pro Pro His Ser Arg Phe Ser Arg Ser Phe Lys Thr Val Leu Ile
50 55 60

Ala Gln Cys Ala Phe Thr Gly Phe Phe Ser Thr Ile Ala Gly Ala Ile
65 70 75 80

Tyr Tyr Pro Val Leu Ser Val Ile Glu Arg Lys Phe Asp Ile Asp Glu
85 90 95

Glu Leu Val Asn Val Thr Val Val Val Tyr Phe Val Phe Gln Gly Leu
100 105 110

Ala Pro Thr Phe Met Gly Gly Phe Ala Asp Ser Leu Gly Arg Arg Pro
115 120 125

Val Val Leu Val Ala Ile Val Ile Tyr Phe Gly Ala Cys Ile Gly Leu
130 135 140

Ala Cys Ala Gln Thr Tyr Ala Gln Ile Ile Val Leu Arg Cys Leu Gln
145 150 155 160

Ala Ala Gly Ile Ser Pro Val Ile Ala Ile Asn Ser Gly Ile Met Gly
165 170 175

Asp Val Thr Thr Arg Ala Glu Arg Gly Gly Tyr Val Gly Tyr Val Ala
180 185 190

Gly Phe Gln Val Leu Gly Ser Ala Phe Gly Ala Leu Ile Gly Ala Gly
195 200 205

Leu Ser Ser Arg Trp Gly Trp Arg Ala Ile Phe Trp Phe Leu Ala Ile
210 215 220

Gly Ser Gly Ile Cys Phe Leu Ala Ser Phe Leu Ile Leu Pro Glu Thr
225 230 235 240

Lys Arg Asn Ile Ser Gly Asn Gly Ser Val Thr Pro Lys Ser Tyr Leu
245 250 255

Asn Arg Ala Pro Ile Leu Val Leu Pro Thr Val Arg Lys Ser Leu His
Seite 83

260

265

270

Leu Asp Asn Pro Asp Tyr Glu Thr Leu Glu Leu Pro Thr Gln Leu Asn
 275 280 285

Leu Leu Ala Pro Phe Lys Ile Leu Lys Ala Tyr Glu Ile Cys Ile Leu
 290 295 300

Met Leu Val Ala Gly Leu Gln Phe Ala Met Tyr Thr Thr His Leu Thr
 305 310 315 320

Ala Leu Ser Thr Ala Leu Ser Lys Gln Tyr His Leu Thr Val Ala Lys
 325 330 335

Val Gly Leu Cys Tyr Leu Pro Ser Gly Ile Cys Thr Leu Cys Ser Ile
 340 345 350

Val Ile Ala Gly Arg Tyr Leu Asn Trp Asn Tyr Arg Arg Arg Leu Lys
 355 360 365

Tyr Tyr Gln Asn Trp Leu Gly Lys Lys Arg Ser Lys Leu Leu Glu Glu
 370 375 380

His Asp Asn Asp Leu Asn Leu Val Gln Arg Ile Ile Glu Asn Asp Pro
 385 390 400

Lys Tyr Thr Phe Asn Ile Phe Lys Ala Arg Leu Gln Pro Ala Phe Val
 405 410 415

Thr Leu Leu Leu Ser Ser Ser Gly Phe Cys Ala Tyr Gly Trp Cys Ile
 420 425 430

Thr Val Lys Ala Pro Leu Ala Ala Val Leu Cys Met Ser Gly Phe Ala
 435 440 445

Ser Leu Phe Ser Asn Cys Ile Leu Thr Phe Ser Thr Thr Leu Ile Val
 450 455 460

Asp Leu Phe Pro Thr Lys Thr Ser Thr Ala Thr Gly Cys Leu Asn Leu
 465 470 475 480

Phe Arg Cys Ile Leu Ser Ala Val Phe Ile Ala Ala Leu Ser Lys Met
 485 490 495

Val Glu Lys Met Lys Phe Gly Gly Val Phe Thr Phe Leu Gly Ala Leu
 500 505 510

Thr Ser Ser Ser Ser Ile Leu Leu Phe Ile Leu Leu Arg Lys Gly Lys
 515 520 525

Glu Leu Ala Phe Lys Arg Lys Lys Gln Glu Leu Gly Val Asn
 530 535 540

20080423_F_59071_PCT_sequence_listing.txt

<210> 56
 <211> 181
 <212> PRT
 <213> *Saccharomyces cerevisiae*

<400> 56

Met Arg Gln Leu Thr Glu Glu Glu Thr Lys Val Val Phe Glu Lys Leu
 1 5 10 15

Ala Gly Tyr Ile Gly Arg Asn Ile Ser Phe Leu Val Asp Asn Lys Glu
 20 25 30

Leu Pro His Val Phe Arg Leu Gln Lys Asp Arg Val Tyr Tyr Val Pro
 35 40 45

Asp His Val Ala Lys Leu Ala Thr Ser Val Ala Arg Pro Asn Leu Met
 50 55 60

Ser Leu Gly Ile Cys Leu Gly Lys Phe Thr Lys Thr Gly Lys Phe Arg
 65 70 75 80

Leu His Ile Thr Ser Leu Thr Val Leu Ala Lys His Ala Lys Tyr Lys
 85 90 95

Ile Trp Ile Lys Pro Asn Gly Glu Met Pro Phe Leu Tyr Gly Asn His
 100 105 110

Val Leu Lys Ala His Val Gly Lys Met Ser Asp Asp Ile Pro Glu His
 115 120 125

Ala Gly Val Ile Val Phe Ala Met Asn Asp Val Pro Leu Gly Phe Gly
 130 135 140

Val Ser Ala Lys Ser Thr Ser Glu Ser Arg Asn Met Gln Pro Thr Gly
 145 150 155 160

Ile Val Ala Phe Arg Gln Ala Asp Ile Gly Glu Tyr Leu Arg Asp Glu
 165 170 175

Asp Thr Leu Phe Thr
 180

<210> 57
 <211> 546
 <212> PRT
 <213> *Zea mays*

<400> 57

Met Ala Ser Ser Thr Gly Ser Leu Glu His Gly Gly Phe Thr Phe Thr
 1 5 10 15

Pro Pro Pro Phe Ile Thr Ser Phe Thr Glu Leu Leu Ser Gly Ala Ala
 Seite 85

20

25

30

Ala Asp Met Val Gly Ala Ala Gly Ala Asp His Gln Glu Arg Ser Pro
 35 40 45

Arg Gly Leu Phe His Arg Gly Ala Thr Arg Gly Gly Gly Val Gly Val
 50 55 60

Pro Lys Phe Lys Ser Ala Gln Pro Pro Ser Leu Pro Ile Ser Pro Pro
 65 70 75 80

Pro Met Ser Pro Ser Ser Tyr Phe Ser Ile Pro Pro Gly Leu Ser Pro
 85 90 95

Ala Glu Leu Leu Asp Ser Pro Val Leu Leu His Ser Ser Ser Asn Phe
 100 105 110

Phe Ala Ser Pro Thr Thr Gly Ala Ile Pro Ala Gln Arg Phe Asp Trp
 115 120 125

Lys Gln Ala Ala Asp Leu Ile Ala Ser Gln Ser Gln Gln Asp Asp Ser
 130 135 140

Arg Ala Ala Val Gly Ser Ala Phe Asn Asp Phe Ser Phe His Ala Pro
 145 150 155 160

Thr Met Pro Ala Gln Thr Thr Ser Phe Pro Ser Phe Lys Glu Gln Gln
 165 170 175

Gln Gln Gln Val Glu Ala Ala Thr Lys Ser Ala Val Pro Ser Ser Asn
 180 185 190

Lys Ala Ser Gly Gly Ser Gly Gly Gly Thr Lys Leu Glu Asp Gly Tyr
 195 200 205

Asn Trp Arg Lys Tyr Gly Gln Lys Gln Val Lys Gly Ser Glu Asn Pro
 210 215 220

Arg Ser Tyr Tyr Lys Cys Thr Tyr His Ser Cys Ser Met Lys Lys Lys
 225 230 235 240

Val Glu Arg Ser Leu Ala Asp Gly Arg Val Thr Gln Ile Val Tyr Lys
 245 250 255

Gly Ala His Asn His Pro Lys Pro Leu Ser Thr Arg Arg Asn Ser Ser
 260 265 270

Gly Gly Val Ala Ala Ala Glu Glu Gln Ala Ala Asn Asn Ser Ser Leu
 275 280 285

Ser Gly Cys Gly Gly Pro Glu His Ser Gly Gly Ala Thr Ala Glu Asn
 290 295 300

20080423_F_59071_PCT_sequence_listing.txt

Ser Ser Val Thr Phe Gly Asp Asp Glu Ala Glu Asn Gly Ser Gln Arg
305 310 315 320

Ser Gly Gly Asp Glu Pro Asp Ala Lys Arg Trp Lys Ala Glu Asp Gly
325 330 335

Glu Asn Glu Gly Ser Ser Gly Ala Gly Gly Gly Lys Pro Val Arg Glu
340 345 350

Pro Arg Leu Val Val Gln Thr Leu Ser Asp Ile Asp Ile Leu Asp Asp
355 360 365

Gly Phe Arg Trp Arg Lys Tyr Gly Gln Lys Val Val Lys Gly Asn Pro
370 375 380

Asn Pro Arg Ser Tyr Tyr Lys Cys Thr Thr Ala Gly Cys Pro Val Arg
385 390 395 400

Lys His Val Glu Arg Ala Cys His Asp Ala Arg Ala Val Ile Thr Thr
405 410 415

Tyr Glu Gly Lys His Asn His Asp Val Pro Val Gly Arg Gly Ala Ala
420 425 430

Ser Arg Ala Ala Ala Ala Ala Ala Ala Gly Ser Gly Ala Leu Met Ala
435 440 445

Thr Gly Gly Gly Gln Leu Gly Tyr Gln Gln His Gln Gln Gln Gln Pro
450 455 460

Tyr Thr Leu Glu Met Leu Ser Ser Gly Ser Tyr Gly Gly Gly Gly Tyr
465 470 475 480

Val Pro Arg Arg Arg Gln Pro Ser Cys Cys Cys Gly Gly Gly Gly Phe
485 490 495

Ala Phe Ser Ser Gly Phe Asp Asn Pro Met Gly Ser Tyr Met Ser Gln
500 505 510

His Gln Gln Gln Gln Arg Gln Asn Asp Ala Met His Ala Ser Arg Ala
515 520 525

Lys Glu Glu Pro Arg Glu Asp Met Phe Phe Pro Thr Ser Leu Leu Tyr
530 535 540

Thr Asp
545

<210> 58
<211> 420
<212> PRT

<213> Oryza sativa

<400> 58

Met Tyr Gly Arg Met Pro Lys Lys Ser Asn Asn Thr Lys Tyr Tyr Glu
1 5 10 15

Val Leu Gly Val Ser Lys Thr Ala Thr Gln Asp Glu Leu Lys Lys Ala
20 25 30

Tyr Arg Lys Ala Ala Ile Lys Asn His Pro Asp Lys Gly Gly Asp Pro
35 40 45

Glu Lys Phe Lys Glu Leu Ala Gln Ala Tyr Glu Val Leu Asn Asp Pro
50 55 60

Glu Lys Arg Glu Ile Tyr Asp Gln Tyr Gly Glu Asp Ala Leu Lys Glu
65 70 75 80

Gly Met Gly Gly Gly Ser Ser Ser Asp Phe His Ser Pro Phe Asp Leu
85 90 95

Phe Glu Gln Ile Phe Gln Asn Arg Gly Gly Phe Gly Gly Arg Gly His
100 105 110

Arg Gln Lys Arg Gly Glu Asp Val Val His Thr Met Lys Val Ser Leu
115 120 125

Glu Asp Leu Tyr Asn Gly Thr Thr Lys Lys Leu Ser Leu Ser Arg Asn
130 135 140

Ala Leu Cys Thr Lys Cys Lys Gly Lys Gly Ser Lys Ser Gly Ala Ala
145 150 155 160

Ala Thr Cys His Gly Cys His Gly Ala Gly Met Arg Thr Ile Thr Arg
165 170 175

Gln Ile Gly Leu Gly Met Ile Gln Gln Met Asn Thr Val Cys Pro Glu
180 185 190

Cys Arg Gly Ser Gly Glu Met Ile Ser Asp Lys Asp Lys Cys Pro Ser
195 200 205

Cys Lys Gly Asn Lys Val Val Gln Gln Lys Lys Val Leu Glu Val His
210 215 220

Val Glu Lys Gly Met Gln His Gly Gln Lys Ile Val Phe Gln Gly Glu
225 230 235 240

Ala Asp Glu Ala Pro Asp Thr Val Thr Gly Asp Ile Val Phe Val Leu
245 250 255

Gln Leu Lys Asp His Pro Lys Phe Lys Arg Lys Phe Asp Asp Leu Phe
Seite 88

260

265

270

Thr Glu His Thr Ile Ser Leu Thr Glu Ala Leu Cys Gly Phe Gln Phe
 275 280 285

Val Leu Thr His Leu Asp Gly Arg Gln Leu Leu Ile Lys Ser Asn Pro
 290 295 300

Gly Glu Val Ile Lys Pro Gly Gln His Lys Ala Ile Asn Asp Glu Gly
 305 310 315 320

Met Pro Gln His Gly Arg Pro Phe Met Lys Gly Arg Leu Phe Val Glu
 325 330 335

Phe Asn Val Glu Phe Pro Glu Pro Gly Ala Leu Thr Pro Gly Gln Cys
 340 345 350

Arg Ser Leu Glu Lys Ile Leu Pro Pro Arg Pro Arg Asn Gln Leu Ser
 355 360 365

Asp Met Glu Leu Asp Gln Cys Glu Glu Thr Thr Met His Asp Val Asn
 370 375 380

Ile Glu Glu Glu Met Arg Arg Arg Gln Gln His Arg Arg Gln Glu Ala
 385 390 395 400

Tyr Asp Glu Asp Asp Asp Glu Asp Ala Gly Ala Gly Pro Arg Val Gln
 405 410 415

Cys Ala Gln Gln
 420

<210> 59

<211> 294

<212> PRT

<213> Oryza sativa

<400> 59

Met Glu Gln Tyr Glu Lys Glu Glu Lys Ile Gly Glu Gly Thr Tyr Gly
 1 5 10 15

Val Val Tyr Arg Ala Arg Asp Lys Val Thr Asn Glu Thr Ile Ala Leu
 20 25 30

Lys Lys Ile Arg Leu Glu Gln Glu Asp Glu Gly Val Pro Ser Thr Ala
 35 40 45

Ile Arg Glu Ile Ser Leu Leu Lys Glu Met His His Gly Asn Ile Val
 50 55 60

Arg Leu His Asp Val Ile His Ser Glu Lys Arg Ile Tyr Leu Val Phe
 65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Glu Tyr Leu Asp Leu Asp Leu Lys Lys Phe Met Asp Ser Cys Pro Glu
85 90 95

Phe Ala Lys Asn Pro Thr Leu Ile Lys Ser Tyr Leu Tyr Gln Ile Leu
100 105 110

Arg Gly Val Ala Tyr Cys His Ser His Arg Val Leu His Arg Asp Leu
115 120 125

Lys Pro Gln Asn Leu Leu Ile Asp Arg Arg Thr Asn Ala Leu Lys Leu
130 135 140

Ala Asp Phe Gly Leu Ala Arg Ala Phe Gly Ile Pro Val Arg Thr Phe
145 150 155 160

Asp His Glu Val Val Thr Leu Trp Tyr Arg Ala Pro Glu Ile Leu Leu
165 170 175

Gly Ser Arg Gln Tyr Ser Thr Pro Val Asp Met Trp Ser Val Gly Cys
180 185 190

Ile Phe Ala Glu Met Val Asn Gln Lys Pro Leu Phe Pro Gly Asp Ser
195 200 205

Glu Ile Asp Glu Leu Phe Lys Ile Phe Arg Val Leu Gly Thr Pro Asn
210 215 220

Glu Gln Ser Trp Pro Gly Val Ser Ser Leu Pro Asp Tyr Lys Ser Ala
225 230 235 240

Phe Pro Lys Trp Gln Ala Gln Asp Leu Ala Thr Ile Val Pro Thr Leu
245 250 255

Asp Pro Ala Gly Leu Asp Leu Leu Ser Lys Met Leu Arg Tyr Glu Pro
260 265 270

Asn Lys Arg Ile Thr Ala Arg Gln Ala Leu Glu His Glu Tyr Phe Lys
275 280 285

Asp Leu Glu Met Val Gln
290

<210> 60
<211> 98
<212> PRT
<213> Zea mays

<400> 60

Met Glu Gly Gly Ala Ala Ile Gln Arg Arg Asn Ala Val Lys Arg His
1 5 10 15

Leu Gln Gln Arg Gln Gln Glu Ala Asp Phe Leu Asp Lys Lys Val Ile
Seite 90

20

25

30

Ala Ser Thr Tyr Phe Ser Ile Gly Ala Phe Leu Val Leu Ala Cys Leu
 35 40 45

Thr Val Ser Leu Leu Ile Leu Pro Leu Val Leu Pro Pro Leu Pro Pro
 50 55 60

Pro Pro Ser Leu Leu Leu Trp Leu Pro Val Cys Leu Leu Val Leu Leu
 65 70 75 80

Val Val Leu Ala Phe Met Pro Thr Asp Val Arg Ser Met Ala Ser Ser
 85 90 95

Tyr Leu

<210> 61
 <211> 267
 <212> PRT
 <213> Oryza sativa

<400> 61

Met Gly Arg Gly Lys Val Gln Leu Lys Arg Ile Glu Asn Lys Ile Asn
 1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Glu Val Ala Ala Ile Val Phe
 35 40 45

Ser Pro Lys Gly Lys Leu Tyr Glu Tyr Ala Thr Asp Ser Arg Met Asp
 50 55 60

Lys Ile Leu Glu Arg Tyr Glu Arg Tyr Ser Tyr Ala Glu Lys Ala Leu
 65 70 75 80

Ile Ser Ala Glu Ser Glu Ser Glu Gly Asn Trp Cys His Glu Tyr Arg
 85 90 95

Lys Leu Lys Ala Lys Ile Glu Thr Ile Gln Lys Cys His Lys His Leu
 100 105 110

Met Gly Glu Asp Leu Glu Ser Leu Asn Leu Lys Glu Leu Gln Gln Leu
 115 120 125

Glu Gln Gln Leu Glu Ser Ser Leu Lys His Ile Ile Ser Arg Lys Ser
 130 135 140

His Leu Met Leu Glu Ser Ile Ser Glu Leu Gln Lys Lys Glu Arg Ser
 145 150 155 160

20080423_F_59071_PCT_sequence_listing.txt

Leu Gln Glu Glu Asn Lys Ala Leu Gln Lys Glu Leu Val Glu Arg Gln
165 170 175

Lys Asn Val Arg Gly Gln Gln Gln Val Gly Gln Trp Asp Gln Thr Gln
180 185 190

Val Gln Ala Gln Ala Gln Ala Gln Pro Gln Ala Gln Thr Ser Ser Ser
195 200 205

Ser Ser Ser Met Leu Arg Asp Gln Gln Ala Leu Leu Pro Pro Gln Asn
210 215 220

Ile Cys Tyr Pro Pro Val Met Met Gly Glu Arg Asn Asp Ala Ala Ala
225 230 235 240

Ala Ala Ala Val Ala Ala Gln Gly Gln Val Gln Leu Arg Ile Gly Gly
245 250 255

Leu Pro Pro Trp Met Leu Ser His Leu Asn Ala
260 265

<210> 62
<211> 272
<212> PRT
<213> Zea mays

<400> 62

Met Asp Pro Ser Ala Val Ser Phe Asp Ser Gly Gly Thr Arg Arg Gly
1 5 10 15

Gly Gly Ala Gln Met Leu Leu Phe Gly Gly Gly Gly Ser Ala Asn Ser
20 25 30

Asn Gly Phe Phe Arg Gly Val Pro Met Ala Val Leu Gly Met Asp Asp
35 40 45

Ala Thr Arg Val Gly Lys Arg Pro Phe Phe Thr Thr His Glu Glu Leu
50 55 60

Leu Glu Glu Glu Tyr Tyr Asp Glu Gln Ala Pro Glu Lys Lys Arg Arg
65 70 75 80

Leu Thr Ala Glu Gln Val Gln Leu Leu Glu Arg Ser Phe Glu Glu Glu
85 90 95

Asn Lys Leu Glu Pro Glu Arg Lys Thr Glu Leu Ala Arg Arg Leu Gly
100 105 110

Met Ala Pro Arg Gln Val Ala Val Trp Phe Gln Asn Arg Arg Ala Arg
115 120 125

Trp Lys Thr Lys Gln Leu Glu Thr Asp Tyr Asp Arg Leu Lys Ala Ala
Seite 92

20080423_F_59071_PCT_sequence_listing.txt

130

135

140

Tyr Asp Ala Leu Ala Ala Asp His Gln Gly Leu Leu Ala Asp Asn Asp
145 150 155 160

Asn Leu Arg Ala Gln Val Ile Ser Leu Thr Glu Lys Leu Gln Gly Lys
165 170 175

Glu Thr Ser Pro Ser Ala Thr Thr Ala Ala Gln Glu Val Asp Gln Pro
180 185 190

Asp Glu His Thr Ala Val Ser Gly Thr Glu Glu Leu Leu Ala Gln Gln
195 200 205

Leu Lys Asp Asn Leu His Ser Ser Gly Asp Cys Thr Gly His Gly Thr
210 215 220

Leu Ser Ser Glu Glu Asp Asp Gly Gly Val Val Ser Asp Glu Gly Cys
225 230 235 240

Ser Phe Ala Leu Pro Asp Ala Met Phe Ala Ala Gly Phe Thr His His
245 250 255

Gly Ala Glu Glu Val Gln Leu Ala Asn Trp Thr Ser Met Phe Trp Asn
260 265 270

<210> 63
<211> 332
<212> PRT
<213> Zea mays

<400> 63

Met Glu Ser Gly Arg Leu Ile Phe Asn Ala Pro Gly Ser Gly Ala Gly
1 5 10 15

Gln Met Leu Phe Leu Asp Cys Gly Ala Gly Gly Gly Pro Gly Gly Gly
20 25 30

Leu Phe His Arg Gly Gly Arg Pro Met Leu Gly Leu Glu Glu Gly Arg
35 40 45

Gly Val Lys Arg Pro Phe Phe Thr Ser Pro Asp Glu Leu Leu Glu Glu
50 55 60

Glu Tyr Tyr Asp Glu Gln Leu Pro Glu Lys Lys Arg Arg Leu Thr Pro
65 70 75 80

Glu Gln Val Leu Leu Leu Glu Arg Ser Phe Glu Glu Glu Asn Lys Leu
85 90 95

Glu Pro Glu Arg Lys Thr Glu Leu Ala Arg Lys Leu Gly Leu Gln Pro
100 105 110

20080423_F_59071_PCT_sequence_listing.txt

Arg Gln Val Ala Val Trp Phe Gln Asn Arg Arg Ala Arg Trp Lys Thr
115 120 125

Lys Gln Leu Glu Arg Asp Phe Asp Arg Leu Lys Ala Ser Phe Asp Ala
130 135 140

Leu Arg Ala Asp His Asp Ala Leu Leu Gln Asp Asn Asn Arg Leu Arg
145 150 155 160

Ser Gln Val Val Ser Leu Thr Glu Lys Leu Gln Glu Lys Glu Asp Ala
165 170 175

Thr Glu Gly Gly Ala Thr Ala Asp Thr Ala Ala Pro Ala Val Asp Val
180 185 190

Glu Ala Ser Leu Ala Asp Asp Val Glu Glu Pro Ala Glu Pro Ala Ala
195 200 205

Thr Phe Glu Val Leu Gln Glu Val Lys Ser Glu Asp Arg Leu Ser Thr
210 215 220

Gly Ser Gly Gly Ser Ala Val Val Asp Ala Asp Ala Leu Leu Tyr Gly
225 230 235 240

Arg Phe Ala Ala Ala Val Asp Ser Ser Val Glu Ser Tyr Phe Pro Gly
245 250 255

Gly Glu Asp His Tyr His Asp Cys Gly Thr Met Gly Pro Val Asn His
260 265 270

Gly Ala Gly Gly Gly Ile Gln Ser Asp Asp Asp Gly Ala Gly Ser Asp
275 280 285

Glu Gly Cys Ser Tyr Tyr Ala Asp Glu Ala Ala Ala Ala Ala Ala Ala
290 295 300

Ala Ala Phe Phe Ala Gly His Ala Thr His His His Ala Asp Glu Asp
305 310 315 320

Glu Asp Ala Gly Gln Ile Ser Trp Trp Met Trp Asn
325 330

<210> 64
<211> 211
<212> PRT
<213> Arabidopsis thaliana

<400> 64

Met Ala Arg Gly Lys Ile Gln Leu Lys Arg Ile Glu Asn Pro Val His
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Thr Gly Leu Leu Lys Lys Ala
Seite 94

20

25

30

Lys Glu Leu Ser Val Leu Cys Asp Ala Glu Ile Gly Val Val Ile Phe
 35 40 45

Ser Pro Gln Gly Lys Leu Phe Glu Leu Ala Thr Lys Gly Thr Met Glu
 50 55 60

Gly Met Ile Asp Lys Tyr Met Lys Cys Thr Gly Gly Gly Arg Gly Ser
 65 70 75 80

Ser Ser Ala Thr Phe Thr Ala Gln Glu Gln Leu Gln Pro Pro Asn Leu
 85 90 95

Asp Pro Lys Asp Glu Ile Asn Val Leu Lys Gln Glu Ile Glu Met Leu
 100 105 110

Gln Lys Gly Ile Ser Tyr Met Phe Gly Gly Gly Asp Gly Ala Met Asn
 115 120 125

Leu Glu Glu Leu Leu Leu Leu Glu Lys His Leu Glu Tyr Trp Ile Ser
 130 135 140

Gln Ile Arg Ser Ala Lys Met Asp Val Met Leu Gln Glu Ile Gln Ser
 145 150 155 160

Leu Arg Asn Lys Glu Gly Val Leu Lys Asn Thr Asn Lys Tyr Leu Leu
 165 170 175

Glu Lys Ile Glu Glu Asn Asn Asn Ser Ile Leu Asp Ala Asn Phe Ala
 180 185 190

Val Met Glu Thr Asn Tyr Ser Tyr Pro Leu Thr Met Pro Ser Glu Ile
 195 200 205

Phe Gln Phe
 210

<210> 65
 <211> 535
 <212> PRT
 <213> Oryza sativa

<400> 65

Met Gly Met Glu Val Ala Ala Ala Arg Leu Gly Ala Leu Tyr Thr Thr
 1 5 10 15

Ser Asp Tyr Ala Ser Val Val Ser Ile Asn Leu Phe Val Ala Leu Leu
 20 25 30

Cys Ala Cys Ile Val Leu Gly His Leu Leu Glu Glu Asn Arg Trp Ile
 35 40 45

20080423_F_59071_PCT_sequence_listing.txt

Asn Glu Ser Ile Thr Ala Leu Ile Ile Gly Leu Cys Thr Gly Val Val
 50 55 60
 Ile Leu Leu Met Thr Lys Gly Lys Ser Ser His Leu Phe Val Phe Ser
 65 70 75 80
 Glu Asp Leu Phe Phe Ile Tyr Leu Leu Pro Pro Ile Ile Phe Asn Ala
 85 90 95
 Gly Phe Gln Val Lys Lys Lys Gln Phe Phe Arg Asn Phe Met Thr Ile
 100 105 110
 Thr Leu Phe Gly Ala Val Gly Thr Met Ile Ser Phe Phe Thr Ile Ser
 115 120 125
 Ile Ala Ala Ile Ala Ile Phe Ser Arg Met Asn Ile Gly Thr Leu Asp
 130 135 140
 Val Gly Asp Phe Leu Ala Ile Gly Ala Ile Phe Ser Ala Thr Asp Ser
 145 150 155 160
 Val Cys Thr Leu Gln Val Leu Asn Gln Asp Glu Thr Pro Phe Leu Tyr
 165 170 175
 Ser Leu Val Phe Gly Glu Gly Val Val Asn Asp Ala Thr Ser Ile Val
 180 185 190
 Leu Phe Asn Ala Leu Gln Asn Phe Asp Leu Val His Ile Asp Ala Ala
 195 200 205
 Val Val Leu Lys Phe Leu Gly Asn Phe Phe Tyr Leu Phe Leu Ser Ser
 210 215 220
 Thr Phe Leu Gly Val Phe Ala Gly Leu Leu Ser Ala Tyr Ile Ile Lys
 225 230 235 240
 Lys Leu Tyr Ile Gly Arg His Ser Thr Asp Arg Glu Val Ala Leu Met
 245 250 255
 Met Leu Met Ala Tyr Leu Ser Tyr Met Leu Ala Glu Leu Leu Asp Leu
 260 265 270
 Ser Gly Ile Leu Thr Val Phe Phe Cys Gly Ile Val Met Ser His Tyr
 275 280 285
 Thr Trp His Asn Val Thr Glu Ser Ser Arg Val Thr Thr Lys His Ala
 290 295 300
 Phe Ala Thr Leu Ser Phe Ile Ala Glu Thr Phe Leu Phe Leu Tyr Val
 305 310 315 320

20080423_F_59071_PCT_sequence_listing.txt

Gly Met Asp Ala Leu Asp Ile Glu Lys Trp Glu Phe Ala Ser Asp Arg
325 330 335

Pro Gly Lys Ser Ile Gly Ile Ser Ser Ile Leu Leu Gly Leu Val Leu
340 345 350

Ile Gly Arg Ala Ala Phe Val Phe Pro Leu Ser Phe Leu Ser Asn Leu
355 360 365

Thr Lys Lys Ala Pro Asn Glu Lys Ile Thr Trp Arg Gln Gln Val Val
370 375 380

Ile Trp Trp Ala Gly Leu Met Arg Gly Ala Val Ser Ile Ala Leu Ala
385 390 395 400

Tyr Asn Lys Phe Thr Arg Ser Gly His Thr Gln Leu His Gly Asn Ala
405 410 415

Ile Met Ile Thr Ser Thr Ile Thr Val Val Leu Phe Ser Thr Met Val
420 425 430

Phe Gly Met Met Thr Lys Pro Leu Ile Arg Leu Leu Leu Pro Ala Ser
435 440 445

Gly His Pro Val Thr Ser Glu Pro Ser Ser Pro Lys Ser Leu His Ser
450 455 460

Pro Leu Leu Thr Ser Met Gln Gly Ser Asp Leu Glu Ser Thr Thr Asn
465 470 475 480

Ile Val Arg Pro Ser Ser Leu Arg Met Leu Leu Thr Lys Pro Thr His
485 490 495

Thr Val His Tyr Tyr Trp Arg Lys Phe Asp Asp Ala Leu Met Arg Pro
500 505 510

Met Phe Gly Gly Arg Gly Phe Val Pro Phe Ser Pro Gly Ser Pro Thr
515 520 525

Glu Gln Ser His Gly Gly Arg
530 535

<210> 66
<211> 194
<212> PRT
<213> Oryza sativa

<400> 66

Met Gly Lys Tyr Met Arg Lys Ala Lys Val Val Val Ser Gly Glu Val
1 5 10 15

Val Ala Ala Ala Val Met Glu Leu Ala Ala Ala Pro Leu Gly Val Arg
20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Thr Arg Ala Arg Ser Leu Ala Leu Gln Lys Arg Gln Gly Gly Glu Tyr
35 40 45

Leu Glu Leu Arg Ser Arg Arg Leu Glu Lys Leu Pro Pro Pro Pro Pro
50 55 60

Pro Pro Pro Arg Arg Arg Ala Thr Ala Ala Ala Thr Ala Asp Ala
65 70 75 80

Thr Ala Thr Glu Ser Ala Glu Ala Glu Val Ser Phe Gly Gly Glu Asn
85 90 95

Val Leu Glu Leu Glu Ala Met Glu Arg Asn Thr Arg Glu Thr Thr Pro
100 105 110

Cys Ser Leu Ile Arg Asp Pro Asp Thr Ile Ser Thr Pro Gly Ser Thr
115 120 125

Thr Arg Arg Ser His Ser Ser Ser His Cys Lys Val Gln Thr Pro Val
130 135 140

Arg His Asn Ile Ile Pro Ala Ser Ala Glu Leu Glu Ala Phe Phe Ala
145 150 155 160

Ala Glu Glu Gln Arg Gln Arg Gln Ala Phe Ile Asp Lys Tyr Asn Phe
165 170 175

Asp Pro Val Asn Asp Cys Pro Leu Pro Gly Arg Phe Glu Trp Val Lys
180 185 190

Leu Asp

<210> 67
<211> 248
<212> PRT
<213> Nicotiana tabacum

<400> 67

Met Leu Phe Tyr Gly Pro Pro Gly Thr Gly Lys Thr Met Val Ala Arg
1 5 10 15

Glu Ile Ala Arg Lys Ser Gly Leu Asp Tyr Ala Met Met Thr Gly Gly
20 25 30

Asp Val Ala Pro Leu Gly Ala Gln Ala Val Thr Lys Ile His Glu Ile
35 40 45

Phe Asp Trp Ala Lys Lys Ser Asn Lys Gly Leu Leu Leu Phe Ile Asp
50 55 60

20080423_F_59071_PCT_sequence_listing.txt

Glu Ala Asp Ala Phe Leu Cys Glu Arg Asn Ser Thr Tyr Met Ser Glu
65 70 75 80

Ala Gln Arg Ser Ala Leu Asn Ala Leu Leu Phe Arg Thr Gly Asp Gln
85 90 95

Ser Arg Asp Val Val Leu Val Leu Ala Thr Asn Arg Pro Gly Asp Leu
100 105 110

Asp Ser Ala Val Thr Asp Arg Ile Asp Glu Val Ile Glu Phe Pro Leu
115 120 125

Pro Gln Glu Glu Glu Arg Phe Lys Leu Leu Lys Leu Tyr Leu Asn Lys
130 135 140

Tyr Leu Ala Gly Glu Gly Asp Ser Asp Ser Asn Ser Lys Trp Gly His
145 150 155 160

Leu Phe Lys Lys Asn Gln Gln Lys Arg Ile Thr Ile Gln Asp Leu Ser
165 170 175

Asp Asp Val Ile Arg Glu Ala Ala Lys Lys Ile Glu Gly Phe Ser Gly
180 185 190

Arg Glu Ile Ala Lys Leu Met Ala Ser Val Gln Ala Thr Val Tyr Gly
195 200 205

Ser Pro Asp Cys Val Leu Asp Ser Gln Leu Phe Lys Glu Ile Val Asp
210 215 220

Tyr Lys Val Ala Glu His His Gln Arg Ile Lys Leu Ala Ala Glu Gly
225 230 235 240

Met Glu Pro Thr Tyr Gln Gly Asn
245

<210> 68
<211> 459
<212> PRT
<213> Nicotiana tabacum

<400> 68

Met Gly Asp Met Lys Asp Lys Val Lys Gly Phe Met Lys Lys Val Thr
1 5 10 15

Ser Ser Ser Ser Gly Lys Phe Lys Gly Gln Gly Arg Val Leu Gly Gly
20 25 30

Ser Ser Ser Ser Gly Pro Ser Asn His Val Asn Asn Phe Ser Ser His
35 40 45

Pro Leu Asn Thr Arg Gln Asp Gln Gln Pro Ser Tyr Thr Lys Thr Ser
50 55 60

20080423_F_59071_PCT_sequence_listing.txt

Pro Gln Lys Pro Ser Asn Ser Asp Gln Arg Ile Glu Asn Ile Cys Glu
65 70 75 80

Ile Gln Phe Asn Lys Ser Glu Ser Lys Asp Gly Phe Asp Pro Phe Gly
85 90 95

Glu Leu Val Thr Ser Gly Lys Arg Asn Pro Lys Gly Tyr Ser Leu Thr
100 105 110

Asn Val Phe Glu Cys Pro Val Cys Gly Ser Gly Phe Val Ser Glu Glu
115 120 125

Glu Val Ser Thr His Ile Asp Ser Cys Leu Ser Ser Glu Val Ser Ser
130 135 140

Asn Leu Gly Val Glu Ser Lys Val Glu Val Lys Ser Glu Leu Glu Thr
145 150 155 160

Cys Val Ser Ala Tyr Val Ser Gly Lys Pro Ser Glu Gly Ser Val Glu
165 170 175

Val Val Ile Lys Leu Leu Lys Asn Ile Val Lys Glu Pro Glu Asn Ala
180 185 190

Lys Phe Arg Lys Ile Arg Met Gly Asn Pro Lys Ile Lys Gly Ala Ile
195 200 205

Gly Asp Val Val Gly Gly Val Glu Leu Leu Glu Phe Val Gly Phe Glu
210 215 220

Leu Lys Glu Glu Gly Gly Glu Ile Trp Ala Val Met Asp Val Pro Ser
225 230 235 240

Glu Glu Gln Leu Val Met Leu Lys Asn Val Val Ser Leu Leu Glu Pro
245 250 255

Lys Lys Val Glu Glu Leu Ala Ser Leu Ser Gln Val Lys Ala Ser Glu
260 265 270

Pro Val Glu Pro Lys Lys Ile Asp Arg Gln Ile Arg Val Phe Phe Ser
275 280 285

Val Pro Glu Ser Val Ala Ala Lys Ile Glu Leu Pro Asp Ser Phe Phe
290 295 300

Asn Leu Ser Arg Glu Glu Leu Arg Arg Glu Ala Glu Met Arg Lys Lys
305 310 315 320

Lys Leu Glu Asp Ser Lys Leu Leu Ile Pro Lys Ser Tyr Arg Glu Lys
325 330 335

20080423_F_59071_PCT_sequence_listing.txt

Gln Ala Lys Ala Ala Arg Lys Lys Tyr Thr Lys Ser Ile Ile Arg Val
340 345 350

Gln Phe Pro Asp Gly Ala Leu Leu Gln Gly Val Phe Leu Pro Ser Glu
355 360 365

Pro Thr Ser Ala Leu Tyr Glu Phe Val Ser Ala Ala Leu Lys Glu Pro
370 375 380

Ser Leu Glu Phe Glu Leu Leu His Pro Val Leu Val Lys Lys Arg Val
385 390 395 400

Ile Pro His Phe Pro Ala Ala Gly Glu Arg Ala Val Thr Val Glu Glu
405 410 415

Glu Asp Leu Val Pro Ala Ala Leu Leu Lys Phe Lys Pro Ile Glu Thr
420 425 430

Asp Ser Val Val Phe Thr Gly Leu Cys Asn Glu Leu Leu Glu Ile Ser
435 440 445

Glu Pro Leu Glu Thr Gly Ser Val Ala Ser Ser
450 455

<210> 69

<211> 485

<212> PRT

<213> Nicotiana tabacum

<400> 69

Met Ala Ser Ile Ser Ala Ala Ser Ala Thr Ala Thr Ala Ser Thr Lys
1 5 10 15

Leu Ala Tyr Pro Tyr Ser Pro Ser Ser Ser Ser Ser Ser Asn Thr
20 25 30

Ala Ala Val Phe Pro Ser Asn Ser Ser Lys Leu Ile Leu Ser Ser Ser
35 40 45

Phe Thr Pro Thr Pro Ser Thr Leu Phe Leu His Ser Pro Thr Thr Thr
50 55 60

Pro Ser Thr Thr His Pro Arg Arg Phe Thr Val Arg Ala Ala Arg Gly
65 70 75 80

Lys Phe Glu Arg Lys Lys Pro His Val Asn Ile Gly Thr Ile Gly His
85 90 95

Val Asp His Gly Lys Thr Thr Leu Thr Ala Ala Leu Thr Met Ala Leu
100 105 110

Ala Ser Met Gly Asn Ser Ala Pro Lys Lys Tyr Asp Glu Ile Asp Ala
Seite 101

115

120

125

Ala Pro Glu Glu Arg Ala Arg Gly Ile Thr Ile Asn Thr Ala Thr Val
 130 135 140

Glu Tyr Glu Thr Glu Asn Arg His Tyr Ala His Val Asp Cys Pro Gly
 145 150 155 160

His Ala Asp Tyr Val Lys Asn Met Ile Thr Gly Ala Ala Gln Met Asp
 165 170 175

Gly Ala Ile Leu Val Val Ser Gly Ala Asp Gly Pro Met Pro Gln Thr
 180 185 190

Lys Glu His Ile Leu Leu Ala Lys Gln Val Gly Val Pro Asn Met Val
 195 200 205

Val Phe Leu Asn Lys Gln Asp Gln Val Asp Asp Glu Glu Leu Leu Glu
 210 215 220

Leu Val Glu Leu Glu Val Arg Glu Leu Leu Ser Ser Tyr Glu Phe Pro
 225 230 235 240

Gly Asp Glu Ile Pro Ile Ile Ser Gly Ser Ala Leu Leu Ala Leu Glu
 245 250 255

Ala Leu Met Ala Asn Pro Ser Ile Lys Arg Gly Glu Asn Gln Trp Val
 260 265 270

Asp Lys Ile Tyr Gln Leu Met Asp Asn Val Asp Glu Tyr Ile Pro Ile
 275 280 285

Pro Gln Arg Gln Thr Glu Leu Pro Phe Leu Met Ala Ile Glu Asp Val
 290 295 300

Phe Ser Ile Thr Gly Arg Gly Thr Val Ala Thr Gly Arg Val Glu Arg
 305 310 315 320

Gly Thr Val Lys Val Gly Glu Ile Val Asp Ile Val Gly Leu Lys Asp
 325 330 335

Thr Arg Asn Thr Thr Val Thr Gly Val Glu Met Phe Gln Lys Ile Leu
 340 345 350

Asp Glu Ala Met Ala Gly Asp Asn Val Gly Leu Leu Leu Arg Gly Ile
 355 360 365

Gln Lys Ile Asp Ile Gln Arg Gly Met Val Leu Ala Lys Pro Gly Thr
 370 375 380

Ile Thr Pro His Thr Lys Phe Glu Ala Leu Val Tyr Val Leu Lys Lys
 385 390 395 400

20080423_F_59071_PCT_sequence_listing.txt

Glu Glu Gly Gly Arg His Ser Pro Phe Phe Ala Gly Tyr Arg Pro Gln
405 410 415

Phe Tyr Met Arg Thr Thr Asp Val Thr Gly Lys Val Thr Val Ile Met
420 425 430

Ser Asp Lys Gly Glu Glu Ser Lys Met Val Met Pro Gly Asp Arg Val
435 440 445

Asn Met Val Val Glu Leu Ile Met Pro Val Ala Cys Glu Gln Gly Met
450 455 460

Arg Phe Ala Ile Arg Glu Gly Gly Lys Thr Val Gly Ala Gly Val Ile
465 470 475 480

Gln Lys Ile Leu Glu
485

<210> 70
<211> 606
<212> PRT
<213> Nicotiana tabacum

<400> 70

Met Ser Arg Leu Ile Glu His His Leu Ala Asn Asn Lys Gln Asp Met
1 5 10 15

Lys Gly Thr Glu Val Phe Val Gly Gly Leu Ala Arg Thr Thr Thr Glu
20 25 30

Ser Lys Ile His Glu Val Phe Ser Ser Cys Gly Glu Ile Val Glu Ile
35 40 45

Arg Leu Ile Lys Asp Gln Thr Gly Val Pro Lys Gly Phe Cys Phe Val
50 55 60

Arg Phe Ala Thr Lys Tyr Ala Ala Asp Lys Ala Leu Lys Glu Lys Ser
65 70 75 80

Gly Tyr Val Leu Asp Gly Lys Lys Leu Gly Val Arg Pro Ser Val Glu
85 90 95

Gln Asp Thr Leu Phe Leu Gly Asn Leu Asn Lys Gly Trp Gly Ala Glu
100 105 110

Glu Phe Glu Ser Ile Val Arg Gln Val Phe Pro Asp Val Val Ser Val
115 120 125

Asp Leu Ala Leu Leu Gly Asp Val Gln Pro Gly Gln Lys Gln Arg Asn
130 135 140

20080423_F_59071_PCT_sequence_listing.txt

Arg Gly Phe Ala Phe Val Lys Phe Pro Ser His Ala Ala Ala Ala Arg
145 150 155 160

Ala Phe Arg Val Gly Ser Gln Ser Asp Phe Leu Ile Asp Gly Lys Leu
165 170 175

His Pro Ser Val Gln Trp Ala Glu Glu Pro Asp Pro Asn Glu Leu Ala
180 185 190

Gln Ile Lys Ala Ala Phe Val Arg Asn Val Pro Pro Gly Ala Asp Glu
195 200 205

Asp Tyr Leu Lys Lys Leu Phe Gln Pro Phe Gly Asn Val Glu Arg Ile
210 215 220

Ala Leu Ser Arg Lys Gly Ser Ser Thr Ile Gly Phe Val Tyr Phe Asp
225 230 235 240

Lys Arg Ser Asp Leu Asp Asn Ala Ile Met Ala Leu Asn Glu Lys Thr
245 250 255

Val Gln Gly Pro Met Gly Gly Pro Ser Cys Lys Leu Gln Val Glu Val
260 265 270

Ala Arg Pro Met Asp Lys Asn Arg Lys Arg Gly Arg Glu Asp Pro Asn
275 280 285

Met Ser Ser Thr Ile Glu Ser His Ser Lys Leu Leu Lys Asp Asp Pro
290 295 300

Asp Val Glu Met Ile Arg Ala Pro Lys Ser Thr Ala Gln Leu Glu Met
305 310 315 320

Asp Tyr Ser Asp Pro Tyr Glu Ala Ala Val Val Ala Leu Pro Val Val
325 330 335

Val Lys Glu Arg Leu Val Arg Ile Leu Arg Leu Gly Ile Ala Thr Arg
340 345 350

Tyr Asp Ile Asp Val Glu Ser Leu Thr Ser Leu Lys Ile Leu Pro Gln
355 360 365

Ser Ala Ala Ile Ser Ile Leu Asp Gln Phe Met Leu Ser Gly Ala Asp
370 375 380

Met Gln Asn Lys Gly Gly Tyr Leu Ala Ser Leu Ile Ser Lys Gln Val
385 390 395 400

Glu Lys Leu Gly Pro Lys Gln Phe Asp Ser Arg Ser Arg Ile Glu Asp
405 410 415

Val Gly Leu Arg Val Pro Glu Pro Asp Arg Phe Ser Thr Arg Val Arg

420

425

430

Leu Pro Asp₄₃₅ Leu Asp Ser Tyr Ala₄₄₀ Ser Arg Val Pro Leu₄₄₅ Pro Met Pro

Arg Thr₄₅₀ Asp Val Tyr Thr Ser₄₅₅ His Tyr Ser Ala Tyr₄₆₀ Leu Asp Pro His

Leu Ser Gly Arg Met Thr₄₇₀ Ala Lys Arg Met Glu₄₇₅ Glu Ala Ser Ser His₄₈₀

Leu Gln Ala Thr Ser₄₈₅ Leu Leu Ser Ser Arg₄₉₀ Val Ala Thr Arg Met₄₉₅ Glu

Glu Ala Gly Ser₅₀₀ Thr Leu Gln Ser Leu₅₀₅ Leu Ser Gly Gly Val₅₁₀ Thr Thr

Arg Arg Met₅₁₅ Glu Glu Ala Ser Pro₅₂₀ Ile Leu Gln Ala Thr₅₂₅ Leu Leu Pro

Ser Gly₅₃₀ Arg Val Ser Arg Met₅₃₅ Asp Glu Ala Ser Pro₅₄₀ Asn Leu Gln Ala

Thr Trp Ser Pro Ser Pro₅₅₀ Thr Asn Asp Arg Ile₅₅₅ Gly Leu His Ser His₅₆₀

Ile Thr Ala Thr Ala₅₆₅ Asp His Gln His Thr₅₇₀ Arg Pro Arg Ile Arg₅₇₅ Phe

Asp Pro Phe Thr₅₈₀ Gly Glu Pro Tyr Lys₅₈₅ Phe Asp Pro Phe Thr₅₉₀ Gly Glu

Pro Ile Val₅₉₅ Pro Lys Ser Ser Ser₆₀₀ His His Arg Ser Leu₆₀₅ Tyr

<210> 71

<211> 475

<212> PRT

<213> Nicotiana tabacum

<400> 71

Met Ser Val Leu Gln Tyr Pro Glu Gly Ile₁₀ Asp Pro Ala Asp Val₁₅ Gln₁

Ile Trp Asn Asn Ala Ala Phe Asp Asn Gly Asp Ser Glu Asp Leu Ser₂₀₂₅₃₀

Ser Leu Lys₃₅ Arg Ser Trp Ser Pro₄₀ Leu Lys Pro Leu Ser₄₅ Val Arg Pro

Ser Asp Ser Phe Glu Ser Asp₅₅ Leu Ser Ser Lys Glu₆₀ Asn Gln Thr Pro₅₀

20080423_F_59071_PCT_sequence_listing.txt

Leu Phe Glu Asn Ser Ser Val Asn Leu Ser Ser Pro Leu Pro Ile Lys
 65 70 75 80
 Pro Leu Asn Pro Asn Gly Ala Leu Glu Asn Ser Arg Leu Lys Pro Asn
 85 90 95
 Lys Pro Asn Ser Lys Gln Ser Leu Asp Glu Met Ala Ala Arg Lys Ser
 100 105 110
 Gly Lys Gly Asn Asp Phe Arg Asp Glu Lys Lys Ile Asp Glu Glu Ile
 115 120 125
 Glu Glu Ile Gln Met Glu Ile Ser Arg Leu Ser Ser Arg Leu Glu Ala
 130 135 140
 Leu Arg Ile Glu Lys Ala Glu Lys Thr Val Ala Lys Thr Val Glu Lys
 145 150 155 160
 Arg Gly Arg Val Val Ala Ala Lys Phe Met Glu Pro Lys Gln Ser Val
 165 170 175
 Ile Lys Ile Glu Glu Arg Ile Ser Met Ser Ala Arg Thr Lys Val Glu
 180 185 190
 Gln Arg Arg Gly Leu Ser Leu Gly Pro Ser Glu Ile Phe Thr Gly Thr
 195 200 205
 Arg Arg Arg Gly Leu Ser Met Gly Pro Ser Asp Ile Leu Ala Gly Thr
 210 215 220
 Thr Lys Ala Arg Gln Leu Gly Lys Gln Glu Met Ile Ile Thr Pro Ile
 225 230 235 240
 Gln Pro Ile Gln Asn Arg Arg Lys Ser Cys Phe Trp Lys Leu Gln Glu
 245 250 255
 Ile Glu Glu Glu Gly Lys Ser Ser Ser Leu Ser Pro Lys Ser Arg Lys
 260 265 270
 Thr Ala Ala Arg Thr Met Val Thr Thr Arg Gln Ala Val Thr Thr Ile
 275 280 285
 Ala Ser Lys Lys Asn Leu Lys Lys Asp Asp Gly Leu Leu Ser Ser Val
 290 295 300
 Gln Pro Lys Lys Leu Phe Lys Asp Leu Glu Lys Ser Ala Ala Ala Asn
 305 310 315 320
 Lys Lys Pro Gln Arg Pro Gly Arg Val Val Ala Ser Arg Tyr Asn Gln
 325 330 335

20080423_F_59071_PCT_sequence_listing.txt

Ser Thr Ile Gln Ser Ser Val Val Arg Lys Arg Ser Leu Pro Glu Asn
340 345 350

Asp Lys Asp Glu Ser Lys Arg Asn Asp Lys Lys Arg Ser Leu Ser Val
355 360 365

Gly Lys Thr Arg Val Ser Gln Thr Glu Ser Lys Asn Leu Gly Thr Glu
370 375 380

Ser Arg Val Lys Lys Arg Trp Glu Ile Pro Ser Glu Ile Val Val His
385 390 395 400

Gly Asn Thr Glu Ser Glu Lys Ser Pro Leu Ser Ile Ile Val Lys Pro
405 410 415

Asp Leu Leu Pro Arg Ile Arg Ile Ala Arg Cys Val Asn Glu Thr Pro
420 425 430

Arg Asp Ser Gly Pro Ala Lys Arg Met Ile Glu Leu Ile Gly Lys Lys
435 440 445

Ser Phe Phe Ser Ser Asp Glu Asp Lys Glu Pro Pro Val Cys Gln Val
450 455 460

Leu Ser Phe Ala Glu Glu Asp Ala Glu Glu Glu
465 470 475

<210> 72
<211> 224
<212> PRT
<213> Saccharomyces cerevisiae

<400> 72

Met His Lys Thr His Ser Thr Met Ser Gly Lys Ser Met Lys Val Ile
1 5 10 15

Gly Val Leu Ala Leu Gln Gly Ala Phe Leu Glu His Thr Asn His Leu
20 25 30

Lys Arg Cys Leu Ala Glu Asn Asp Tyr Gly Ile Lys Ile Glu Ile Lys
35 40 45

Thr Val Lys Thr Pro Glu Asp Leu Ala Gln Cys Asp Ala Leu Ile Ile
50 55 60

Pro Gly Gly Glu Ser Thr Ser Met Ser Leu Ile Ala Gln Arg Thr Gly
65 70 75 80

Leu Tyr Pro Cys Leu Tyr Glu Phe Val His Asn Pro Glu Lys Val Val
85 90 95

Trp Gly Thr Cys Ala Gly Leu Ile Phe Leu Ser Ala Gln Leu Glu Asn
100 105 110

20080423_F_59071_PCT_sequence_listing.txt

Glu Ser Ala Leu Val Lys Thr Leu Gly Val Leu Lys Val Asp Val Arg
115 120 125

Arg Asn Ala Phe Gly Arg Gln Ala Gln Ser Phe Thr Gln Lys Cys Asp
130 135 140

Phe Ser Asn Phe Ile Pro Gly Cys Asp Asn Phe Pro Ala Thr Phe Ile
145 150 155 160

Arg Ala Pro Val Ile Glu Arg Ile Leu Asp Pro Ile Ala Val Lys Ser
165 170 175

Leu Tyr Glu Leu Pro Val Asn Gly Lys Asp Val Val Val Ala Ala Thr
180 185 190

Gln Asn His Asn Ile Leu Val Thr Ser Phe His Pro Glu Leu Ala Asp
195 200 205

Ser Asp Thr Arg Phe His Asp Trp Phe Ile Arg Gln Phe Val Ser Asn
210 215 220

<210> 73
<211> 1071
<212> PRT
<213> Saccharomyces cerevisiae
<400> 73

Met Leu Asp Asp Asp Lys Gly Thr Ala Met His Pro His Ile Thr Pro
1 5 10 15

Phe Thr Pro Glu Tyr Ser Asn Glu Leu Leu Arg Arg Val Gln Asp Leu
20 25 30

Tyr His Glu Asp Ile Lys His Tyr Tyr Pro Gln Leu Lys Leu Glu Lys
35 40 45

Leu Leu Asp Leu Leu Glu His Thr Glu Tyr Leu Phe Glu Leu Tyr Leu
50 55 60

Asp Ser Ile His His Asp Arg Pro Asn Asp Ala Leu Thr Ala Phe Ile
65 70 75 80

Ile Gly Cys Tyr Tyr Val Phe Leu Ile Ile Pro Gln Ser Leu Gln Phe
85 90 95

Gln Thr Arg Asn Lys Ser Tyr Ser Ile Tyr Thr Asp Leu Lys Lys Met
100 105 110

Tyr Glu Asn Glu Met Asn Met Thr Asn Val Val Leu Met Val Lys Lys
115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Glu Ile Gly Val Val Leu Asp Glu Ser Val Lys His Gly Ala Gly Ile
130 135 140

Glu His Arg Ile Thr Lys Lys Arg Ala Phe Ser Val Pro Ala Asp Asp
145 150 155 160

Leu Ser Gly Gln Val Ala Ser Leu Ser Leu Asp Thr Ala Ala Pro Gln
165 170 175

Asp His Gly Leu Lys Gly Thr Phe Thr Glu Asp Asp Ala Glu Gln Ser
180 185 190

Ser Pro Val Trp Thr Ala Pro Asn Leu Glu Pro Asn Asp Gln Leu Lys
195 200 205

Leu Ala Leu Leu Pro Glu Val Ile Pro Thr Pro Ala Phe Arg Glu Pro
210 215 220

Glu Arg Lys Thr Ser Val Pro Val Arg Pro Ser Val Leu Leu Glu Asp
225 230 235 240

Val Pro Ser Ile Tyr His Glu Asp Asp Thr Ser Phe Ala Ser Leu Asn
245 250 255

Pro Pro Phe Arg Glu Ile Thr Ala Asp Arg Ser Val Thr His Arg Lys
260 265 270

Asp Ser Tyr His Ser Val Tyr Met Val Asp Ser Gly Asn Leu Lys Glu
275 280 285

Asp Asn Asp Asp Leu Phe Asn Val Glu Asn Asp Gly Phe Ile Gln Ser
290 295 300

Leu Asp Ile Leu Gln Lys Gln Ser Ile Ile Thr Ala Pro Glu Leu Phe
305 310 315 320

Ser Ile Leu Ser Asn Arg Val Glu Arg Glu Lys Val Leu Leu Ile Asp
325 330 335

Leu Arg Ile Pro Gln Arg Ser Ala Ile Asn His Ile Val Ala Pro Asn
340 345 350

Leu Val Asn Val Asp Pro Asn Leu Leu Trp Asp Lys Gln Thr Asn Thr
355 360 365

Pro Ile Tyr Lys Asp Asp Ile Leu Glu His Leu Leu Lys Glu Asn Glu
370 375 380

Asn Phe Ile Asn Arg Asn Lys Phe Asp Tyr Ile Val Tyr Tyr Thr Asp
385 390 400

Val Lys Thr Phe Met Thr Ile Asn Phe Asp Tyr Ala Phe Ile Phe Phe
Seite 109

Tyr Leu Met Leu Thr Ser Gln Lys Thr Pro Leu Thr Thr Val Pro Thr
420 425 430

Thr Leu Leu Gly Gly Tyr Glu Lys Trp Lys Lys Thr Leu His Ser Tyr
435 440 445

Ala Gln Glu Tyr His Ile Ser Ile Glu Asp Tyr Leu Tyr Arg Pro Tyr
450 455 460

Ser Gln Lys Ala Arg Leu Gln Gln Glu Gln Gln Gln Gln Gln Gln
465 470 475 480

Pro Asp Ser Gln Asp Ser Phe Ser Ala Lys Glu Ser Ser Thr Lys Val
485 490 495

Pro Glu Pro Pro Ser Trp Lys Pro Pro Asp Leu Pro Ile Arg Leu Arg
500 505 510

Lys Arg Pro Pro Pro Pro Pro Val Ser Met Pro Thr Thr Pro Glu
515 520 525

Ile Pro Pro Pro Leu Pro Pro Lys Ile Met Val His Ser Gln Val Ser
530 535 540

Ser Ile Ser Arg Lys Pro Pro Ile Pro Ala Lys Gln His Val Lys Lys
545 550 555 560

Glu Gln Leu Asn Ser Asn Glu Ile Ile Gln Arg Lys Arg Gln His Gln
565 570 575

His Gln His Tyr Asp Gln Gln Ile Leu Gln Pro Gln Arg Ala Tyr Asn
580 585 590

Ile Pro Thr Ile Glu Arg Ser Pro Asn Val Tyr Val Ser Leu Ser Ile
595 600 605

Thr Gly Leu Arg Asn Leu Gly Asn Thr Cys Tyr Ile Asn Ser Met Ile
610 615 620

Gln Cys Leu Phe Ala Ala Lys Thr Phe Arg Thr Leu Phe Ile Ser Ser
625 630 635 640

Lys Tyr Lys Ser Tyr Leu Gln Pro Ile Arg Ser Asn Gly Ser His Tyr
645 650 655

Ser Pro Lys Leu Ser Asn Ser Leu Ser Met Leu Phe Asn Lys Met Tyr
660 665 670

Leu Asn Gly Gly Cys Ser Val Val Pro Thr Gly Phe Leu Lys Val Ile
675 680 685

20080423_F_59071_PCT_sequence_listing.txt

Asn Gln Leu Arg Pro Asp Leu Lys Ile Pro Asp Asp Gln Gln Asp Thr
 690 695 700
 Gln Glu Phe Leu Met Ile Leu Leu Asp Arg Leu His Asp Glu Leu Ser
 705 710 715 720
 Asp Gln Gln His Val Ala Asn Asp Tyr Pro Asn Leu Leu Leu Tyr Asn
 725 730 735
 Ala Asp Ala Leu Lys Val Ser Asn Asn Glu Tyr Lys His Trp Phe Asp
 740 745 750
 Lys Asn Val Ile Gly Asn Gly Ile Ser Pro Ile Asp Asp Ile Phe Gln
 755 760 765
 Gly Gln Met Glu Asn Ser Leu Gln Cys Lys Arg Cys Gly Tyr Thr Thr
 770 775 780
 Phe Asn Tyr Ser Thr Phe Tyr Val Leu Ser Leu Ala Ile Pro Arg Arg
 785 790 795 800
 Ser Met Lys Leu Ser Lys Leu Gly Arg Ser Thr Glu Lys Arg Val Lys
 805 810 815
 Leu Glu Asp Cys Ile Asn Met Phe Thr Ser Asp Glu Val Leu Ser Gly
 820 825 830
 Glu Asn Ala Trp Asp Cys Pro Arg Cys Gly Pro Thr Ala Ser Val Ser
 835 840 845
 Thr Ser Val Ser Ala Leu Glu Asn Glu Pro Ser Ile Val Lys Ser Lys
 850 855 860
 Lys Lys Lys Ser Arg Phe Phe Thr Leu His Thr Gly Thr Lys Arg Arg
 865 870 875 880
 His Leu Asp Phe Phe Gly Asp Gly Ile Thr Glu Gly His Asn Ser Asn
 885 890 895
 Asn Asn Asn Thr Thr Ile Phe Glu Arg Glu Arg Ser Arg Ser Pro Phe
 900 905 910
 Arg Met Leu Gly Gly Ser Gly Lys Arg Ser Ser Ser Ser Thr Pro Phe
 915 920 925
 Ser Thr Gly Gly Asn Asp Ser Asn Asn Ser Ser Asp Tyr Lys Asn Lys
 930 935 940
 Lys Leu Thr Thr Val Lys Thr Ile Asn Phe Val Thr Leu Pro Lys Ile
 945 950 955 960

20080423_F_59071_PCT_sequence_listing.txt

Leu Val Ile His Leu Ser Arg Phe Tyr Tyr Asp Leu Thr Lys Lys Asn
965 970 975

Asn Thr Val Val Thr Tyr Pro Leu Ile Leu Asn Ile Ile Leu Lys Asn
980 985 990

Asn Asp Thr Met Lys Tyr Lys Leu Phe Gly Val Val Asn His Thr Gly
995 1000 1005

Thr Leu Ile Ser Gly His Tyr Thr Ser Leu Val Asn Lys Asp Leu
1010 1015 1020

Glu His Asn Val Asn Ile Gly Arg Ser Lys Trp Tyr Tyr Phe Asp
1025 1030 1035

Asp Glu Val Val Lys Ala Asp Arg Lys His Gly Ser Asp Lys Asn
1040 1045 1050

Leu Lys Ile Ser Ser Ser Asp Val Tyr Val Leu Phe Tyr Glu Arg
1055 1060 1065

Val Tyr Asp
1070

<210> 74
<211> 359
<212> PRT
<213> Saccharomyces cerevisiae
<400> 74

Met Gln Arg Leu Gln Trp Asp Lys Asp Ile Leu Phe Leu Ile Phe Lys
1 5 10 15

Val Ile Leu Ile Phe Cys Trp Phe Phe Phe Ser Phe Leu Ser Ser Glu
20 25 30

Lys Leu Gln Phe Leu Gln Lys Asn Thr Ser Ser Tyr Ser Ile Arg Thr
35 40 45

Asp Cys Glu Glu Leu Gly Gly Glu His Arg Asn Arg Gln Lys Ile Met
50 55 60

Asp Tyr Phe Asn Ile Lys Gln Asn Tyr Tyr Thr Gly Asn Phe Val Gln
65 70 75 80

Cys Leu Gln Glu Ile Glu Lys Phe Ser Lys Val Thr Asp Asn Thr Leu
85 90 95

Leu Phe Tyr Lys Ala Lys Thr Leu Leu Ala Leu Gly Gln Tyr Gln Ser
100 105 110

Gln Asp Pro Thr Ser Lys Leu Gly Lys Val Leu Asp Leu Tyr Val Gln
Seite 112

20080423_F_59071_PCT_sequence_listing.txt

115

120

125

Phe Leu Asp Thr Lys Asn Ile Glu Glu Leu Glu Asn Leu Leu Lys Asp
130 135 140

Lys Gln Asn Ser Pro Tyr Glu Leu Tyr Leu Leu Ala Thr Ala Gln Ala
145 150 155 160

Ile Leu Gly Asp Leu Asp Lys Ser Leu Glu Thr Cys Val Glu Gly Ile
165 170 175

Asp Asn Asp Glu Ala Glu Gly Thr Thr Glu Leu Leu Leu Leu Ala Ile
180 185 190

Glu Val Ala Leu Leu Asn Asn Asn Val Ser Thr Ala Ser Thr Ile Phe
195 200 205

Asp Asn Tyr Thr Asn Ala Ile Glu Asp Thr Val Ser Gly Asp Asn Glu
210 215 220

Met Ile Leu Asn Leu Ala Glu Ser Tyr Ile Lys Phe Ala Thr Asn Lys
225 230 235 240

Glu Thr Ala Thr Ser Asn Phe Tyr Tyr Tyr Glu Glu Leu Ser Gln Thr
245 250 255

Phe Pro Thr Trp Lys Thr Gln Leu Gly Leu Leu Asn Leu His Leu Gln
260 265 270

Gln Arg Asn Ile Ala Glu Ala Gln Gly Ile Val Glu Leu Leu Leu Ser
275 280 285

Asp Tyr Tyr Ser Val Glu Gln Lys Glu Asn Ala Val Leu Tyr Lys Pro
290 295 300

Thr Phe Leu Ala Asn Gln Ile Thr Leu Ala Leu Met Gln Gly Leu Asp
305 310 315 320

Thr Glu Asp Leu Thr Asn Gln Leu Val Lys Leu Asp His Glu His Ala
325 330 335

Phe Ile Lys His His Gln Glu Ile Asp Ala Lys Phe Asp Glu Leu Val
340 345 350

Arg Lys Tyr Asp Thr Ser Asn
355

<210> 75
<211> 152
<212> PRT
<213> Beta vulgaris

<400> 75

20080423_F_59071_PCT_sequence_listing.txt

Met Thr Phe Thr Glu Lys Asp Glu Ala Leu Val Lys Glu Ser Trp Asp
1 5 10 15

Ile Met Lys Gln Asn Ile Pro Glu Tyr Ser Leu Arg Phe Phe Ser Ile
20 25 30

Ile Leu Glu Ile Ala Pro Ala Ala Lys Asn Met Phe Ser Phe Leu Arg
35 40 45

Asp Ser Glu Glu Val Pro Gln Asn Asn Pro Lys Leu Lys Ala His Ala
50 55 60

Ile Lys Val Phe Lys Met Thr Cys Glu Ser Ala Ile Gln Leu Arg Glu
65 70 75 80

Lys Gly Glu Val Val Val Gly Glu Thr Thr Leu Lys Tyr Leu Gly Ala
85 90 95

Ile His Leu Lys Asn Gly Val Ile Asp Pro His Phe Glu Val Val Lys
100 105 110

Gln Ala Leu Leu Arg Thr Ile Glu Glu Ala Ser Gly Asp Lys Trp Ser
115 120 125

Glu Glu Leu Lys Cys Ala Trp Ser Val Ala Tyr Asp His Leu Ala Ala
130 135 140

Ala Ile Lys Ala Glu Met Lys Glu
145 150

<210> 76
<211> 212
<212> PRT
<213> Glycine max

<400> 76

Met Gln Gln His Leu Met Gln Met Gln Pro Met Met Ala Ala Tyr Tyr
1 5 10 15

Pro Asn Asn Val Thr Thr Asp His Ile Gln Gln Tyr Leu Asp Glu Asn
20 25 30

Lys Ser Leu Ile Leu Lys Ile Val Glu Ser Gln Asn Ser Gly Lys Leu
35 40 45

Ser Glu Cys Ala Glu Asn Gln Ser Arg Leu Gln Arg Asn Leu Met Tyr
50 55 60

Leu Ala Ala Ile Ala Asp Ser Gln Pro Gln Pro Ser Pro Leu Ala Gly
65 70 75 80

Gln Tyr Pro Ser Ser Gly Leu Val Gln Gln Gly Ala His Tyr Met Gln
Seite 114

Ala Gln Gln Ala Gln Gln Met Ser Gln Gln Gln Leu Met Ala Ser Arg
100 105 110

Ser Ser Leu Leu Tyr Ser Gln Gln Pro Phe Ser Val Leu Gln Gln Gln
115 120 125

Gln Gly Met His Ser Gln Leu Gly Met Ser Ser Ser Gly Ser Gln Gly
130 135 140

Leu His Met Leu Gln Ser Glu Ala Thr Asn Val Gly Gly Asn Ala Thr
145 150 155 160

Ile Gly Thr Gly Gly Gly Phe Pro Asp Phe Val Arg Ile Gly Ser Gly
165 170 175

Lys Gln Asp Ile Gly Ile Ser Gly Glu Gly Arg Gly Gly Asn Ser Ser
180 185 190

Gly His Ser Gly Asp Gly Gly Glu Thr Leu Asn Tyr Leu Lys Ala Ala
195 200 205

Gly Asp Gly Asn
210

<210> 77
<211> 329
<212> PRT
<213> Arabidopsis thaliana
<400> 77

Met Val Val Val Thr Lys Lys Thr Met Lys Ile Gln Ile His Leu Leu
1 5 10 15

Tyr Ser Phe Leu Phe Leu Cys Phe Ser Thr Leu Thr Leu Ser Ser Glu
20 25 30

Pro Arg Asn Pro Glu Val Glu Ala Leu Ile Ser Ile Arg Asn Asn Leu
35 40 45

His Asp Pro His Gly Ala Leu Asn Asn Trp Asp Glu Phe Ser Val Asp
50 55 60

Pro Cys Ser Trp Ala Met Ile Thr Cys Ser Pro Asp Asn Leu Val Ile
65 70 75 80

Gly Leu Gly Ala Pro Ser Gln Ser Pro Ser Gly Gly Leu Ser Glu Ser
85 90 95

Ile Gly Asn Leu Thr Asn Leu Arg Gln Val Ser Leu Gln Asn Asn Asn
100 105 110

20080423_F_59071_PCT_sequence_listing.txt

Ile Ser Gly Lys Ile Pro Pro Glu Leu Gly Phe Leu Pro Lys Leu Gln
115 120 125

Thr Leu Asp Leu Ser Asn Asn Arg Phe Ser Gly Asp Ile Pro Val Ser
130 135 140

Ile Asp Gln Leu Ser Ser Leu Gln Tyr Leu Arg Leu Asn Asn Asn Ser
145 150 155 160

Leu Ser Gly Pro Phe Pro Ala Ser Leu Ser Gln Ile Pro His Leu Ser
165 170 175

Phe Leu Asp Leu Ser Tyr Asn Asn Leu Ser Gly Pro Val Pro Lys Phe
180 185 190

Pro Ala Arg Thr Phe Asn Val Ala Gly Asn Pro Leu Ile Cys Arg Ser
195 200 205

Asn Pro Pro Glu Ile Cys Ser Gly Ser Ile Asn Ala Ser Pro Leu Ser
210 215 220

Val Ser Leu Ser Ser Ser Gly Arg Arg Ser Asn Arg Leu Ala Ile
225 230 235 240

Ala Leu Ser Val Ser Leu Gly Ser Val Val Ile Leu Val Leu Ala Leu
245 250 255

Gly Ser Phe Cys Trp Tyr Arg Lys Lys Gln Arg Arg Leu Leu Ile Leu
260 265 270

Asn Leu Asn Asp Lys Gln Glu Glu Gly Leu Gln Gly Leu Gly Asn Leu
275 280 285

Arg Ser Phe Thr Phe Arg Glu Leu His Val Tyr Thr Asp Gly Phe Ser
290 295 300

Ser Lys Asn Ile Leu Gly Ala Gly Gly Phe Gly Asn Val Tyr Arg Gly
305 310 315 320

Lys Leu Glu Met Gly Gln Trp Trp Gln
325

<210> 78
<211> 158
<212> PRT
<213> Arabidopsis thaliana
<400> 78

Met Gly Glu Ile Gly Phe Thr Glu Lys Gln Glu Ala Leu Val Lys Glu
1 5 10 15

Ser Trp Glu Ile Leu Lys Gln Asp Ile Pro Lys Tyr Ser Leu His Phe
Seite 116

20

25

30

Phe Ser Gln Ile Leu Glu Ile Ala Pro Ala Ala Lys Gly Leu Phe Ser
 35 40 45

Phe Leu Arg Asp Ser Asp Glu Val Pro His Asn Asn Pro Lys Leu Lys
 50 55 60

Ala His Ala Val Lys Val Phe Lys Met Thr Cys Glu Thr Ala Ile Gln
 65 70 75 80

Leu Arg Glu Glu Gly Lys Val Val Val Ala Asp Thr Thr Leu Gln Tyr
 85 90 95

Leu Gly Ser Ile His Leu Lys Ser Gly Val Ile Asp Pro His Phe Glu
 100 105 110

Val Val Lys Glu Ala Leu Leu Arg Thr Leu Lys Glu Gly Leu Gly Glu
 115 120 125

Lys Tyr Asn Glu Glu Val Glu Gly Ala Trp Ser Gln Ala Tyr Asp His
 130 135 140

Leu Ala Leu Ala Ile Lys Thr Glu Met Lys Gln Glu Glu Ser
 145 150 155

<210> 79

<211> 121

<212> PRT

<213> Arabidopsis thaliana

<400> 79

Met Gly Arg Val Phe Met Val Asp Leu Glu Gly Asn Ile Tyr Ile Cys
 1 5 10 15

Lys Leu Cys Lys Thr His Leu Ser Thr Asp Gln Asp Ile Met Ser Lys
 20 25 30

Ser Phe Gln Cys Lys Asn Gly Arg Ala Tyr Leu Phe Asn Asn Val Val
 35 40 45

Asn Val Ser Val Gly Glu Lys Glu Asp Arg Met Met Ile Thr Gly Leu
 50 55 60

His Asn Val Val Asp Ile Phe Cys Val Gly Cys Gly Ser Asn Val Gly
 65 70 75 80

Trp Lys Tyr Glu Phe Ala His Glu Lys Ser Gln Lys Tyr Lys Glu Gly
 85 90 95

Lys Ser Val Leu Glu Leu Tyr Lys Ile Ser Gly Pro His Asp Ser Asn
 100 105 110

20080423_F_59071_PCT_sequence_listing.txt

Asp Leu Val Ser Asp Gly Asp Asp Ala
115 120

<210> 80
<211> 885
<212> PRT
<213> Arabidopsis thaliana
<400> 80

Met Glu Arg His Phe Val Phe Ile Ala Thr Tyr Leu Leu Ile Phe His
1 5 10 15

Leu Val Gln Ala Gln Asn Gln Thr Gly Phe Ile Ser Val Asp Cys Gly
20 25 30

Leu Ser Leu Leu Glu Ser Pro Tyr Asp Ala Pro Gln Thr Asp Leu Thr
35 40 45

Tyr Thr Ser Asp Ala Asp Leu Val Ala Ser Gly Lys Thr Gly Arg Leu
50 55 60

Ala Lys Glu Phe Glu Pro Leu Val Asp Lys Pro Thr Leu Thr Leu Arg
65 70 75 80

Tyr Phe Pro Glu Gly Val Arg Asn Cys Tyr Asn Leu Asn Val Thr Ser
85 90 95

Asp Thr Asn Tyr Leu Ile Lys Ala Thr Phe Val Tyr Gly Asn Tyr Asp
100 105 110

Gly Leu Asn Val Gly Pro Asn Phe Asn Leu Tyr Leu Gly Pro Asn Leu
115 120 125

Trp Thr Thr Val Ser Ser Asn Asp Thr Ile Glu Glu Ile Ile Leu Val
130 135 140

Thr Arg Ser Asn Ser Leu Gln Val Cys Leu Val Lys Thr Gly Ile Ser
145 150 155 160

Ile Pro Phe Ile Asn Met Leu Glu Leu Arg Pro Met Lys Lys Asn Met
165 170 175

Tyr Val Thr Gln Ser Gly Ser Leu Lys Tyr Leu Phe Arg Gly Tyr Ile
180 185 190

Ser Asn Ser Ser Thr Arg Ile Arg Phe Pro Asp Asp Val Tyr Asp Arg
195 200 205

Lys Trp Tyr Pro Leu Phe Asp Asp Ser Trp Thr Gln Val Thr Thr Asn
210 215 220

Leu Lys Val Asn Thr Ser Ile Thr Tyr Glu Leu Pro Gln Ser Val Met
Seite 118

225 230 235 240
 Ala Lys Ala Ala Thr Pro Ile Lys Ala Asn Asp Thr Leu Asn Ile Thr
 245 250 255
 Trp Thr Val Glu Pro Pro Thr Thr Gln Phe Tyr Ser Tyr Val His Ile
 260 265 270
 Ala Glu Ile Gln Ala Leu Arg Ala Asn Glu Thr Arg Glu Phe Asn Val
 275 280 285
 Thr Leu Asn Gly Glu Tyr Thr Phe Gly Pro Phe Ser Pro Ile Pro Leu
 290 295 300
 Lys Thr Ala Ser Ile Val Asp Leu Ser Pro Gly Gln Cys Asp Gly Gly
 305 310 315 320
 Arg Cys Ile Leu Gln Val Val Lys Thr Leu Lys Ser Thr Leu Pro Pro
 325 330 335
 Leu Leu Asn Ala Ile Glu Ala Phe Thr Val Ile Asp Phe Pro Gln Met
 340 345 350
 Glu Thr Asn Glu Asn Asp Val Ala Gly Ile Lys Asn Val Gln Gly Thr
 355 360 365
 Tyr Gly Leu Ser Arg Ile Ser Trp Gln Gly Asp Pro Cys Val Pro Lys
 370 375 380
 Gln Leu Leu Trp Asp Gly Leu Asn Cys Lys Asn Ser Asp Ile Ser Thr
 385 390 395 400
 Pro Pro Ile Ile Thr Ser Leu Asp Leu Ser Ser Ser Gly Leu Thr Gly
 405 410 415
 Ile Ile Thr Gln Ala Ile Lys Asn Leu Thr His Leu Gln Ile Leu Asp
 420 425 430
 Leu Ser Asp Asn Asn Leu Thr Gly Glu Val Pro Glu Phe Leu Ala Asp
 435 440 445
 Ile Lys Ser Leu Leu Val Ile Asn Leu Ser Gly Asn Asn Leu Ser Gly
 450 455 460
 Ser Val Pro Pro Ser Leu Leu Gln Lys Lys Gly Met Lys Leu Asn Val
 465 470 475 480
 Glu Gly Asn Pro His Ile Leu Cys Thr Thr Gly Ser Cys Val Lys Lys
 485 490 495
 Lys Glu Asp Gly His Lys Lys Lys Ser Val Ile Val Pro Val Val Ala
 500 505 510

20080423_F_59071_PCT_sequence_listing.txt

Ser Ile Ala Ser Ile Ala Val Leu Ile Gly Ala Leu Val Leu Phe Leu
515 520 525

Ile Leu Arg Lys Lys Arg Ser Pro Lys Val Glu Gly Pro Pro Pro Ser
530 535 540

Tyr Met Gln Ala Ser Asp Gly Arg Leu Pro Arg Ser Ser Glu Pro Ala
545 550 555 560

Ile Val Thr Lys Asn Arg Arg Phe Ser Tyr Ser Gln Val Val Ile Met
565 570 575

Thr Asn Asn Phe Gln Arg Ile Leu Gly Lys Gly Gly Phe Gly Met Val
580 585 590

Tyr His Gly Phe Val Asn Gly Thr Glu Gln Val Ala Val Lys Ile Leu
595 600 605

Ser His Ser Ser Ser Gln Gly Tyr Lys Gln Phe Lys Ala Glu Val Glu
610 615 620

Leu Leu Leu Arg Val His His Lys Asn Leu Val Gly Leu Val Gly Tyr
625 630 635 640

Cys Asp Glu Gly Asp Asn Leu Ala Leu Ile Tyr Glu Tyr Met Ala Asn
645 650 655

Gly Asp Leu Lys Glu His Met Ser Gly Thr Arg Asn Arg Phe Ile Leu
660 665 670

Asn Trp Gly Thr Arg Leu Lys Ile Val Ile Glu Ser Ala Gln Gly Leu
675 680 685

Glu Tyr Leu His Asn Gly Cys Lys Pro Pro Met Val His Arg Asp Val
690 695 700

Lys Thr Thr Asn Ile Leu Leu Asn Glu His Phe Glu Ala Lys Leu Ala
705 710 715 720

Asp Phe Gly Leu Ser Arg Ser Phe Leu Ile Glu Gly Glu Thr His Val
725 730 735

Ser Thr Val Val Ala Gly Thr Pro Gly Tyr Leu Asp Pro Glu Tyr His
740 745 750

Arg Thr Asn Trp Leu Thr Glu Lys Ser Asp Val Tyr Ser Phe Gly Ile
755 760 765

Leu Leu Leu Glu Ile Ile Thr Asn Arg His Val Ile Asp Gln Ser Arg
770 775 780

20080423_F_59071_PCT_sequence_listing.txt

Glu Lys Pro His Ile Gly Glu Trp Val Gly Val Met Leu Thr Lys Gly
785 790 795 800

Asp Ile Gln Ser Ile Met Asp Pro Ser Leu Asn Glu Asp Tyr Asp Ser
805 810 815

Gly Ser Val Trp Lys Ala Val Glu Leu Ala Met Ser Cys Leu Asn His
820 825 830

Ser Ser Ala Arg Arg Pro Thr Met Ser Gln Val Val Ile Glu Leu Asn
835 840 845

Glu Cys Leu Ala Ser Glu Asn Ala Arg Gly Gly Ala Ser Arg Asp Met
850 855 860

Glu Ser Lys Ser Ser Ile Glu Val Ser Leu Thr Phe Gly Thr Glu Val
865 870 875 880

Ser Pro Asn Ala Arg
885

<210> 81
<211> 360
<212> PRT
<213> Arabidopsis thaliana

<400> 81

Met Asp Tyr Asp Arg Tyr Lys Leu Phe Val Gly Gly Ile Ala Lys Glu
1 5 10 15

Thr Ser Glu Glu Ala Leu Lys Gln Tyr Phe Ser Arg Tyr Gly Ala Val
20 25 30

Leu Glu Ala Val Val Ala Lys Glu Lys Val Thr Gly Lys Pro Arg Gly
35 40 45

Phe Gly Phe Val Arg Phe Ala Asn Asp Cys Asp Val Val Lys Ala Leu
50 55 60

Arg Asp Thr His Phe Ile Leu Gly Lys Pro Val Asp Val Arg Lys Ala
65 70 75 80

Ile Arg Lys His Glu Leu Tyr Gln Gln Pro Phe Ser Met Gln Phe Leu
85 90 95

Glu Arg Lys Val Gln Gln Met Asn Gly Gly Leu Arg Glu Met Ser Ser
100 105 110

Asn Gly Val Thr Ser Arg Thr Lys Lys Ile Phe Val Gly Gly Leu Ser
115 120 125

Ser Asn Thr Thr Glu Glu Glu Phe Lys Ser Tyr Phe Glu Arg Phe Gly
Seite 121

20080423_F_59071_PCT_sequence_listing.txt

130

135

140

Arg Thr Thr Asp Val Val Val Met His Asp Gly Val Thr Asn Arg Pro
145 150 155 160

Arg Gly Phe Gly Phe Val Thr Tyr Asp Ser Glu Asp Ser Val Glu Val
165 170 175

Val Met Gln Ser Asn Phe His Glu Leu Ser Asp Lys Arg Val Glu Val
180 185 190

Lys Arg Ala Ile Pro Lys Glu Gly Ile Gln Ser Asn Asn Gly Asn Ala
195 200 205

Val Asn Ile Pro Pro Ser Tyr Ser Ser Phe Gln Ala Thr Pro Tyr Val
210 215 220

Pro Glu Gln Asn Gly Tyr Gly Met Val Leu Gln Phe Pro Pro Pro Val
225 230 235 240

Phe Gly Tyr His His Asn Val Gln Ala Val Gln Tyr Pro Tyr Gly Tyr
245 250 255

Gln Phe Thr Ala Gln Val Ala Asn Val Ser Trp Asn Asn Pro Ile Met
260 265 270

Gln Pro Thr Gly Phe Tyr Cys Ala Pro Pro His Pro Thr Pro Pro Pro
275 280 285

Thr Asn Asn Leu Gly Tyr Ile Gln Tyr Met Asn Gly Phe Asp Leu Ser
290 295 300

Gly Thr Asn Ile Ser Gly Tyr Asn Pro Leu Ala Trp Pro Val Thr Gly
305 310 315 320

Asp Ala Ala Gly Ala Leu Ile His Gln Phe Val Asp Leu Lys Leu Asp
325 330 335

Val His Ser Gln Ala His Gln Arg Met Asn Gly Gly Asn Met Gly Ile
340 345 350

Pro Leu Gln Asn Gly Thr Tyr Ile
355 360

<210> 82

<211> 385

<212> PRT

<213> Arabidopsis thaliana

<400> 82

Met Thr Thr Thr Gly Ser Asn Ser Asn His Asn His His Glu Ser Asn
1 5 10 15

20080423_F_59071_PCT_sequence_listing.txt

Asn Asn Asn Asn Asn Pro Ser Thr Arg Ser Trp Gly Thr Ala Val Ser
 20 25 30
 Gly Gln Ser Val Ser Thr Ser Gly Ser Met Gly Ser Pro Ser Ser Arg
 35 40 45
 Ser Glu Gln Thr Ile Thr Val Val Thr Ser Thr Ser Asp Thr Thr Phe
 50 55 60
 Gln Arg Leu Asn Asn Leu Asp Ile Gln Gly Asp Asp Ala Gly Ser Gln
 65 70 75 80
 Gly Ala Ser Gly Val Lys Lys Lys Lys Arg Gly Gln Arg Ala Ala Gly
 85 90 95
 Pro Asp Met Thr Gly Arg Gly Leu Arg Gln Phe Ser Met Lys Val Cys
 100 105 110
 Glu Lys Val Glu Ser Lys Gly Arg Thr Thr Tyr Asn Glu Val Thr Asp
 115 120 125
 Glu Leu Val Ala Glu Phe Ala Leu Pro Asn Asn Asp Gly Thr Ser Pro
 130 135 140
 Asp Gln Gln Gln Tyr Asp Glu Lys Asn Ile Arg Arg Arg Val Tyr Asp
 145 150 155 160
 Ala Leu Asn Val Leu Met Ala Met Asp Ile Ile Ser Lys Asp Lys Lys
 165 170 175
 Glu Ile Gln Trp Arg Gly Leu Pro Arg Thr Ser Leu Ser Asp Ile Glu
 180 185 190
 Glu Leu Lys Asn Glu Arg Leu Ser Leu Arg Asn Arg Ile Glu Lys Lys
 195 200 205
 Thr Ala Tyr Ser Arg Glu Leu Glu Glu Gln Tyr Val Gly Leu Gln Asn
 210 215 220
 Leu Ile Gln Arg Asn Glu His Leu Tyr Ser Ser Gly Asn Ala Pro Ser
 225 230 235 240
 Gly Gly Val Ala Leu Pro Phe Ile Leu Val Gln Thr Arg Pro His Ala
 245 250 255
 Thr Val Glu Val Glu Ile Ser Glu Asp Met Gln Leu Val His Phe Asp
 260 265 270
 Phe Asn Ser Thr Pro Phe Glu Leu His Asp Asp Asn Phe Val Leu Lys
 275 280 285

20080423_F_59071_PCT_sequence_listing.txt

Thr Met Lys Phe Cys Asp Gln Pro Pro Gln Gln Pro Asn Gly Arg Asn
290 295 300

Asn Ser Gln Leu Val Cys His Asn Phe Thr Pro Glu Asn Pro Asn Lys
305 310 315 320

Gly Pro Ser Thr Gly Pro Thr Pro Gln Leu Asp Met Tyr Glu Thr His
325 330 335

Leu Gln Ser Gln Gln His Gln Gln His Ser Gln Leu Gln Ile Ile Pro
340 345 350

Met Pro Glu Thr Asn Asn Val Thr Ser Ser Ala Asp Thr Ala Pro Val
355 360 365

Lys Ser Pro Ser Leu Pro Gly Ile Met Asn Ser Ser Met Lys Pro Glu
370 375 380

Asn
385

<210> 83
<211> 227
<212> PRT
<213> Arabidopsis thaliana
<400> 83

Met Ala Leu Glu Ala Leu Thr Ser Pro Arg Leu Ala Ser Pro Ile Pro
1 5 10 15

Pro Leu Phe Glu Asp Ser Ser Val Phe His Gly Val Glu His Trp Thr
20 25 30

Lys Gly Lys Arg Ser Lys Arg Ser Arg Ser Asp Phe His His Gln Asn
35 40 45

Leu Thr Glu Glu Glu Tyr Leu Ala Phe Cys Leu Met Leu Leu Ala Arg
50 55 60

Asp Asn Arg Gln Pro Pro Pro Pro Ala Val Glu Lys Leu Ser Tyr
65 70 75 80

Lys Cys Ser Val Cys Asp Lys Thr Phe Ser Ser Tyr Gln Ala Leu Gly
85 90 95

Gly His Lys Ala Ser His Arg Lys Asn Leu Ser Gln Thr Leu Ser Gly
100 105 110

Gly Gly Asp Asp His Ser Thr Ser Ser Ala Thr Thr Thr Ser Ala Val
115 120 125

Thr Thr Gly Ser Gly Lys Ser His Val Cys Thr Ile Cys Asn Lys Ser
130 135 140

20080423_F_59071_PCT_sequence_listing.txt

Phe Pro Ser Gly Gln Ala Leu Gly Gly His Lys Arg Cys His Tyr Glu
145 150 155 160

Gly Asn Asn Asn Ile Asn Thr Ser Ser Val Ser Asn Ser Glu Gly Ala
165 170 175

Gly Ser Thr Ser His Val Ser Ser Ser His Arg Gly Phe Asp Leu Asn
180 185 190

Ile Pro Pro Ile Pro Glu Phe Ser Met Val Asn Gly Asp Asp Glu Val
195 200 205

Met Ser Pro Met Pro Ala Lys Lys Pro Arg Phe Asp Phe Pro Val Lys
210 215 220

Leu Gln Leu
225

<210> 84
<211> 398
<212> PRT
<213> Arabidopsis thaliana

<400> 84

Met Glu Gln Pro Lys Lys Val Ala Asp Arg Tyr Leu Lys Arg Glu Val
1 5 10 15

Leu Gly Gln Gly Thr Tyr Gly Val Val Phe Lys Ala Thr Asp Thr Lys
20 25 30

Asn Gly Glu Thr Val Ala Ile Lys Lys Ile Arg Leu Gly Lys Glu Lys
35 40 45

Glu Gly Val Asn Val Thr Ala Leu Arg Glu Ile Lys Leu Leu Lys Glu
50 55 60

Leu Lys His Pro His Ile Ile Glu Leu Ile Asp Ala Phe Pro His Lys
65 70 75 80

Glu Asn Leu His Ile Val Phe Glu Phe Met Glu Thr Asp Leu Glu Ala
85 90 95

Val Ile Arg Asp Arg Asn Leu Tyr Leu Ser Pro Gly Asp Val Lys Ser
100 105 110

Tyr Leu Gln Met Ile Leu Lys Gly Leu Glu Tyr Cys His Gly Lys Trp
115 120 125

Val Leu His Arg Asp Met Lys Pro Asn Asn Leu Leu Ile Gly Pro Asn
130 135 140

20080423_F_59071_PCT_sequence_listing.txt

Gly Gln Leu Lys Leu Ala Asp Phe Gly Leu Ala Arg Ile Phe Gly Ser
145 150 155 160

Pro Gly Arg Lys Phe Thr His Gln Val Phe Ala Arg Trp Tyr Arg Ala
165 170 175

Pro Glu Leu Leu Phe Gly Ala Lys Gln Tyr Asp Gly Ala Val Asp Val
180 185 190

Trp Ala Ala Gly Cys Ile Phe Ala Glu Leu Leu Leu Arg Arg Pro Phe
195 200 205

Leu Gln Gly Asn Ser Asp Ile Asp Gln Leu Ser Lys Ile Phe Ala Ala
210 215 220

Leu Gly Thr Pro Lys Ala Asp Gln Trp Pro Asp Met Ile Cys Leu Pro
225 230 235 240

Asp Tyr Val Glu Tyr Gln Phe Val Pro Ala Pro Ser Leu Arg Ser Leu
245 250 255

Leu Pro Thr Val Ser Glu Asp Ala Leu Asp Leu Leu Ser Lys Met Phe
260 265 270

Thr Tyr Asp Pro Lys Ser Arg Ile Ser Ile Gln Gln Ala Leu Lys His
275 280 285

Arg Tyr Phe Thr Ser Ala Pro Ser Pro Thr Asp Pro Leu Lys Leu Pro
290 295 300

Arg Pro Val Ser Lys Gln Asp Ala Lys Ser Ser Asp Ser Lys Leu Glu
305 310 315 320

Ala Ile Lys Val Leu Ser Pro Ala His Lys Phe Arg Arg Val Met Pro
325 330 335

Asp Arg Gly Lys Ser Gly Asn Gly Phe Lys Asp Gln Ser Val Asp Val
340 345 350

Met Arg Gln Ala Ser His Asp Gly Gln Ala Pro Met Ser Leu Asp Phe
355 360 365

Thr Ile Leu Ala Glu Arg Pro Pro Asn Arg Pro Thr Ile Thr Ser Ala
370 375 380

Asp Arg Ser His Leu Lys Arg Lys Leu Asp Leu Glu Phe Leu
385 390 395

<210> 85

<211> 129

<212> PRT

<213> Triticum aestivum

20080423_F_59071_PCT_sequence_listing.txt

<400> 85

Met Ala Val Met Ser Arg Leu Lys Arg Leu Ala Ala Pro Ala Leu Leu
1 5 10 15

Val Leu Leu Ala Leu Ala Ala Ser Ala Ala Val Ala Ala Lys Thr Thr
20 25 30

Gln Asp Gly Ala Glu Ala Ala Pro Gly Lys Asp Glu Glu Ser Trp Thr
35 40 45

Gly Trp Ala Lys Asp Lys Ile Ser Glu Gly Leu Gly Leu Lys His Asp
50 55 60

Ala Asp Glu Glu Ala Ala Arg Glu Thr Val Gln His Thr Ala Ser Glu
65 70 75 80

Thr Gly Ser Gln Val Ser Gly Lys Ala Ala Asp Ala Lys Glu Ala Ala
85 90 95

Lys Gly Thr Val Gly Glu Lys Leu Gly Glu Val Lys Asp Lys Val Thr
100 105 110

Gly Ala Ala Ala Asp Gly Lys Asp Lys Thr His Arg Lys Asp Asp Leu
115 120 125

Leu

<210> 86

<211> 489

<212> PRT

<213> Saccharomyces cerevisiae

<400> 86

Met Thr Lys Ser Asp Leu Leu Phe Asp Lys Phe Asn Asp Lys His Gly
1 5 10 15

Lys Phe Leu Val Phe Phe Gly Thr Phe Val Asp Thr Pro Lys Leu Gly
20 25 30

Glu Leu Arg Ile Arg Glu Lys Thr Ser Val Gly Val Leu Asn Gly Ile
35 40 45

Ile Arg Phe Val Asn Arg Asn Ser Leu Asp Pro Val Lys Asp Cys Leu
50 55 60

Asp His Asp Ser Ser Leu Ser Pro Glu Asp Val Thr Val Val Asp Ile
65 70 75 80

Ile Gly Lys Asp Lys Thr Arg Asn Asn Ser Phe Tyr Phe Pro Gly Phe
85 90 95

20080423_F_59071_PCT_sequence_listing.txt

Val Asp Thr His Asn His Val Ser Gln Tyr Pro Asn Val Gly Val Phe
100 105 110

Gly Asn Ser Thr Leu Leu Asp Trp Leu Glu Lys Tyr Thr Phe Pro Ile
115 120 125

Glu Ala Ala Leu Ala Asn Glu Asn Ile Ala Arg Glu Val Tyr Asn Lys
130 135 140

Val Ile Ser Lys Thr Leu Ser His Gly Thr Thr Thr Val Ala Tyr Tyr
145 150 155 160

Asn Thr Ile Asp Leu Lys Ser Thr Lys Leu Leu Ala Gln Leu Ser Ser
165 170 175

Leu Leu Gly Gln Arg Val Leu Val Gly Lys Val Cys Met Asp Thr Asn
180 185 190

Gly Pro Glu Tyr Tyr Ile Glu Asp Thr Lys Thr Ser Phe Glu Ser Thr
195 200 205

Val Lys Val Val Lys Tyr Ile Arg Glu Thr Ile Cys Asp Pro Leu Val
210 215 220

Asn Pro Ile Val Thr Pro Arg Phe Ala Pro Ser Cys Ser Arg Glu Leu
225 230 235 240

Met Gln Gln Leu Ser Lys Leu Val Lys Asp Glu Asn Ile His Val Gln
245 250 255

Thr His Leu Ser Glu Asn Lys Glu Glu Ile Gln Trp Val Gln Asp Leu
260 265 270

Phe Pro Glu Cys Glu Ser Tyr Thr Asp Val Tyr Asp Lys Tyr Gly Leu
275 280 285

Leu Thr Glu Lys Thr Val Leu Ala His Cys Ile His Leu Thr Asp Ala
290 295 300

Glu Ala Arg Val Ile Lys Gln Arg Arg Cys Gly Ile Ser His Cys Pro
305 310 315 320

Ile Ser Asn Ser Ser Leu Thr Ser Gly Glu Cys Arg Val Arg Trp Leu
325 330 335

Leu Asp Gln Gly Ile Lys Val Gly Leu Gly Thr Asp Val Ser Ala Gly
340 345 350

His Ser Cys Ser Ile Leu Thr Thr Gly Arg Gln Ala Phe Ala Val Ser
355 360 365

Arg His Leu Ala Met Arg Glu Thr Asp His Ala Lys Leu Ser Val Ser
Seite 128

370

375

380

Glu Cys Leu Phe Leu Ala Thr Met Gly Gly Ala Gln Val Leu Arg Met
 385 390 400

Asp Glu Thr Leu Gly Thr Phe Asp Val Gly Lys Gln Phe Asp Ala Gln
 405 410 415

Met Ile Asp Thr Asn Ala Pro Gly Ser Asn Val Asp Met Phe His Trp
 420 425 430

Gln Leu Lys Glu Lys Asp Gln Met Gln Glu Gln Glu Gln Glu Gln Gly
 435 440 445

Gln Asp Pro Tyr Lys Asn Pro Pro Leu Leu Thr Asn Glu Asp Ile Ile
 450 455 460

Ala Lys Trp Phe Phe Asn Gly Asp Asp Arg Asn Thr Thr Lys Val Trp
 465 470 475 480

Val Ala Gly Gln Gln Val Tyr Gln Ile
 485

<210> 87

<211> 374

<212> PRT

<213> Saccharomyces cerevisiae

<400> 87

Met Arg Ile Gln Ser Leu Phe Val Leu Phe Asn Val Ala Ile Ile Ala
 1 5 10 15

Trp Ser Tyr Pro Tyr Glu Pro Leu Arg Val Leu Gln Val Gly Glu Asn
 20 25 30

Glu Val Met Glu Val Pro Glu Ser Glu Lys Leu Asn Leu Arg Arg Arg
 35 40 45

Gly Val Lys Phe Phe Asp Val Thr Lys His Thr Ser Phe Leu Pro Phe
 50 55 60

Phe Asn Lys Glu Glu Glu Pro Thr Val Pro Thr Tyr Asn Tyr Pro Pro
 65 70 75 80

Glu Ile Ser Asn Lys Glu Val Val Asp Asp Ser Ile Lys Asn Ile Asp
 85 90 95

Lys Gly Ser Met His Lys Asn Leu Ala Lys Phe Thr Ser Phe Tyr Thr
 100 105 110

Arg Tyr Tyr Lys Ser Asp His Gly Phe Glu Ser Ala Glu Trp Leu Ala
 115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Ala Thr Ile Ala Asn Ile Thr Lys Asp Ile Pro Gln Asp Thr Leu Thr
130 135 140

Ile Glu His Phe Asp His Lys Glu Trp Lys Gln Tyr Ser Ile Ile Val
145 150 155 160

Arg Val Thr Gly Ser Thr Thr Pro Glu Asp Ile Ile Ile Ile Gly Ser
165 170 175

His Gln Asp Ser Ile Asn Leu Leu Leu Pro Ser Ile Met Ala Ala Pro
180 185 190

Gly Ala Asp Asp Asn Gly Ser Gly Thr Val Thr Asn Met Glu Ala Leu
195 200 205

Arg Leu Tyr Thr Glu Asn Phe Leu Lys Arg Gly Phe Arg Pro Asn Asn
210 215 220

Thr Val Glu Phe His Phe Tyr Ser Ala Glu Glu Gly Gly Leu Leu Gly
225 230 235 240

Ser Leu Asp Val Phe Thr Ala Tyr Ala Lys Gln Lys Lys His Val Arg
245 250 255

Ala Met Leu Gln Gln Asp Met Thr Gly Tyr Val Ser Asp Pro Glu Asp
260 265 270

Glu His Val Gly Ile Val Thr Asp Tyr Thr Thr Pro Ala Leu Thr Asp
275 280 285

Phe Ile Lys Leu Ile Ile Asn Ser Tyr Leu Ser Ile Pro Tyr Arg Asp
290 295 300

Thr Gln Cys Gly Tyr Ala Cys Ser Asp His Gly Ser Ala Thr Arg Asn
305 310 315 320

Gly Phe Pro Gly Ser Phe Val Ile Glu Ser Glu Phe Lys Lys Thr Asn
325 330 335

Lys Tyr Ile His Ser Thr Met Asp Thr Leu Asp Arg Leu Ser Leu Ala
340 345 350

His Met Ala Glu His Thr Lys Ile Val Leu Gly Val Ile Ile Glu Leu
355 360 365

Gly Ser Trp Ser Ala Trp
370

<210> 88
<211> 225
<212> PRT
<213> Saccharomyces cerevisiae

20080423_F_59071_PCT_sequence_listing.txt

<400> 88

Met Arg Phe Ser Met Leu Ile Gly Phe Asn Leu Leu Thr Ala Leu Ser
1 5 10 15

Ser Phe Cys Ala Ala Ile Ser Ala Asn Asn Ser Asp Asn Val Glu His
20 25 30

Glu Gln Glu Val Ala Glu Ala Val Ala Pro Pro Ser Ile Asn Ile Glu
35 40 45

Val Lys Tyr Asp Val Val Gly Lys Glu Ser Glu Asn His Asp Ser Phe
50 55 60

Leu Glu Phe Tyr Ala Glu Asp Thr Ala Thr Leu Ala Tyr Asn Val Thr
65 70 75 80

Asn Trp Glu Asp Thr Asn Ile Thr Ile Phe Gly Val Asn Gly Thr Ile
85 90 95

Val Thr Tyr Pro His Gly Tyr Pro Val Ala Asp Ile Thr Gly Ala Ser
100 105 110

Ile Gly Pro Tyr Glu Met Glu Val Asn Gly Thr Ser Lys Phe Gly Gln
115 120 125

Asp Val Thr Leu Asn Leu Pro Glu Gly Gln Tyr Phe Leu Ile Pro Phe
130 135 140

Leu Leu Ala Ser Arg Phe Asp Glu Ile Val Arg Ile Ala Ala Pro Pro
145 150 155 160

Thr Leu Phe Glu Ile Val Ser Pro Pro Ile Ser Phe Phe Asn Pro Gln
165 170 175

Phe Leu Ser Val Gln Val Ile Phe Leu Ala Ile Ile Gly Gly Val Ser
180 185 190

Tyr Tyr Tyr Met Lys Ser Lys Thr Asn Gln Arg Pro Ser Lys Lys Ser
195 200 205

Ala Thr Val Lys Lys Val Asp Glu Ser Trp Leu Pro Glu Thr Tyr Lys
210 215 220

Lys
225

<210> 89

<211> 495

<212> PRT

<213> Saccharomyces cerevisiae

<400> 89

20080423_F_59071_PCT_sequence_listing.txt

Met Lys Thr Asp Arg Leu Leu Ile Asn Ala Ser Pro Glu Thr Cys Thr
1 5 10 15

Lys Gly Asp Ala Glu Met Asp Thr Met Asp Thr Ile Asp Arg Met Thr
20 25 30

Ser Val Lys Val Leu Ala Glu Gly Lys Val Leu Ser Asn Phe Glu Glu
35 40 45

Pro Gly Leu Met Arg Cys Gly Tyr His Asp Ala Lys Asn Trp Val Arg
50 55 60

Arg Leu Ser Ser Glu Thr Ile Val Gly Glu Asp Thr Ser Asn Leu Tyr
65 70 75 80

Pro Phe Tyr Val Asp Thr Ala Tyr Asp Val Arg Arg Leu Arg Lys Asp
85 90 95

Leu Ile Asn Ala Lys Val Asp Leu Gln Val Glu Asn Leu Ile Ile Ile
100 105 110

Cys Asn Ile Asn Asp Ile Ser Thr Val Phe Leu Met Arg Glu Val Val
115 120 125

Glu Trp Ile Leu Arg Asn Phe His Ser Ile Thr Val Tyr Val Gln Asp
130 135 140

Ile Phe Lys Lys Ser Thr Gln Phe Ala Val Gly Asp Leu Cys Lys Asp
145 150 155 160

Ser Asn Cys Ser Lys Asn Arg Val Lys Tyr Trp Ser Lys Glu Phe Val
165 170 175

Lys Lys His Asp Ser Phe Phe Asp Leu Met Ile Thr Leu Gly Gly Asp
180 185 190

Gly Thr Val Leu Phe Ala Ser Ser Ile Phe Thr Lys Asp Val Pro Pro
195 200 205

Ile Val Pro Phe Ala Leu Gly Ser Leu Gly Phe Leu Thr Asn Phe Glu
210 215 220

Phe Gln Asn Phe Lys Glu Thr Leu Lys His Ile Leu Thr Asp Glu Val
225 230 235 240

Arg Ile Asn Leu Arg Met Arg Leu Gln Cys Lys Leu Tyr Arg Arg Asn
245 250 255

Lys Pro Glu Ile Asp Ala Ala Thr Gly Arg Lys Ile Cys Tyr Ile Asp
260 265 270

20080423_F_59071_PCT_sequence_listing.txt

Phe Ile Ser Glu His His Val Leu Asn Glu Val Thr Ile Asp Arg Gly
275 280 285

Pro Ala Pro Cys Leu Ser Leu Leu Glu Leu Tyr Gly Asn Asp Ser Leu
290 295 300

Met Thr Lys Val Gln Gly Asp Gly Leu Ile Val Ala Thr Pro Thr Gly
305 310 315 320

Ser Thr Ala Tyr Ser Leu Ser Ala Gly Gly Ser Leu Ile Ser Pro Ser
325 330 335

Val Asn Ala Ile Ala Val Thr Pro Ile Cys Pro His Thr Leu Ser Phe
340 345 350

Arg Pro Ile Ile Leu Pro Asp Ser Met Glu Leu Lys Val Arg Val Asp
355 360 365

Met Asn Ser Arg Gly Thr Ser Trp Val Asn Phe Asp Gly Lys Asp Arg
370 375 380

Val Glu Leu Lys Gln Gly Asp Tyr Val Val Ile Thr Ala Ser Pro Tyr
385 390 395 400

Ser Val Pro Thr Ile Glu Ser Ser Ala Ser Glu Phe Phe Glu Ser Ile
405 410 415

Ser Lys Asn Leu Asn Trp Asn Asp Arg Glu Glu Gln Lys Pro Phe Ala
420 425 430

His Ile Leu Ser Pro Lys Asn Gln Glu Lys Tyr Arg Leu Asp Ser Ser
435 440 445

Lys Asn Gly Asn Asp Thr Ile Ser Asn Pro Leu Glu Ser Ser Cys Ile
450 455 460

Ser Ser Asp Ala Gln Asp Glu Glu Arg Lys Ser Val Thr Glu Thr Glu
465 470 475 480

Thr Glu Ile Val Val Glu Arg Thr Arg Gln Ala His Phe Ala Ile
485 490 495

<210> 90
<211> 143
<212> PRT
<213> Saccharomyces cerevisiae

<400> 90

Met Glu Thr Asn Phe Ser Phe Asp Ser Asn Leu Ile Val Ile Ile Ile
1 5 10 15

Ile Thr Leu Phe Ala Thr Arg Ile Ile Ala Lys Arg Phe Leu Ser Thr
20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Pro Lys Met Val Ser Gln Glu Thr Val Ala His Val Lys Asp Leu Ile
35 40 45

Gly Gln Lys Glu Val Phe Val Ala Ala Lys Thr Tyr Cys Pro Tyr Cys
50 55 60

Lys Ala Thr Leu Ser Thr Leu Phe Gln Glu Leu Asn Val Pro Lys Ser
65 70 75 80

Lys Ala Leu Val Leu Glu Leu Asp Glu Met Ser Asn Gly Ser Glu Ile
85 90 95

Gln Asp Ala Leu Glu Glu Ile Ser Gly Gln Lys Thr Val Pro Asn Val
100 105 110

Tyr Ile Asn Gly Lys His Ile Gly Gly Asn Ser Asp Leu Glu Thr Leu
115 120 125

Lys Lys Asn Gly Lys Leu Ala Glu Ile Leu Lys Pro Val Phe Gln
130 135 140

<210> 91
<211> 569
<212> PRT
<213> Saccharomyces cerevisiae

<400> 91

Met Lys Asp Leu Lys Leu Ser Asn Phe Lys Gly Lys Phe Ile Ser Arg
1 5 10 15

Thr Ser His Trp Gly Leu Thr Gly Lys Lys Leu Arg Tyr Phe Ile Thr
20 25 30

Ile Ala Ser Met Thr Gly Phe Ser Leu Phe Gly Tyr Asp Gln Gly Leu
35 40 45

Met Ala Ser Leu Ile Thr Gly Lys Gln Phe Asn Tyr Glu Phe Pro Ala
50 55 60

Thr Lys Glu Asn Gly Asp His Asp Arg His Ala Thr Val Val Gln Gly
65 70 75 80

Ala Thr Thr Ser Cys Tyr Glu Leu Gly Cys Phe Ala Gly Ser Leu Phe
85 90 95

Val Met Phe Cys Gly Glu Arg Ile Gly Arg Lys Pro Leu Ile Leu Met
100 105 110

Gly Ser Val Ile Thr Ile Ile Gly Ala Val Ile Ser Thr Cys Ala Phe
115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Arg Gly Tyr Trp Ala Leu Gly Gln Phe Ile Ile Gly Arg Val Val Thr
130 135 140

Gly Val Gly Thr Gly Leu Asn Thr Ser Thr Ile Pro Val Trp Gln Ser
145 150 155 160

Glu Met Ser Lys Ala Glu Asn Arg Gly Leu Leu Val Asn Leu Glu Gly
165 170 175

Ser Thr Ile Ala Phe Gly Thr Met Ile Ala Tyr Trp Ile Asp Phe Gly
180 185 190

Leu Ser Tyr Thr Asn Ser Ser Val Gln Trp Arg Phe Pro Val Ser Met
195 200 205

Gln Ile Val Phe Ala Leu Phe Leu Leu Ala Phe Met Ile Lys Leu Pro
210 215 220

Glu Ser Pro Arg Trp Leu Ile Ser Gln Ser Arg Thr Glu Glu Ala Arg
225 230 235 240

Tyr Leu Val Gly Thr Leu Asp Asp Ala Asp Pro Asn Asp Glu Glu Val
245 250 255

Ile Thr Glu Val Ala Met Leu His Asp Ala Val Asn Arg Thr Lys His
260 265 270

Glu Lys His Ser Leu Ser Ser Leu Phe Ser Arg Gly Arg Ser Gln Asn
275 280 285

Leu Gln Arg Ala Leu Ile Ala Ala Ser Thr Gln Phe Phe Gln Gln Phe
290 295 300

Thr Gly Cys Asn Ala Ala Ile Tyr Tyr Ser Thr Val Leu Phe Asn Lys
305 310 315 320

Thr Ile Lys Leu Asp Tyr Arg Leu Ser Met Ile Ile Gly Gly Val Phe
325 330 335

Ala Thr Ile Tyr Ala Leu Ser Thr Ile Gly Ser Phe Phe Leu Ile Glu
340 345 350

Lys Leu Gly Arg Arg Lys Leu Phe Leu Leu Gly Ala Thr Gly Gln Ala
355 360 365

Val Ser Phe Thr Ile Thr Phe Ala Cys Leu Val Lys Glu Asn Lys Glu
370 375 380

Asn Ala Arg Gly Ala Ala Val Gly Leu Phe Leu Phe Ile Thr Phe Phe
385 390 395 400

Gly Leu Ser Leu Leu Ser Leu Pro Trp Ile Tyr Pro Pro Glu Ile Ala
Seite 135

Ser Met Lys Val Arg Ala Ser Thr Asn Ala Phe Ser Thr Cys Thr Asn
420 425 430

Trp Leu Cys Asn Phe Ala Val Val Met Phe Thr Pro Ile Phe Ile Gly
435 440 445

Gln Ser Gly Trp Gly Cys Tyr Leu Phe Phe Ala Val Met Asn Tyr Leu
450 455 460

Tyr Ile Pro Val Ile Phe Phe Phe Tyr Pro Glu Thr Ala Gly Arg Ser
465 470 475 480

Leu Glu Glu Ile Asp Ile Ile Phe Ala Lys Ala Tyr Glu Asp Gly Thr
485 490 495

Gln Pro Trp Arg Val Ala Asn His Leu Pro Lys Leu Ser Leu Gln Glu
500 505 510

Val Glu Asp His Ala Asn Ala Leu Gly Ser Tyr Asp Asp Glu Met Glu
515 520 525

Lys Glu Asp Phe Gly Glu Asp Arg Val Glu Asp Thr Tyr Asn Gln Ile
530 535 540

Asn Gly Asp Asn Ser Ser Ser Ser Asn Ile Lys Asn Glu Asp Thr
545 550 555 560

Val Asn Asp Lys Ala Asn Phe Glu Gly
565

<210> 92
<211> 509
<212> PRT
<213> Saccharomyces cerevisiae

<400> 92

Met Ile Ala Leu Lys Pro Asn Ala Val Arg Thr Phe Arg Gln Val Gln
1 5 10 15

His Cys Ser Phe Arg Ile Cys Arg Tyr Gln Ser Thr Lys Ser Asn Lys
20 25 30

Cys Leu Thr Pro Leu Gln Glu Tyr Asp Arg Leu Val Lys Leu Gly Lys
35 40 45

Leu Arg Asp Asp Thr Tyr Gln Arg Gly Ile Ile Ser Ser Leu Gly Asp
50 55 60

Leu Tyr Asp Ser Leu Val Lys Tyr Val Pro Pro Val Val Lys Thr Pro
65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Asn Ala Val Asp Gln Val Gly Gly Trp Leu Asn Gly Leu Lys Ser Val
85 90 95

Phe Ser Arg Gly Lys Pro Lys Asn Ile Gly Ala Tyr Val Asp Val Ser
100 105 110

Lys Ile Gly Asn Ser Ile Pro Arg Gly Val Tyr Leu Tyr Gly Asp Val
115 120 125

Gly Cys Gly Lys Thr Met Leu Met Asp Leu Phe Tyr Thr Thr Ile Pro
130 135 140

Asn His Leu Thr Lys Lys Arg Ile His Phe His Gln Phe Met Gln Tyr
145 150 155 160

Val His Lys Arg Ser His Glu Ile Val Arg Glu Gln Asn Leu Lys Glu
165 170 175

Leu Gly Asp Ala Lys Gly Lys Glu Ile Asp Thr Val Pro Phe Leu Ala
180 185 190

Ala Glu Ile Ala Asn Asn Ser His Val Leu Cys Phe Asp Glu Phe Gln
195 200 205

Val Thr Asp Val Ala Asp Ala Met Ile Leu Arg Arg Leu Met Thr Ala
210 215 220

Leu Leu Ser Asp Asp Tyr Gly Val Val Leu Phe Ala Thr Ser Asn Arg
225 230 235 240

His Pro Asp Glu Leu Tyr Ile Asn Gly Val Gln Arg Gln Ser Phe Ile
245 250 255

Pro Cys Ile Glu Leu Ile Lys His Arg Thr Lys Val Ile Phe Leu Asn
260 265 270

Ser Pro Thr Asp Tyr Arg Lys Ile Pro Arg Pro Val Ser Ser Val Tyr
275 280 285

Tyr Phe Pro Ser Asp Thr Ser Ile Lys Tyr Ala Ser Lys Glu Cys Lys
290 295 300

Thr Arg Arg Glu Thr His Ile Lys Glu Trp Tyr Asn Tyr Phe Ala Gln
305 310 315 320

Ala Ser His Thr Asp Asp Ser Thr Asp Ser His Thr Val His Lys Thr
325 330 335

Phe Tyr Asp Tyr Pro Leu Thr Ile Trp Gly Arg Glu Phe Lys Val Pro
340 345 350

20080423_F_59071_PCT_sequence_listing.txt

Lys Cys Thr Pro Pro Arg Val Ala Gln Phe Thr Phe Lys Gln Leu Cys
355 360 365

Gly Glu Pro Leu Ala Ala Gly Asp Tyr Leu Thr Leu Ala Lys Asn Phe
370 375 380

Glu Ala Phe Ile Val Thr Asp Ile Pro Tyr Leu Ser Ile Tyr Val Arg
385 390 395 400

Asp Glu Val Arg Arg Phe Ile Thr Phe Leu Asp Ala Val Tyr Asp Ser
405 410 415

Gly Gly Lys Leu Ala Thr Thr Gly Ala Ala Asp Phe Ser Ser Leu Phe
420 425 430

Val Glu Pro Glu Gln Ile Leu Asn Asp Phe Glu Leu Arg Pro Thr Thr
435 440 445

Lys Glu Pro Asp Ser Val Asp Thr Gly Met Val Asp Glu Met Val Glu
450 455 460

Lys His Gly Phe Ser Lys Glu Ile Ala Lys Lys Ser Gln Met Phe Ala
465 470 475 480

Leu Asp Glu Glu Arg Phe Ala Phe Ala Arg Ala Leu Ser Arg Leu Ser
485 490 495

Gln Met Ser Ser Thr Asp Trp Val Thr Lys Pro Thr Tyr
500 505

<210> 93
<211> 148
<212> PRT
<213> Saccharomyces cerevisiae
<400> 93

Met Cys Glu Ser Ser Asn Lys Thr Glu Asn Asp Ile Val Arg Leu Ser
1 5 10 15

Gln Ala Met Asp Val Leu Ala Lys Leu Ile Ile Ser Lys Gln Lys Asp
20 25 30

Gly Ser Gln Leu Gln Val Glu Tyr Glu His Lys Leu Lys Glu Leu Glu
35 40 45

Lys Phe Ile Asn Leu Leu Leu Gly Leu His Glu Ser Thr Val Gly Ser
50 55 60

Met Met Asn Thr Ser Val Leu Asp Met Val Leu Arg Asn Gly Ile Glu
65 70 75 80

Ile Met Glu Lys Asp Asp Gln Lys Tyr Ala Leu Ile Pro Ile Lys Ala
85 90 95

20080423_F_59071_PCT_sequence_listing.txt

Lys Glu Glu Ala Asp Lys Thr Thr Ser Thr Ile Gln Gly Val Thr Ser
100 105 110

Lys Lys Ser Ser Lys Lys Lys Lys Asn Lys Ile Lys Cys Ser Phe Cys
115 120 125

His Glu Ala Gly His Thr Arg Ala His Cys Gly Ala Arg Leu Thr Val
130 135 140

Ile Pro Lys Lys
145

<210> 94
<211> 111
<212> PRT
<213> Saccharomyces cerevisiae
<400> 94

Met Lys Gly Ser Lys Ser His Leu Val Phe Thr Leu Leu Gln Val Ser
1 5 10 15

Gln Leu Asn Val Phe Leu Phe Phe Leu Gly Phe Leu Leu Pro Leu Phe
20 25 30

Leu Gly Leu Phe Val Ser Leu Arg Ser Leu Ala Leu Ala Leu Ser Ser
35 40 45

Gly Trp Phe Ile Met Asp Leu Ile Leu Phe Arg Thr Phe Pro Glu Ala
50 55 60

Glu Leu Tyr Pro Ala Val Ile Gly Lys Pro Ser Gly Leu Gly Leu Thr
65 70 75 80

Glu Ala Phe Glu Phe Ile Ser Ile Phe Phe Pro Asp Val Gln Gln Thr
85 90 95

Glu Arg Asn Ile Lys Tyr Asn Trp Glu Arg Cys Phe Asn Gly Glu
100 105 110

<210> 95
<211> 299
<212> PRT
<213> Saccharomyces cerevisiae
<400> 95

Met Ser Thr Phe Ser Ala Ser Asp Phe Asn Ser Glu Arg Tyr Ser Ser
1 5 10 15

Ser Arg Pro Ser Tyr Pro Ser Asp Phe Tyr Lys Met Ile Asp Glu Tyr
20 25 30

His Asp Gly Glu Arg Lys Leu Leu Val Asp Val Gly Cys Gly Pro Gly
Seite 139

35

40

45

Thr Ala Thr Leu Gln Met Ala Gln Glu Leu Lys Pro Phe Glu Gln Ile
 50 55 60

Ile Gly Ser Asp Leu Ser Ala Thr Met Ile Lys Thr Ala Glu Val Ile
 65 70 75 80

Lys Glu Gly Ser Pro Asp Thr Tyr Lys Asn Val Ser Phe Lys Ile Ser
 85 90 95

Ser Ser Asp Asp Phe Lys Phe Leu Gly Ala Asp Ser Val Asp Lys Gln
 100 105 110

Lys Ile Asp Met Ile Thr Ala Val Glu Cys Ala His Trp Phe Asp Phe
 115 120 125

Glu Lys Phe Gln Arg Ser Ala Tyr Ala Asn Leu Arg Lys Asp Gly Thr
 130 135 140

Ile Ala Ile Trp Gly Tyr Ala Asp Pro Ile Phe Pro Asp Tyr Pro Glu
 145 150 155 160

Phe Asp Asp Leu Met Ile Glu Val Pro Tyr Gly Lys Gln Gly Leu Gly
 165 170 175

Pro Tyr Trp Glu Gln Pro Gly Arg Ser Arg Leu Arg Asn Met Leu Lys
 180 185 190

Asp Ser His Leu Asp Pro Glu Leu Phe His Asp Ile Gln Val Ser Tyr
 195 200 205

Phe Cys Ala Glu Asp Val Arg Asp Lys Val Lys Leu His Gln His Thr
 210 215 220

Lys Lys Pro Leu Leu Ile Arg Lys Gln Val Thr Leu Val Glu Phe Ala
 225 230 235 240

Asp Tyr Val Arg Thr Trp Ser Ala Tyr His Gln Trp Lys Gln Asp Pro
 245 250 255

Lys Asn Lys Asp Lys Glu Asp Val Ala Asp Trp Phe Ile Lys Glu Ser
 260 265 270

Leu Arg Arg Arg Pro Glu Leu Ser Thr Asn Thr Lys Ile Glu Val Val
 275 280 285

Trp Asn Thr Phe Tyr Lys Leu Gly Lys Arg Val
 290 295

<210> 96

<211> 116

20080423_F_59071_PCT_sequence_listing.txt

<212> PRT

<213> Saccharomyces cerevisiae

<400> 96

Met His Ile Leu Phe Leu Phe Ile Phe His Cys Leu Ala Phe Lys Asp
1 5 10 15

Leu Ile Phe Phe Lys Gln Tyr Val Pro Phe Ala Ala Ala Gly Gly Tyr
20 25 30

Pro Ile Ser Phe Leu Phe Ile Lys Val Leu Thr Ala Ser Thr Asn Leu
35 40 45

Leu Leu Ser Ser Ser Ser Gly Gly Ser Trp Asn Lys Leu Ser Lys Glu
50 55 60

Ser Gln Leu Leu Lys Val Ile Leu Thr His Phe Leu Val Pro Ile Phe
65 70 75 80

Phe Phe Leu Phe Gln Tyr Ile Ile Leu Ser Glu Asp Arg Gln Gln Glu
85 90 95

Arg Gln Pro Lys Phe Arg Asp Asn Ala Lys Phe Asp Gly His Ala Lys
100 105 110

Thr Cys His Ile
115

<210> 97

<211> 593

<212> PRT

<213> Saccharomyces cerevisiae

<400> 97

Met Tyr Ser Ile Val Lys Glu Ile Ile Val Asp Pro Tyr Lys Arg Leu
1 5 10 15

Lys Trp Gly Phe Ile Pro Val Lys Arg Gln Val Glu Asp Leu Pro Asp
20 25 30

Asp Leu Asn Ser Thr Glu Ile Val Thr Ile Ser Asn Ser Ile Gln Ser
35 40 45

His Glu Thr Ala Glu Asn Phe Ile Thr Thr Thr Ser Glu Lys Asp Gln
50 55 60

Leu His Phe Glu Thr Ser Ser Tyr Ser Glu His Lys Asp Asn Val Asn
65 70 75 80

Val Thr Arg Ser Tyr Glu Tyr Arg Asp Glu Ala Asp Arg Pro Trp Trp
85 90 95

Arg Phe Phe Asp Glu Gln Glu Tyr Arg Ile Asn Glu Lys Glu Arg Ser
Seite 141

100

105

110

His Asn Lys Trp Tyr Ser Trp Phe Lys Gln Gly Thr Ser Phe Lys Glu
 115 120 125

Lys Lys Leu Leu Ile Lys Leu Asp Val Leu Leu Ala Phe Tyr Ser Cys
 130 135 140

Ile Ala Tyr Trp Val Lys Tyr Leu Asp Thr Val Asn Ile Asn Asn Ala
 145 150 155 160

Tyr Val Ser Gly Met Lys Glu Asp Leu Gly Phe Gln Gly Asn Asp Leu
 165 170 175

Val His Thr Gln Val Met Tyr Thr Val Gly Asn Ile Ile Phe Gln Leu
 180 185 190

Pro Phe Leu Ile Tyr Leu Asn Lys Leu Pro Leu Asn Tyr Val Leu Pro
 195 200 205

Ser Leu Asp Leu Cys Trp Ser Leu Leu Thr Val Gly Ala Ala Tyr Val
 210 215 220

Asn Ser Val Pro His Leu Lys Ala Ile Arg Phe Phe Ile Gly Ala Phe
 225 230 235 240

Glu Ala Pro Ser Tyr Leu Ala Tyr Gln Tyr Leu Phe Gly Ser Phe Tyr
 245 250 255

Lys His Asp Glu Met Val Arg Arg Ser Ala Phe Tyr Tyr Leu Gly Gln
 260 265 270

Tyr Ile Gly Ile Leu Ser Ala Gly Gly Ile Gln Ser Ala Val Tyr Ser
 275 280 285

Ser Leu Asn Gly Val Asn Gly Leu Glu Gly Trp Arg Trp Asn Phe Ile
 290 295 300

Ile Asp Ala Ile Val Ser Val Val Val Gly Leu Ile Gly Phe Tyr Ser
 305 310 315 320

Leu Pro Gly Asp Pro Tyr Asn Cys Tyr Ser Ile Phe Leu Thr Asp Asp
 325 330 335

Glu Ile Arg Leu Ala Arg Lys Arg Leu Lys Glu Asn Gln Thr Gly Lys
 340 345 350

Ser Asp Phe Glu Thr Lys Val Phe Asp Ile Lys Leu Trp Lys Thr Ile
 355 360 365

Phe Ser Asp Trp Lys Ile Tyr Ile Leu Thr Leu Trp Asn Ile Phe Cys
 370 375 380

20080423_F_59071_PCT_sequence_listing.txt

Trp Asn Asp Ser Asn Val Ser Ser Gly Ala Tyr Leu Leu Trp Leu Lys
385 390 395 400

Ser Leu Lys Arg Tyr Ser Ile Pro Lys Leu Asn Gln Leu Ser Met Ile
405 410 415

Thr Pro Gly Leu Gly Met Val Tyr Leu Met Leu Thr Gly Ile Ile Ala
420 425 430

Asp Lys Leu His Ser Arg Trp Phe Ala Ile Ile Phe Thr Gln Val Phe
435 440 445

Asn Ile Ile Gly Asn Ser Ile Leu Ala Ala Trp Asp Val Ala Glu Gly
450 455 460

Ala Lys Trp Phe Ala Phe Met Leu Gln Cys Phe Gly Trp Ala Met Ala
465 470 475 480

Pro Val Leu Tyr Ser Trp Gln Asn Asp Ile Cys Arg Arg Asp Ala Gln
485 490 495

Thr Arg Ala Ile Thr Leu Val Thr Met Asn Ile Met Ala Gln Ser Ser
500 505 510

Thr Ala Trp Ile Ser Val Leu Val Trp Lys Thr Glu Glu Ala Pro Arg
515 520 525

Tyr Leu Lys Gly Phe Thr Phe Thr Ala Cys Ser Ala Phe Cys Leu Ser
530 535 540

Ile Trp Thr Phe Val Val Leu Tyr Phe Tyr Lys Arg Asp Glu Arg Asn
545 550 555 560

Asn Ala Lys Lys Asn Gly Ile Val Leu Tyr Asn Ser Lys His Gly Val
565 570 575

Glu Lys Pro Thr Ser Lys Asp Val Glu Thr Leu Ser Val Ser Asp Glu
580 585 590

Lys

<210> 98
<211> 142
<212> PRT
<213> Saccharomyces cerevisiae

<400> 98

Met Asp Met Val Ser Pro Val Leu Asn Leu Gln Ser Ser Ile Leu Gly
1 5 10 15

20080423_F_59071_PCT_sequence_listing.txt

Glu Leu Val Gly Ile Ile Gly Lys Val Phe Phe Leu Leu Ile Glu Glu
20 25 30

Ile Lys Tyr Pro Ile Ile Thr Pro Lys Ile Ile Val Asp Ala Gln Ile
35 40 45

Ser Ser Trp Ser Leu Phe Phe Phe Ala Ser Ile Cys Asn Leu Ser Ala
50 55 60

Lys Phe Arg Glu Pro Ile Val Thr Thr Ser Ser Ile Ile Ser Leu Met
65 70 75 80

Glu Ser Glu Lys Asp Leu Lys Asn Val Asn Glu Tyr Phe Gln Ile Met
85 90 95

Ala Lys Met Leu Phe Ile Leu Glu Asn Lys Ile Val Val Ser Leu Phe
100 105 110

Val Val Phe Asn Ile Ser Val Leu Ile Ile Val Lys Ser Glu Pro Tyr
115 120 125

Ser Tyr Gly Lys Val Leu Phe Lys Pro Ser Ser Ser Ile Phe
130 135 140

<210> 99
<211> 642
<212> PRT
<213> Saccharomyces cerevisiae
<400> 99

Met Ser Ser Gln Phe Phe Leu Lys Thr Ser Gln Asp Ile Glu Leu Phe
1 5 10 15

Gln Ser Tyr Pro Thr Phe Glu Gln Ser Asn Thr Asn Ser Lys Asp Phe
20 25 30

Pro Val Ile Ser Ser Val Leu Ser Pro Cys Gly Arg Phe Leu Ala Leu
35 40 45

Ser Thr Lys Glu Asn Val Lys Val Phe Thr Gly Pro Cys Leu Asp Asn
50 55 60

Val Leu Leu Thr Met Lys Leu Ser Asp Val Tyr Asp Leu His Phe Ser
65 70 75 80

Pro Ala Gly Asn Tyr Leu Ser Thr Trp Glu Arg Ala Ser Ile Gln Asp
85 90 95

Pro Asn His Lys Asn Val Lys Val Trp Tyr Leu Asn Lys Pro Phe Lys
100 105 110

Lys Asp Cys Val Ser Glu Asp Ile Val Pro Ala Tyr Glu Tyr Gln Ala
115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Lys Ser Gln Ser Gly Trp Phe Leu Gln Phe Ser Lys Leu Asp Asn Tyr
 130 135 140
 Gly Leu Arg Leu Phe Lys His Asp Leu Lys Ile Val Lys Leu Ser Ser
 145 150 155 160
 Ala Asn Ala Asp Asn Phe Asp Phe Gln Ser Pro Phe Ala Val Leu Ser
 165 170 175
 Asp Asp Glu Thr Ser Gln His Phe Thr Thr Tyr Leu Ile Ser Pro Ala
 180 185 190
 Glu His Pro Thr Ile Cys Thr Phe Thr Pro Glu Lys Gly Gly Lys Pro
 195 200 205
 Ala Gln Leu Ile Ile Trp Ala Leu Ser Glu Gly Lys Ile Thr Lys Lys
 210 215 220
 Ile Ala Ser Lys Thr Phe Phe Lys Ala Asp Ser Cys Gln Leu Lys Trp
 225 230 235 240
 Asn Pro Leu Gly Asn Ala Ile Leu Cys Leu Ala Ile Thr Asp Phe Asp
 245 250 255
 Ser Ser Asn Lys Ser Tyr Tyr Gly Glu Asn Thr Leu Tyr Leu Leu Ser
 260 265 270
 Phe Gln Gly Val Asn Gly Thr Leu Gly Gly Asn Ser Val Arg Val Ser
 275 280 285
 Leu Thr Thr Gly Pro Val His Asp Phe Thr Trp Ser Pro Thr Ser Arg
 290 295 300
 Gln Phe Gly Val Ile Ala Gly Tyr Met Pro Ala Thr Ile Ser Phe Phe
 305 310 315 320
 Asp Leu Arg Gly Asn Val Val His Ser Leu Pro Gln Gln Ala Lys Asn
 325 330 335
 Thr Met Leu Phe Ser Pro Ser Gly His Tyr Ile Leu Ile Ala Gly Phe
 340 345 350
 Gly Asn Leu Gln Gly Ser Val Glu Ile Leu Asp Arg Leu Asp Lys Phe
 355 360 365
 Lys Cys Val Ser Lys Phe Asp Ala Thr Asn Thr Ser Val Cys Lys Trp
 370 375 380
 Ser Pro Gly Gly Glu Phe Ile Met Thr Ala Thr Thr Ser Pro Arg Leu
 385 390 395 400

20080423_F_59071_PCT_sequence_listing.txt

Arg Val Asp Asn Gly Val Lys Ile Trp His Val Ser Gly Ser Leu Val
405 410 415

Phe Val Lys Glu Phe Lys Glu Leu Leu Lys Val Asp Trp Arg Ser Pro
420 425 430

Cys Asn Tyr Lys Thr Leu Glu Asn Lys Asp Glu Ala Phe Phe Glu Asn
435 440 445

His Ile Ile Asn Asn Trp Glu Pro Leu Pro Asp Ser Thr Thr Ser Ser
450 455 460

Leu Asp Pro Lys Ile Ser Asn Lys Ser Glu Leu Gln Ile His Ser Ser
465 470 475 480

Val Gln Glu Tyr Ile Ser Gln His Pro Ser Arg Glu Ala Ser Ser Asn
485 490 495

Gly Asn Gly Ser Lys Ala Lys Ala Gly Gly Ala Tyr Lys Pro Pro His
500 505 510

Ala Arg Arg Thr Gly Gly Gly Arg Ile Val Pro Gly Val Pro Pro Gly
515 520 525

Ala Ala Lys Lys Thr Ile Pro Gly Leu Val Pro Gly Met Ser Ala Asn
530 535 540

Lys Asp Ala Asn Thr Lys Asn Arg Arg Arg Arg Ala Asn Lys Lys Ser
545 550 555 560

Ser Glu Thr Ser Pro Asp Ser Thr Pro Ala Pro Ser Ala Pro Ala Ser
565 570 575

Thr Asn Ala Pro Thr Asn Asn Lys Glu Thr Ser Pro Glu Glu Lys Lys
580 585 590

Ile Arg Ser Leu Leu Lys Lys Leu Arg Ala Ile Glu Thr Leu Lys Glu
595 600 605

Arg Gln Ala Val Gly Asp Lys Leu Glu Asp Thr Gln Val Leu Lys Ile
610 615 620

Gln Thr Glu Glu Lys Val Leu Lys Asp Leu Glu Lys Leu Gly Trp Lys
625 630 635 640

Asp Glu

<210> 100
<211> 122
<212> PRT
<213> Saccharomyces cerevisiae

20080423_F_59071_PCT_sequence_listing.txt

<400> 100

Met Ala Ser Thr Val Ala Gly Leu Ser Met Ser Ala Glu Ser Leu Arg
1 5 10 15
Leu Pro Leu Leu Ile Gly Val Ser Ser Gly Met Leu Ser Val Ser Asp
20 25 30
Ala Glu Val Leu Pro Ser Phe Leu Phe Lys Ser Gly Phe Ser Val Leu
35 40 45
Gln Ser Ala Ala Leu Asp Thr Asp Asp Asp Leu Ala Arg Gly Leu Ser
50 55 60
Leu Leu Asp Leu Leu Pro Leu Val Leu Leu Ser Pro Phe Phe Glu Glu
65 70 75 80
Asp Val Asp Glu Glu Glu Ala Gly Asp Val Glu Gly Leu Asp Gly Phe
85 90 95
Val Phe Val Phe Arg Leu Leu Leu Pro Leu Tyr Asn Gln Ser Thr Gly
100 105 110
Thr Ser Asn Ser Val Leu Val Ile Ile Thr
115 120

<210> 101

<211> 646

<212> PRT

<213> Saccharomyces cerevisiae

<400> 101

Met Lys Glu Ser Lys Lys Met Ala Lys Asp Asn Leu Thr Asn Leu Leu
1 5 10 15
Ser Gln Leu Asn Ile Gln Leu Ser Gln Asp Glu His Ser Gln Val Glu
20 25 30
Gln Thr Cys Val Lys Leu Leu Asp Ser Gly Cys Glu Asn Pro Ala Asp
35 40 45
Val Phe Arg Arg Cys Leu Val Ala Val Ile Gln Gln Asp Lys Tyr Gln
50 55 60
Lys Ala Leu His Tyr Leu Lys Lys Phe Lys His Ile Asp Asp Lys Tyr
65 70 75 80
Gly Arg Lys Phe Ala Leu Glu Lys Leu Tyr Ile Phe Tyr Lys Leu Asn
85 90 95
Met Pro Asp Glu Phe Asn Thr Leu Tyr Thr Ala Ile Ile Thr Asp Asp
100 105 110

20080423_F_59071_PCT_sequence_listing.txt

Leu Asp Thr Val Leu Lys Lys Asp Ile Glu Ser Leu Arg Gly Ile Leu
 115 120 125
 His Val Arg Ala Gln Tyr Cys Tyr Lys Asn Gly Leu Tyr Gln Glu Ala
 130 135 140
 Phe Lys Ile Tyr Gln His Leu Ala Ser His Asn Glu Lys Asp Gln Asp
 145 150 155 160
 Ser Gln Ile Glu Leu Ser Cys Asn Glu Arg Val Pro Leu Ser Val Ala
 165 170 175
 Thr Glu Leu Met Asn Arg Ser Pro Leu Val Thr Pro Met Asp Glu Ser
 180 185 190
 Ser Tyr Asp Leu Leu Phe Asn Glu Ser Phe Ile Met Ala Ser Val Gly
 195 200 205
 Lys Tyr Asp Lys Ala Ile Glu Leu Leu Glu Lys Ala Leu Gln Gly Ala
 210 215 220
 Thr Asn Glu Gly Tyr Gln Asn Asp Ile Asn Thr Ile Lys Leu Gln Leu
 225 230 235 240
 Ser Phe Val Leu Gln Met Val Gly Lys Thr Ala Gln Ser Lys Glu Ile
 245 250 255
 Leu Lys Gly Leu Leu Gln Glu Leu Lys Ala Asp Ser Pro Phe Ser Leu
 260 265 270
 Ile Cys Gln Asn Asn Leu Asn Ala Phe Val Asp Phe Ser Lys Tyr Asn
 275 280 285
 Thr Asn Phe Asn Leu Leu Leu Arg Glu Leu Asn Val Glu Lys Leu Asn
 290 295 300
 Thr Phe Asn Leu Gln Thr Phe Thr His Glu Gln Trp Ser Asn Ile Gln
 305 310 315 320
 Arg Asn Val Leu Phe Leu Arg Leu Phe Asn Asn Val Lys Ile His Ser
 325 330 335
 Gln Glu Ser Leu Leu Ser Arg Thr Phe Asp Lys Tyr Ser Lys Leu Val
 340 345 350
 Asp Asn Val Thr Leu Glu Ser Tyr Lys Thr Gln Ala Lys Lys Leu Tyr
 355 360 365
 His His Thr Thr Lys Thr Ile Leu Ser Gly Thr Asp Gly Ser Thr Ile
 370 375 380

20080423_F_59071_PCT_sequence_listing.txt

Gly Ile Leu Leu Leu Thr Ile Gln Leu Leu Ile Ile Glu Lys Glu Trp
 385 390 395 400

Glu Asn Ala Ile Arg Ile Gly Glu Leu Phe Leu Asn Glu Ser Trp Lys
 405 410 415

Ser Ser Phe Glu Lys Phe Asn Asp Ser Gln Ala Ile Val Cys Tyr Ile
 420 425 430

Leu Phe Glu Leu Tyr Lys Ile Lys Gly Arg Asn Asn Ser Lys Ser Val
 435 440 445

Leu Leu Lys Lys Leu Gly Ser Val Arg Val Gln Leu Ser Gly Lys Ile
 450 455 460

Gln Glu Asn Ile Pro Phe Trp Lys His Val Gly Phe Glu Leu Leu Ser
 465 470 475 480

Met Gly Asn Ala Lys Glu Ser Lys Ala Leu Leu Arg Glu Ile Ser Asn
 485 490 495

Phe Ser Lys Gly Asp Ala Asp Val Leu Val Asp Arg Val Val Ser Ser
 500 505 510

Asp Ser Leu Asp Ile Ala Gln Gly Ile Asp Leu Val Arg Asp Ile Asp
 515 520 525

Ile Asp Lys Leu Ile Gln Leu Gly Val Lys Pro Leu Glu Ser Ser Ala
 530 535 540

Lys Arg Ser Lys Asn Thr Ala Val Ser Lys Val Gln Lys Arg Lys Val
 545 550 555 560

Leu Glu Leu Lys Lys Lys Arg Lys Ile Lys Arg Leu Glu Lys Phe Leu
 565 570 575

Gln Gly Arg Asp Thr Ser Lys Leu Pro Asp Pro Glu Arg Trp Leu Pro
 580 585 590

Leu Arg Asp Arg Ser Thr Tyr Arg Pro Lys Lys Lys Gln Gln Gly Ala
 595 600 605

Lys Gln Thr Gln Gly Gly Ala Met Asn Lys Lys Ser Glu Gln Ala Leu
 610 615 620

Asp Ile Ser Lys Lys Gly Lys Pro Thr Val Asn Lys Lys Pro Lys Asn
 625 630 635 640

Lys Lys Lys Gly Arg Lys
 645

<210> 102

20080423_F_59071_PCT_sequence_listing.txt

<211> 328

<212> PRT

<213> Saccharomyces cerevisiae

<400> 102

Met Glu Lys Lys His Val Thr Val Gln Ile Gln Ser Ala Pro Pro Ser
1 5 10 15

Tyr Ile Lys Leu Glu Ala Asn Glu Lys Phe Val Tyr Ile Thr Ser Thr
20 25 30

Met Asn Gly Leu Ser Tyr Gln Ile Ala Ala Ile Val Ser Tyr Pro Glu
35 40 45

Lys Arg Asn Ser Ser Thr Ala Asn Lys Glu Asp Gly Lys Leu Leu Cys
50 55 60

Lys Glu Asn Lys Leu Ala Leu Leu Leu His Gly Ser Gln Ser His Lys
65 70 75 80

Asn Ala Ile Tyr Gln Thr Leu Leu Ala Lys Arg Leu Ala Glu Phe Gly
85 90 95

Tyr Trp Val Leu Arg Ile Asp Phe Arg Gly Gln Gly Asp Ser Ser Asp
100 105 110

Asn Cys Asp Pro Gly Leu Gly Arg Thr Leu Ala Gln Asp Leu Glu Asp
115 120 125

Leu Ser Thr Val Tyr Gln Thr Val Ser Asp Arg Ser Leu Arg Val Gln
130 135 140

Leu Tyr Lys Thr Ser Thr Ile Ser Leu Asp Val Val Val Ala His Ser
145 150 155 160

Arg Gly Ser Leu Ala Met Phe Lys Phe Cys Leu Lys Leu His Ala Ala
165 170 175

Glu Ser Pro Leu Pro Ser His Leu Ile Asn Cys Ala Gly Arg Tyr Asp
180 185 190

Gly Arg Gly Leu Ile Glu Arg Cys Thr Arg Leu His Pro His Trp Gln
195 200 205

Ala Glu Gly Gly Phe Trp Ala Asn Gly Pro Arg Asn Gly Glu Tyr Lys
210 215 220

Asp Phe Trp Ile Pro Leu Ser Glu Thr Tyr Ser Ile Ala Gly Val Cys
225 230 235 240

Val Pro Glu Phe Ala Thr Ile Pro Gln Thr Cys Ser Val Met Ser Cys
245 250 255

20080423_F_59071_PCT_sequence_listing.txt

Tyr Gly Met Cys Asp His Ile Val Pro Ile Ser Ala Ala Ser Asn Tyr
260 265 270

Ala Arg Leu Phe Glu Gly Arg His Ser Leu Lys Leu Ile Glu Asn Ala
275 280 285

Asp His Asn Tyr Tyr Gly Ile Glu Gly Asp Pro Asn Ala Leu Gly Leu
290 295 300

Pro Ile Arg Arg Gly Arg Val Asn Tyr Ser Pro Leu Val Val Asp Leu
305 310 315 320

Ile Met Glu Tyr Leu Gln Asp Thr
325

<210> 103
<211> 380
<212> PRT
<213> Saccharomyces cerevisiae

<400> 103

Met Asp Gly Ala Lys Phe Glu Asn Thr Val Ala Phe Leu Pro Ser Glu
1 5 10 15

Ile Phe Asp Cys Tyr Asn Ser Thr Leu Pro Lys Asn Val Phe Arg Ser
20 25 30

Phe Val Thr Trp Ser Cys Tyr Glu Lys Phe Asn Ser Leu Glu Phe Arg
35 40 45

Thr Trp Leu Leu Met Trp Leu Pro Leu Ile Ile Ala Trp Lys Ile Arg
50 55 60

Gly Lys Arg His Tyr Leu Val Ile Val Thr Ala Leu Met Phe Glu Val
65 70 75 80

Leu Tyr Phe Leu Trp Thr Tyr Ser Tyr Ile Phe Arg Glu Arg Thr Leu
85 90 95

Gly Lys Gln Val Ser Gln Phe Ala Lys Glu Ile Ile Thr Asn Thr Pro
100 105 110

Gly Ile Asp Thr Glu Asp Trp Glu Arg Val Ala Val Asn Phe Asn Ser
115 120 125

Tyr Leu Tyr Glu Asn Lys Leu Trp Asn Thr Glu Tyr Phe Phe Phe Asp
130 135 140

Gly Ser Ser Cys Gln Glu Ala Phe Arg Lys Met Leu Leu Glu Pro Phe
145 150 155 160

Ser Leu Lys Lys Asn Asp Phe Ala Asn Ala Lys Val Pro Asp Gly Ser
Seite 151

Val Cys Tyr Thr Glu Lys Ala Leu Gln Val Tyr Phe Thr Gln Ile Glu
180 185 190

Arg Lys Trp His Trp Ile Asn Ser Glu Gly Phe Leu His Asn Lys Thr
195 200 205

Thr Gln Ser Val Gln Phe Ser Lys His Gly Tyr Gly Ser Lys Leu Leu
210 215 220

Trp Ala Phe Lys Glu Val Thr Ile Met Asn Ser Arg Phe Ala Phe Phe
225 230 235 240

Ser Ile Ala Tyr Leu Asn Gly Leu Leu Thr Ile Pro Arg Leu Arg Asn
245 250 255

Ser Leu His Ile Leu Tyr Val Cys Ala Val Leu Ser Ser Met Ile Ile
260 265 270

Glu Tyr Leu Ile Gly Ile Asp Lys Phe Arg Phe Lys Ser Met Asn Leu
275 280 285

Ile His Lys Leu Gln Phe Leu Ser Tyr Ile Thr Cys Gly His Glu Lys
290 295 300

Ser Asp Ala Thr Asn Trp Ser Gln Ile Ala Lys Arg Thr Asn Thr Tyr
305 310 315 320

Met Phe Glu Gln Lys Ile Trp Asn Ser Pro Ile Leu Phe Ser Asp Gly
325 330 335

Ile Asp Cys Glu Lys Phe Phe Lys Trp Tyr Phe Ser Thr Pro Val Ser
340 345 350

Ser Gln Ala Ser Leu Ser Val Gly Ser Thr Asp Phe Glu Leu Trp Pro
355 360 365

Tyr Ile Lys Glu Ala Gln Ser Ala Cys Asn Asp Val
370 375 380

<210> 104
<211> 567
<212> PRT
<213> Saccharomyces cerevisiae

<400> 104

Met Thr Gly Asp Gly Ser Ala His Ile Ser Lys Asn Asn Gln Asn Gln
1 5 10 15

His Lys Asp Arg Phe Lys Phe Ile Val Asn Asp Lys Ser Ile Leu Gly
20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Pro Gln Trp Leu Ser Leu Tyr Gln Thr Asp Gly Lys Val Thr Phe Ala
35 40 45

Lys Ser His Phe Glu Gln Ala Met Met Asn Val Ile Arg Glu Pro Asn
50 55 60

Ile Asn Ser Thr Val Ile Leu Arg Ala Asp Ile Leu Lys Glu Ile Asn
65 70 75 80

His Ala Ala Glu Ala Gly Ser Glu Pro Lys Phe Asp Glu Ser Val Leu
85 90 95

Lys Lys Phe Glu Ile Asp Asn Gly Asn Glu Ser Gly Glu Glu Asp Val
100 105 110

Lys Lys Ile Asn Ile Glu Asp Leu Asn Ile Arg Ser Cys Glu Thr Ser
115 120 125

Glu Ser Leu Lys Leu Ser Pro Val His Glu Phe Val Arg Arg Ile Ile
130 135 140

Pro Arg Asn Phe Tyr Lys Asp Ala Ile Ile Asn Gln Thr Cys Leu Ile
145 150 155 160

Leu Asn Ser Lys Asp Pro Asn Phe Gln Glu Thr Ser Leu Ile Val Tyr
165 170 175

Thr Pro His Ile Asn Ser Glu Lys Asp Cys Pro Phe Tyr Ile Pro Arg
180 185 190

Thr Gln Ser Val Gly Ile Leu Leu His Gln Ser Val Leu Ser Val His
195 200 205

Tyr Ile Pro Phe Pro Glu Asp Lys Thr Ala Phe Thr Asp Glu Ser Glu
210 215 220

Arg Val Val Arg Thr Ala Tyr Arg Leu Leu Gln Thr Ala Asn Lys His
225 230 235 240

Ser Lys Gly Val Met Gln Gly Tyr Glu Lys Arg Val Asn His Asp Gln
245 250 255

Val Val Asn Lys Val Asn Phe Gln Asn Thr Tyr Ile Val Leu Lys Lys
260 265 270

Lys Tyr Ser Lys Phe Leu Val Glu Asn Trp Ala Glu Ser Thr Asp Pro
275 280 285

Lys Lys His Val Phe Glu Asp Ile Ala Ile Ala Ala Phe Leu Ile Glu
290 295 300

20080423_F_59071_PCT_sequence_listing.txt

Leu Trp Ile Lys Val Tyr Gly Pro Asp Phe Arg Ser Lys Met Gln Phe
 305 310 315 320
 Arg Asp Leu Gly Cys Gly Asn Gly Ala Leu Cys Tyr Ile Leu Leu Ser
 325 330 335
 Glu Ser Ile Lys Gly Leu Gly Ile Asp Ala Arg Lys Arg Lys Ser Trp
 340 345 350
 Ser Ile Tyr Pro Pro Glu Val Gln Ser Ser Leu Lys Glu Gln Val Ile
 355 360 365
 Ile Pro Ser Ile Leu Leu Arg Pro His Pro Ala Leu Lys Arg Gln Val
 370 375 380
 Pro His Leu Glu His Asn Gly Arg Phe Phe Pro Val Lys Val Thr His
 385 390 395 400
 Glu Val Ile Ala Pro Ala Thr Val Val Tyr Ser Ser Glu Asp Leu Leu
 405 410 415
 Lys Ser Pro Gln Val Asn Thr Ala Glu Phe Pro Pro Asp Thr Phe Ile
 420 425 430
 Ile Gly Asn His Ser Asp Glu Leu Thr Cys Trp Ile Pro Leu Leu Gly
 435 440 445
 His Pro Tyr Met Val Ile Pro Cys Cys Ser His Asn Phe Ser Gly Gln
 450 455 460
 Arg Val Arg Phe Asn Val Arg Lys Arg Ser Pro Arg Ser Asn Glu Ile
 465 470 475 480
 Lys Asn Gln Asn Asn Ser Lys Ser Thr Tyr Ser Gly Leu Val Asp His
 485 490 495
 Val Glu Tyr Ile Ser Ser Arg Val Gly Trp Lys Val Glu Lys Glu Met
 500 505 510
 Leu Arg Ile Pro Ser Thr Arg Asn Ala Ala Ile Ile Gly Val Glu Asn
 515 520 525
 Ala Thr Leu Lys His Phe Pro Thr Gln Ala Val Tyr Asp Met Ile Trp
 530 535 540
 Glu Asp Gly Gly Ala Glu Gly Trp Ile Gln Asn Thr Met Ser Leu Leu
 545 550 555 560
 Lys Arg Asn Pro Arg Asn His
 565

<210> 105

20080423_F_59071_PCT_sequence_listing.txt

<211> 387

<212> PRT

<213> Saccharomyces cerevisiae

<400> 105

Met Glu Gln Asn Arg Phe Lys Lys Glu Thr Lys Thr Cys Ser Ala Ser
1 5 10 15

Trp Pro Arg Ala Pro Gln Ser Thr Leu Cys Ala Thr Asp Arg Leu Glu
20 25 30

Leu Thr Tyr Asp Val Tyr Thr Ser Ala Glu Arg Gln Arg Arg Ser Arg
35 40 45

Thr Ala Thr Arg Leu Asn Leu Val Phe Leu His Gly Ser Gly Met Ser
50 55 60

Lys Val Val Trp Glu Tyr Tyr Leu Pro Arg Leu Val Ala Ala Asp Ala
65 70 75 80

Glu Gly Asn Tyr Ala Ile Asp Lys Val Leu Leu Ile Asp Gln Val Asn
85 90 95

His Gly Asp Ser Ala Val Arg Asn Arg Gly Arg Leu Gly Thr Asn Phe
100 105 110

Asn Trp Ile Asp Gly Ala Arg Asp Val Leu Lys Ile Ala Thr Cys Glu
115 120 125

Leu Gly Ser Ile Asp Ser His Pro Ala Leu Asn Val Val Ile Gly His
130 135 140

Ser Met Gly Gly Phe Gln Ala Leu Ala Cys Asp Val Leu Gln Pro Asn
145 150 155 160

Leu Phe His Leu Leu Ile Leu Ile Glu Pro Val Val Ile Thr Arg Lys
165 170 175

Ala Ile Gly Ala Gly Arg Pro Gly Leu Pro Pro Asp Ser Pro Gln Ile
180 185 190

Pro Glu Asn Leu Tyr Asn Ser Leu Arg Leu Lys Thr Cys Asp His Phe
195 200 205

Ala Asn Glu Ser Glu Tyr Val Lys Tyr Met Arg Asn Gly Ser Phe Phe
210 215 220

Thr Asn Ala His Ser Gln Ile Leu Gln Asn Ile Ile Asp Phe Glu Arg
225 230 235 240

Thr Lys Ala Ser Gly Asp Asp Glu Asp Gly Gly Pro Val Arg Thr Lys
245 250 255

20080423_F_59071_PCT_sequence_listing.txt

Met Glu Gln Ala Gln Asn Leu Leu Cys Tyr Met Asn Met Gln Thr Phe
260 265 270

Ala Pro Phe Leu Ile Ser Asn Val Lys Phe Val Arg Lys Arg Thr Ile
275 280 285

His Ile Val Gly Ala Arg Ser Asn Trp Cys Pro Pro Gln Asn Gln Leu
290 295 300

Phe Leu Gln Lys Thr Leu Gln Asn Tyr His Leu Asp Val Ile Pro Gly
305 310 315 320

Gly Ser His Leu Val Asn Val Glu Ala Pro Asp Leu Val Ile Glu Arg
325 330 335

Ile Asn His His Ile His Glu Phe Val Leu Thr Ser Pro Leu Gln Ser
340 345 350

Ser His Ile Pro Gln Leu Thr Leu Glu Glu Arg Ala Val Met Phe Asp
355 360 365

Arg Ala Phe Asp Ser Phe Lys Asn Glu Ala Leu Val Lys Thr Thr Lys
370 375 380

Gln Lys Leu
385

<210> 106
<211> 526
<212> PRT
<213> Saccharomyces cerevisiae

<400> 106

Met Ser Thr Leu Phe Leu Ile Gly Ile His Glu Ile Glu Lys Ser Gln
1 5 10 15

Thr Ile Val Gln Asn Glu His Tyr Phe Asp Arg Val Ile Glu Leu Gln
20 25 30

Asp Leu Asp Ser Leu Met Val Ala Leu Tyr Lys Asp Arg Val Ser Pro
35 40 45

Phe Pro Asn Val His Asn Phe Glu Thr Gly Val Ser Ile Val Leu Tyr
50 55 60

Asp Pro Ser Lys Phe Gln Leu Ser Val Arg Gln Leu Asp Val Leu Phe
65 70 75 80

Lys Arg Phe Phe Pro Ser Phe Asn Ile Ser Ala Ile Asp His Thr Arg
85 90 95

Glu Glu Asn Leu Gln Arg Leu Glu Cys Val Glu Arg Glu Asn Ser Ile
Seite 156

100

105

110

Cys Arg Asn Arg Ile Thr Arg Ile Asn His Trp Met Tyr His His His
 115 120 125

Asp Asp Thr Pro Asp Gly Ile Asn Lys Asn Ser Tyr Gly Thr Val Asn
 130 135 140

Gly Asn Ser Val Pro Thr Gln Ala Cys Glu Ala Asn Ile Tyr Thr Leu
 145 150 155 160

Leu Leu His Leu Asn Asp Ser Lys Ala Gln His Leu Arg Lys Ala Ser
 165 170 175

Val Pro Arg Leu Ile Arg Asn Ile Glu Phe Met Ser Phe Leu Ser Asp
 180 185 190

Pro Ile Glu Lys Ile Ser Gln Glu Gly Ser His Tyr Trp Asn Ile Leu
 195 200 205

Ser Thr Trp Asp Phe Cys Ala Leu Ser Leu Ser Thr Gln Glu Leu Ile
 210 215 220

Trp Cys Gly Phe Thr Leu Ile Lys Lys Leu Ser Lys Asp Ala Lys Val
 225 230 235 240

Leu Ile Ala Asp Asn Lys Leu Leu Leu Leu Leu Phe Thr Leu Glu Ser
 245 250 255

Ser Tyr His Gln Val Asn Lys Phe His Asn Phe Arg His Ala Ile Asp
 260 265 270

Val Met Gln Ala Thr Trp Arg Leu Cys Thr Tyr Leu Leu Lys Asp Asn
 275 280 285

Pro Val Gln Thr Leu Leu Leu Cys Met Ala Ala Ile Gly His Asp Val
 290 295 300

Gly His Pro Gly Thr Asn Asn Gln Leu Leu Cys Asn Cys Glu Ser Glu
 305 310 315 320

Val Ala Gln Asn Phe Lys Asn Val Ser Ile Leu Glu Asn Phe His Arg
 325 330 335

Glu Leu Phe Gln Gln Leu Leu Ser Glu His Trp Pro Gln Leu Leu Ser
 340 345 350

Ile Ser Lys Lys Lys Phe Asp Phe Ile Ser Glu Ala Ile Leu Ala Thr
 355 360 365

Asp Met Ala Leu His Ser Gln Tyr Glu Asp Arg Leu Met His Glu Asn
 370 375 380

20080423_F_59071_PCT_sequence_listing.txt

Pro Met Lys Gln Ile Thr Leu Ile Ser Leu Ile Ile Lys Ala Ala Asp
385 390 395 400

Ile Ser Asn Val Thr Arg Thr Leu Ser Ile Ser Ala Arg Trp Ala Tyr
405 410 415

Leu Ile Thr Leu Glu Phe Asn Asp Cys Ala Leu Leu Glu Thr Phe His
420 425 430

Lys Ala His Arg Pro Glu Gln Asp Cys Phe Gly Asp Ser Tyr Lys Asn
435 440 445

Val Asp Ser Pro Lys Glu Asp Leu Glu Ser Ile Gln Asn Ile Leu Val
450 455 460

Asn Val Thr Asp Pro Asp Asp Ile Ile Lys Asp His Pro His Ile Pro
465 470 475 480

Asn Gly Gln Ile Phe Phe Ile Asn Thr Phe Ala Glu Val Phe Phe Asn
485 490 495

Ala Leu Ser Gln Lys Phe Ser Gly Leu Lys Phe Leu Ser Asp Asn Val
500 505 510

Lys Ile Asn Lys Glu Tyr Trp Met Lys His Lys Lys Pro Gln
515 520 525

<210> 107
<211> 578
<212> PRT
<213> Saccharomyces cerevisiae

<400> 107

Met Ser Ile Gln Ala Phe Val Phe Cys Gly Lys Gly Ser Asn Leu Ala
1 5 10 15

Pro Phe Thr Gln Pro Asp Phe Pro Phe Gln Thr Gln Asn Lys Asp Ser
20 25 30

Thr Ala Ala Thr Ser Gly Asp Lys Leu Asn Glu Leu Val Asn Ser Ala
35 40 45

Leu Asp Ser Thr Val Ile Asn Glu Phe Met Gln His Ser Thr Arg Leu
50 55 60

Pro Lys Ala Leu Leu Pro Ile Gly Asn Arg Pro Met Ile Glu Tyr Val
65 70 75 80

Leu Asp Trp Cys Asp Gln Ala Asp Phe Lys Glu Ile Ser Val Val Ala
85 90 95

20080423_F_59071_PCT_sequence_listing.txt

Pro Val Asp Glu Ile Glu Leu Ile Glu Ser Gly Leu Thr Ser Phe Leu
100 105 110

Ser Leu Arg Lys Gln Gln Phe Glu Leu Ile Tyr Lys Ala Leu Ser Asn
115 120 125

Ser Asn His Ser His His Leu Gln Asp Pro Lys Lys Ile Asn Phe Ile
130 135 140

Pro Ser Lys Ala Asn Ser Thr Gly Glu Ser Leu Gln Lys Glu Leu Leu
145 150 155 160

Pro Arg Ile Asn Gly Asp Phe Val Ile Leu Pro Cys Asp Phe Val Thr
165 170 175

Asp Ile Pro Pro Gln Val Leu Val Asp Gln Phe Arg Asn Arg Asp Asp
180 185 190

Asn Asn Leu Ala Met Thr Ile Tyr Tyr Lys Asn Ser Leu Asp Ser Ser
195 200 205

Ile Asp Lys Lys Gln Gln Gln Lys Gln Lys Gln Gln Gln Phe Phe Thr
210 215 220

Val Tyr Ser Glu Asn Glu Asp Ser Glu Arg Gln Pro Ile Leu Leu Asp
225 230 235 240

Val Tyr Ser Gln Arg Asp Val Thr Lys Thr Lys Tyr Leu Gln Ile Arg
245 250 255

Ser His Leu Leu Trp Asn Tyr Pro Asn Leu Thr Val Ser Thr Lys Leu
260 265 270

Leu Asn Ser Phe Ile Tyr Phe Cys Ser Phe Glu Leu Cys Gln Leu Leu
275 280 285

Lys Leu Gly Pro Gln Ser Met Ser Arg Gln Ala Ser Phe Lys Asp Pro
290 295 300

Phe Thr Gly Asn Gln Gln Gln Gln Asn Pro Pro Thr Thr Asp Asp Asp
305 310 315 320

Glu Asp Arg Asn His Asp Asp Asp Asp Asp Tyr Lys Pro Ser Ala Thr
325 330 335

Ser Ile Gln Pro Thr Tyr Phe Lys Lys Lys Asn Asp Leu Ile Leu Asp
340 345 350

Pro Ile Asn Cys Asn Lys Ser Leu Ser Lys Val Phe Arg Asp Leu Ser
355 360 365

Arg Arg Ser Trp Gln His Ser Lys Pro Arg Glu Pro Ile Gly Ile Phe
Seite 159

370

375

380

Ile Leu Pro Asn Glu Thr Leu Phe Ile Arg Ala Asn Asn Leu Asn Ala
 385 390 395 400

Tyr Met Asp Ala Asn Arg Phe Val Leu Lys Ile Lys Ser Gln Thr Met
 405 410 415

Phe Thr Lys Asn Ile Gln Ile Gln Ser Ala Ala Ile Gly Ala Asp Ala
 420 425 430

Ile Val Asp Pro Lys Cys Gln Ile Ser Ala His Ser Asn Val Lys Met
 435 440 445

Ser Val Leu Gly Thr Gln Ala Asn Ile Gly Ser Arg Cys Arg Val Ala
 450 455 460

Gly Ser Leu Leu Phe Pro Gly Val His Leu Gly Asp Glu Val Ile Leu
 465 470 475 480

Glu Asn Cys Ile Ile Gly Pro Met Ala Lys Ile Gly Ser Lys Cys Lys
 485 490 495

Leu Ser Asn Cys Tyr Ile Glu Gly His Tyr Val Val Glu Pro Lys Asn
 500 505 510

Asn Phe Lys Gly Glu Thr Leu Ala Asn Val Tyr Leu Asp Glu Asp Glu
 515 520 525

Glu Asp Glu Leu Ile Tyr Asp Asp Ser Val Ile Ala Gly Glu Ser Glu
 530 535 540

Ile Ala Glu Glu Thr Asp Ser Asp Asp Arg Ser Asp Glu Asp Ser Asp
 545 550 555 560

Asp Ser Glu Tyr Thr Asp Glu Tyr Glu Tyr Glu Asp Asp Gly Leu Phe
 565 570 575

Glu Arg

<210> 108

<211> 612

<212> PRT

<213> Saccharomyces cerevisiae

<400> 108

Met Ala Glu Met Lys Asn Ser Thr Ala Ala Ser Ser Arg Trp Thr Lys
 1 5 10 15

Ser Arg Leu Ser His Phe Phe Pro Ser Tyr Thr Asn Ser Ser Gly Met
 20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Gly Ala Ala Ser Thr Asp Gln Ser Ser Thr Gln Gly Glu Glu Leu His
35 40 45

His Arg Lys His Cys Glu Glu Asp Asn Asp Gly Gln Lys Pro Lys Lys
50 55 60

Ser Pro Val Ser Thr Ser Thr Met Gln Ile Lys Ser Arg Gln Asp Glu
65 70 75 80

Asp Glu Asp Asp Gly Arg Ile Val Ile Lys Pro Val Asn Asp Glu Asp
85 90 95

Asp Thr Ser Val Ile Ile Thr Phe Asn Gln Ser Ile Ser Pro Phe Ile
100 105 110

Ile Thr Leu Thr Phe Val Ala Ser Ile Ser Gly Phe Met Phe Gly Tyr
115 120 125

Asp Thr Gly Tyr Ile Ser Ser Ala Leu Ile Ser Ile Asn Arg Asp Leu
130 135 140

Asp Asn Lys Val Leu Thr Tyr Gly Glu Lys Glu Leu Ile Thr Ala Ala
145 150 155 160

Thr Ser Leu Gly Ala Leu Ile Thr Ser Val Gly Ala Gly Thr Ala Ala
165 170 175

Asp Val Phe Gly Arg Arg Pro Cys Leu Met Phe Ser Asn Leu Met Phe
180 185 190

Leu Ile Gly Ala Ile Leu Gln Ile Thr Ala His Lys Phe Trp Gln Met
195 200 205

Ala Ala Gly Arg Leu Ile Met Gly Phe Gly Val Gly Ile Gly Ser Leu
210 215 220

Ile Ser Pro Leu Phe Ile Ser Glu Ile Ala Pro Lys Met Ile Arg Gly
225 230 235 240

Arg Leu Thr Val Ile Asn Ser Leu Trp Leu Thr Gly Gly Gln Leu Ile
245 250 255

Ala Tyr Gly Cys Gly Ala Gly Leu Asn His Val Lys Asn Gly Trp Arg
260 265 270

Ile Leu Val Gly Leu Ser Leu Ile Pro Thr Val Leu Gln Phe Ser Phe
275 280 285

Phe Cys Phe Leu Pro Asp Thr Pro Arg Tyr Tyr Val Met Lys Gly Asp
290 295 300

20080423_F_59071_PCT_sequence_listing.txt

Leu Lys Arg Ala Lys Met Val Leu Lys Arg Ser Tyr Val Asn Thr Glu
305 310 315 320

Asp Glu Ile Ile Asp Gln Lys Val Glu Glu Leu Ser Ser Leu Asn Gln
325 330 335

Ser Ile Pro Gly Lys Asn Pro Ile Thr Lys Phe Trp Asn Met Val Lys
340 345 350

Glu Leu His Thr Val Pro Ser Asn Phe Arg Ala Leu Ile Ile Gly Cys
355 360 365

Gly Leu Gln Ala Ile Gln Gln Phe Thr Gly Trp Asn Ser Leu Met Tyr
370 375 380

Phe Ser Gly Thr Ile Phe Glu Thr Val Gly Phe Lys Asn Ser Ser Ala
385 390 395 400

Val Ser Ile Ile Val Ser Gly Thr Asn Phe Val Phe Thr Leu Ile Ala
405 410 415

Phe Phe Cys Ile Asp Lys Ile Gly Arg Arg Tyr Ile Leu Leu Ile Gly
420 425 430

Leu Pro Gly Met Thr Val Ala Leu Val Ile Cys Ala Ile Ala Phe His
435 440 445

Phe Leu Gly Ile Lys Phe Asn Gly Ala Asp Ala Val Val Ala Ser Asp
450 455 460

Gly Phe Ser Ser Trp Gly Ile Val Ile Ile Val Phe Ile Ile Val Tyr
465 470 475 480

Ala Ala Phe Tyr Ala Leu Gly Ile Gly Thr Val Pro Trp Gln Gln Ser
485 490 495

Glu Leu Phe Pro Gln Asn Val Arg Gly Val Gly Thr Ser Tyr Ala Thr
500 505 510

Ala Thr Asn Trp Ala Gly Ser Leu Val Ile Ala Ser Thr Phe Leu Thr
515 520 525

Met Leu Gln Asn Ile Thr Pro Thr Gly Thr Phe Ser Phe Phe Ala Gly
530 535 540

Val Ala Cys Leu Ser Thr Ile Phe Cys Tyr Phe Cys Tyr Pro Glu Leu
545 550 555 560

Ser Gly Leu Glu Leu Glu Glu Val Gln Thr Ile Leu Lys Asp Gly Phe
565 570 575

Asn Ile Lys Ala Ser Lys Ala Leu Ala Lys Lys Arg Lys Gln Gln Val
Seite 162

Ala Glu Gly Ala Ala His His Lys Leu Lys Phe Glu Pro Thr Gln Glu
595 600 605

Ile Val Glu Ser
610

<210> 109
<211> 661
<212> PRT
<213> Saccharomyces cerevisiae
<400> 109

Met Gly Thr Leu Phe Arg Arg Asn Val Gln Asn Gln Lys Ser Asp Ser
1 5 10 15

Asp Glu Asn Asn Lys Gly Gly Ser Val His Asn Lys Arg Glu Ser Arg
20 25 30

Asn His Ile His His Gln Gln Gly Leu Gly His Lys Arg Arg Arg Gly
35 40 45

Ile Ser Gly Ser Ala Lys Arg Asn Glu Arg Gly Lys Asp Phe Asp Arg
50 55 60

Lys Arg Asp Gly Asn Gly Arg Lys Arg Trp Arg Asp Ser Arg Arg Leu
65 70 75 80

Ile Phe Ile Leu Gly Ala Phe Leu Gly Val Leu Leu Pro Phe Ser Phe
85 90 95

Gly Ala Tyr His Val His Asn Ser Asp Ser Asp Leu Phe Asp Asn Phe
100 105 110

Val Asn Phe Asp Ser Leu Lys Val Tyr Leu Asp Asp Trp Lys Asp Val
115 120 125

Leu Pro Gln Gly Ile Ser Ser Phe Ile Asp Asp Ile Gln Ala Gly Asn
130 135 140

Tyr Ser Thr Ser Ser Leu Asp Asp Leu Ser Glu Asn Phe Ala Val Gly
145 150 155 160

Lys Gln Leu Leu Arg Asp Tyr Asn Ile Glu Ala Lys His Pro Val Val
165 170 175

Met Val Pro Gly Val Ile Ser Thr Gly Ile Glu Ser Trp Gly Val Ile
180 185 190

Gly Asp Asp Glu Cys Asp Ser Ser Ala His Phe Arg Lys Arg Leu Trp
195 200 205

20080423_F_59071_PCT_sequence_listing.txt

Gly Ser Phe Tyr Met Leu Arg Thr Met Val Met Asp Lys Val Cys Trp
210 215 220

Leu Lys His Val Met Leu Asp Pro Glu Thr Gly Leu Asp Pro Pro Asn
225 230 235 240

Phe Thr Leu Arg Ala Ala Gln Gly Phe Glu Ser Thr Asp Tyr Phe Ile
245 250 255

Ala Gly Tyr Trp Ile Trp Asn Lys Val Phe Gln Asn Leu Gly Val Ile
260 265 270

Gly Tyr Glu Pro Asn Lys Met Thr Ser Ala Ala Tyr Asp Trp Arg Leu
275 280 285

Ala Tyr Leu Asp Leu Glu Arg Arg Asp Arg Tyr Phe Thr Lys Leu Lys
290 295 300

Glu Gln Ile Glu Leu Phe His Gln Leu Ser Gly Glu Lys Val Cys Leu
305 310 315 320

Ile Gly His Ser Met Gly Ser Gln Ile Ile Phe Tyr Phe Met Lys Trp
325 330 335

Val Glu Ala Glu Gly Pro Leu Tyr Gly Asn Gly Gly Arg Gly Trp Val
340 345 350

Asn Glu His Ile Asp Ser Phe Ile Asn Ala Ala Gly Thr Leu Leu Gly
355 360 365

Ala Pro Lys Ala Val Pro Ala Leu Ile Ser Gly Glu Met Lys Asp Thr
370 375 380

Ile Gln Leu Asn Thr Leu Ala Met Tyr Gly Leu Glu Lys Phe Phe Ser
385 390 395 400

Arg Ile Glu Arg Val Lys Met Leu Gln Thr Trp Gly Gly Ile Pro Ser
405 410 415

Met Leu Pro Lys Gly Glu Glu Val Ile Trp Gly Asp Met Lys Ser Ser
420 425 430

Ser Glu Asp Ala Leu Asn Asn Asn Thr Asp Thr Tyr Gly Asn Phe Ile
435 440 445

Arg Phe Glu Arg Asn Thr Ser Asp Ala Phe Asn Lys Asn Leu Thr Met
450 455 460

Lys Asp Ala Ile Asn Met Thr Leu Ser Ile Ser Pro Glu Trp Leu Gln
465 470 475 480

20080423_F_59071_PCT_sequence_listing.txt

Arg Arg Val His Glu Gln Tyr Ser Phe Gly Tyr Ser Lys Asn Glu Glu
485 490 495

Glu Leu Arg Lys Asn Glu Leu His His Lys His Trp Ser Asn Pro Met
500 505 510

Glu Val Pro Leu Pro Glu Ala Pro His Met Lys Ile Tyr Cys Ile Tyr
515 520 525

Gly Val Asn Asn Pro Thr Glu Arg Ala Tyr Val Tyr Lys Glu Glu Asp
530 535 540

Asp Ser Ser Ala Leu Asn Leu Thr Ile Asp Tyr Glu Ser Lys Gln Pro
545 550 555 560

Val Phe Leu Thr Glu Gly Asp Gly Thr Val Pro Leu Val Ala His Ser
565 570 575

Met Cys His Lys Trp Ala Gln Gly Ala Ser Pro Tyr Asn Pro Ala Gly
580 585 590

Ile Asn Val Thr Ile Val Glu Met Lys His Gln Pro Asp Arg Phe Asp
595 600 605

Ile Arg Gly Gly Ala Lys Ser Ala Glu His Val Asp Ile Leu Gly Ser
610 615 620

Ala Glu Leu Asn Asp Tyr Ile Leu Lys Ile Ala Ser Gly Asn Gly Asp
625 630 635 640

Leu Val Glu Pro Arg Gln Leu Ser Asn Leu Ser Gln Trp Val Ser Gln
645 650 655

Met Pro Phe Pro Met
660

<210> 110
<211> 93
<212> PRT
<213> Saccharomyces cerevisiae

<400> 110

Met Val Thr Pro Arg Glu Pro Lys Lys Arg Thr Thr Arg Lys Lys Lys
1 5 10 15

Asp Pro Asn Ala Pro Lys Arg Ala Leu Ser Ala Tyr Met Phe Phe Ala
20 25 30

Asn Glu Asn Arg Asp Ile Val Arg Ser Glu Asn Pro Asp Ile Thr Phe
35 40 45

Gly Gln Val Gly Lys Lys Leu Gly Glu Lys Trp Lys Ala Leu Thr Pro
50 55 60

20080423_F_59071_PCT_sequence_listing.txt

Glu Glu Lys Gln Pro Tyr Glu Ala Lys Ala Gln Ala Asp Lys Lys Arg
65 70 75 80

Tyr Glu Ser Glu Lys Glu Leu Tyr Asn Ala Thr Leu Ala
85 90

<210> 111
<211> 474
<212> PRT
<213> Saccharomyces cerevisiae

<400> 111

Met Glu Val Thr Ser Met Phe Leu Asn Arg Met Met Lys Thr Arg Thr
1 5 10 15

Gly Leu Tyr Arg Leu Tyr Ser Thr Leu Lys Val Pro His Val Glu Ile
20 25 30

Asn Gly Ile Lys Tyr Lys Thr Asp Pro Gln Thr Thr Asn Val Thr Asp
35 40 45

Ser Ile Ile Lys Leu Thr Asp Arg Ser Leu His Leu Lys Glu Ser His
50 55 60

Pro Val Gly Ile Leu Arg Asp Leu Ile Glu Lys Lys Leu Asn Ser Val
65 70 75 80

Asp Asn Thr Phe Lys Ile Phe Asn Asn Phe Lys Pro Val Val Thr Thr
85 90 95

Met Glu Asn Phe Asp Ser Leu Gly Phe Pro Lys Asp His Pro Gly Arg
100 105 110

Ser Lys Ser Asp Thr Tyr Tyr Ile Asn Glu Thr His Leu Leu Arg Thr
115 120 125

His Thr Ser Ala His Glu Leu Glu Cys Phe Gln Lys Ile Arg Asn Asp
130 135 140

Ser Asp Asn Ile Lys Ser Gly Phe Leu Ile Ser Ala Asp Val Tyr Arg
145 150 155 160

Arg Asp Glu Ile Asp Lys Thr His Tyr Pro Val Phe His Gln Met Glu
165 170 175

Gly Ala Thr Ile Trp Lys Arg Thr Lys Ala Asp Val Gly Val Lys Glu
180 185 190

Pro Met Tyr Ile Glu Lys Ile Arg Glu Asp Ile Arg Gln Val Glu Asn
195 200 205

20080423_F_59071_PCT_sequence_listing.txt

Leu Leu Asn Lys Glu Asn Val Lys Ile Thr Val Asp Asp Asp Thr Ile
210 215 220

Pro Leu Lys Glu Asn Asn Pro Lys Gln Glu Tyr Met Ser Asp Leu Glu
225 230 235 240

Val Asp Leu Cys Ser Gln His Leu Lys Arg Ser Ile Glu Leu Ile Val
245 250 255

Ser Glu Val Phe Asn Lys Lys Ile Ser Ser Met Ile Lys Asn Lys Ala
260 265 270

Asn Asn Thr Pro Lys Glu Leu Lys Val Arg Trp Ile Asn Ala Tyr Phe
275 280 285

Pro Trp Thr Ala Pro Ser Trp Glu Ile Glu Val Trp Trp Gln Gly Glu
290 295 300

Trp Leu Glu Leu Cys Gly Cys Gly Leu Ile Arg Gln Asp Val Leu Leu
305 310 315 320

Arg Ala Gly Tyr Lys Pro Ser Glu Thr Ile Gly Trp Ala Phe Gly Leu
325 330 335

Gly Leu Asp Arg Ile Ala Met Leu Leu Phe Glu Ile Pro Asp Ile Arg
340 345 350

Leu Leu Trp Ser Arg Asp Glu Arg Phe Ser Arg Gln Phe Ser Lys Gly
355 360 365

Leu Ile Thr Ser Phe Lys Pro Tyr Ser Lys His Pro Gly Ser Phe Arg
370 375 380

Asp Val Ala Phe Trp Leu Pro Glu Asp Lys Pro Asp Ile His Gln Val
385 390 395 400

His Glu Asn Asp Leu Met Glu Ile Ile Arg Asn Ile Ala Gly Asp Leu
405 410 415

Val Glu Ser Val Lys Leu Val Asp Ser Phe Thr His Pro Lys Thr Gly
420 425 430

Arg Lys Ser Met Cys Tyr Arg Ile Asn Tyr Gln Ser Met Asp Arg Asn
435 440 445

Leu Thr Asn Ala Glu Val Asn Thr Leu Gln Asp Met Val Cys Ser Lys
450 455 460

Leu Val Lys Glu Tyr Ser Val Glu Leu Arg
465 470

20080423_F_59071_PCT_sequence_listing.txt

<211> 177

<212> PRT

<213> Saccharomyces cerevisiae

<400> 112

Met Lys Leu Ala Gln Asp Met Asn Val Asp Glu Ile Phe Leu Lys Gln
1 5 10 15

Ala Ala Glu Ala Ile Ala Val Ile Ser Ser Ser Pro Thr His Thr Asp
20 25 30

Pro Ile Ile Arg Glu Leu Leu His Arg Ile Arg Gln Ser Ser Pro Leu
35 40 45

Ser Ala Val Ile Pro Ala Pro Glu Asn Val Leu Lys Ala Gly Glu Pro
50 55 60

Glu Asn Met Ala Arg Gly Leu Ile Arg Ile Pro Glu Thr Gln Thr Lys
65 70 75 80

Arg Thr Gly Gly Asn Asn His Ser Lys Glu Gly Ala Gln Leu Tyr Ser
85 90 95

Cys Ala Lys Cys Gln Leu Lys Phe Ser Arg Ser Ser Asp Leu Arg Arg
100 105 110

His Glu Lys Val His Ser Leu Val Leu Pro His Ile Cys Ser Asn Cys
115 120 125

Gly Lys Gly Phe Ala Arg Lys Asp Ala Leu Lys Arg His Ser Asn Thr
130 135 140

Leu Thr Cys Gln Arg Asn Arg Lys Lys Leu Ser Glu Gly Ser Asp Val
145 150 155 160

Asp Val Asp Glu Leu Ile Lys Asp Ala Ile Lys Asn Gly Thr Gly Leu
165 170 175

Leu

<210> 113

<211> 206

<212> PRT

<213> Saccharomyces cerevisiae

<400> 113

Met Met Pro Tyr Asn Thr Pro Pro Asn Ile Gln Glu Pro Met Asn Phe
1 5 10 15

Ala Ser Ser Asn Pro Phe Gly Ile Ile Pro Asp Ala Leu Ser Phe Gln
20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Asn Phe Lys Tyr Asp Arg Leu Gln Gln Gln Gln Gln Gln Gln Gln
35 40 45

Gln Gln Gln Asn Arg Thr Ala Ser Ser Leu Gln Gln Pro Gln Gln Gln
50 55 60

Gln Pro Ile Ser Pro Pro Leu Phe Leu Val Gly Ala Gly Thr Ser Glu
65 70 75 80

Asn Ser Asn Leu Asn Lys Asn Ala Asn Thr Ser Thr Ile Pro Pro Leu
85 90 95

Leu Phe Ser Arg Ser Ser Gln His Tyr Val Val Pro Asp Ile Asp His
100 105 110

Ser Ser Ile Ile Tyr Lys Asn Asn Ile Cys Lys Ser Phe Lys Asp Asp
115 120 125

Leu Phe Phe Cys Pro Arg Ser Leu Leu Ser Leu Glu Glu Gln Gln Ala
130 135 140

Cys Glu Lys Met Asp Arg Leu Thr Ala Glu Gln Met Ser Leu Tyr His
145 150 155 160

Gln Asn Thr Gln Ser Ser Ser Asn Pro Gly Ser Met Ser Ser Ser Pro
165 170 175

Pro Asn Ser Ala Ser Ser Ile Phe Asn Ser Arg Pro Lys Phe Asn Pro
180 185 190

Tyr Thr Ser Gln Ser Phe Asn Pro Leu Glu Ser Val Gln Glu
195 200 205

<210> 114
<211> 209
<212> PRT
<213> Saccharomyces cerevisiae

<400> 114

Met Ile Ser Pro Ser Lys Lys Arg Thr Ile Leu Ser Ser Lys Asn Ile
1 5 10 15

Asn Gln Lys Pro Arg Ala Val Val Lys Gly Asn Glu Leu Arg Ser Pro
20 25 30

Ser Lys Arg Arg Ser Gln Ile Asp Thr Asp Tyr Ala Leu Arg Arg Ser
35 40 45

Pro Ile Lys Thr Ile Gln Ile Ser Lys Ala Ala Gln Phe Met Leu Tyr
50 55 60

Glu Glu Thr Ala Glu Glu Arg Asn Ile Ala Val His Arg His Asn Glu
65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Ile Tyr Asn Asn Asn Asn Ser Val Ser Asn Glu Asn Asn Pro Ser Gln
85 90 95

Val Lys Glu Asn Leu Ser Pro Ala Lys Ile Cys Pro Tyr Glu Arg Ala
100 105 110

Phe Leu Arg Glu Gly Gly Arg Ile Ala Leu Lys Asp Leu Ser Val Asp
115 120 125

Glu Phe Lys Gly Tyr Ile Gln Asp Pro Leu Thr Asp Glu Thr Ile Pro
130 135 140

Leu Thr Leu Pro Leu Gly Asp Lys Lys Ile Ser Leu Pro Ser Phe Ile
145 150 155 160

Thr Pro Pro Arg Asn Ser Lys Ile Ser Ile Phe Phe Thr Ser Lys His
165 170 175

Gln Gly Gln Asn Pro Glu Thr Lys Ile Ser Arg Ser Thr Asp Asp Val
180 185 190

Ser Glu Lys Lys Val Val Arg Lys Leu Ser Phe His Val Tyr Glu Asp
195 200 205

Glu

<210> 115
<211> 740
<212> PRT
<213> Saccharomyces cerevisiae

<400> 115

Met Asp Arg Gly Arg Trp Cys Phe Leu Val Ser Val Ser Ser Arg Ile
1 5 10 15

Met Asn Leu Gln Glu Leu Leu Ala Lys Val Pro Leu Leu Leu Ser Tyr
20 25 30

Pro Thr Ile Ile Leu Ser Ser Asn Leu Ile Val Pro Ser His Asn Asp
35 40 45

Leu Ile Ser Arg Ala Ala Ser Thr Ser Ala Ala Glu Tyr Ala Asp Glu
50 55 60

Lys Leu Ile Phe Phe Ser Thr Asp His Ala Ile Arg Leu Ile Phe Leu
65 70 75 80

Pro Thr Phe Val Ala Ser Ser Phe Asn Leu Phe Ala His Tyr Phe Asn
85 90 95

20080423_F_59071_PCT_sequence_listing.txt

Phe Ile Asn Tyr Ser Ser Arg Arg Lys Tyr Tyr Val Leu Phe Thr Ala
100 105 110

Ile Tyr Phe Leu Ser Ile Leu Thr Ala Ile Phe His Pro Ile Gln Ser
115 120 125

Thr Cys Ile Thr Leu Leu Ile Ile Lys Leu Leu Thr Thr Ala Asp Glu
130 135 140

Ser Ser Pro Lys Ile Ala Leu Asn Phe Lys Thr Ile Leu Lys Thr Phe
145 150 155 160

Val Pro Phe Ile Thr Leu Thr Leu Val Ile Leu Arg Trp Asp Pro Ser
165 170 175

Phe Asp Ala Ser Ser Gly Asp Val Asn Lys Ile Ser Thr Ser Leu Ala
180 185 190

Ala Tyr Ala Leu Leu Ile Leu Thr Leu Arg Tyr Ala Ser Pro Leu Ile
195 200 205

Leu Ser Thr Leu Ser Ser Ser Ile Gly Val Val Ser Lys Asp Thr Ser
210 215 220

Val Ala Gln His Ser Ile Ser Arg Asn Lys Arg Phe Pro Leu Ile Leu
225 230 235 240

Val Leu Pro Ile Phe Ser Phe Val Leu Leu Tyr Leu Met Thr Ile Val
245 250 255

Asn Lys Thr Tyr Asn Ile Gln Leu Leu Met Val Phe Val Phe Phe Gly
260 265 270

Cys Leu Ser Ile Phe Phe Leu Ser Leu Lys Asp Leu Phe Thr Glu Asp
275 280 285

Gly Asn Gln Lys Lys Gly Gly Gln Glu Asp Glu Tyr Cys Arg Met Phe
290 295 300

Asp Ile Lys Tyr Met Ile Ser Tyr Leu Trp Leu Thr Arg Phe Thr Ile
305 310 315 320

Leu Leu Thr Gly Ile Met Ala Ile Val Val His Phe Leu Ser Phe Asn
325 330 335

Glu Ile Thr Ser Ser Ile Lys Thr Asp Leu Leu Ser Leu Leu Phe Val
340 345 350

Val Val Ala Glu Tyr Val Ser Ser Phe Ser Asn Lys Gln Pro Asp Ser
355 360 365

His Ser His Asn His Ala His His His Ser His Leu Thr Asp Ser Leu
Seite 171

20080423_F_59071_PCT_sequence_listing.txt

370

375

380

Pro Leu Glu Asn Glu Ser Met Phe Lys Gln Met Ala Leu Asn Lys Asp
 385 390 395 400

Thr Arg Ser Ile Phe Ser Phe Leu Leu Leu Asn Thr Ala Phe Met Phe
 405 410 415

Val Gln Leu Leu Tyr Ser Phe Arg Ser Lys Ser Leu Gly Leu Leu Ser
 420 425 430

Asp Ser Leu His Met Ala Leu Asp Cys Thr Ser Leu Leu Leu Gly Leu
 435 440 445

Ile Ala Gly Val Leu Thr Lys Lys Pro Ala Ser Asp Lys Phe Pro Phe
 450 455 460

Gly Leu Asn Tyr Leu Gly Thr Leu Ala Gly Phe Thr Asn Gly Val Leu
 465 470 475 480

Leu Leu Gly Ile Val Cys Gly Ile Phe Val Glu Ala Ile Glu Arg Ile
 485 490 495

Phe Asn Pro Ile His Leu His Ala Thr Asn Glu Leu Leu Val Val Ala
 500 505 510

Thr Leu Gly Leu Leu Val Asn Leu Val Gly Leu Phe Ala Phe Asp His
 515 520 525

Gly Ala His Asp His Gly Gly Thr Asp Asn Glu Asn Met Lys Gly Ile
 530 535 540

Phe Leu His Ile Leu Ala Asp Thr Leu Gly Ser Val Gly Val Val Ile
 545 550 555 560

Ser Thr Leu Leu Ile Lys Leu Thr His Trp Pro Ile Phe Asp Pro Ile
 565 570 575

Ala Ser Leu Leu Ile Gly Ser Leu Ile Leu Leu Ser Ala Leu Pro Leu
 580 585 590

Leu Lys Ser Thr Ser Ala Asn Ile Leu Leu Arg Leu Asp Asp Lys Lys
 595 600 605

His Asn Leu Val Lys Ser Ala Leu Asn Gln Ile Ser Thr Thr Pro Gly
 610 615 620

Ile Thr Gly Tyr Thr Thr Pro Arg Phe Trp Pro Thr Glu Ser Gly Ser
 625 630 635 640

Ser Gly His Ser His Ala His Thr His Ser His Ala Glu Asn His Ser
 645 650 655

20080423_F_59071_PCT_sequence_listing.txt

His Glu His His His Asp Gln Lys Asn Gly Ser Gln Glu His Pro Ser
660 665 670

Leu Val Gly Tyr Ile His Val Gln Tyr Val Asp Gly Glu Asn Ser Thr
675 680 685

Ile Ile Lys Lys Arg Val Glu Lys Ile Phe Glu Asn Val Ser Ile Lys
690 695 700

Ala Trp Val Gln Val Glu Pro Gln Asn Ser Thr Cys Trp Cys Arg Ala
705 710 715 720

Thr Ser Met Asn Thr Ile Ser Ala Asn Pro Asn Ser Leu Pro Leu Gln
725 730 735

Pro Ile Ala Asn
740

<210> 116
<211> 1037
<212> PRT
<213> Saccharomyces cerevisiae

<400> 116

Met Ala Cys Leu Ser Arg Ile Asp Ala Asn Leu Leu Gln Tyr Tyr Glu
1 5 10 15

Lys Pro Glu Pro Asn Asn Thr Val Asp Leu Tyr Val Ser Asn Asn Ser
20 25 30

Asn Asn Asn Gly Leu Lys Glu Gly Asp Lys Ser Ile Ser Thr Pro Val
35 40 45

Pro Gln Pro Tyr Gly Ser Glu Tyr Ser Asn Cys Leu Leu Leu Ser Asn
50 55 60

Ser Glu Tyr Ile Cys Tyr His Phe Ser Ser Arg Ser Thr Leu Leu Thr
65 70 75 80

Phe Tyr Pro Leu Ser Asp Ala Tyr His Gly Lys Thr Ile Asn Ile His
85 90 95

Leu Pro Asn Ala Ser Met Asn Gln Arg Tyr Thr Leu Thr Ile Gln Glu
100 105 110

Val Glu Gln Gln Leu Leu Val Asn Val Ile Leu Lys Asp Gly Ser Phe
115 120 125

Leu Thr Leu Gln Leu Pro Leu Ser Phe Leu Phe Ser Ser Ala Asn Thr
130 135 140

20080423_F_59071_PCT_sequence_listing.txt

Leu Asn Gly Glu Trp Phe His Leu Gln Asn Pro Tyr Asp Phe Thr Val
145 150 155 160

Arg Val Pro His Phe Leu Phe Tyr Val Ser Pro Gln Phe Ser Val Val
165 170 175

Phe Leu Glu Asp Gly Gly Leu Leu Gly Leu Lys Lys Val Asp Gly Val
180 185 190

His Tyr Glu Pro Leu Leu Phe Asn Asp Asn Ser Tyr Leu Lys Ser Leu
195 200 205

Thr Arg Phe Phe Ser Arg Ser Ser Lys Ser Asp Tyr Asp Ser Val Ile
210 215 220

Ser Cys Lys Leu Phe His Glu Arg Tyr Leu Ile Val Leu Thr Gln Asn
225 230 235 240

Cys His Leu Lys Ile Trp Asp Leu Thr Ser Phe Thr Leu Ile Gln Asp
245 250 255

Tyr Asp Met Val Ser Gln Ser Asp Ser Asp Pro Ser His Phe Arg Lys
260 265 270

Val Glu Ala Val Gly Glu Tyr Leu Ser Leu Tyr Asn Asn Thr Leu Val
275 280 285

Thr Leu Leu Pro Leu Glu Asn Gly Leu Phe Gln Met Gly Thr Leu Leu
290 295 300

Val Asp Ser Ser Gly Ile Leu Thr Tyr Thr Phe Gln Asn Asn Ile Pro
305 310 315 320

Thr Asn Leu Ser Ala Ser Ala Ile Trp Ser Ile Val Asp Leu Val Leu
325 330 335

Thr Arg Pro Leu Glu Leu Asn Val Glu Ala Ser Tyr Leu Asn Leu Ile
340 345 350

Val Leu Trp Lys Ser Gly Thr Ala Ser Lys Leu Gln Ile Leu Asn Val
355 360 365

Asn Asp Glu Ser Phe Lys Asn Tyr Glu Trp Ile Glu Ser Val Asn Lys
370 375 380

Ser Leu Val Asp Leu Gln Ser Glu His Asp Leu Asp Ile Val Thr Lys
385 390 395 400

Thr Gly Asp Val Glu Arg Gly Phe Cys Asn Leu Lys Ser Arg Tyr Gly
405 410 415

Thr Gln Ile Phe Glu Arg Ala Gln Gln Ile Leu Ser Glu Asn Lys Ile
Seite 174

420

425

430

Ile Met Ala His Asn Glu Asp Glu Glu Tyr Leu Ala Asn Leu Glu Thr
 435 440 445

Ile Leu Arg Asp Val Lys Thr Ala Phe Asn Glu Ala Ser Ser Ile Thr
 450 455 460

Leu Tyr Gly Asp Glu Ile Ile Leu Val Asn Cys Phe Gln Pro Tyr Asn
 465 470 475 480

His Ser Leu Tyr Lys Leu Asn Thr Thr Val Glu Asn Trp Phe Tyr Asn
 485 490 495

Met His Ser Glu Thr Asp Gly Ser Glu Leu Phe Lys Tyr Leu Arg Thr
 500 505 510

Leu Asn Gly Phe Ala Ser Thr Leu Ser Asn Asp Val Leu Arg Ser Ile
 515 520 525

Ser Lys Lys Phe Leu Asp Ile Ile Thr Gly Glu Leu Pro Asp Ser Met
 530 535 540

Thr Thr Val Glu Lys Phe Thr Asp Ile Phe Lys Asn Cys Leu Glu Asn
 545 550 555 560

Gln Phe Glu Ile Thr Asn Leu Lys Ile Leu Phe Asp Glu Leu Asn Ser
 565 570 575

Phe Asp Ile Pro Val Val Leu Asn Asp Leu Ile Asn Asn Gln Met Lys
 580 585 590

Pro Gly Ile Phe Trp Lys Lys Asp Phe Ile Ser Ala Ile Lys Phe Asp
 595 600 605

Gly Phe Thr Ser Ile Ile Ser Leu Glu Ser Leu His Gln Leu Leu Ser
 610 615 620

Ile His Tyr Arg Ile Thr Leu Gln Val Leu Leu Thr Phe Val Leu Phe
 625 630 635 640

Asp Leu Asp Thr Glu Ile Phe Gly Gln His Ile Ser Thr Leu Leu Asp
 645 650 655

Leu His Tyr Lys Gln Phe Leu Leu Leu Asn Leu Tyr Arg Gln Asp Lys
 660 665 670

Cys Leu Leu Ala Glu Val Leu Leu Lys Asp Ser Ser Glu Phe Ser Phe
 675 680 685

Gly Val Lys Phe Phe Asn Tyr Gly Gln Leu Ile Ala Tyr Ile Asp Ser
 690 695 700

20080423_F_59071_PCT_sequence_listing.txt

Leu Asn Ser Asn Val Tyr Asn Ala Ser Ile Thr Glu Asn Ser Phe Phe
 705 710 715 720
 Met Thr Phe Phe Arg Ser Tyr Ile Ile Glu Asn Thr Ser His Lys Asn
 725 730 735
 Ile Arg Phe Phe Leu Glu Asn Val Glu Cys Pro Phe Tyr Leu Arg His
 740 745 750
 Asn Glu Val Gln Glu Phe Met Phe Ala Met Thr Leu Phe Ser Cys Gly
 755 760 765
 Asn Phe Asp Gln Ser Tyr Glu Ile Phe Gln Leu His Asp Tyr Pro Glu
 770 775 780
 Ala Ile Asn Asp Lys Leu Pro Thr Phe Leu Glu Asp Leu Lys Ser Glu
 785 790 795 800
 Asn Tyr His Gly Asp Ser Ile Trp Lys Asp Leu Leu Cys Thr Phe Thr
 805 810 815
 Val Pro Tyr Arg His Ser Ala Phe Tyr Tyr Gln Leu Ser Leu Leu Phe
 820 825 830
 Asp Arg Asn Asn Ser Gln Glu Phe Ala Leu Lys Cys Ile Ser Lys Ser
 835 840 845
 Ala Glu Tyr Ser Leu Lys Glu Ile Gln Ile Glu Glu Leu Gln Asp Phe
 850 855 860
 Lys Glu Lys Gln His Ile His Tyr Leu Asn Leu Leu Ile His Phe Arg
 865 870 875 880
 Met Phe Glu Glu Val Leu Asp Val Leu Arg Leu Gly His Glu Cys Leu
 885 890 895
 Ser Asp Thr Val Arg Thr Asn Phe Leu Gln Leu Leu Leu Gln Glu Asp
 900 905 910
 Ile Tyr Ser Arg Asp Phe Phe Ser Thr Leu Leu Arg Leu Cys Asn Ala
 915 920 925
 His Ser Asp Asn Gly Glu Leu Tyr Leu Arg Thr Val Asp Ile Lys Ile
 930 935 940
 Val Asp Ser Ile Leu Ser Gln Asn Leu Arg Ser Gly Asp Trp Glu Cys
 945 950 955 960
 Phe Lys Lys Leu Tyr Cys Phe Arg Met Leu Asn Lys Ser Glu Arg Ala
 965 970 975

20080423_F_59071_PCT_sequence_listing.txt

Ala Ala Glu Val Leu Tyr Gln Tyr Ile Leu Met Gln Ala Asp Leu Asp
980 985 990

Val Ile Arg Lys Arg Lys Cys Tyr Leu Met Val Ile Asn Val Leu Ser
995 1000 1005

Ser Phe Asp Ser Ala Tyr Asp Gln Trp Ile Leu Asn Gly Ser Lys
1010 1015 1020

Val Val Thr Leu Thr Asp Leu Arg Asp Glu Leu Arg Gly Leu
1025 1030 1035

<210> 117

<211> 242

<212> PRT

<213> Saccharomyces cerevisiae

<400> 117

Met Ile Lys Asn Tyr Leu Gly Arg Arg Trp Leu Asn Asn Pro Ala Ile
1 5 10 15

Gln Ala Tyr Val Lys Gln Asn Ala Ala Val Ala His Ser Thr Val Phe
20 25 30

Gln Gly Asn Leu Tyr Glu Tyr Thr Val Met Arg Glu Leu Ser Glu Lys
35 40 45

Leu Arg Met Thr Lys Leu Arg Lys Thr Gly Gly Ala His Asp Gly Gly
50 55 60

Val Asp Ile Lys Gly Ser Trp Pro Val Asp Asp Ile Tyr Trp Lys Ile
65 70 75 80

Ser Ser Leu Met Pro Asn Leu Glu Met Ala Ser Asn Ile Lys Arg Thr
85 90 95

Asn Ser Gln Asn Gly Phe Val Leu Lys Pro Leu Lys Tyr Arg Ile Ile
100 105 110

Asp His Thr Phe Glu Pro Leu Lys Val Leu Val Gln Cys Lys Ala Phe
115 120 125

Thr Lys Ser Lys Leu Ser Pro Arg Glu Phe Arg Glu Leu Val Gly Thr
130 135 140

Phe Thr Ser Leu Val Ser His Ser Gln Arg Asn Lys Thr Val Cys Ile
145 150 155 160

Met Cys Ser Pro His Met Leu Thr Lys Asp Thr Leu Asn Leu Ile Asn
165 170 175

Asn Ile Thr Leu Pro Leu Ile Tyr Leu Arg Val Glu Met Leu Lys Glu
Seite 177

180

185

190

Lys Thr Asp Gly His Phe Asp Leu Ile Asn Ser Gly Lys Leu Ile Asn
 195 200 205

Tyr Tyr Glu Asn Ser Tyr Ala Ser Thr Leu Met Gln Asp Cys Lys Ile
 210 215 220

Ser Glu Trp Leu Lys Leu Lys Leu Tyr Lys Asn Ser Asp Phe Asn Ser
 225 230 235 240

Glu Lys

<210> 118

<211> 108

<212> PRT

<213> Saccharomyces cerevisiae

<400> 118

Met Arg Tyr Thr Ala Thr Phe Arg Pro Leu Gln Arg Phe Val Met Asn
 1 5 10 15

Pro Phe Ala Ser Leu Glu Gly Gln Asp Asn Ile Ser Ser Val Phe Phe
 20 25 30

Leu His Met Gln Gln Phe Glu Ser Gln Val Lys Asp Arg Phe Arg Phe
 35 40 45

Pro Ile Phe Arg Leu Glu Arg Lys Thr Phe Gly Asn Ser Cys Tyr Gln
 50 55 60

Val Glu Thr Leu Lys Val Lys Cys Arg Pro Arg His Ala Lys Ser Cys
 65 70 75 80

Asn Leu Leu Thr Leu Leu Phe Lys Ser Arg Thr Gln Ser Val Leu Val
 85 90 95

Pro Asn Phe Gly Phe Leu Ile Leu Asn Ser Glu Pro
 100 105

<210> 119

<211> 468

<212> PRT

<213> Saccharomyces cerevisiae

<400> 119

Met Asn Phe Val Thr Cys His Val Gln Met Arg Leu Leu Leu Gln Arg
 1 5 10 15

Arg Leu Val Arg Leu Arg Glu Ser Glu Leu Phe Arg Pro Gln Thr Ser
 20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Leu Ser Thr Phe Lys Arg His Ala Ser Gln Lys Thr Arg Pro Ile Gln
35 40 45

Lys Cys Ser Arg Lys Tyr Ala Arg Ile Leu Leu Leu Ser Val Leu Val
50 55 60

Pro Tyr Thr Gly Tyr Ala Phe Tyr Val Ser Leu Ala Thr Val Lys Gln
65 70 75 80

Ile Asp Leu Arg Asn Glu Met Cys Gln Arg Leu Glu Glu Asn Asn Asn
85 90 95

Glu Val Thr Tyr Lys Gly Ser Leu Leu Lys Tyr Ser Pro Leu Glu Val
100 105 110

Leu Gly Arg Phe Glu Asn Pro Phe Glu Glu Tyr Arg Ile Gln Thr Val
115 120 125

Phe Glu Phe Phe Ala Asn Arg Val Phe Glu Leu Phe Glu Arg Asn Arg
130 135 140

Gly Gly Ile Pro Arg Asp Val His Gln Met Asn Lys Leu Met Pro Val
145 150 155 160

His Lys Pro Thr Trp Gly Pro Asn Leu Val Asp Val Asp Pro Ala Glu
165 170 175

Glu Thr Ala Leu Pro Leu Glu Cys Lys Val Leu Asp Glu Leu His Ile
180 185 190

Pro Thr Ala Val Glu Glu Asn Glu Gly Ser Lys Cys Pro Val Tyr Asn
195 200 205

Thr Trp Leu Gly Gln Ser Cys Asn Tyr Thr Val Tyr Asn Gly Leu Arg
210 215 220

Ile Leu Thr Asp Pro Leu Phe Ser Asp Phe Leu Ile His Lys Thr Leu
225 230 235 240

Gly Pro Lys Arg Ile Thr Gln Met Pro Ser Gln Ile Thr Glu Val Pro
245 250 255

Lys Pro Asp Ile Ile Leu Val Ser His Asn His Pro Asp His Leu Asp
260 265 270

Leu Glu Ser Leu Glu Tyr Trp Ser Gly Lys Asp Ser Pro Leu Trp Ile
275 280 285

Val Pro Lys Gly Met Lys Ser Tyr Met Thr Ser Asn Gly Cys Asp Asn
290 295 300

Val Leu Glu Leu Ser Trp Trp Glu Thr Leu Gln Val Lys Lys Asn Asn
Seite 179

305 310 315 320

Glu Ile Tyr His Ile Ser Ala Thr Pro Ala Met His Trp Ser Gly Arg
325 330 335

Ser Leu Leu Asp Thr Asn Lys Ser Leu Trp Cys Ser Phe Leu Leu Thr
340 345 350

His His Gly Asn Pro Ile Leu Phe His Ala Gly Asp Thr Gly Tyr Val
355 360 365

Lys Asp Leu Phe Val Arg Ile Lys Glu Arg Phe Gly Lys Gly Cys Lys
370 375 380

Leu Ala Leu Leu Pro Cys Gly Gln Tyr Cys Pro Glu Trp His Gln Lys
385 390 395 400

Pro Arg His Ile Asn Pro Gln Glu Val Leu Lys Ile Met Lys Asp Leu
405 410 415

Glu Ala Arg Asn Val Leu Gly Val His Trp Gly Thr Phe Val Leu Ser
420 425 430

Gly Glu Tyr Phe Leu Glu Pro Lys Glu Lys Leu Glu Met Leu Ala Glu
435 440 445

Trp Gly Gly Phe Lys Asp Arg Cys Tyr Cys Pro Glu Leu Gly Lys Thr
450 455 460

Glu Cys Phe Asp
465

<210> 120

<211> 423

<212> PRT

<213> Saccharomyces cerevisiae

<400> 120

Met Asp Ser Arg Val Ala Leu Val Arg Lys Tyr Ile Ala Pro Ser Val
1 5 10 15

Ile Lys Ser Asp Ser Ile Gln Leu His Gly Leu Val Lys Ala Pro Leu
20 25 30

Phe Lys Ala Leu Asn Ser Arg Tyr Lys Leu Gly Ser Leu Gln Ile Val
35 40 45

Gln Asp Val Asp Trp Asn Ala Lys Thr Thr Pro Ser Asp Ser Pro Glu
50 55 60

Pro Leu Ala Ala Thr Leu Asn Ser Asn Arg Ser Leu Pro Met Thr Lys
65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Phe Pro Lys Gln Glu Ile Leu Glu Gln Val Lys Leu Asp Thr Lys Val
85 90 95

Gly Lys Trp Arg Lys Phe Met Thr Gly Trp Phe Arg Ile Gly Leu Tyr
100 105 110

Leu Leu Lys Ser Tyr Lys Thr Gly Ile Gln Asn Thr Leu Lys Val Phe
115 120 125

Trp Asp Thr Arg Asn Glu Glu Gln Lys Phe Ser Ile Lys Asn Gly Ala
130 135 140

Leu Ala Asn Leu Val Arg Glu Ile Glu Met His Glu Ile Asn Thr Arg
145 150 155 160

Leu Ser Ser Ser Ser Leu Pro Thr Ser Ser Ser Ala Lys Ala Pro Leu
165 170 175

Arg Pro Leu Ser Ile Asn Arg Lys Thr Leu Val Glu Leu Ile Arg Arg
180 185 190

Asp Gln Ile Trp Lys Leu Pro Val Phe Phe Thr Leu Val Phe Ile Phe
195 200 205

Glu Glu Val Ser Val Leu Ile Phe Thr Phe Phe Pro Arg Val Cys Pro
210 215 220

Tyr Asn Cys Leu Thr Pro Gly Gly Tyr Lys Lys Leu Ser Asn Ser Tyr
225 230 235 240

Ile Lys Gly Thr Thr Ser Thr Gln Gly Asn Tyr Gly Leu Gly Pro Leu
245 250 255

Glu Phe Thr Lys Gln Gly Thr Ile Lys Tyr Glu Pro Pro Tyr Ala Val
260 265 270

Pro Ile Glu Asn Leu Tyr Asn Phe Leu Thr Ser Phe Pro Gln Ser Met
275 280 285

Ile Ser Asn Trp Lys Leu Tyr Ile Tyr Lys Lys Leu Lys Leu Gln Lys
290 295 300

Leu Leu Cys Asn Glu Ile Glu Lys Ile Tyr Gln Tyr Leu Phe Ile Asp
305 310 315 320

Asp Trp Leu Leu Leu Gln Ser Ile Leu Asn Thr Asp Val Glu Lys Thr
325 330 335

Lys Ile Ala Leu Ser Asp Arg Glu Leu Val Asn Cys Ile Leu Glu Arg
340 345 350

20080423_F_59071_PCT_sequence_listing.txt

Lys Leu Tyr His Met Gly Asp Asp Leu Asn Glu Met Val Asn Asp Thr
355 360 365

Leu Gly Lys Glu Ile Leu Leu Lys Arg Leu Phe Leu Tyr Trp Thr Leu
370 375 380

Arg Tyr Asn Asp Thr Ile Ser Leu Asn Gly Lys His Thr Phe Ser Glu
385 390 395 400

Lys Trp Gly Val Asn Asn Ile Ser Leu Leu Lys Tyr Asn Ser Glu Leu
405 410 415

Val Ala Thr Lys Asp Ile Gln
420

<210> 121
<211> 382
<212> PRT
<213> Saccharomyces cerevisiae

<400> 121

Met Ala Ser Asn Gln His Ile Gly Ala Ser Asn Leu Asn Glu Asn Glu
1 5 10 15

Ala Ile Leu Thr Asn Arg Val Ala Glu Leu Glu Arg Arg Met Ser Met
20 25 30

Phe Glu Gly Ile Phe His Ala Leu Ser Asn Arg Leu Asp Leu His Phe
35 40 45

Lys Lys Tyr Asp Val Val Val Asn Ser Gln Gln Gln Gln Ile Asn Glu
50 55 60

Leu Thr Ala Phe Leu Ser Thr Leu Leu Asn Asp Gln Gln Arg His Ala
65 70 75 80

Glu Ile Leu Ser Glu Lys Leu Ser Gly Thr Leu His Gly Val Ser Ala
85 90 95

Thr Ser Ile Ser Leu Ser Gln Thr Leu Asp Pro Gln Gly Phe Thr Asp
100 105 110

Gly Thr Thr Ala Pro Gly Ala Pro Arg Asn Tyr Thr Ser Val Pro Met
115 120 125

Asn Asn Asp Gln Thr Ala His Pro Gln Asn Glu Gly Ala Val Ser Asn
130 135 140

Glu Thr Leu Phe Glu Asp Ile Leu Asn Gly Asn Ser Gln Glu Asn Asp
145 150 155 160

Lys Ser Gln Gln Gln Thr Asn Ser Ser Asn Ser Ile Ser Gln Glu Asn
165 170 175

20080423_F_59071_PCT_sequence_listing.txt

Asn Ser Thr Asn Pro Ser Val Asp Thr Arg Phe Asn Lys Pro Gln Asn
180 185 190

Tyr Asn Ser Asn Leu Val Pro Ser Leu Glu Glu Tyr Ser Ala Asn Pro
195 200 205

Pro Asn Asn Asp Gly Gly Gln Ser Gln Gly Leu Tyr Ile Ser Ser Asn
210 215 220

Ser Ser Gln Ser Arg Gln Ser Pro Asn Leu Gln Lys Val Ser Pro Asn
225 230 235 240

His Glu Asn Ala Val Glu Ser Asn Ala Gln Glu Ser Val Pro Thr Phe
245 250 255

Glu Glu Glu Gln Tyr Glu Thr Lys Thr Gly Leu Lys Arg Lys Arg Ile
260 265 270

Val Cys Thr Arg Pro Phe Glu Phe Ile Lys Ser Pro His Ser Val Met
275 280 285

Glu Val Trp Lys Glu Tyr Thr Glu Gly Val Asn Gly Gln Pro Ser Ile
290 295 300

Arg Lys Met Glu Ala Leu Tyr Gln Thr Ala Trp Arg Arg Asp Pro Ala
305 310 315 320

Val Asn Lys Arg Tyr Ser Arg Arg Lys Val Leu Trp Lys Ala Ile Gln
325 330 335

Thr Gly Leu Asn Arg Gly Tyr Ser Leu Asn Tyr Val Val Glu Ile Leu
340 345 350

Glu Asn Ser Arg Tyr Val Asn Asp Lys Gln Lys Val Lys Gln Pro Ile
355 360 365

Gly Trp Leu Cys His Ser Ser His Ile Pro Glu Thr Leu Lys
370 375 380

<210> 122

<211> 587

<212> PRT

<213> Saccharomyces cerevisiae

<400> 122

Met Ala Asn Arg Leu Leu Ile Tyr Gly Leu Ile Leu Trp Val Ser Ile
1 5 10 15

Ile Gly Ser Phe Ala Leu Asp Arg Asn Lys Thr Ala Gln Asn Ala Lys
20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Ile Gly Leu His Asp Thr Thr Val Ile Thr Thr Gly Ser Thr Thr Asn
35 40 45

Val Gln Lys Glu His Ser Ser Pro Leu Ser Thr Gly Ser Leu Arg Thr
50 55 60

His Asp Phe Arg Gln Ala Ser Lys Val Asp Ile Arg Gln Ala Asp Ile
65 70 75 80

Arg Glu Asn Gly Glu Arg Lys Glu Gln Asp Ala Leu Thr Gln Pro Ala
85 90 95

Thr Pro Arg Asn Pro Gly Asp Ser Ser Asn Ser Phe Leu Ser Phe Asp
100 105 110

Glu Trp Lys Lys Val Lys Ser Lys Glu His Ser Ser Gly Pro Glu Arg
115 120 125

His Leu Ser Arg Val Arg Glu Pro Val Asp Pro Ser Cys Tyr Lys Glu
130 135 140

Lys Glu Cys Ile Gly Glu Glu Leu Glu Ile Asp Leu Gly Phe Leu Thr
145 150 155 160

Asn Lys Asn Glu Trp Ser Glu Arg Glu Glu Asn Gln Lys Gly Phe Asn
165 170 175

Glu Glu Lys Asp Ile Glu Lys Val Tyr Lys Lys Lys Phe Asn Tyr Ala
180 185 190

Ser Leu Asp Cys Ala Ala Thr Ile Val Lys Ser Asn Pro Glu Ala Ile
195 200 205

Gly Ala Thr Ser Thr Leu Ile Glu Ser Lys Asp Lys Tyr Leu Leu Asn
210 215 220

Pro Cys Ser Ala Pro Gln Gln Phe Ile Val Ile Glu Leu Cys Glu Asp
225 230 235 240

Ile Leu Val Glu Glu Ile Glu Ile Ala Asn Tyr Glu Phe Phe Ser Ser
245 250 255

Thr Phe Lys Arg Phe Arg Val Ser Val Ser Asp Arg Ile Pro Met Val
260 265 270

Lys Asn Glu Trp Thr Ile Leu Gly Glu Phe Glu Ala Arg Asn Ser Arg
275 280 285

Glu Leu Gln Lys Phe Gln Ile His Asn Pro Gln Ile Trp Ala Ser Tyr
290 295 300

Leu Lys Ile Glu Ile Leu Ser His Tyr Glu Asp Glu Phe Tyr Cys Pro
Seite 184

305 310 315 320
 Ile Ser Leu Ile Lys Val Tyr Gly Lys Ser Met Met Asp Glu Phe Lys
 325 330 335
 Ile Asp Gln Leu Lys Ala Gln Glu Asp Lys Glu Gln Ser Ile Gly Thr
 340 345 350
 Asn Asn Ile Asn Asn Leu Asn Glu Gln Asn Ile Gln Asp Arg Cys Asn
 355 360 365
 Asn Ile Glu Thr Arg Leu Glu Thr Pro Asn Thr Ser Asn Leu Ser Asp
 370 375 380
 Leu Ala Gly Ala Leu Ser Cys Thr Ser Lys Leu Ile Pro Leu Lys Phe
 385 390 395 400
 Asp Glu Phe Phe Lys Val Leu Asn Ala Ser Phe Cys Pro Ser Lys Gln
 405 410 415
 Met Ile Ser Ser Ser Ser Ser Ser Ala Val Pro Val Ile Pro Glu Glu
 420 425 430
 Ser Ile Phe Lys Asn Ile Met Lys Arg Leu Ser Gln Leu Glu Thr Asn
 435 440 445
 Ser Ser Leu Thr Val Ser Tyr Ile Glu Glu Gln Ser Lys Leu Leu Ser
 450 455 460
 Lys Ser Phe Glu Gln Leu Glu Met Ala His Glu Ala Lys Phe Ser His
 465 470 475 480
 Leu Val Thr Ile Phe Asn Glu Thr Met Met Ser Asn Leu Asp Leu Leu
 485 490 495
 Asn Asn Phe Ala Asn Gln Leu Lys Asp Gln Ser Leu Arg Ile Leu Glu
 500 505 510
 Glu Gln Lys Leu Glu Asn Asp Lys Phe Thr Asn Arg His Leu Leu His
 515 520 525
 Leu Glu Arg Leu Glu Lys Glu Val Ser Phe Gln Arg Arg Ile Val Tyr
 530 535 540
 Ala Ser Phe Phe Ala Phe Val Gly Leu Ile Ser Tyr Leu Leu Ile Thr
 545 550 555 560
 Arg Glu Leu Tyr Phe Glu Asp Phe Glu Glu Ser Lys Asn Gly Ala Ile
 565 570 575
 Glu Lys Ala Asp Ile Val Gln Gln Ala Ile Arg
 580 585

20080423_F_59071_PCT_sequence_listing.txt

<210> 123
 <211> 106
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 123

Met Ser Thr Leu Leu Lys Ser Ala Lys Ser Ile Val Pro Leu Met Asp
 1 5 10 15
 Arg Val Leu Val Gln Arg Ile Lys Ala Gln Ala Lys Thr Ala Ser Gly
 20 25 30
 Leu Tyr Leu Pro Glu Lys Asn Val Glu Lys Leu Asn Gln Ala Glu Val
 35 40 45
 Val Ala Val Gly Pro Gly Phe Thr Asp Ala Asn Gly Asn Lys Val Val
 50 55 60
 Pro Gln Val Lys Val Gly Asp Gln Val Leu Ile Pro Gln Phe Gly Gly
 65 70 75 80
 Ser Thr Ile Lys Leu Gly Asn Asp Asp Glu Val Ile Leu Phe Arg Asp
 85 90 95
 Ala Glu Ile Leu Ala Lys Ile Ala Lys Asp
 100 105

<210> 124
 <211> 534
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 124

Met Ser Ser Asp Glu Glu Asp Phe Asn Asp Ile Tyr Gly Asp Asp Lys
 1 5 10 15
 Pro Thr Thr Thr Glu Glu Val Lys Lys Glu Glu Glu Gln Asn Lys Ala
 20 25 30
 Gly Ser Gly Thr Ser Gln Leu Asp Gln Leu Ala Ala Leu Gln Ala Leu
 35 40 45
 Ser Ser Ser Leu Asn Lys Leu Asn Asn Pro Asn Ser Asn Asn Ser Ser
 50 55 60
 Ser Asn Asn Ser Asn Gln Asp Thr Ser Ser Ser Lys Gln Asp Gly Thr
 65 70 75 80
 Ala Asn Asp Lys Glu Gly Ser Asn Glu Asp Thr Lys Asn Glu Lys Lys
 85 90 95
 Gln Glu Ser Ala Thr Ser Ala Asn Ala Asn Ala Asn Ala Ser Ser Ala
 100 105
 Seite 186

100

105

110

Gly Pro Ser Gly Leu Pro Trp Glu Gln Leu Gln Gln Thr Met Ser Gln
 115 120 125

Phe Gln Gln Pro Ser Ser Gln Ser Pro Pro Gln Gln Gln Val Thr Gln
 130 135 140

Thr Lys Glu Glu Arg Ser Lys Ala Asp Leu Ser Lys Glu Ser Cys Lys
 145 150 155 160

Met Phe Ile Gly Gly Leu Asn Trp Asp Thr Thr Glu Asp Asn Leu Arg
 165 170 175

Glu Tyr Phe Gly Lys Tyr Gly Thr Val Thr Asp Leu Lys Ile Met Lys
 180 185 190

Asp Pro Ala Thr Gly Arg Ser Arg Gly Phe Gly Phe Leu Ser Phe Glu
 195 200 205

Lys Pro Ser Ser Val Asp Glu Val Val Lys Thr Gln His Ile Leu Asp
 210 215 220

Gly Lys Val Ile Asp Pro Lys Arg Ala Ile Pro Arg Asp Glu Gln Asp
 225 230 235 240

Lys Thr Gly Lys Ile Phe Val Gly Gly Ile Gly Pro Asp Val Arg Pro
 245 250 255

Lys Glu Phe Glu Glu Phe Phe Ser Gln Trp Gly Thr Ile Ile Asp Ala
 260 265 270

Gln Leu Met Leu Asp Lys Asp Thr Gly Gln Ser Arg Gly Phe Gly Phe
 275 280 285

Val Thr Tyr Asp Ser Ala Asp Ala Val Asp Arg Val Cys Gln Asn Lys
 290 295 300

Phe Ile Asp Phe Lys Asp Arg Lys Ile Glu Ile Lys Arg Ala Glu Pro
 305 310 315 320

Arg His Met Gln Gln Lys Ser Ser Asn Asn Gly Gly Asn Asn Gly Gly
 325 330 335

Asn Asn Met Asn Arg Arg Gly Gly Asn Phe Gly Asn Gln Gly Asp Phe
 340 345 350

Asn Gln Met Tyr Gln Asn Pro Met Met Gly Gly Tyr Asn Pro Met Met
 355 360 365

Asn Pro Gln Ala Met Thr Asp Tyr Tyr Gln Lys Met Gln Glu Tyr Tyr
 370 375 380

20080423_F_59071_PCT_sequence_listing.txt

Gln Gln Met Gln Lys Gln Thr Gly Met Asp Tyr Thr Gln Met Tyr Gln
385 390 395 400

Gln Gln Met Gln Gln Met Ala Met Met Met Pro Gly Phe Ala Met Pro
405 410 415

Pro Asn Ala Met Thr Leu Asn Gln Pro Gln Gln Asp Ser Asn Ala Thr
420 425 430

Gln Gly Ser Pro Ala Pro Ser Asp Ser Asp Asn Asn Lys Ser Asn Asp
435 440 445

Val Gln Thr Ile Gly Asn Thr Ser Asn Thr Asp Ser Gly Ser Pro Pro
450 455 460

Leu Asn Leu Pro Asn Gly Pro Lys Gly Pro Ser Gln Tyr Asn Asp Asp
465 470 475 480

His Asn Ser Gly Tyr Gly Tyr Asn Arg Asp Arg Gly Asp Arg Asp Arg
485 490 495

Asn Asp Arg Asp Arg Asp Tyr Asn His Arg Ser Gly Gly Asn His Arg
500 505 510

Arg Asn Gly Arg Gly Gly Arg Gly Gly Tyr Asn Arg Arg Asn Asn Gly
515 520 525

Tyr His Pro Tyr Asn Arg
530

<210> 125
<211> 102
<212> PRT
<213> Saccharomyces cerevisiae

<400> 125

Met Ser Phe Arg Lys Lys Lys Leu Lys Pro Pro Ala Gly Ser Gln Phe
1 5 10 15

Ile Ile Asn Asp Ser Ile Met Ser Tyr Ile Asp Arg Thr Lys Thr Leu
20 25 30

Ile Arg Met Ile Gly Cys Lys Asn Gln Tyr Ile Lys Ala Arg Met Lys
35 40 45

Asp Lys Thr Phe Phe Tyr Thr Lys Gln Phe Arg Thr Ala Lys Asn Lys
50 55 60

Phe Phe Phe His Leu Tyr His Trp Glu Ala Thr His Ile Asn Val Asp
65 70 75 80

His Tyr Ile Cys Thr Cys His Pro Ile Phe Trp Gly Ser Ile Gly Gln
 85 90 95

Lys Leu Arg Arg Ser Ala
 100

<210> 126

<211> 486

<212> PRT

<213> Saccharomyces cerevisiae

<400> 126

Met Ser His Thr Leu Lys Ser Lys Thr Leu Gln Glu Leu Asp Ile Glu
 1 5 10 15

Glu Ile Lys Glu Thr Asn Pro Leu Leu Lys Leu Val Gln Gly Gln Arg
 20 25 30

Ile Val Gln Val Pro Glu Leu Val Leu Glu Ser Gly Val Val Ile Asn
 35 40 45

Asn Phe Pro Ile Ala Tyr Lys Thr Trp Gly Thr Leu Asn Glu Ala Gly
 50 55 60

Asp Asn Val Leu Val Ile Cys His Ala Leu Thr Gly Ser Ala Asp Val
 65 70 75 80

Ala Asp Trp Trp Gly Pro Leu Leu Gly Asn Asp Leu Ala Phe Asp Pro
 85 90 95

Ser Arg Phe Phe Ile Ile Cys Leu Asn Ser Met Gly Ser Pro Tyr Gly
 100 105 110

Ser Phe Ser Pro Leu Thr Ile Asn Glu Glu Thr Gly Val Arg Tyr Gly
 115 120 125

Pro Glu Phe Pro Leu Cys Thr Val Arg Asp Asp Val Arg Ala His Arg
 130 135 140

Ile Val Leu Asp Ser Leu Gly Val Lys Ser Ile Ala Cys Val Ile Gly
 145 150 155 160

Gly Ser Met Gly Gly Met Leu Ser Leu Glu Trp Ala Ala Met Tyr Gly
 165 170 175

Lys Glu Tyr Val Lys Asn Met Val Ala Leu Ala Thr Ser Ala Arg His
 180 185 190

Ser Ala Trp Cys Ile Ser Trp Ser Glu Ala Gln Arg Gln Ser Ile Tyr
 195 200 205

Ser Asp Pro Asn Tyr Leu Asp Gly Tyr Tyr Pro Val Glu Glu Gln Pro
 210 215 220

20080423_F_59071_PCT_sequence_listing.txt

Val Ala Gly Leu Ser Ala Ala Arg Met Ser Ala Leu Leu Thr Tyr Arg
 225 230 235 240
 Thr Arg Asn Ser Phe Glu Asn Lys Phe Ser Arg Arg Ser Pro Ser Ile
 245 250 255
 Ala Gln Gln Gln Lys Ala Gln Arg Glu Glu Thr Arg Lys Pro Ser Thr
 260 265 270
 Val Ser Glu His Ser Leu Gln Ile His Asn Asp Gly Tyr Lys Thr Lys
 275 280 285
 Ala Ser Thr Ala Ile Ala Gly Ile Ser Gly Gln Lys Gly Gln Ser Val
 290 295 300
 Val Ser Thr Ala Ser Ser Ser Asp Ser Leu Asn Ser Ser Thr Ser Met
 305 310 315 320
 Thr Ser Val Ser Ser Val Thr Gly Glu Val Lys Asp Ile Lys Pro Ala
 325 330 335
 Gln Thr Tyr Phe Ser Ala Gln Ser Tyr Leu Arg Tyr Gln Gly Thr Lys
 340 345 350
 Phe Ile Asn Arg Phe Asp Ala Asn Cys Tyr Ile Ala Ile Thr Arg Lys
 355 360 365
 Leu Asp Thr His Asp Leu Ala Arg Asp Arg Val Asp Asp Ile Thr Glu
 370 375 380
 Val Leu Ser Thr Ile Gln Gln Pro Ser Leu Ile Ile Gly Ile Gln Ser
 385 390 395 400
 Asp Gly Leu Phe Thr Tyr Ser Glu Gln Glu Phe Leu Ala Glu His Ile
 405 410 415
 Pro Lys Ser Gln Leu Glu Lys Ile Glu Ser Pro Glu Gly His Asp Ala
 420 425 430
 Phe Leu Leu Glu Phe Lys Leu Ile Asn Lys Leu Ile Val Gln Phe Leu
 435 440 445
 Lys Thr Asn Cys Lys Ala Ile Thr Asp Ala Ala Pro Arg Ala Trp Gly
 450 455 460
 Gly Asp Val Gly Asn Asp Glu Thr Lys Thr Ser Val Phe Gly Glu Ala
 465 470 475 480
 Glu Glu Val Thr Asn Trp
 485

20080423_F_59071_PCT_sequence_listing.txt

<210> 127
 <211> 224
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 127

Met Lys Ile Leu Thr Gln Asp Glu Ile Glu Ala His Arg Ser His Thr
 1 5 10 15

Leu Lys Gly Gly Ile Glu Gly Ala Leu Ala Gly Phe Ala Ile Ser Ala
 20 25 30

Ile Ile Phe Lys Val Leu Pro Arg Arg Tyr Pro Lys Phe Lys Pro Ser
 35 40 45

Thr Leu Thr Trp Ser Ile Lys Thr Ala Leu Trp Ile Thr Pro Pro Thr
 50 55 60

Val Leu Thr Ala Ile Cys Ala Glu Glu Ala Ser Asn Asn Phe Asp Ala
 65 70 75 80

Thr Met Tyr Gly Ser Gly Ser Ser Ser Glu Asp Ala Leu Asp Glu His
 85 90 95

Arg Arg Trp Lys Ser Leu Ser Thr Lys Asp Lys Phe Val Glu Gly Leu
 100 105 110

Ser Asn Asn Lys Tyr Lys Ile Ile Thr Gly Ala Trp Ala Ala Ser Leu
 115 120 125

Tyr Gly Ser Trp Val Ile Val Asn Lys Asp Pro Ile Met Thr Lys Ala
 130 135 140

Gln Lys Ile Val Gln Ala Arg Met Tyr Ala Gln Phe Ile Thr Val Gly
 145 150 155 160

Leu Leu Leu Ala Ser Val Gly Leu Ser Met Tyr Glu Asn Lys Leu His
 165 170 175

Pro Asn Lys Gln Lys Val Asn Glu Met Arg Arg Trp Glu Asn Ala Leu
 180 185 190

Arg Val Ala Glu Glu Glu Glu Arg Leu Glu Lys Glu Gly Arg Arg Thr
 195 200 205

Gly Tyr Val Ser Asn Glu Glu Arg Ile Asn Ser Lys Ile Phe Lys Ser
 210 215 220

<210> 128
 <211> 429
 <212> PRT
 <213> Saccharomyces cerevisiae

20080423_F_59071_PCT_sequence_listing.txt

<400> 128

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Met Ser Ala Leu Arg Asn Ile Lys Phe Asn Glu Glu Glu Asp Gly Glu
1      5      10      15
Leu Pro Cys Leu Val Thr Gly Glu Glu Asn Asn Leu Gln Glu Ile Leu
20      25      30
Glu Asn Val Ser Tyr Asp Gly Gly Asn Ile Val Ser Asp Ala Lys Val
35      40      45
Glu Arg Val Asn Lys Gln Val Glu Asn Thr Ser Ala Gly Ala Thr Asp
50      55      60
Val His Glu Lys Lys Arg Ile Pro Val Ser Ile Ile Thr Gly Tyr Leu
65      70      75      80
Gly Ser Gly Lys Ser Thr Leu Leu Glu Lys Ile Ala Leu Lys Gly Ala
85      90      95
Asp Lys Lys Ile Ala Val Ile Leu Asn Glu Phe Gly Asp Ser Ser Glu
100     105     110
Ile Glu Lys Ala Met Thr Ile Lys Asn Gly Ser Asn Ser Tyr Gln Glu
115     120     125
Trp Leu Asp Leu Gly Asn Gly Cys Leu Cys Cys Ser Leu Lys Asn Ile
130     135     140
Gly Val Lys Ala Ile Glu Asp Met Val Glu Arg Ser Pro Gly Lys Ile
145     150     155     160
Asp Tyr Ile Leu Leu Glu Thr Ser Gly Ile Ala Asp Pro Ala Pro Ile
165     170     175
Ala Lys Met Phe Trp Gln Asp Glu Gly Leu Asn Ser Ser Val Tyr Ile
180     185     190
Asp Gly Ile Ile Thr Val Leu Asp Cys Glu His Ile Leu Lys Cys Leu
195     200     205
Asp Asp Ile Ser Ile Asp Ala His Trp His Gly Asp Lys Val Gly Leu
210     215     220
Glu Gly Asn Leu Thr Ile Ala His Phe Gln Leu Ala Met Ala Asp Arg
225     230     235     240
Ile Ile Met Asn Lys Tyr Asp Thr Ile Glu His Ser Pro Glu Met Val
245     250     255
Lys Gln Leu Lys Glu Arg Val Arg Glu Ile Asn Ser Ile Ala Pro Met
260     265     270

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20080423_F_59071_PCT_sequence_listing.txt

Phe Phe Thr Lys Tyr Ser Asp Thr Pro Ile Gln Asn Leu Leu Asp Ile
275 280 285

His Ala Tyr Asp Ser Val Arg Ile Ser Asp Ile Leu Asp Ser Gly Ser
290 295 300

Gly Asn Gly Thr Ile His Asp Asp Arg Met Gly Thr Ile Met Leu Thr
305 310 315 320

Phe Arg Pro Leu Lys Asn Glu Glu Glu Tyr Asn Asn Lys Phe Ile Lys
325 330 335

Gln Phe Leu Gln Pro Leu Leu Trp Lys Asn Phe Gly Ala Met Thr Val
340 345 350

Leu Gly Gly Arg Arg Arg Asp Asp Gly Arg Asp Trp Glu Val Gln Arg
355 360 365

Thr Lys Gly Leu Ile Leu Ile Glu Gly Glu Asn Pro Ile Ala Arg Val
370 375 380

Ile Gln Gly Val Arg Asp Thr Tyr Asp Val Phe Pro Gly Lys Tyr Asp
385 390 395 400

Gly Ser Asn Lys Glu Cys Lys Ile Val Leu Ile Gly Lys Tyr Leu Glu
405 410 415

Lys Glu Ser Ile Glu Glu Leu Leu Arg Lys Thr Leu Glu
420 425

<210> 129
<211> 222
<212> PRT
<213> Saccharomyces cerevisiae
<400> 129

Met Thr Val Val Ile Gly Val Leu Ala Leu Gln Gly Ala Phe Ile Glu
1 5 10 15

His Val Arg His Val Glu Lys Cys Ile Val Glu Asn Arg Asp Phe Tyr
20 25 30

Glu Lys Lys Leu Ser Val Met Thr Val Lys Asp Lys Asn Gln Leu Ala
35 40 45

Gln Cys Asp Ala Leu Ile Ile Pro Gly Gly Glu Ser Thr Ala Met Ser
50 55 60

Leu Ile Ala Glu Arg Thr Gly Phe Tyr Asp Asp Leu Tyr Ala Phe Val
65 70 75 80

His Asn Pro Ser Lys Val Thr Trp Gly Thr Cys Ala Gly Met Ile Tyr
Seite 193

Ile Ser Gln Gln Leu Ser Asn Glu Glu Lys Leu Val Lys Thr Leu Asn
100 105 110

Leu Leu Lys Val Lys Val Lys Arg Asn Ala Phe Gly Arg Gln Ala Gln
115 120 125

Ser Ser Thr Arg Ile Cys Asp Phe Ser Asn Phe Ile Pro His Cys Asn
130 135 140

Asp Phe Pro Ala Thr Phe Ile Arg Ala Pro Val Ile Glu Glu Val Leu
145 150 155 160

Asp Pro Glu His Val Gln Val Leu Tyr Lys Leu Asp Gly Lys Asp Asn
165 170 175

Gly Gly Gln Glu Leu Ile Val Ala Ala Lys Gln Lys Asn Asn Ile Leu
180 185 190

Ala Thr Ser Phe His Pro Glu Leu Ala Glu Asn Asp Ile Arg Phe His
195 200 205

Asp Trp Phe Ile Arg Glu Phe Val Leu Lys Asn Tyr Ser Lys
210 215 220

<210> 130
<211> 108
<212> PRT
<213> Saccharomyces cerevisiae
<400> 130

Met Ser Ile Glu Asn Leu Lys Ser Phe Asp Pro Phe Ala Asp Thr Gly
1 5 10 15

Asp Asp Glu Thr Ala Thr Ser Asn Tyr Ile His Ile Arg Ile Gln Gln
20 25 30

Arg Asn Gly Arg Lys Thr Leu Thr Thr Val Gln Gly Val Pro Glu Glu
35 40 45

Tyr Asp Leu Lys Arg Ile Leu Lys Val Leu Lys Lys Asp Phe Ala Cys
50 55 60

Asn Gly Asn Ile Val Lys Asp Pro Glu Met Gly Glu Ile Ile Gln Leu
65 70 75 80

Gln Gly Asp Gln Arg Ala Lys Val Cys Glu Phe Met Ile Ser Gln Leu
85 90 95

Gly Leu Gln Lys Lys Asn Ile Lys Ile His Gly Phe
100 105

20080423_F_59071_PCT_sequence_listing.txt

<210> 131
 <211> 118
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 131

Met Lys Leu Pro Gln Thr Met Leu Arg Ser Ile Ser Val Lys His Val
 1 5 10 15

Arg Trp Pro Arg Ile Leu Thr Gly Ser Lys Leu Trp Tyr Ser Thr Gln
 20 25 30

Met Ala Met Thr Pro Glu Glu Lys Met Ile Thr Asp Lys Leu Gln Gln
 35 40 45

Glu Leu Glu Pro Glu Val Cys Lys Val Gln Asp Val Ser Gly Gly Cys
 50 55 60

Gly Ser Met Phe Ala Ile Asn Ile Thr Ser Lys Lys Phe Asn Gly Leu
 65 70 75 80

Ser Leu Ile Lys Gln His Gln Leu Val Asn Arg Ile Leu Arg Asp Asp
 85 90 95

Ile Ser Arg Trp His Gly Leu Gln Leu Thr Thr Lys Lys Ser Thr Gly
 100 105 110

Lys Gly Pro Ala Ser Ser
 115

<210> 132
 <211> 195
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 132

Met Ser Gly Ser Leu Lys Ser Leu Asp Lys Lys Ile Ala Lys Arg Arg
 1 5 10 15

Gln Val Tyr Lys Pro Val Leu Asp Asn Pro Phe Thr Asn Glu Ala His
 20 25 30

Met Trp Pro Arg Val His Asp Gln Pro Leu Ile Trp Gln Leu Leu Gln
 35 40 45

Ser Ser Ile Ile Asn Lys Leu Ile His Ile Gln Ser Lys Glu Asn Tyr
 50 55 60

Pro Trp Glu Leu Tyr Thr Asp Phe Asn Glu Ile Val Gln Tyr Leu Ser
 65 70 75 80

Gly Ala His Gly Asn Ser Asp Pro Val Cys Leu Phe Val Cys Asn Lys
 85 90 95

20080423_F_59071_PCT_sequence_listing.txt

Asp Pro Asp Val Pro Leu Val Leu Leu Gln Gln Ile Pro Leu Leu Cys
100 105 110

Tyr Met Ala Pro Met Thr Val Lys Leu Val Gln Leu Pro Lys Ser Ala
115 120 125

Met Asp Thr Phe Lys Ser Val Ser Lys Tyr Gly Met Leu Leu Leu Arg
130 135 140

Cys Asp Asp Arg Val Asp Lys Lys Phe Val Ser Gln Ile Gln Lys Asn
145 150 155 160

Val Asp Leu Leu Gln Phe Pro Trp Leu Asn Ala Ile Lys Tyr Arg Pro
165 170 175

Thr Ser Val Lys Leu Leu Lys Thr Thr Val Pro Ile Val Ser Lys Lys
180 185 190

Arg Gln Lys
195

<210> 133
<211> 501
<212> PRT
<213> Saccharomyces cerevisiae
<400> 133

Met Leu Leu Gln Gly Met Arg Leu Ser Gln Arg Leu His Lys Arg His
1 5 10 15

Leu Phe Ala Ser Lys Ile Leu Thr Trp Thr Thr Asn Pro Ala His Ile
20 25 30

Arg His Leu His Asp Ile Arg Pro Pro Ala Ser Asn Phe Asn Thr Gln
35 40 45

Glu Ser Ala Pro Ile Pro Glu Ser Pro Ala Asn Ser Pro Thr Arg Pro
50 55 60

Gln Met Ala Pro Lys Pro Asn Leu Lys Lys Lys Asn Arg Ser Leu Met
65 70 75 80

Tyr Ser Ile Ile Gly Val Ser Ile Val Gly Leu Tyr Phe Trp Phe Lys
85 90 95

Ser Asn Ser Arg Lys Gln Lys Leu Pro Leu Ser Ala Gln Lys Val Trp
100 105 110

Lys Glu Ala Ile Trp Gln Glu Ser Asp Lys Met Asp Phe Asn Tyr Lys
115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Glu Ala Leu Arg Arg Tyr Ile Glu Ala Leu Asp Glu Cys Asp Arg Ser
130 135 140

His Val Asp Leu Leu Ser Asp Asp Tyr Thr Arg Ile Glu Leu Lys Ile
145 150 155 160

Ala Glu Met Tyr Glu Lys Leu Asn Met Leu Glu Glu Ala Gln Asn Leu
165 170 175

Tyr Gln Glu Leu Leu Ser Arg Phe Phe Glu Ala Leu Asn Val Pro Gly
180 185 190

Lys Val Asp Glu Ser Glu Arg Gly Glu Val Leu Arg Lys Asp Leu Arg
195 200 205

Ile Leu Ile Lys Ser Leu Glu Ile Asn Lys Asp Ile Glu Ser Gly Lys
210 215 220

Arg Lys Leu Leu Gln His Leu Leu Leu Ala Gln Glu Glu Ile Leu Ser
225 230 235 240

Lys Ser Pro Glu Leu Lys Glu Phe Phe Glu Asn Arg Lys Lys Lys Leu
245 250 255

Ser Met Val Lys Asp Ile Asn Arg Asp Pro Asn Asp Asp Phe Lys Thr
260 265 270

Phe Val Ser Glu Glu Asn Ile Lys Phe Asp Glu Gln Gly Tyr Met Ile
275 280 285

Leu Asp Leu Glu Lys Asn Ser Ser Ala Trp Glu Pro Phe Lys Glu Glu
290 295 300

Phe Phe Thr Ala Arg Asp Leu Tyr Thr Ala Tyr Cys Leu Ser Ser Lys
305 310 315 320

Asp Ile Ala Ala Ala Leu Ser Cys Lys Ile Thr Ser Val Glu Trp Met
325 330 335

Val Met Ala Asp Met Pro Pro Gly Gln Ile Leu Leu Ser Gln Ala Asn
340 345 350

Leu Gly Ser Leu Phe Tyr Leu Gln Ala Glu Lys Leu Glu Ala Asp Leu
355 360 365

Asn Gln Leu Glu Gln Lys Lys Ser Lys Glu Ser Asn Gln Glu Leu Asp
370 375 380

Met Gly Thr Tyr Ile Lys Ala Val Arg Phe Val Arg Lys Asn Arg Asp
385 390 395 400

Leu Cys Leu Glu Arg Ala Gln Lys Cys Tyr Asp Ser Val Ile Ala Phe
Seite 197

Ala Lys Arg Asn Arg Lys Ile Arg Phe His Val Lys Asp Gln Leu Asp
420 425 430

Pro Ser Ile Ala Gln Ser Ile Ala Leu Ser Thr Tyr Gly Met Gly Val
435 440 445

Leu Ser Leu His Glu Gly Val Leu Ala Lys Ala Glu Lys Leu Phe Lys
450 455 460

Asp Ser Ile Thr Met Ala Lys Glu Thr Glu Phe Asn Glu Leu Leu Ala
465 470 475 480

Glu Ala Glu Lys Glu Leu Glu Lys Thr Thr Val Leu Lys Ala Ala Lys
485 490 495

Lys Glu Gly Leu Asn
500

<210> 134
<211> 522
<212> PRT
<213> Saccharomyces cerevisiae
<400> 134

Met Leu Leu Ile Arg Arg Thr Ile Asn Ala Phe Leu Gly Cys Ile His
1 5 10 15

Cys Asn Leu Thr Ala Thr Cys Ile Leu Ile Ala Phe Val Ile Thr Met
20 25 30

Tyr Val Val Leu Val Ser Glu Pro Ala Ser Val Asp Gly Thr Met Gly
35 40 45

Asn Phe Leu Pro Phe Ser Lys Met Asp Leu Ala Thr Lys Arg Asp Arg
50 55 60

Pro Phe Tyr Ser Asn Cys Val Asn Thr Gln Asp Tyr Leu Leu Asn Pro
65 70 75 80

Ser Tyr Ile Lys Gln Asn Ala Ser Phe Val Met Leu Thr Arg Asn Gly
85 90 95

Glu Leu Glu Asp Val Ile Lys Thr Ile Asn Ser Ile Glu Glu His Phe
100 105 110

Asn Gln Trp Phe His Tyr Pro Tyr Val Phe Leu Asn Asp Gln Pro Phe
115 120 125

Glu Glu Asp Phe Lys Ala Lys Val Arg Asp Val Thr Val Gly Ala Leu
130 135 140

20080423_F_59071_PCT_sequence_listing.txt

Val Glu Phe Gly Thr Ile Asp Glu Ile Ser Trp Asn Phe Pro Ser Asp
145 150 155 160

Val Lys Asp Thr Phe Glu Phe Tyr Asn Ala Ile Glu Asp Gln Gly Asp
165 170 175

Arg Ser Ile Leu Tyr Gly Asn Leu Glu Ser Tyr His Lys Met Cys Arg
180 185 190

Phe Tyr Ser Gly Leu Phe Tyr Lys His Pro Leu Val Gln Lys Tyr Glu
195 200 205

Trp Tyr Trp Arg Leu Glu Pro Asp Val Glu Phe Phe Cys Asp Ile Thr
210 215 220

Tyr Asp Pro Phe Leu Glu Met Leu Arg Thr Asn Lys Lys Tyr Gly Phe
225 230 235 240

Thr Ile Ile Ile Pro Glu Leu Tyr Trp Thr Val Pro Asn Leu Phe Arg
245 250 255

His Thr Lys Ser Phe Ile Ser Gln Lys Gly Val Thr Leu Gly Ser Leu
260 265 270

Trp Lys Leu Phe Thr Lys Asp Tyr Asp Ile Phe Glu Ser Asp Asp Pro
275 280 285

Glu Leu Arg Asp Trp Ile Asn Tyr Asp Phe Gln Ala Lys Ala Lys Ile
290 295 300

Ser Glu Lys Ile Ala Ile Glu Gln Leu Leu Lys Lys Gly Asp Asp Phe
305 310 315 320

Gln Gln Ile Asn Asp Asp Lys Glu Gly Ile Met Asn Leu Ile His Lys
325 330 335

Ala Arg Ser Arg Lys His Ile Val Glu Asp Lys Phe Phe Asn Glu Glu
340 345 350

Tyr Asn Leu Cys His Phe Trp Ser Asn Phe Glu Ile Ala Arg Leu Ser
355 360 365

Val Phe Asp Asn Asp Ile Tyr Asn Ser Phe Phe Gln Tyr Leu Glu Lys
370 375 380

Ser Gly Gly Phe Trp Lys Glu Arg Trp Gly Asp Ala Pro Val His Ser
385 390 395 400

Ile Gly Leu Ser Leu Thr Leu Asp Leu Asp Asp Val His Tyr Phe Arg
405 410 415

20080423_F_59071_PCT_sequence_listing.txt

Asp Ile Gly Tyr Arg His Ser Thr Ile Gln His Cys Pro His Asn Ala
420 425 430

Met Gly Asn Glu Glu Phe Ser Tyr Leu Ala Ser Asp Ser Lys Phe Lys
435 440 445

Arg Lys Asn Ala Ala Tyr Asp Glu Gly Arg Glu Phe Gly Cys Gly Cys
450 455 460

Arg Cys Arg Cys Pro Lys Lys Lys Arg Glu Ile Glu Asp Ser Met Gly
465 470 475 480

Phe Cys Val Asn Ile Trp Val Asn Leu Leu Asn Gln Gln Arg Gly His
485 490 495

Glu Arg His Val Glu Ala Leu Asn Gly Asn Glu Met Glu Glu His Ile
500 505 510

Arg Glu Asp Tyr Leu Arg Gln Phe Gly Asn
515 520

<210> 135
<211> 673
<212> PRT
<213> Saccharomyces cerevisiae
<400> 135

Met Ser Thr His Ser Asn Asp Tyr Phe Ser Ala Ser Ser Gly Met Val
1 5 10 15

Ser Glu Thr Ser Ser Glu Val Ser Ser Ile Asn Ser Ser Gln Pro Val
20 25 30

Ser Phe Ser Lys Ala Ser Ile Ala Ala Pro Val Pro Cys Ser Asp Leu
35 40 45

His Ser Thr Lys Ser Asn Asp Ala Ser Arg Lys Leu Ser Ile Ser Arg
50 55 60

Thr Leu Thr Asn Arg Leu Asn Asp Ile Lys Lys Ala Val Asp Asp Asp
65 70 75 80

Asn Leu Gln Thr Glu Glu Asn Ser Ala Asp Val Asn Lys Ile Leu Glu
85 90 95

Ser Arg Phe Asp Val Ala Asp Ala Ile Arg Leu Gln His Asn Glu Ser
100 105 110

Val Gln Ser Lys Leu Asn Ile Pro Val Thr His Thr Thr Thr Ala Gly
115 120 125

Ala Ser Leu Ser Ala Pro Ser Ser Ser Ala Phe Ser Ala Ser Ser Ile
130 135 140

20080423_F_59071_PCT_sequence_listing.txt

Gln Asn Asp Thr Thr Glu His Lys Ala Ser Met Asp Ser Lys Leu Met
145 150 155 160

Arg Asn Arg Leu Tyr Pro Ala Ser Thr Lys His Ser Gly Lys Asp Leu
165 170 175

Glu Ala Gln Gly Ile Thr Glu Phe Glu Pro Asp Glu Pro Thr Val Lys
180 185 190

Lys Val Phe Thr Asn Lys Ser Thr Gly Gln Leu Glu Leu Pro Pro Asp
195 200 205

Gly Gly Tyr Gly Trp Val Val Thr Phe Cys Val Phe Leu Thr Met Phe
210 215 220

Ser Thr Trp Gly Cys Asn Ala Ser Phe Gly Val Asp Leu Ala Tyr Tyr
225 230 235 240

Leu Asn His Asp Thr Tyr Pro Gly Ala Ser Lys Tyr Asp Tyr Ala Leu
245 250 255

Ile Ala Gly Leu Thr Val Phe Leu Gly Gln Leu Leu Ser Pro Leu Val
260 265 270

Met Ala Leu Met Arg Ile Ile Gly Leu Arg Thr Thr Met Leu Phe Gly
275 280 285

Asp Ala Val Met Leu Ala Ala Tyr Leu Leu Ala Ser Phe Thr Thr Lys
290 295 300

Leu Trp Gln Leu Tyr Val Thr Gln Gly Phe Met Val Gly Cys Ser Ile
305 310 315 320

Ser Leu Ile Phe Val Pro Ala Thr Thr Val Leu Pro Gly Trp Phe Leu
325 330 335

Lys Lys Arg Ala Val Ala Met Gly Val Ser Leu Leu Gly Thr Gly Ala
340 345 350

Gly Gly Val Val Tyr Gly Leu Ala Thr Asn Lys Met Leu Ser Asp Phe
355 360 365

Gly Asn Thr Arg Trp Cys Leu Arg Ile Ile Gly Ile Ser Cys Ser Ile
370 375 380

Ser Val Leu Val Ala Ile Ala Leu Leu Lys Glu Arg Asn Pro Thr Pro
385 390 395 400

Ala Ile Gly Leu Lys Ser Pro Arg Ala Met Phe Glu Gln Leu Lys Ala
405 410 415

20080423_F_59071_PCT_sequence_listing.txt

Met Phe Ser Leu Lys Val Ile Thr Lys Pro Phe Val Val Leu Ile Ala
420 425 430

Leu Trp Phe Met Phe Ala Leu Phe Ala Tyr Asn Met Met Val Phe Thr
435 440 445

Leu Ser Ser Tyr Ala Ile Ser Lys Gly Leu Ser Ser His Asp Ala Ser
450 455 460

Thr Leu Thr Ala Ile Leu Asn Gly Ser Gln Ser Ile Gly Arg Pro Leu
465 470 475 480

Met Gly Leu Ala Gly Asp Lys Phe Gly Arg Ala Asn Val Thr Ile Val
485 490 495

Leu Thr Thr Leu Leu Thr Ile Tyr Met Phe Ala Phe Trp Ile Pro Ala
500 505 510

His Thr Phe Val Gln Leu Ile Phe Phe Ser Ile Leu Val Gly Ser Cys
515 520 525

Val Gly Val Ala Asn Val Met Asn Thr Val Leu Ile Ala Asp Met Val
530 535 540

Lys Pro Glu Glu Phe Leu Pro Ala Trp Ala Phe Val Asn Tyr Cys Gly
545 550 555 560

Ala Pro Phe Leu Leu Val Cys Glu Val Ile Ala Gln Ala Leu Thr Val
565 570 575

Glu Lys Asp Lys Ser Asn Pro Tyr Leu His Ala Gln Ile Phe Cys Gly
580 585 590

Cys Cys Phe Ile Ala Ala Leu Ile Leu Ile Ser Ile Leu Arg Glu Tyr
595 600 605

Ser Ile Arg Met Lys Leu Thr Glu Arg Gln Ala Met Thr Asn Glu Lys
610 615 620

Leu Lys Glu Trp Lys Ala Ser Glu Tyr Asp Thr Asp Ser Ala Asp Glu
625 630 635 640

Asp Trp Gly Lys Leu Lys Glu Arg Lys Thr Lys Tyr Asp Leu Leu Leu
645 650 655

Gly Pro Gly Ile Lys Lys Tyr Phe Leu Arg Met Val Tyr Pro Met Lys
660 665 670

Val

20080423_F_59071_PCT_sequence_listing.txt

<210> 136

<211> 584

<212> PRT

<213> Saccharomyces cerevisiae

<400> 136

Met Ser Arg Glu Ala Phe Asp Val Pro Asn Ile Gly Thr Asn Lys Phe
1 5 10 15

Leu Lys Val Thr Pro Asn Leu Phe Thr Pro Glu Arg Leu Asn Leu Phe
20 25 30

Asp Asp Val Glu Leu Tyr Leu Thr Leu Ile Lys Ala Ser Lys Cys Val
35 40 45

Glu Gln Gly Glu Arg Leu His Asn Ile Ser Trp Arg Ile Leu Asn Lys
50 55 60

Ala Val Leu Lys Glu His Asn Ile Asn Arg Ser Lys Lys Arg Asp Gly
65 70 75 80

Val Lys Asn Ile Tyr Tyr Val Leu Asn Pro Asn Asn Lys Gln Pro Ile
85 90 95

Lys Pro Lys Gln Ala Ala Val Lys Gln Pro Pro Leu Gln Lys Ala Asn
100 105 110

Leu Pro Pro Thr Thr Ala Lys Gln Asn Val Leu Thr Arg Pro Met Thr
115 120 125

Ser Pro Ala Ile Ala Gln Gly Ala His Asp Arg Ser Leu Asp Asn Pro
130 135 140

Asn Ser Thr Asn Asn Asp Val Lys Asn Asp Val Ala Pro Asn Arg Gln
145 150 155 160

Phe Ser Lys Ser Thr Thr Ser Gly Leu Phe Ser Asn Phe Ala Asp Lys
165 170 175

Tyr Gln Lys Met Lys Asn Val Asn His Val Ala Asn Lys Glu Glu Pro
180 185 190

Gln Thr Ile Ile Thr Gly Phe Asp Thr Ser Thr Val Ile Thr Lys Lys
195 200 205

Pro Leu Gln Ser Arg Arg Ser Arg Ser Pro Phe Gln His Ile Gly Asp
210 215 220

Met Asn Met Asn Cys Ile Asp Asn Glu Thr Ser Lys Ser Thr Ser Pro
225 230 235 240

Thr Leu Glu Asn Met Gly Ser Arg Lys Ser Ser Phe Pro Gln Lys Glu
245 250 255

20080423_F_59071_PCT_sequence_listing.txt

Ser Leu Phe Gly Arg Pro Arg Ser Tyr Lys Asn Asp Gln Asn Gly Gln
260 265 270

Leu Ser Leu Ser Lys Thr Ser Ser Arg Lys Gly Lys Asn Lys Ile Phe
275 280 285

Phe Ser Ser Glu Asp Glu Asp Ser Asp Trp Asp Ser Val Ser Asn Asp
290 295 300

Ser Glu Phe Tyr Ala Asp Glu Asp Asp Glu Glu Tyr Asp Asp Tyr Asn
305 310 315 320

Glu Glu Glu Ala Asp Gln Tyr Tyr Arg Arg Gln Trp Asp Lys Leu Leu
325 330 335

Phe Ala Lys Asn Gln Gln Asn Leu Asp Ser Thr Lys Ser Ser Val Ser
340 345 350

Ser Ala Asn Thr Ile Asn Ser Asn Thr Ser His Asp Pro Val Arg Lys
355 360 365

Ser Leu Leu Ser Gly Leu Phe Leu Ser Glu Ala Asn Ser Asn Ser Asn
370 375 380

Asn His Asn Thr Ala His Ser Glu Tyr Ala Ser Lys His Val Ser Pro
385 390 395 400

Thr Pro Gln Ser Ser His Ser Asn Ile Gly Pro Gln Pro Gln Gln Asn
405 410 415

Pro Pro Ser Ala Asn Gly Ile Lys Gln Gln Lys Pro Ser Leu Lys Thr
420 425 430

Ser Asn Val Thr Ala Leu Ala Ser Leu Ser Pro Pro Gln Pro Ser Asn
435 440 445

Asn Glu Arg Leu Ser Met Asp Ile Gln Lys Asp Phe Lys Thr Asp Asn
450 455 460

Glu Ser Asn His Leu Tyr Glu Ser Asn Ala Pro Leu Thr Ala Gln Thr
465 470 475 480

Ile Leu Pro Thr Ala Leu Ser Thr His Met Phe Leu Pro Asn Asn Ile
485 490 495

His Gln Gln Arg Met Ala Ile Ala Thr Gly Ser Asn Thr Arg His Arg
500 505 510

Phe Ser Arg Arg Gln Ser Met Asp Ile Pro Ser Lys Asn Arg Asn Thr
515 520 525

20080423_F_59071_PCT_sequence_listing.txt

Gly Phe Leu Lys Thr Arg Met Glu Ile Ser Glu Glu Glu Lys Met Val
530 535 540

Arg Thr Ile Ser Arg Leu Asp Asn Thr Ser Ile Ala Asn Ser Asn Gly
545 550 555 560

Asn Gly Asn Asp Asp Thr Ser Asn Gln Arg Thr Glu Ala Leu Gly Arg
565 570 575

Lys Thr Ser Asn Gly Gly Arg Ile
580

<210> 137

<211> 196

<212> PRT

<213> Saccharomyces cerevisiae

<400> 137

Met Lys Ala Thr Ile Gln Arg Val Thr Ser Val Phe Gly Val Pro Arg
1 5 10 15

Ala Ser Val Phe Val Pro Arg Ile Ser Thr Pro Phe Ile Leu His Asn
20 25 30

Tyr Ile Ser Asn Gly Arg Met Asp Leu Phe Ser Lys Glu Phe His Asn
35 40 45

Gly Arg Val Ser Lys Ser Asp Leu Trp Ser Ser Asn Lys Glu Glu Glu
50 55 60

Leu Leu Val Ser Gln Arg Lys Lys Arg Pro Ile Ser Pro His Leu Thr
65 70 75 80

Val Tyr Glu Pro Glu Met Ser Trp Tyr Leu Ser Ser Leu His Arg Ile
85 90 95

Ser Gly Val Leu Leu Ala Leu Gly Phe Tyr Ala Phe Thr Ile Thr Leu
100 105 110

Gly Val Thr Thr Ile Met Gly Met Asp Thr Thr Phe Gln Asp Leu Asn
115 120 125

Lys Trp Tyr His Glu Lys Met Pro Lys Trp Ser Gln Trp Val Ala Lys
130 135 140

Gly Ser Ala Ala Tyr Leu Phe Ala Phe His Phe Gly Asn Gly Ile Arg
145 150 155 160

His Leu Ile Trp Asp Met Gly Tyr Glu Leu Thr Asn Arg Gly Val Ile
165 170 175

Lys Thr Gly Ser Ile Val Leu Ala Gly Thr Leu Val Leu Gly Thr Tyr
Seite 205

180

185

190

Leu Leu Ala Gln
195

<210> 138

<211> 285

<212> PRT

<213> Saccharomyces cerevisiae

<400> 138

Met Arg Ser Ser Val Tyr Ser Glu Asn Thr Tyr Asn Cys Ile Arg Thr
1 5 10 15

Ser Lys Glu His Leu Thr Glu Arg Arg Arg Val Ala Met Ala Pro Met
20 25 30

Phe Gln His Phe Leu Asn Leu Cys Val Glu Lys Phe Pro Glu Ser Ile
35 40 45

Glu His Lys Asp Thr Asp Gly Asn Gly Asn Phe Thr Thr Ala Ile Leu
50 55 60

Glu Arg Glu Ile Ile Tyr Ile Pro Glu Asp Asp Thr Asp Ser Ile Asp
65 70 75 80

Ser Val Asp Ser Leu Lys Cys Ile Asn Tyr Lys Leu His Lys Ser Arg
85 90 95

Gly Asp Gln Val Leu Asp Ala Cys Val Gln Leu Ile Asp Lys His Leu
100 105 110

Gly Ala Lys Tyr Arg Arg Ala Ser Arg Ile Met Tyr Gly Asn Arg Lys
115 120 125

Pro Trp Lys Ala Asn Lys Leu Ala Glu Met Lys Ser Ala Gly Leu Val
130 135 140

Tyr Val Cys Tyr Trp Asp Asn Gly Val Leu Gly Ala Phe Thr Ser Phe
145 150 155 160

Met Leu Thr Glu Glu Thr Gly Leu Val Glu Gly Asp Ala Leu His Glu
165 170 175

Val Ser Val Pro Val Ile Tyr Leu Tyr Glu Val His Val Ala Ser Ala
180 185 190

His Arg Gly His Gly Ile Gly Arg Arg Leu Leu Glu His Ala Leu Cys
195 200 205

Asp Gly Val Ala Arg His Thr Arg Arg Met Cys Asp Asn Phe Phe Gly
210 215 220

20080423_F_59071_PCT_sequence_listing.txt

Val Ala Leu Thr Val Phe Ser Asp Asn Thr Arg Ala Arg Arg Leu Tyr
225 230 235 240

Glu Ala Leu Gly Phe Tyr Arg Ala Pro Gly Ser Pro Ala Pro Ala Ser
245 250 255

Pro Thr Ile Arg His Thr Arg His Gly Gly Gly Arg Val Val Val Pro
260 265 270

Cys Asp Pro Leu Tyr Tyr Val Tyr Cys Leu His Met Pro
275 280 285

<210> 139

<211> 449

<212> PRT

<213> Saccharomyces cerevisiae

<400> 139

Met Arg Leu Lys Glu Leu Leu Pro Asn Phe Leu Ile Val His Gln Glu
1 5 10 15

Val Pro Glu Asp Pro Ile Ala Phe Lys Ser Thr Asp Lys Arg Glu Asn
20 25 30

Glu Asn Lys Glu Ile Thr Ile Pro Glu Leu Ile Asp Thr Lys Val Pro
35 40 45

Glu Leu Ala Asp Gly Ala Thr Asp Thr Leu Tyr Gly Leu Leu Val Asn
50 55 60

Gly His Leu Gln Thr Ala Tyr Gly Ser Phe Arg His Phe Asp Asn Ile
65 70 75 80

Tyr Lys Val Gln Tyr Lys Arg Met Ile Ile Lys Tyr Pro His Gly Gly
85 90 95

Glu Gly Thr Val Asp Phe Ala Val Asn Gly Arg Ser Thr Lys Arg Arg
100 105 110

Lys Val Glu Lys Glu Tyr Val Pro Thr Ser Gln Pro Val Phe Asn Gly
115 120 125

Asn Leu Lys Arg Arg Tyr Ser Tyr Tyr Ser Pro Asp Asp Pro Lys Leu
130 135 140

Asn Ser Asp Asp Ala Lys Pro Met Leu Ile Ile Leu His Gly Leu Thr
145 150 155 160

Gly Gly Ser Arg Glu Ser Tyr Val Arg Ala Ile Val His Glu Ile Thr
165 170 175

Thr Lys Tyr Asp Phe Glu Ala Cys Val Phe Asn Ala Arg Gly Cys Cys
Seite 207

20080423_F_59071_PCT_sequence_listing.txt

180

185

190

Tyr Ser Ala Ile Thr Thr Pro Leu Leu Tyr Asn Gly Gly Trp Thr Asn
 195 200 205

Asp Ile Arg Tyr Cys Val Asn Asp Leu Arg Lys Arg Phe Pro Asn Arg
 210 215 220

Lys Phe Tyr Met Met Gly Phe Ser Leu Gly Ala Ser Ile Met Thr Asn
 225 230 235 240

Tyr Leu Gly Glu Glu Ser Asp Arg Thr Lys Ile Glu Cys Ala Ile Ser
 245 250 255

Val Ser Asn Pro Phe Asp Leu Tyr Asn Ser Ala Tyr Phe Ile Asn Ser
 260 265 270

Thr Pro Met Gly Ser Arg Phe Tyr Ser Pro Ala Leu Gly His Asn Leu
 275 280 285

Leu Arg Met Val Arg Asn His Leu Ser Thr Leu Glu Glu Asn Pro Asp
 290 295 300

Phe Lys Asp Val Ile Glu Lys His Leu Lys Lys Ile Arg Thr Val Arg
 305 310 315 320

Gln Phe Asp Asn Leu Leu Thr Gly Pro Met Phe Gly Tyr Lys Asn Ala
 325 330 335

Glu Glu Tyr Tyr Lys Asn Ala Ser Ser Tyr Lys Arg Ile Pro Gly Ile
 340 345 350

Arg Thr Pro Phe Ile Ala Leu His Ala Gln Asp Asp Pro Ile Val Gly
 355 360 365

Gly Asp Leu Pro Ile Asp Gln Ile Lys Ser Asn Pro Tyr Thr Leu Leu
 370 375 380

Leu Glu Thr Ser Thr Gly Gly His Val Gly Trp Phe Lys Asp Arg Ser
 385 390 395 400

Gly Arg Arg Trp Tyr Ala Glu Pro Leu Cys Arg Phe Leu Lys Ile Phe
 405 410 415

His Asp Glu Ile Thr Val Lys Gly Leu Lys Pro Asp Leu Glu Asn Val
 420 425 430

Gln Leu Pro Asp Pro Asn Cys Glu Pro Ile Ala Thr Thr Phe Arg Ala
 435 440 445

Asn

20080423_F_59071_PCT_sequence_listing.txt

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<210> 140
<211> 229
<212> PRT
<213> Saccharomyces cerevisiae
<400> 140

Met Thr Val Ser Thr Ser Lys Thr Pro Lys Lys Asn Ile Lys Tyr Thr
1      5      10     15

Leu Thr His Thr Leu Gln Lys Trp Lys Glu Thr Leu Lys Lys Ile Thr
      20     25     30

His Glu Thr Leu Ser Ser Ile Asp Asp Ser Ser Gly Ser Asp Glu Lys
      35     40     45

Ile Glu Ala Leu Phe Thr Val Ser Gln Pro Ala Val Val Ala Ser Lys
      50     55     60

Gly Ile Asp Arg Asp Ser Gly Ala Ser Met Ser Gln Val Gly Gly Gly
65      70     75     80

Val Asn Ser Thr Leu Glu Met Lys Leu Thr Asp Glu Ser Glu Glu Ser
      85     90     95

Ser Ser Ala Asn Asn Thr Thr Thr Thr Ala Ser His Thr Leu Ser Asn
      100    105    110

Ser Lys Lys Ser Thr Gln Asn Phe Glu Asn Tyr Asn Val Val Glu Glu
      115    120    125

Arg Ile Lys Leu Ala Gln Lys Ser Lys Ala Pro Phe Cys Asn Ala Glu
      130    135    140

Lys Ile Trp Lys Arg Arg Arg Gln Leu Trp Thr Gln Pro Thr Glu Gln
145      150    155    160

Ser Glu Ser Ala Asn Asn Asp Gly Val Thr Arg Arg Glu Ile Phe Gln
      165    170    175

Ala Ile Pro Gln Glu Tyr Tyr Ala Arg Val Tyr Lys Lys Leu Val Val
      180    185    190

Asp Asp Lys Pro Leu Arg Glu Pro Leu Asn Leu Glu Asp Ala Leu Gln
      195    200    205

Val Ile Asn Ala Gly Trp Thr Glu Thr Arg Lys Trp Ala Asn Ala Ala
      210    215    220

Lys Ala Cys His Asp
225

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20080423_F_59071_PCT_sequence_listing.txt

<210> 141

<211> 347

<212> PRT

<213> Saccharomyces cerevisiae

<400> 141

Met Val Ser Val Glu Phe Leu Gln Glu Leu Pro Lys Cys Glu His His
1 5 10 15

Leu His Leu Glu Gly Thr Leu Glu Pro Asp Leu Leu Phe Pro Leu Ala
20 25 30

Lys Arg Asn Asp Ile Ile Leu Pro Glu Gly Phe Pro Lys Ser Val Glu
35 40 45

Glu Leu Asn Glu Lys Tyr Lys Lys Phe Arg Asp Leu Gln Asp Phe Leu
50 55 60

Asp Tyr Tyr Tyr Ile Gly Thr Asn Val Leu Ile Ser Glu Gln Asp Phe
65 70 75 80

Phe Asp Leu Ala Trp Ala Tyr Phe Lys Lys Val His Lys Gln Gly Leu
85 90 95

Val His Ala Glu Val Phe Tyr Asp Pro Gln Ser His Thr Ser Arg Gly
100 105 110

Ile Ser Ile Glu Thr Val Thr Lys Gly Phe Gln Arg Ala Cys Asp Lys
115 120 125

Ala Phe Ser Glu Phe Gly Ile Thr Ser Lys Leu Ile Met Cys Leu Leu
130 135 140

Arg His Ile Glu Pro Glu Glu Cys Leu Lys Thr Ile Glu Glu Ala Thr
145 150 155 160

Pro Phe Ile Lys Asp Gly Thr Ile Ser Ala Leu Gly Leu Asp Ser Ala
165 170 175

Glu Lys Pro Phe Pro Pro His Leu Phe Val Glu Cys Tyr Gly Lys Ala
180 185 190

Ala Ser Leu Asn Lys Asp Leu Lys Leu Thr Ala His Ala Gly Glu Glu
195 200 205

Gly Pro Ala Gln Phe Val Ser Asp Ala Leu Asp Leu Leu Gln Val Thr
210 215 220

Arg Ile Asp His Gly Ile Asn Ser Gln Tyr Asp Glu Glu Leu Leu Asp
225 230 235 240

Arg Leu Ser Arg Asp Gln Thr Met Leu Thr Ile Cys Pro Leu Ser Asn
245 250 255

20080423_F_59071_PCT_sequence_listing.txt

Val Lys Leu Gln Val Val Gln Ser Val Ser Glu Leu Pro Leu Gln Lys
260 265 270

Phe Leu Asp Arg Asp Val Pro Phe Ser Leu Asn Ser Asp Asp Pro Ala
275 280 285

Tyr Phe Gly Gly Tyr Ile Leu Asp Val Tyr Thr Gln Val Ser Lys Asp
290 295 300

Phe Pro His Trp Asp His Glu Thr Trp Gly Arg Ile Ala Lys Asn Ala
305 310 315 320

Ile Lys Gly Ser Trp Cys Asp Asp Lys Arg Lys Asn Gly Leu Leu Ser
325 330 335

Arg Val Asp Glu Val Val Thr Lys Tyr Ser His
340 345

<210> 142
<211> 270
<212> PRT
<213> Saccharomyces cerevisiae

<400> 142

Met Ala Ile Glu Asn Ile Tyr Ile Ala Arg His Gly Tyr Arg Ser Asn
1 5 10 15

Trp Leu Pro Lys Gly Pro Tyr Pro Pro Pro Pro Thr Gly Ile Asp Asn
20 25 30

Asp Val Pro Leu Ser Glu His Gly Val Glu Gln Ala His Glu Leu Ala
35 40 45

Asn Tyr Ile Ser Lys Leu Asp Val Lys Pro Glu Met Ile Phe Ser Ser
50 55 60

Pro Phe Tyr Arg Cys Leu Glu Thr Ser Lys Pro Thr Val Glu Ala Leu
65 70 75 80

Lys Ile Pro Leu Tyr Val Asp Arg Gly Val Gly Glu Trp Tyr Lys Pro
85 90 95

Asp Arg Pro Ile Ile Pro Glu Pro Ala Thr His Glu Val Met Ser Lys
100 105 110

Phe Phe Pro Ser Met Ile Ser Pro Asp Trp Glu Pro Ser Ile Ile Pro
115 120 125

Ser Asn Lys Gly Glu Thr Glu Glu Asp Ile Phe Glu Arg Cys His Lys
130 135 140

20080423_F_59071_PCT_sequence_listing.txt

Phe Trp Pro Val Phe Ile Asp Arg Val Glu Arg Lys Phe Pro Asn Val
145 150 155 160

Lys Thr Ile Met Ile Val Thr His Ala Ala Thr Lys Ser Ala Leu Gly
165 170 175

Met Asn Leu Leu Lys Phe Ser Ser Ala Lys Glu Pro Ile Asp Asn Lys
180 185 190

Gly Thr Phe Ile Arg Asn Gly Ser Cys Ala Ile Asp Lys Phe Glu Leu
195 200 205

Val Lys Gly Glu Asn Glu Ser Ile Pro Phe Glu Glu Arg Glu Trp Lys
210 215 220

Leu Thr Met Asn Gly Asn Thr Ser Phe Leu Thr Asn Gly Glu Glu Met
225 230 235 240

Asn Trp Thr Phe Met Asn Ala Phe Glu Ala Gly Ser Asp Ala Asp Ile
245 250 255

Lys Ala Arg Arg Ala Ala Glu Ser Gly Lys Leu Lys Met Glu
260 265 270

<210> 143
<211> 727
<212> PRT
<213> Saccharomyces cerevisiae
<400> 143

Met Asn Asp Trp His Glu Phe Asn Ala Ala Ile Lys Ser Ile Tyr Cys
1 5 10 15

Asn Ala Glu Gly Asp Ser Ser Ser Ile Ile Asn Arg Leu Val Gly Leu
20 25 30

Ala Met Lys Ser Glu Asp Ser Thr Phe Ile Glu Ala Val Leu Val Leu
35 40 45

Lys Glu Asn Val Ser Lys Val Asp Lys Gln Leu Arg Phe Leu Trp Leu
50 55 60

Thr Ser Thr Ile Asn Ser Arg Phe Tyr Pro Pro Ile Pro Ile Ser Glu
65 70 75 80

Ala Ser Pro Val Ser Trp Asn Lys Thr Glu Tyr Cys Ala Pro Gly Thr
85 90 95

Glu Glu Leu Gln Arg Arg Tyr Pro Gly Arg Ala Lys Leu Gln Asn Glu
100 105 110

Glu Asp Tyr Ser Gly Gly Ile Glu Gln Cys Arg Asp Val Pro Asp Cys
115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Ser Leu Val Ala Ser Leu Ile Asn Leu Arg Ser Lys Asn Leu Asn Leu
130 135 140

Pro Leu Ile Lys Gln Ile Ser Ser Thr Lys Tyr His Val Asn Leu Ser
145 150 155 160

Phe Asn Gly Ser Asn Lys Arg Leu Val Thr Val Asp Ile Ser Gln Ile
165 170 175

Pro Thr Ser Val Asp Gly Lys Gln Leu Ser Leu Lys Ser Asn Asp Ile
180 185 190

Ser Asp Lys Ile Gly Glu Leu Ala Leu Leu Leu Val Ser Lys Gly Thr
195 200 205

Tyr Ser Thr Asp Gly Ser Asn Ile Ser Ile Asp Thr Tyr Arg Leu Ser
210 215 220

Gly Phe Leu Pro Glu Ile Thr Gln Val Asn Ser Tyr Pro Phe Glu Lys
225 230 235 240

Leu Trp Lys Phe His Lys Ser Asn Leu Cys Leu Met Gly Ala Gly Thr
245 250 255

Gly Asn Arg Ser Asn Asp Met Ile Lys Pro Leu Val Glu Asn His Asp
260 265 270

Tyr Ser Ile Ile Asp Ile Thr Tyr Asp Ser Arg Leu Val Lys Leu Arg
275 280 285

Asp Pro Arg Asn Ser Ala Leu Asn Val Glu Ile Ser Tyr Glu Gln Tyr
290 295 300

Leu Lys Asn Phe Lys Gln Leu Tyr Leu Asn Trp Asn Gln Glu Lys Leu
305 310 315 320

Phe Lys Arg Ser Gln Val Leu His Phe Arg Tyr Asp Thr Ser Arg Tyr
325 330 335

Asn Lys Phe Ser Ile Val Ala Asp Lys Pro Leu Phe His Leu Val Asn
340 345 350

Asn Ser Lys Val Thr Glu Thr Val Trp Leu Leu Leu Glu Ser His Leu
355 360 365

Gln Asp Glu Gly Ser Gln Glu Asn Arg Ser Val Ser Phe Leu Asn Glu
370 375 380

Ala Pro Glu Cys Ile Ile Cys Pro Ile Glu Pro Pro Val Glu Cys Gly
385 390 395 400

20080423_F_59071_PCT_sequence_listing.txt

Gly Asn His Ile Gly Leu Gln Leu Val Lys Leu Arg Leu Asp Ala Glu
405 410 415

Thr Glu Arg Leu Leu Tyr Cys Tyr Ser Thr Thr Asn Asn Asn Phe Ser
420 425 430

Ile His Ser Phe Ser Val Val Lys Glu Ile Cys Phe Gln Arg Leu Lys
435 440 445

Asp Thr Lys Ser Leu Phe Ala Lys Val Leu Phe Ser Phe Pro Tyr Glu
450 455 460

Ile Glu Gly Lys Ala Ser Phe Asp Thr Cys Asn Phe Phe Gln Asn Pro
465 470 475 480

Thr Phe Glu Leu Glu Val His Ser Glu Gln Asp Tyr Gln Val Leu Met
485 490 495

Asp Ala Ala Cys Ile Ser Thr Ser Ser His Asp Leu Ile Asn Ile Gln
500 505 510

Val Tyr Tyr Phe Asn Asp Tyr Glu Leu Ile Lys Pro Ile Met Phe Asp
515 520 525

Asn His Tyr Gln Pro Gly Gln Gly Leu Lys Gln Asp Val Pro Ile Leu
530 535 540

Thr Asn Val Lys Tyr Met Ile Val Cys Ser Thr Tyr Gly Pro Pro Ala
545 550 555 560

Ser Thr Glu Phe Glu Leu Leu Ala Ser Ile Arg Leu Ser Ser Ser Trp
565 570 575

Arg Leu Ile Ser Gly Ile Thr Leu Arg Ser Val Asn Leu Ile Tyr Gly
580 585 590

Thr Tyr Pro Tyr His Cys Arg Asn Arg Phe His Trp Lys Glu Thr Ser
595 600 605

Asp Lys Leu Lys Ile Gln Met Thr Leu Pro Thr Lys Lys Tyr Ser Thr
610 615 620

Asn Lys Leu Phe Ile Arg Val Val Pro Val Glu Ser Ser Ala Arg Leu
625 630 635 640

Arg Met Arg Cys Asn Ile Phe Glu Pro Glu Ser Ala Leu Cys Val Tyr
645 650 655

Glu Cys Gln Glu Tyr Arg Thr Cys Pro Ser Gly Gly Ile Val Ile Pro
660 665 670

20080423_F_59071_PCT_sequence_listing.txt

Asp Leu Glu Val Ser Arg Thr Asn Ile Val Val Leu Met Ile Glu Arg
675 680 685

Ser Val Pro Ile Ser Ser Cys Leu Pro Thr Glu Gly Gln Leu Asp Glu
690 695 700

Leu Glu Leu Phe Val Gly Ser Ser Gln Lys Ile Arg Ile Glu Lys Tyr
705 710 715 720

Ser Asp Asp Val Ile Pro Lys
725

<210> 144
<211> 161
<212> PRT
<213> Saccharomyces cerevisiae

<400> 144

Met Ile Lys Val Asp Thr Ser Asp Ala Leu Leu Lys Asn Ser Leu Thr
1 5 10 15

Ser Ile Lys Trp Thr Leu Asn Met Leu Asp Ile Leu Phe Ser Cys Asp
20 25 30

Ile Phe Ser Leu Ile Lys Asp Ser Ile Arg Ser Leu Ile Thr Glu Thr
35 40 45

Phe Ser Ser Val Asn Thr Val Ser Thr Ser Thr Val Lys Pro Val Arg
50 55 60

Leu Leu Cys Cys Leu Val Cys Ser Asn Ser Lys Ser Cys Thr Ile Ser
65 70 75 80

Asn Ile Thr Arg Asp Pro Glu Ser Glu Cys Asp Lys Gly Ser Arg Ile
85 90 95

Leu Glu Thr Asp Pro Ser Phe Ser Asn Gly Tyr Ile Thr Leu Asn Arg
100 105 110

Phe Leu Lys Tyr Ser Ser Phe Ile Ile Cys Phe Leu Cys Leu Val Leu
115 120 125

Thr Asn Leu Met Lys His Ser Ser Gln Asn Phe Ser Phe Leu Asp Ser
130 135 140

Thr Val Ala Gly Phe Leu Ala Asp Ala Gly His Leu Trp His Ser Ile
145 150 155 160

Thr

<210> 145
<211> 153

20080423_F_59071_PCT_sequence_listing.txt

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 145

Met Gly Lys Lys Asn Thr Lys Gly Gly Lys Lys Gly Arg Arg Gly Lys
1 5 10 15

Asn Asp Ser Asp Gly Pro Lys Arg Glu Leu Ile Tyr Lys Glu Glu Gly
20 25 30

Gln Glu Tyr Ala Gln Ile Thr Lys Met Leu Gly Asn Gly Arg Val Glu
35 40 45

Ala Ser Cys Phe Asp Gly Asn Lys Arg Met Ala His Ile Arg Gly Lys
50 55 60

Leu Arg Lys Lys Val Trp Met Gly Gln Gly Asp Ile Ile Leu Val Ser
65 70 75 80

Leu Arg Asp Phe Gln Asp Asp Gln Cys Asp Val Val His Lys Tyr Asn
85 90 95

Leu Asp Glu Ala Arg Thr Leu Lys Asn Gln Gly Glu Leu Pro Glu Asn
100 105 110

Ala Lys Ile Asn Glu Thr Asp Asn Phe Gly Phe Glu Ser Asp Glu Asp
115 120 125

Val Asn Phe Glu Phe Gly Asn Ala Asp Glu Asp Asp Glu Glu Gly Glu
130 135 140

Asp Glu Glu Leu Asp Ile Asp Asp Ile
145 150

<210> 146

<211> 775

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 146

Met Ser Phe Asp Arg Pro Glu Ile Tyr Ser Ala Pro Val Leu Gln Gly
1 5 10 15

Glu Ser Pro Asn Asp Asp Asp Asn Thr Glu Ile Ile Lys Ser Phe Lys
20 25 30

Asn Phe Ile Leu Glu Phe Arg Leu Asp Ser Gln Phe Ile Tyr Arg Asp
35 40 45

Gln Leu Arg Asn Asn Ile Leu Val Lys Asn Tyr Ser Leu Thr Val Asn
50 55 60

Met Glu His Leu Ile Gly Tyr Asn Glu Asp Ile Tyr Lys Lys Leu Ser
Seite 216

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65          70          75          80
Asp Glu Pro Ser Asp Ile Ile Pro Leu Phe Glu Thr Ala Ile Thr Gln
      85          90          95
Val Ala Lys Arg Ile Ser Ile Leu Ser Arg Ala Gln Ser Ala Asn Asn
      100        105        110
Asn Asp Lys Asp Pro Glu Asn Thr Ser Met Asp Thr Asp Ser Leu Leu
      115        120        125
Leu Asn Ser Leu Pro Thr Phe Gln Leu Ile Leu Asn Ser Asn Ala Asn
      130        135        140
Gln Ile Pro Leu Arg Asp Leu Asp Ser Glu His Val Ser Lys Ile Val
      145        150        155        160
Arg Leu Ser Gly Ile Ile Ile Ser Thr Ser Val Leu Ser Ser Arg Ala
      165        170        175
Thr Tyr Leu Ser Ile Met Cys Arg Asn Cys Arg His Thr Thr Ser Ile
      180        185        190
Thr Ile Asn Asn Phe Asn Ser Ile Thr Gly Asn Thr Val Ser Leu Pro
      195        200        205
Arg Ser Cys Leu Ser Thr Ile Glu Ser Glu Ser Ser Met Ala Asn Glu
      210        215        220
Ser Asn Ile Gly Asp Glu Ser Thr Lys Lys Asn Cys Gly Pro Asp Pro
      225        230        235        240
Tyr Ile Ile Ile His Glu Ser Ser Lys Phe Ile Asp Gln Gln Phe Leu
      245        250        255
Lys Leu Gln Glu Ile Pro Glu Leu Val Pro Val Gly Glu Met Pro Arg
      260        265        270
Asn Leu Thr Met Thr Cys Asp Arg Tyr Leu Thr Asn Lys Val Ile Pro
      275        280        285
Gly Thr Arg Val Thr Ile Val Gly Ile Tyr Ser Ile Tyr Asn Ser Lys
      290        295        300
Asn Gly Ala Gly Ser Gly Arg Ser Gly Gly Gly Asn Gly Gly Ser Gly
      305        310        315        320
Val Ala Ile Arg Thr Pro Tyr Ile Lys Ile Leu Gly Ile Gln Ser Asp
      325        330        335
Val Glu Thr Ser Ser Ile Trp Asn Ser Val Thr Met Phe Thr Glu Glu
      340        345        350

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20080423_F_59071_PCT_sequence_listing.txt

Glu Glu Glu Glu Phe Leu Gln Leu Ser Arg Asn Pro Lys Leu Tyr Glu
355 360 365

Ile Leu Thr Asn Ser Ile Ala Pro Ser Ile Phe Gly Asn Glu Asp Ile
370 375 380

Lys Lys Ala Ile Val Cys Leu Leu Met Gly Gly Ser Lys Lys Ile Leu
385 390 400

Pro Asp Gly Met Arg Leu Arg Gly Asp Ile Asn Val Leu Leu Leu Gly
405 410 415

Asp Pro Gly Thr Ala Lys Ser Gln Leu Leu Lys Phe Val Glu Lys Val
420 425 430

Ser Pro Ile Ala Val Tyr Thr Ser Gly Lys Gly Ser Ser Ala Ala Gly
435 440 445

Leu Thr Ala Ser Val Gln Arg Asp Pro Met Thr Arg Glu Phe Tyr Leu
450 455 460

Glu Gly Gly Ala Met Val Leu Ala Asp Gly Gly Val Val Cys Ile Asp
465 470 475 480

Glu Phe Asp Lys Met Arg Asp Glu Asp Arg Val Ala Ile His Glu Ala
485 490 495

Met Glu Gln Gln Thr Ile Ser Ile Ala Lys Ala Gly Ile Thr Thr Val
500 505 510

Leu Asn Ser Arg Thr Ser Val Leu Ala Ala Ala Asn Pro Ile Tyr Gly
515 520 525

Arg Tyr Asp Asp Leu Lys Ser Pro Gly Asp Asn Ile Asp Phe Gln Thr
530 535 540

Thr Ile Leu Ser Arg Phe Asp Met Ile Phe Ile Val Lys Asp Asp His
545 550 555 560

Asn Glu Glu Arg Asp Ile Ser Ile Ala Asn His Val Ile Asn Ile His
565 570 575

Thr Gly Asn Ala Asn Ala Met Gln Asn Gln Gln Glu Glu Asn Gly Ser
580 585 590

Glu Ile Ser Ile Glu Lys Met Lys Arg Tyr Ile Thr Tyr Cys Arg Leu
595 600 605

Lys Cys Ala Pro Arg Leu Ser Pro Gln Ala Ala Glu Lys Leu Ser Ser
610 615 620

20080423_F_59071_PCT_sequence_listing.txt

Asn Phe Val Thr Ile Arg Lys Gln Leu Leu Ile Asn Glu Leu Glu Ser
625 630 635 640

Thr Glu Arg Ser Ser Ile Pro Ile Thr Ile Arg Gln Leu Glu Ala Ile
645 650 655

Ile Arg Ile Thr Glu Ser Leu Ala Lys Leu Glu Leu Ser Pro Ile Ala
660 665 670

Gln Glu Arg His Val Asp Glu Ala Ile Arg Leu Phe Gln Ala Ser Thr
675 680 685

Met Asp Ala Ala Ser Gln Asp Pro Ile Gly Gly Leu Asn Gln Ala Ser
690 695 700

Gly Thr Ser Leu Ser Glu Ile Arg Arg Phe Glu Gln Glu Leu Lys Arg
705 710 715 720

Arg Leu Pro Ile Gly Trp Ser Thr Ser Tyr Gln Thr Leu Arg Arg Glu
725 730 735

Phe Val Asp Thr His Arg Phe Ser Gln Leu Ala Leu Asp Lys Ala Leu
740 745 750

Tyr Ala Leu Glu Lys His Glu Thr Ile Gln Leu Arg His Gln Gly Gln
755 760 765

Asn Ile Tyr Arg Ser Gly Val
770 775

<210> 147
<211> 360
<212> PRT
<213> Saccharomyces cerevisiae
<400> 147

Met Ser Ser Gln Glu Tyr Thr Thr Phe Ile Asp Ile Pro Val Thr Arg
1 5 10 15

Ala Gln Val Glu His Cys Ser Tyr Ser Phe Trp Ser Ser Leu Tyr Pro
20 25 30

Lys Tyr Val Pro Lys Ser Ile Val Leu Lys Ser Leu Pro Lys Lys Phe
35 40 45

Ile Gln Tyr Leu Glu Gln Asp Gly Ile Lys Leu Pro Gln Glu Glu Asn
50 55 60

Ser Arg Ser Val Tyr Thr Glu Glu Ile Ile Arg Asn Glu Asp Asn Asp
65 70 75 80

Tyr Ser Asp Trp Glu Asp Asp Glu Asp Thr Ala Thr Glu Phe Val Gln
Seite 219

Glu Val Glu Pro Leu Ile Asp Phe Pro Glu Leu His Gln Lys Leu Lys
100 105 110

Asp Ala Leu Asn Glu Leu Gly Ala Val Ala Pro Lys Leu Asn Trp Ser
115 120 125

Ala Pro Arg Asp Ala Thr Trp Ile Leu Pro Asn Asn Thr Met Lys Cys
130 135 140

Asn Glu Val Asn Glu Leu Tyr Leu Leu Leu Asn Ala Ser Asn Tyr Ile
145 150 155 160

Met His Asp Leu Gln Arg Ala Phe Lys Gly Cys Val Asp Gly Asp Asp
165 170 175

Ile Lys Gly Leu Lys Phe Asp Leu Val Leu Arg Gln Trp Cys Asp Met
180 185 190

Asn Pro Ala Leu Glu Phe Arg Val Phe Val Lys Asn Ala His Ile Val
195 200 205

Gly Ala Thr Gln Arg Asp Leu Asn Tyr Tyr Asp Tyr Leu Asp Glu Leu
210 215 220

Ser Asp Thr Phe Lys Asp Leu Ile Asp Glu Ile Val His Asp Val Val
225 230 235 240

Leu Pro Lys Phe Pro Asp Lys Ser Phe Val Leu Asp Val Tyr Ile Pro
245 250 255

Arg Pro Phe Asn Lys Ile Phe Ile Val Asp Ile Asn Pro Phe Ala Arg
260 265 270

Lys Thr Asp Ser Leu Leu Phe Ser Trp Asn Glu Ile Ala Ala Ile Ala
275 280 285

Pro Pro Lys Asn Asp Val Glu Asp Tyr Glu Leu Arg Leu Val Thr Arg
290 295 300

His Asn Thr Gly Arg Phe Ala Ser Lys Glu His Ser Glu Asn His Val
305 310 315 320

Pro Gln Asp Leu Val Glu Ala Ser Leu Asn Pro Glu Ala Ile Arg Glu
325 330 335

Leu Thr Gln Lys Trp Lys Glu Leu Leu Ser Gln Gln Ala Lys Glu Glu
340 345 350

Ser Ser Asp Ser Glu Asn Glu Thr
355 360

20080423_F_59071_PCT_sequence_listing.txt

<210> 148
 <211> 149
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 148

Met Ser Ala Thr Arg Ala Asn Lys Asp Ile Phe Thr Leu Phe Asp Lys
 1 5 10 15

Lys Gly Gln Gly Ala Ile Ala Lys Asp Ser Leu Gly Asp Tyr Leu Arg
 20 25 30

Ala Ile Gly Tyr Asn Pro Thr Asn Gln Leu Val Gln Asp Ile Ile Asn
 35 40 45

Ala Asp Ser Ser Leu Arg Asp Ala Ser Ser Leu Thr Leu Asp Gln Ile
 50 55 60

Thr Gly Leu Ile Glu Val Asn Glu Lys Glu Leu Asp Ala Thr Thr Lys
 65 70 75 80

Ala Lys Thr Glu Asp Phe Val Lys Ala Phe Gln Val Phe Asp Lys Glu
 85 90 95

Ser Thr Gly Lys Val Ser Val Gly Asp Leu Arg Tyr Met Leu Thr Gly
 100 105 110

Leu Gly Glu Lys Leu Thr Asp Ala Glu Val Asp Glu Leu Leu Lys Gly
 115 120 125

Val Glu Val Asp Ser Asn Gly Glu Ile Asp Tyr Lys Lys Phe Ile Glu
 130 135 140

Asp Val Leu Arg Gln
 145

<210> 149
 <211> 369
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 149

Met Asn Gln Ser Asp Ser Ser Leu Met Asp Leu Pro Leu Glu Ile His
 1 5 10 15

Leu Ser Leu Leu Glu Tyr Val Pro Asn Glu Leu Arg Ala Val Asn Lys
 20 25 30

Tyr Phe Tyr Val Leu His Asn His Ser Tyr Lys Glu Lys Ser Leu Ala
 35 40 45

Trp Ile Ala Glu Asp Asn Tyr Ile Trp Ala Val Val Lys His Ser Leu
 Seite 221

20080423_F_59071_PCT_sequence_listing.txt

50

55

60

Cys Leu Tyr Val Lys Ser Leu Asp Pro Leu Arg Gln His Ala Arg Glu
65 70 75 80

Ile Ile Gln Glu Thr Lys Glu Pro Gly Phe Asn Val Pro Leu Cys Met
85 90 95

Thr Lys Tyr Ile Ala Asp Ser Trp Tyr Ile Val Tyr Asn Ala Leu Gln
100 105 110

Tyr Pro Gly Lys Ile Ile Asn Met Gly Trp Asp Lys Tyr Thr Lys Ser
115 120 125

Gln Asp Ser Asn Gly Ser Asp Ser Thr Ser Asn Phe Asn Ser Arg Pro
130 135 140

Lys Glu Arg Thr Leu Met Gln Ser Leu Thr Ala Leu Pro Val Asn Phe
145 150 155 160

Trp Ser Arg Arg Lys Asp Glu Pro Thr Pro Val Asn Val Trp Phe Tyr
165 170 175

Val Lys Asn Ala His Val Ala Arg Tyr Ile Pro Lys Ile Ile Thr Glu
180 185 190

Ile Gly Ile Cys Asn Tyr Gly Pro Lys Gln Ile Val Ala Ser Ala Gly
195 200 205

Tyr Ile Asn Glu Leu Ile Thr Ser Glu Gly Ile Tyr Cys Val Asn Leu
210 215 220

Gly His Leu Pro Arg Leu Tyr Asp Glu Gln Ile Phe Glu Gly Thr Gly
225 230 235 240

Thr Thr His Leu Pro Leu Glu Leu Lys Ala Ile Asp Arg Thr Asp Ser
245 250 255

Asp Val Cys Ile Asn Gly Asp Leu Val Leu Leu Gly Tyr Asp Phe Ile
260 265 270

Pro Tyr Gln Ile Ser Lys Pro Trp Leu Leu Phe Arg Ile Glu Pro Val
275 280 285

Asn Ser Ile Glu Ala Ile Phe Asn Tyr Ser Glu Cys Ser Phe Ser Tyr
290 295 300

Gln Phe Ala Trp Ser Leu Ala Cys Leu Gln Ser Glu Glu Lys Ile Ser
305 310 315 320

Phe Pro Arg Asp Thr Ile Ile Gly His Gly Leu Pro Tyr Lys Pro Ser
325 330 335

20080423_F_59071_PCT_sequence_listing.txt

Lys Leu Ile Arg Ile Phe Val Tyr Lys His Pro Glu Gln Lys Gln Asp
340 345 350

Leu Gly Gln Glu Ile Ala Leu Pro Asn Trp Asn Thr Pro Tyr Leu Arg
355 360 365

Arg

<210> 150
<211> 393
<212> PRT
<213> Saccharomyces cerevisiae

<400> 150

Met Ser Ser Arg Ile Ile Val Gly Ser Ala Ala Leu Ala Ala Ala Ile
1 5 10 15

Thr Ala Ser Ile Met Val Arg Glu Gln Lys Ala Lys Gly Gln Arg Arg
20 25 30

Glu Gly Asn Val Ser Ala Tyr Tyr Asn Gly Gln Glu Tyr Gly Ser Ser
35 40 45

Ala Pro Pro Gln Leu Gly Lys Leu His Asn Ile Lys Gln Gly Ile Lys
50 55 60

Glu Asp Ala Leu Ser Leu Lys Asp Ala Leu Leu Gly Val Ser Gln Lys
65 70 75 80

Ala Arg Glu Glu Ala Pro Lys Val Thr Lys Arg Val Ile Ser Pro Glu
85 90 95

Glu Asp Ala Gln Thr Arg Lys Gln Leu Gly Gln Lys Ala Lys Asp Ser
100 105 110

Ser Ser Gln Ser Ile Phe Asn Trp Gly Phe Ser Glu Ala Glu Arg Arg
115 120 125

Lys Ala Ile Ala Ile Gly Glu Phe Asp Thr Ala Lys Lys Arg Phe Glu
130 135 140

Glu Ala Val Asp Arg Asn Glu Lys Glu Leu Leu Ser Thr Val Met Arg
145 150 155 160

Glu Lys Lys Ala Ala Leu Asp Arg Ala Ser Ile Glu Tyr Glu Arg Tyr
165 170 175

Gly Arg Ala Arg Asp Phe Asn Glu Leu Ser Asp Lys Leu Asp Gln Gln
180 185 190

20080423_F_59071_PCT_sequence_listing.txt

Glu Arg Asn Ser Asn Pro Leu Lys Arg Leu Leu Lys Asn Asn Thr Gly
195 200 205

Asp Ala Asn Thr Glu Glu Ala Ala Arg Ser Val Gln Gly Trp Gly
210 215 220

Asp Thr Ala Gln Glu Phe Gly Arg Glu Glu Leu Glu Glu Ala Lys Arg
225 230 235 240

Asn Ala Ser Ser Glu Pro Ser Glu Ala Gln Lys Arg Leu Asp Glu Leu
245 250 255

Lys Lys Ile Lys Glu Lys Gly Trp Phe Gly Tyr Asn Lys Gly Glu Gln
260 265 270

Ser Glu Gln Gln Ile Ala Glu Arg Val Ala Arg Gly Leu Glu Gly Trp
275 280 285

Gly Glu Thr Ala Ala Gln Leu Ser Lys Asp Glu Met Asp Asp Leu Arg
290 295 300

Trp Asn Tyr Glu Asn Ser Lys Lys Gln Leu Asp Lys Asn Val Ser Asp
305 310 315 320

Ala Met Asp Ser Leu Ser Lys Ala Lys Glu Asp Leu Lys Gln Tyr Gly
325 330 335

Ser His Trp Trp Ser Gly Trp Thr Ser Lys Val Asp Asn Asp Lys Gln
340 345 350

Ala Leu Lys Asp Glu Ala Gln Lys Lys Tyr Asp Glu Ala Leu Lys Lys
355 360 365

Tyr Asp Glu Ala Lys Asn Lys Phe Lys Glu Trp Asn Asp Lys Gly Asp
370 375 380

Gly Lys Phe Trp Ser Ser Lys Lys Asp
385 390

<210> 151
<211> 377
<212> PRT
<213> Saccharomyces cerevisiae

<400> 151

Met Ser Lys Gly Arg Val Asn Gln Lys Arg Tyr Lys Tyr Pro Leu Pro
1 5 10 15

Ile His Pro Val Asp Asp Leu Pro Glu Leu Ile Leu His Asn Pro Leu
20 25 30

Ser Trp Leu Tyr Trp Ala Tyr Arg Tyr Tyr Lys Ser Thr Asn Ala Leu
35 40 45

20080423_F_59071_PCT_sequence_listing.txt

Asn Asp Lys Val His Val Asp Phe Ile Gly Asp Thr Thr Leu His Ile
 50 55 60
 Thr Val Gln Asp Asp Lys Gln Met Leu Tyr Leu Trp Asn Asn Gly Phe
 65 70 75 80
 Phe Gly Thr Gly Gln Phe Ser Arg Ser Glu Pro Thr Trp Lys Ala Arg
 85 90 95
 Thr Glu Ala Arg Leu Gly Leu Asn Asp Thr Pro Leu His Asn Arg Gly
 100 105 110
 Gly Thr Lys Ser Asn Thr Glu Thr Glu Met Thr Leu Glu Lys Val Thr
 115 120 125
 Gln Gln Arg Arg Leu Gln Arg Leu Glu Phe Lys Lys Glu Arg Ala Lys
 130 135 140
 Leu Glu Arg Glu Leu Leu Glu Leu Arg Lys Lys Gly Gly His Ile Asp
 145 150 155 160
 Glu Glu Asn Ile Leu Leu Glu Lys Gln Arg Glu Ser Leu Arg Lys Phe
 165 170 175
 Lys Leu Lys Gln Thr Glu Asp Val Gly Ile Val Ala Gln Gln Gln Asp
 180 185 190
 Ile Ser Glu Ser Asn Leu Arg Asp Glu Asp Asn Asn Leu Leu Asp Glu
 195 200 205
 Asn Gly Asp Leu Leu Pro Leu Glu Ser Leu Glu Leu Met Pro Val Glu
 210 215 220
 Ala Met Phe Leu Thr Phe Ala Leu Pro Val Leu Asp Ile Ser Pro Ala
 225 230 235 240
 Cys Leu Ala Gly Lys Leu Phe Gln Phe Asp Ala Lys Tyr Lys Asp Ile
 245 250 255
 His Ser Phe Val Arg Ser Tyr Val Ile Tyr His His Tyr Arg Ser His
 260 265 270
 Gly Trp Cys Val Arg Ser Gly Ile Lys Phe Gly Cys Asp Tyr Leu Leu
 275 280 285
 Tyr Lys Arg Gly Pro Pro Phe Gln His Ala Glu Phe Cys Val Met Gly
 290 295 300
 Leu Asp His Asp Val Ser Lys Asp Tyr Thr Trp Tyr Ser Ser Ile Ala
 305 310 315 320

20080423_F_59071_PCT_sequence_listing.txt

Arg Val Val Gly Gly Ala Lys Lys Thr Phe Val Leu Cys Tyr Val Glu
325 330 335

Arg Leu Ile Ser Glu Gln Glu Ala Ile Ala Leu Trp Lys Ser Asn Asn
340 345 350

Phe Thr Lys Leu Phe Asn Ser Phe Gln Val Gly Glu Val Leu Tyr Lys
355 360 365

Arg Trp Val Pro Gly Arg Asn Arg Asp
370 375

<210> 152

<211> 266

<212> PRT

<213> Saccharomyces cerevisiae

<400> 152

Met Leu Asn Val Leu Leu Arg Arg Lys Ala Phe Cys Leu Val Thr Lys
1 5 10 15

Lys Gly Met Ala Thr Ala Thr Thr Ala Ala Ala Thr His Thr Pro Arg
20 25 30

Leu Lys Thr Phe Lys Val Tyr Arg Trp Asn Pro Asp Glu Pro Ser Ala
35 40 45

Lys Pro His Leu Gln Ser Tyr Gln Val Asp Leu Asn Asp Cys Gly Pro
50 55 60

Met Val Leu Asp Ala Leu Leu Lys Ile Lys Asp Glu Gln Asp Ser Thr
65 70 75 80

Leu Thr Phe Arg Arg Ser Cys Arg Glu Gly Ile Cys Gly Ser Cys Ala
85 90 95

Met Asn Ile Gly Gly Arg Asn Thr Leu Ala Cys Ile Cys Lys Ile Asp
100 105 110

Gln Asn Glu Ser Lys Gln Leu Lys Ile Tyr Pro Leu Pro His Met Phe
115 120 125

Ile Val Lys Asp Leu Val Pro Asp Leu Thr Asn Phe Tyr Gln Gln Tyr
130 135 140

Lys Ser Ile Gln Pro Tyr Leu Gln Arg Ser Ser Phe Pro Lys Asp Gly
145 150 155 160

Thr Glu Val Leu Gln Ser Ile Glu Asp Arg Lys Lys Leu Asp Gly Leu
165 170 175

Tyr Glu Cys Ile Leu Cys Ala Cys Cys Ser Thr Ser Cys Pro Ser Tyr
Seite 226

180

185

190

Trp Trp Asn Gln Glu Gln Tyr Leu Gly Pro Ala Val Leu Met Gln Ala
 195 200 205

Tyr Arg Trp Leu Ile Asp Ser Arg Asp Gln Ala Thr Lys Thr Arg Lys
 210 215 220

Ala Met Leu Asn Asn Ser Met Ser Leu Tyr Arg Cys His Thr Ile Met
 225 230 235 240

Asn Cys Thr Arg Thr Cys Pro Lys Gly Leu Asn Pro Gly Leu Ala Ile
 245 250 255

Ala Glu Ile Lys Lys Ser Leu Ala Phe Ala
 260 265

<210> 153

<211> 608

<212> PRT

<213> Saccharomyces cerevisiae

<400> 153

Met His Thr Asn Ser Pro Leu Arg Ala Asp Asn Gln Asp Leu Glu Thr
 1 5 10 15

Gln Pro Leu Leu Arg Pro Asn Thr Glu Glu Ser Gln Leu Leu Asn Asp
 20 25 30

Glu Val Arg Ile Asn Val Ala Asn Glu Thr Leu Ile Lys Ser Arg Trp
 35 40 45

Arg Ser Ile Lys Cys Leu Ile Ile Tyr Leu Leu Gly Ile Val Leu Leu
 50 55 60

Ser Phe Phe Gly Val Ser Ile Val Gln Tyr Ile Arg Gly His Val Pro
 65 70 75 80

Pro Thr Asp Val Ile Glu Lys Asn Leu Val Gln Val Thr Asn Phe Lys
 85 90 95

Leu Val Glu Phe Gln Leu Asp Gly Trp Lys Asp Asn Met Gly Ser Asp
 100 105 110

Leu Asn Asn Asp Thr Gly Lys Tyr Leu Gln Val Ser Ile His Ser Gln
 115 120 125

Ile Trp Phe Asp Tyr Asp Lys Trp Pro Gly Thr Glu Asn Asp Ser Asp
 130 135 140

Ala Arg Ser Gln Arg Asp Trp Ile Arg Tyr Ile Asn Glu Lys Val Leu
 145 150 155 160

20080423_F_59071_PCT_sequence_listing.txt

Lys Thr Ile Cys Ile Asp Leu Asn Asn Val Thr Thr Phe Asp Gly Asp
165 170 175

Leu Val Phe Lys Asn Lys Leu Gly Asp Val Val Gly Met Glu Pro Ile
180 185 190

Cys Phe Asn Leu Ala His Arg Gln Ile Asn Asn Leu Gln Phe Lys Ile
195 200 205

Leu Val Lys Pro Ser Ile Trp Lys Ile Val Lys Val Leu Lys Lys Phe
210 215 220

Trp Asn Arg Asp Phe Glu Ser Leu Asn Ile Lys Ser Asn Leu Asp Met
225 230 235 240

Thr Ile Phe Lys Arg Lys Phe Gly Thr Arg Phe Asn Leu Leu Lys Leu
245 250 255

Asn Asp Glu Ile Leu Asp Trp Lys Asp Ile Ile Asp Trp Glu Lys Ile
260 265 270

Ser Ala Thr Pro Leu Arg Met Ile Gln Asn Met Ile Asp Gly Ile Ser
275 280 285

Leu Gln Gly Phe Thr Leu Arg Asp Ser Ser Ser Asp Gly Phe His Ala
290 295 300

Asp Met Arg Leu Asn Pro Ile Thr Ile Leu Gly Gly Val Asp Trp Leu
305 310 315 320

His Leu Pro Pro Gly Thr Ser Ile Pro Phe Ile Asn Trp Glu Ile Lys
325 330 335

Leu Pro Asp Cys Asn Gly Glu Pro Ala Ile Ala Ile Pro Thr Leu Ser
340 345 350

Cys Phe Asn Glu Pro Ile Asn Leu His His Asp Lys Asp Asn Ile Val
355 360 365

Val Cys Leu Gln Asn Glu Ile Glu Gly Pro Leu Pro Asp Glu Leu Leu
370 375 380

Tyr Gln Glu Cys Pro Gln Asn Ser Leu Thr Pro Met Ser Gln Ile Val
385 390 395 400

Asn Ala Val Leu Asn Gln Asn Glu Thr Val Thr Phe Ala Ala Arg Gly
405 410 415

His Val Leu Glu Asp Gly Ile Asp Asn Asn Ser Leu Ile Pro Ala Asp
420 425 430

20080423_F_59071_PCT_sequence_listing.txt

Met Leu Glu Asp Ile Phe Gln Glu Ala Ser Phe Ile Pro Ile Thr Thr
435 440 445

Asn Ala Thr Phe Asn Ser Ser Glu Leu Ile Gln Glu Phe Gln Ile Asn
450 455 460

Asp Leu Gln Leu Arg Trp Ala Ala Arg Lys Lys Leu Ser Leu Val Gly
465 470 475 480

Thr Phe Leu Gly Phe Phe Asp Leu Ser Phe Tyr Glu Thr His Gln Gln
485 490 495

Asp Arg Val Arg Ile Asp Thr Ile Arg Gly Gln Ile Asp Leu Tyr His
500 505 510

Asn Asp Ile Asn Phe Leu Asn Leu Pro Met Lys Gln Trp Ile Asn Ser
515 520 525

Ser Ser His Ile Leu His Asp Glu Asp Thr Gly Asn Thr Gln Met Lys
530 535 540

Leu Gln Phe Asp Leu Glu Asn Asp Asp Met Glu Val Val Asn Ser Leu
545 550 555 560

Glu Leu Thr Arg Thr Leu Asn Glu Ile Leu Phe Gln Gly Phe Thr Val
565 570 575

Ile His Phe Asn Ala Thr Ile Asp Ala Ser Leu Thr Thr Ala Leu Gly
580 585 590

Pro Trp Val Leu Thr Gly Leu Ala Gly Glu Gly Asp Thr Leu Val Thr
595 600 605

<210> 154
<211> 460
<212> PRT
<213> Saccharomyces cerevisiae

<400> 154

Met Met Leu Glu Gly Tyr Thr Val Gln Pro Pro Gln Ser Thr Leu Ile
1 5 10 15

Gly Asp Ile Glu Ile Gln Asp Glu Asn Ala Asn Gln Glu Val Lys Asn
20 25 30

Val Leu Tyr Gln Gly Val Gln Lys Gly Ile Lys Arg Leu Glu Lys Arg
35 40 45

Gln Arg Arg Val Ala Leu Gly Asp Val Thr Ser Gln Lys Ala Asn Lys
50 55 60

Ile His Asn Ala Ile His Asn Lys Phe His Gln Thr Lys Asn Asn Phe
65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Glu Ile Glu Asn Ile Arg Ser Ser Ala Leu Val Lys Glu Gln Gln Arg
85 90 95

Asp Val Arg His Glu Asp Ser Asp Tyr Phe Leu Ile Asp Ser Ser Glu
100 105 110

Gly Ser Ser Thr Asp Asp Glu Gln Val Asn Glu Asp Ala Ile Asp Asp
115 120 125

Leu Leu Ser Arg Arg Val Asn Asp Gln Gln Ile Gln Ala Asp Glu Val
130 135 140

Tyr Glu Asp Phe Asp Gly Glu Met Gln Asp Val Ile Glu Glu Asp Val
145 150 155 160

Asp Ser Gln Ile Glu Pro Leu Ser Pro Ile Asn Asn Asp Glu Ile Gln
165 170 175

Thr Glu Leu Asp Arg Ala Phe Glu Lys Tyr Phe Arg Ser Val Pro Asn
180 185 190

Pro Leu Asp Asp Asp Thr His Asp Val Val Met Val Val Glu Tyr Ala
195 200 205

Ser Asp Ile Phe Tyr Tyr Leu Arg Glu Leu Glu Val Lys Tyr Arg Pro
210 215 220

Asn Pro Tyr Tyr Met Gln Asn Gln Val Glu Leu Thr Trp Pro Phe Arg
225 230 235 240

Arg Thr Met Ile Asp Trp Leu Val Gln Leu His Phe Arg Phe Gln Leu
245 250 255

Leu Pro Glu Thr Leu Tyr Leu Thr Ile Asn Ile Val Asp Arg Phe Leu
260 265 270

Ser Lys Lys Thr Val Thr Leu Asn Arg Phe Gln Leu Val Gly Val Ser
275 280 285

Ala Leu Phe Ile Ala Ala Lys Phe Glu Glu Ile Asn Cys Pro Thr Leu
290 295 300

Asp Asp Leu Val Tyr Met Leu Glu Asn Thr Tyr Thr Arg Asp Asp Ile
305 310 315 320

Ile Arg Ala Glu Gln Tyr Met Ile Asp Thr Leu Glu Phe Glu Ile Gly
325 330 335

Trp Pro Gly Pro Met Pro Phe Leu Arg Arg Ile Ser Lys Ala Asp Asp
340 345 350

20080423_F_59071_PCT_sequence_listing.txt

Tyr Asp Phe Glu Pro Arg Thr Leu Ala Lys Tyr Leu Leu Glu Thr Thr
355 360 365

Ile Val Glu Pro Lys Leu Val Ala Ala Ala Pro Ser Trp Leu Ala Ala
370 375 380

Gly Ala Tyr Phe Leu Ser Arg Thr Ile Leu Gly Ser Asn Asp Trp Ser
385 390 395 400

Leu Lys His Val Phe Tyr Ser Gly Tyr Thr Ser Ser Gln Ile Ile Pro
405 410 415

Leu Ala Ser Leu Ile Leu Glu Asn Cys Lys Asn Ala Ser Arg Arg His
420 425 430

His Ser Ile Trp Lys Lys Tyr Phe Asp Gln Lys His Tyr Arg Cys Ser
435 440 445

Gln Ile Val Glu Glu Trp Ile Val Ser Thr Glu Ala
450 455 460

<210> 155
<211> 200
<212> PRT
<213> Saccharomyces cerevisiae

<400> 155

Met Ala Gly Ile Lys Leu Thr His Lys Leu Tyr Gln Tyr Tyr Gln Leu
1 5 10 15

Ala Thr Ser Phe Leu Tyr Ala Ala Leu Leu Ile Arg Trp Leu Ile Leu
20 25 30

Met Pro Leu Val Gly Ser Arg Phe Leu Pro Gly Gly Ile His Glu Phe
35 40 45

Leu Ile Tyr Leu Met Phe Tyr Ser Ser Ile Met Glu Val Ile Trp Leu
50 55 60

Leu Arg Phe His Gly Phe Lys Tyr Gly Leu Leu Ser Arg Thr Phe Leu
65 70 75 80

Lys Asp Leu Asn Phe Ile Tyr Leu Val Ser Val Ile His Phe Tyr Asp
85 90 95

Asp Tyr Glu His Ala Leu Ile Leu Lys Asn Ala Ser Tyr Ser Ser Phe
100 105 110

Ile Ile Ser Leu Ser Leu Ser Gln Ala Tyr Cys His Trp Cys Lys Leu
115 120 125

Phe Lys Arg Lys Gly Val Lys Glu Arg Thr Leu Val Trp Lys Val Asn
Seite 231

20080423_F_59071_PCT_sequence_listing.txt

130

135

140

Thr Phe Val Thr Leu Pro Ile Leu Tyr Leu Ser Glu Phe Ala Leu Leu
145 150 155 160

Leu Leu Asn Ile Gln Val Lys Asn Tyr His Ser Thr Pro Thr Leu Asp
165 170 175

Ile Ile Asn Arg Val Val Leu Leu Ala Tyr Phe Pro Val Leu Leu Thr
180 185 190

Ala Tyr Lys Lys Leu Leu Thr Lys
195 200

<210> 156

<211> 204

<212> PRT

<213> Saccharomyces cerevisiae

<400> 156

Met Gly Ala Tyr Lys Tyr Leu Glu Glu Leu Gln Arg Lys Lys Gln Ser
1 5 10 15

Asp Val Leu Arg Phe Leu Gln Arg Val Arg Val Trp Glu Tyr Arg Gln
20 25 30

Lys Asn Val Ile His Arg Ala Ala Arg Pro Thr Arg Pro Asp Lys Ala
35 40 45

Arg Arg Leu Gly Tyr Lys Ala Lys Gln Gly Phe Val Ile Tyr Arg Val
50 55 60

Arg Val Arg Arg Gly Asn Arg Lys Arg Pro Val Pro Lys Gly Ala Thr
65 70 75 80

Tyr Gly Lys Pro Thr Asn Gln Gly Val Asn Glu Leu Lys Tyr Gln Arg
85 90 95

Ser Leu Arg Ala Thr Ala Glu Glu Arg Val Gly Arg Arg Ala Ala Asn
100 105 110

Leu Arg Val Leu Asn Ser Tyr Trp Val Asn Gln Asp Ser Thr Tyr Lys
115 120 125

Tyr Phe Glu Val Ile Leu Val Asp Pro Gln His Lys Ala Ile Arg Arg
130 135 140

Asp Ala Arg Tyr Asn Trp Ile Cys Asp Pro Val His Lys His Arg Glu
145 150 155 160

Ala Arg Gly Leu Thr Ala Thr Gly Lys Lys Ser Arg Gly Ile Asn Lys
165 170 175

20080423_F_59071_PCT_sequence_listing.txt

Gly His Lys Phe Asn Asn Thr Lys Ala Gly Arg Arg Lys Thr Trp Lys
180 185 190

Arg Gln Asn Thr Leu Ser Leu Trp Arg Tyr Arg Lys
195 200

<210> 157

<211> 255

<212> PRT

<213> Saccharomyces sp.

<400> 157

Met Ala Val Gly Lys Asn Lys Arg Leu Ser Lys Gly Lys Lys Gly Gln
1 5 10 15

Lys Lys Arg Val Val Asp Pro Phe Thr Arg Lys Glu Trp Phe Asp Ile
20 25 30

Lys Ala Pro Ser Thr Phe Glu Asn Arg Asn Val Gly Lys Thr Leu Val
35 40 45

Asn Lys Ser Thr Gly Leu Lys Ser Ala Ser Asp Ala Leu Lys Gly Arg
50 55 60

Val Val Glu Val Cys Leu Ala Asp Leu Gln Gly Ser Glu Asp His Ser
65 70 75 80

Phe Arg Lys Ile Lys Leu Arg Val Asp Glu Val Gln Gly Lys Asn Leu
85 90 95

Leu Thr Asn Phe His Gly Met Asp Phe Thr Thr Asp Lys Leu Arg Ser
100 105 110

Met Val Arg Lys Trp Gln Thr Leu Ile Glu Ala Asn Val Thr Val Lys
115 120 125

Thr Ser Asp Asp Tyr Val Leu Arg Ile Phe Ala Ile Ala Phe Thr Arg
130 135 140

Lys Gln Ala Asn Gln Val Lys Arg His Ser Tyr Ala Gln Ser Ser His
145 150 155 160

Ile Arg Ala Ile Arg Lys Val Ile Ser Glu Ile Leu Thr Lys Glu Val
165 170 175

Gln Gly Ser Thr Leu Ala Gln Leu Thr Ser Lys Leu Ile Pro Glu Val
180 185 190

Ile Asn Lys Glu Ile Glu Asn Ala Thr Lys Asp Ile Phe Pro Leu Gln
195 200 205

Asn Ile His Val Arg Lys Val Lys Leu Leu Lys Gln Pro Lys Phe Asp
Seite 233

210

215

220

Val Gly Ala Leu Met Ala Leu His Gly Glu Gly Ser Gly Glu Glu Lys
 225 230 235 240

Gly Lys Lys Val Thr Gly Phe Lys Asp Glu Val Leu Glu Thr Val
 245 250 255

<210> 158

<211> 225

<212> PRT

<213> Saccharomyces cerevisiae

<400> 158

Met Val Val Ile Asn Gly Val Lys Tyr Ala Cys Glu Thr Cys Ile Arg
 1 5 10 15

Gly His Arg Ala Ala Gln Cys Thr His Thr Asp Gly Pro Leu Gln Met
 20 25 30

Ile Arg Arg Lys Gly Arg Pro Ser Thr Thr Cys Gly His Cys Lys Glu
 35 40 45

Leu Arg Arg Thr Lys Asn Phe Asn Pro Ser Gly Gly Cys Met Cys Ala
 50 55 60

Ser Ala Arg Arg Pro Ala Val Gly Ser Lys Glu Asp Glu Thr Arg Cys
 65 70 75 80

Arg Cys Asp Glu Gly Glu Pro Cys Lys Cys His Thr Lys Arg Lys Ser
 85 90 95

Ser Arg Lys Ser Lys Gly Gly Ser Cys His Arg Arg Ala Asn Asp Glu
 100 105 110

Ala Ala His Val Asn Gly Leu Gly Ile Ala Asp Leu Asp Val Leu Leu
 115 120 125

Gly Leu Asn Gly Arg Ser Ser Asp Val Asp Met Thr Thr Thr Leu Pro
 130 135 140

Ser Leu Lys Pro Pro Leu Gln Asn Gly Glu Ile Lys Ala Asp Ser Ile
 145 150 155 160

Asp Asn Leu Asp Leu Ala Ser Leu Asp Pro Leu Glu Gln Ser Pro Ser
 165 170 175

Ile Ser Met Glu Pro Val Ser Ile Asn Glu Thr Gly Ser Ala Tyr Thr
 180 185 190

Thr Thr Asn Thr Ala Leu Asn Asp Ile Asp Ile Pro Phe Ser Ile Asn
 195 200 205

20080423_F_59071_PCT_sequence_listing.txt

Glu Leu Asn Glu Leu Tyr Lys Gln Val Ser Ser His Asn Ser His Ser
210 215 220

Gln
225

<210> 159
<211> 133
<212> PRT
<213> Saccharomyces cerevisiae

<400> 159

Met Asp Arg Asp His Ile Asn Asp His Asp His Arg Met Ser Tyr Ser
1 5 10 15

Ile Asn Lys Asp Asp Leu Leu Leu Met Val Leu Ala Val Phe Ile Pro
20 25 30

Pro Val Ala Val Trp Lys Arg Lys Gly Met Phe Asn Arg Asp Thr Leu
35 40 45

Leu Asn Leu Leu Leu Phe Leu Leu Leu Phe Phe Pro Ala Ile Ile His
50 55 60

Ala Cys Tyr Val Val Tyr Glu Thr Ser Ser Glu Arg Ser Tyr Asp Leu
65 70 75 80

Ser Arg Arg His Ala Thr Ala Pro Ala Val Asp Arg Asp Leu Glu Ala
85 90 95

His Pro Ala Glu Glu Ser Gln Ala Gln Pro Pro Ala Tyr Asp Glu Asp
100 105 110

Asp Glu Ala Gly Ala Asp Val Pro Leu Met Asp Asn Lys Gln Gln Leu
115 120 125

Ser Ser Gly Arg Thr
130

<210> 160
<211> 119
<212> PRT
<213> Saccharomyces cerevisiae

<400> 160

Met Pro His Leu Ala Ala Glu Ala His Thr Trp Pro Pro His Ile Ser
1 5 10 15

His Ser Thr Leu Ser Ile Pro His Pro Thr Pro Glu His Arg His Val
20 25 30

Phe His Lys Lys Asp Val Lys Asn Lys Arg Asn Glu Glu Lys Gly Asn
35 40 45

20080423_F_59071_PCT_sequence_listing.txt

Asn Leu Leu Tyr Val Leu Phe Arg Thr Thr Val Ile Lys Ser Ser Phe
50 55 60

Arg Ser Leu Ser Thr Ala Gly Arg Glu Leu Leu Phe Val Val His Gln
65 70 75 80

Gly His Ile Gly Thr Gly Leu Ile Val Phe Ile Ile Cys Trp Arg Leu
85 90 95

Cys Leu Arg Phe Leu Cys Arg Val Ser Phe Gln Val Thr Val Tyr Gly
100 105 110

Gly Arg Ser Arg Met Ser Ala
115

<210> 161
<211> 329
<212> PRT
<213> Saccharomyces cerevisiae

<400> 161

Met Cys Ser Arg Ile Leu Leu Ser Gly Leu Val Gly Leu Gly Ala Gly
1 5 10 15

Thr Gly Leu Thr Tyr Leu Leu Leu Asn Lys His Ser Pro Thr Gln Ile
20 25 30

Ile Glu Thr Pro Tyr Pro Pro Thr Gln Lys Pro Asn Ser Asn Ile Gln
35 40 45

Ser His Ser Phe Asn Val Asp Pro Ser Gly Phe Phe Lys Tyr Gly Phe
50 55 60

Pro Gly Pro Ile His Asp Leu Gln Asn Arg Glu Glu Phe Ile Ser Cys
65 70 75 80

Tyr Asn Arg Gln Thr Gln Asn Pro Tyr Trp Val Leu Glu His Ile Thr
85 90 95

Pro Glu Ser Leu Ala Ala Arg Asn Ala Asp Arg Lys Asn Ser Phe Phe
100 105 110

Lys Glu Asp Glu Val Ile Pro Glu Lys Phe Arg Gly Lys Leu Arg Asp
115 120 125

Tyr Phe Arg Ser Gly Tyr Asp Arg Gly His Gln Ala Pro Ala Ala Asp
130 135 140

Ala Lys Phe Ser Gln Gln Ala Met Asp Asp Thr Phe Tyr Leu Ser Asn
145 150 155 160

20080423_F_59071_PCT_sequence_listing.txt

Met Cys Pro Gln Val Gly Glu Gly Phe Asn Arg Asp Tyr Trp Ala His
165 170 175

Leu Glu Tyr Phe Cys Arg Gly Leu Thr Lys Lys Tyr Lys Ser Val Arg
180 185 190

Ile Val Thr Gly Pro Leu Tyr Leu Pro Lys Lys Asp Pro Ile Asp Asn
195 200 205

Lys Phe Arg Val Asn Tyr Glu Val Ile Gly Asn Pro Pro Ser Ile Ala
210 215 220

Val Pro Thr His Phe Phe Lys Leu Ile Val Ala Glu Ala Pro Thr Ala
225 230 235 240

Asn Pro Ala Arg Glu Asp Ile Ala Val Ala Ala Phe Val Leu Pro Asn
245 250 255

Glu Pro Ile Ser Asn Glu Thr Lys Leu Thr Asp Phe Glu Val Pro Ile
260 265 270

Asp Ala Leu Glu Arg Ser Thr Gly Leu Glu Leu Leu Gln Lys Val Pro
275 280 285

Pro Ser Lys Lys Lys Ala Leu Cys Lys Glu Val Asn Cys Gln Ile Val
290 295 300

Val Arg Asp Phe Ser Asn Ala Ala Ile Lys Gln Ser Lys Asp Val Lys
305 310 315 320

Leu Leu Pro Pro Pro Lys Lys Arg Asn
325

<210> 162
<211> 215
<212> PRT
<213> Saccharomyces cerevisiae

<400> 162

Met Asn Gly Ile Gln Val Asp Ile Asn Arg Leu Lys Lys Gly Glu Val
1 5 10 15

Ser Leu Gly Thr Ser Ile Met Ala Val Thr Phe Lys Asp Gly Val Ile
20 25 30

Leu Gly Ala Asp Ser Arg Thr Thr Thr Gly Ala Tyr Ile Ala Asn Arg
35 40 45

Val Thr Asp Lys Leu Thr Arg Val His Asp Lys Ile Trp Cys Cys Arg
50 55 60

Ser Gly Ser Ala Ala Asp Thr Gln Ala Ile Ala Asp Ile Val Gln Tyr
65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

His Leu Glu Leu Tyr Thr Ser Gln Tyr Gly Thr Pro Ser Thr Glu Thr
85 90 95

Ala Ala Ser Val Phe Lys Glu Leu Cys Tyr Glu Asn Lys Asp Asn Leu
100 105 110

Thr Ala Gly Ile Ile Val Ala Gly Tyr Asp Asp Lys Asn Lys Gly Glu
115 120 125

Val Tyr Thr Ile Pro Leu Gly Gly Ser Val His Lys Leu Pro Tyr Ala
130 135 140

Ile Ala Gly Ser Gly Ser Thr Phe Ile Tyr Gly Tyr Cys Asp Lys Asn
145 150 155 160

Phe Arg Glu Asn Met Ser Lys Glu Glu Thr Val Asp Phe Ile Lys His
165 170 175

Ser Leu Ser Gln Ala Ile Lys Trp Asp Gly Ser Ser Gly Gly Val Ile
180 185 190

Arg Met Val Val Leu Thr Ala Ala Gly Val Glu Arg Leu Ile Phe Tyr
195 200 205

Pro Asp Glu Tyr Glu Gln Leu
210 215

<210> 163
<211> 109
<212> PRT
<213> Saccharomyces cerevisiae

<400> 163

Met Ser Gln Ile Ala Gln Glu Met Thr Val Ser Leu Arg Asn Ala Arg
1 5 10 15

Thr Gln Leu Asp Met Val Asn Gln Gln Leu Ala Tyr Leu Asp Arg Gln
20 25 30

Glu Lys Leu Ala Glu Leu Thr Lys Lys Glu Leu Glu Ser Tyr Pro Thr
35 40 45

Asp Lys Val Trp Arg Ser Cys Gly Lys Ser Phe Ile Leu Gln Asp Lys
50 55 60

Ser Lys Tyr Val Asn Asp Leu Ser His Ala Glu Thr Val Leu Leu Asp
65 70 75 80

Gln Arg Lys Thr Leu Lys Ile Lys Lys Asn Tyr Leu Glu Thr Thr Val
85 90 95

20080423_F_59071_PCT_sequence_listing.txt

Glu Lys Thr Ile Asp Asn Leu Lys Ala Leu Met Lys Asn
100 105

<210> 164

<211> 345

<212> PRT

<213> Saccharomyces cerevisiae

<400> 164

Met Glu Ala His Asn Gln Phe Leu Lys Thr Phe Gln Lys Glu Arg His
1 5 10 15

Asp Met Lys Glu Ala Glu Lys Asp Glu Ile Leu Leu Met Glu Asn Ser
20 25 30

Arg Arg Phe Val Met Phe Pro Ile Lys Tyr His Glu Ile Trp Ala Ala
35 40 45

Tyr Lys Lys Val Glu Ala Ser Phe Trp Thr Ala Glu Glu Ile Glu Leu
50 55 60

Ala Lys Asp Thr Glu Asp Phe Gln Lys Leu Thr Asp Asp Gln Lys Thr
65 70 75 80

Tyr Ile Gly Asn Leu Leu Ala Leu Ser Ile Ser Ser Asp Asn Leu Val
85 90 95

Asn Lys Tyr Leu Ile Glu Asn Phe Ser Ala Gln Leu Gln Asn Pro Glu
100 105 110

Gly Lys Ser Phe Tyr Gly Phe Gln Ile Met Met Glu Asn Ile Tyr Ser
115 120 125

Glu Val Tyr Ser Met Met Val Asp Ala Phe Phe Lys Asp Pro Lys Asn
130 135 140

Ile Pro Leu Phe Lys Glu Ile Ala Asn Leu Pro Glu Val Lys His Lys
145 150 155 160

Ala Ala Phe Ile Glu Arg Trp Ile Ser Asn Asp Asp Ser Leu Tyr Ala
165 170 175

Glu Arg Leu Val Ala Phe Ala Ala Lys Glu Gly Ile Phe Gln Ala Gly
180 185 190

Asn Tyr Ala Ser Met Phe Trp Leu Thr Asp Lys Lys Ile Met Pro Gly
195 200 205

Leu Ala Met Ala Asn Arg Asn Ile Cys Arg Asp Arg Gly Ala Tyr Thr
210 215 220

Asp Phe Ser Cys Leu Leu Phe Ala His Leu Arg Thr Lys Pro Asn Pro
225 230 235 240

20080423_F_59071_PCT_sequence_listing.txt

Lys Ile Ile Glu Lys Ile Ile Thr Glu Ala Val Glu Ile Glu Lys Glu
245 250 255

Tyr Tyr Ser Asn Ser Leu Pro Val Glu Lys Phe Gly Met Asp Leu Lys
260 265 270

Ser Ile His Thr Tyr Ile Glu Phe Val Ala Asp Gly Leu Leu Gln Gly
275 280 285

Phe Gly Asn Glu Lys Tyr Tyr Asn Ala Val Asn Pro Phe Glu Phe Met
290 295 300

Glu Asp Val Ala Thr Ala Gly Lys Thr Thr Phe Phe Glu Lys Lys Val
305 310 315 320

Ser Asp Tyr Gln Lys Ala Ser Asp Met Ser Lys Ser Ala Thr Pro Ser
325 330 335

Lys Glu Ile Asn Phe Asp Asp Asp Phe
340 345

<210> 165
<211> 468
<212> PRT
<213> Saccharomyces cerevisiae
<400> 165

Met Asn Leu Lys Leu Ser Ala Ile Glu Ser Tyr Phe Phe His Arg Ser
1 5 10 15

Arg Leu Asn Leu His Ser Cys Phe Tyr Val Gly Ile Lys Leu Asn Glu
20 25 30

Leu Pro Lys Lys Ser Gln Leu Ile Ala Ala Leu Lys Tyr Thr Val Ile
35 40 45

Gln His Glu Arg Leu Thr Cys Asn Val Phe Tyr Asp Glu Leu Lys Lys
50 55 60

Glu Asn Phe Leu Gln Asn Ile Leu Glu Pro Leu Lys Phe Cys Asp Leu
65 70 75 80

Val Glu Tyr Arg His Asp Trp Asp Gln Leu Gly Glu Thr Glu Ile Asn
85 90 95

His Ile Phe Gln Arg Tyr Asn Phe Ser Tyr Asn Glu Asn Lys Pro Leu
100 105 110

Trp Lys Ile Leu Ile Leu Pro Asn Gln Asn Gln Met Leu Leu Leu Thr
115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Asp His Val Leu Met Asp Gly Met Ser Ala Ile His Val Trp Glu Thr
130 135 140

Phe Met Glu Gly Leu Gln Met Gln Gln Pro Val Glu Ile Asp Glu Thr
145 150 155 160

Ile Tyr Ser Pro Ser Leu Asn Ser Ser Thr Glu Lys Ile Met Ser Ala
165 170 175

Pro Leu Tyr Gly Asp Trp Pro Ile Pro Trp Asn Trp His Ile Val Arg
180 185 190

Gln Leu Val Ser Arg Leu His Tyr Trp Phe Pro Gln Thr Val Val Lys
195 200 205

Asn Asn Arg Asn Leu Ile Gln Phe Ala Asn Tyr Ser Phe Pro Lys Asp
210 215 220

Leu Leu Asp Asp Lys Pro Ser Asp Gly Thr Gln Lys Tyr Lys Val Lys
225 230 235 240

Asn Thr Asn His Gln Trp Glu Phe Arg Leu Ser Pro Thr His Leu Asn
245 250 255

Asp Ile Leu Gln Glu Cys Lys Ala Asn Asn Thr Ser Leu Thr Ser Leu
260 265 270

Leu Gly Ala Leu Val Cys Thr Ser Phe Glu Lys Ile Ala Ala His Glu
275 280 285

Tyr Thr Gly Ser Phe Leu Lys Ile Glu Leu Pro Met Asn Ile Arg Lys
290 295 300

Pro Phe Glu Arg Val Leu Lys Leu Pro Ser Asp Asp Lys Leu Ala Val
305 310 315 320

Gly Asn Phe Ile Ala Val Ile Glu Phe Asn His Lys Leu His Gln Asn
325 330 335

Arg Gly Ile Trp Asp Ile Ala Ser Gln Ile Gln Arg Ala Ile Arg Ser
340 345 350

Ser Ser Glu Asp Lys Ile Ile Asp Lys Val Asn Glu Val Lys Leu Leu
355 360 365

Glu Val Ile Ser Ser Gln Gln Tyr Ile Glu Asp Lys Ile Ser Leu Asn
370 375 380

Asn Gly Pro Ser Ser Thr Phe Glu Val Thr Asn Leu Gly Phe Gln Thr
385 390 395 400

Phe Lys Asp Ala Cys Asn Thr Ser Leu Pro Phe Tyr Ile Val Asp Ala
Seite 241

Thr Phe Asn Glu Pro Gln Gly Ile Ser Ser Ile Phe Ser Leu Ser Val
420 425 430

Ile Ser Thr Pro Gly Asn Gly Leu His Cys Cys Ile Ser Tyr Pro Asn
435 440 445

Thr Leu Thr Lys Val Leu Glu Pro His Trp Gln Tyr Met Lys Asp Tyr
450 455 460

Leu Asn Leu Tyr
465

<210> 166
<211> 189
<212> PRT
<213> Saccharomyces cerevisiae

<400> 166

Met Asp Asp Lys Lys Thr Trp Ser Thr Val Thr Leu Arg Thr Phe Asn
1 5 10 15

Gln Leu Val Thr Ser Ser Leu Ile Gly Tyr Ser Lys Lys Met Asp Ser
20 25 30

Met Asn His Lys Met Glu Gly Asn Ala Gly His Asp His Ser Asp Met
35 40 45

His Met Gly Asp Gly Asp Asp Thr Cys Ser Met Asn Met Leu Phe Ser
50 55 60

Trp Ser Tyr Lys Asn Thr Cys Val Val Phe Glu Trp Trp His Ile Lys
65 70 75 80

Thr Leu Pro Gly Leu Ile Leu Ser Cys Leu Ala Ile Phe Gly Leu Ala
85 90 95

Tyr Leu Tyr Glu Tyr Leu Lys Tyr Cys Val His Lys Arg Gln Leu Ser
100 105 110

Gln Arg Val Leu Leu Pro Asn Arg Ser Leu Thr Lys Ile Asn Gln Ala
115 120 125

Asp Lys Val Ser Asn Ser Ile Leu Tyr Gly Leu Gln Val Gly Phe Ser
130 135 140

Phe Met Leu Met Leu Val Phe Met Thr Tyr Asn Gly Trp Leu Met Leu
145 150 155 160

Ala Val Val Cys Gly Ala Ile Trp Gly Asn Tyr Ser Trp Cys Thr Ser
165 170 175

20080423_F_59071_PCT_sequence_listing.txt

Tyr Ser Pro Glu Ile Asp Asp Ser Ser Leu Ala Cys His
180 185

<210> 167
<211> 467
<212> PRT
<213> Saccharomyces cerevisiae
<400> 167

Met Arg Ile Ser Lys Asn Ser His Lys Arg Gln Arg Thr Arg Leu Tyr
1 5 10 15

Phe Leu Val Thr Phe Ile Ile Tyr Ser Ile Ile Pro Cys Arg Ala Val
20 25 30

Leu Val Pro Trp Leu Asp Asp Asp Pro Phe Glu Ala Thr Leu Leu Glu
35 40 45

Met Gly Asp Glu Pro Trp Ser Lys Asp Ile Leu Ser Ser Thr Pro Pro
50 55 60

Leu His Pro Ser Glu Val Thr Glu Asp Asn Lys Ser Leu Lys Gln Arg
65 70 75 80

Gly Asn Val Pro Gln Tyr Val Ile Asp Asn Ser Pro Leu Leu His Leu
85 90 95

Tyr Ser Glu Glu Lys Tyr Trp Pro Ala Asp Val Lys Asp Phe Val Lys
100 105 110

Arg Phe Gln Leu Arg Asp His Ser Gly Glu Lys Ile Ile Asn Glu His
115 120 125

Leu Arg Asp Leu Ser Asp Leu Gln Glu Tyr Tyr Ser Val Glu Leu Glu
130 135 140

Asn Gly Thr Trp Gly Arg Val Ser Ser Glu Gly Thr Tyr Met Thr Ser
145 150 155 160

Leu Asp Asp Phe Asp Lys Gly Pro Asp Trp Leu Leu Gly Glu Gln Pro
165 170 175

Glu Tyr Gly Thr Gly His Ile Lys Lys Ala Pro Ala Val Leu Phe Val
180 185 190

Val Asp Lys Gly Asn Gly Trp Val Asp Ala Phe Trp Phe Tyr Phe Tyr
195 200 205

Pro Phe Asn Trp Gly Pro Tyr Ile Met Gly Ser Gly Pro Trp Gly Asn
210 215 220

His Val Gly Asp Trp Glu His Ser Leu Val Arg Phe Tyr Lys Gly Glu
Seite 243

225 230 235 240

Pro Gln Tyr Leu Trp₂₄₅ Met Ser Ala His Gly₂₅₀ Gly Gly Ser Ala Tyr₂₅₅ Lys

Phe Glu Ala Ile₂₆₀ Glu Lys Ile Lys Arg₂₆₅ Leu Arg Arg Val Asp₂₇₀ Gly Lys

Leu Thr Asn₂₇₅ Glu Val Ile Lys Lys₂₈₀ Pro Leu Ile Phe Ser₂₈₅ Ala Arg Gly

Thr His₂₉₀ Ala His Tyr Ala Ser₂₉₅ Val Gly Gln His Ala₃₀₀ His Asp Val Pro

Phe Phe Phe Met Pro Leu₃₁₀ Ser Asp Phe Thr Asp₃₁₅ Arg Gly Pro Leu Trp₃₂₀

Asp Pro Ser Leu Asn₃₂₅ Tyr Tyr Ala Tyr Thr₃₃₀ Val Thr Val Gly Glu₃₃₅ Lys

Met Thr Pro Cys₃₄₀ Gly Ala Glu Glu Thr₃₄₅ Lys Met Gly Leu Glu₃₅₀ Trp Leu

Ser Phe Lys₃₅₅ Gly Ala Trp Gly Asp₃₆₀ Lys Gln Leu Arg Pro₃₆₅ Arg Asp Pro

Arg Gln Lys Trp Cys Pro Phe₃₇₅ Gln Trp Lys Tyr Ile₃₈₀ Asp Gly Pro Lys

Gly Pro Leu Phe Lys Asn₃₉₀ Met Glu Arg Val Ser₃₉₅ Leu Cys Gln Arg Phe₄₀₀

Lys Trp Trp Asn Phe₄₀₅ Trp Lys Gly Cys Pro₄₁₀ Ala Arg Arg Tyr Ile₄₁₅ Lys

Arg Gly Glu Gly₄₂₀ Leu Asp Ala Glu Lys₄₂₅ Asn Asp Leu Val Gly₄₃₀ Asp Asn

Cys Gly Ile₄₃₅ Leu Leu Tyr Asn Ile₄₄₀ Arg Pro Lys Trp Leu₄₄₅ Arg Ser Ile

Leu Arg₄₅₀ Phe Leu Thr Trp Arg₄₅₅ Gly Ser Val Cys Phe₄₆₀ Ile Met Asp Tyr

Phe Thr Gly
465

<210> 168

<211> 490

<212> PRT

<213> Saccharomyces cerevisiae

<400> 168

20080423_F_59071_PCT_sequence_listing.txt

Met Phe Arg Ile Gln Leu Arg Thr Met Ser Ser Lys Thr Cys Lys Ser
1 5 10 15

Asp Tyr Pro Lys Glu Phe Val Ser Phe Leu Asn Ser Ser His Ser Pro
20 25 30

Tyr His Thr Val His Asn Ile Lys Lys His Leu Val Ser Asn Gly Phe
35 40 45

Lys Glu Leu Ser Glu Arg Asp Ser Trp Ala Gly His Val Ala Gln Lys
50 55 60

Gly Lys Tyr Phe Val Thr Arg Asn Gly Ser Ser Ile Ile Ala Phe Ala
65 70 75 80

Val Gly Gly Lys Trp Glu Pro Gly Asn Pro Ile Ala Ile Thr Gly Ala
85 90 95

His Thr Asp Ser Pro Ala Leu Arg Ile Lys Pro Ile Ser Lys Arg Val
100 105 110

Ser Glu Lys Tyr Leu Gln Val Gly Val Glu Thr Tyr Gly Gly Ala Ile
115 120 125

Trp His Ser Trp Phe Asp Lys Asp Leu Gly Val Ala Gly Arg Val Phe
130 135 140

Val Lys Asp Ala Lys Thr Gly Lys Ser Ile Ala Arg Leu Val Asp Leu
145 150 155 160

Asn Arg Pro Leu Leu Lys Ile Pro Thr Leu Ala Ile His Leu Asp Arg
165 170 175

Asp Val Asn Gln Lys Phe Glu Phe Asn Arg Glu Thr Gln Leu Leu Pro
180 185 190

Ile Gly Gly Leu Gln Glu Asp Lys Thr Glu Ala Lys Thr Glu Lys Glu
195 200 205

Ile Asn Asn Gly Glu Phe Thr Ser Ile Lys Thr Ile Val Gln Arg His
210 215 220

His Ala Glu Leu Leu Gly Leu Ile Ala Lys Glu Leu Ala Ile Asp Thr
225 230 235 240

Ile Glu Asp Ile Glu Asp Phe Glu Leu Ile Leu Tyr Asp His Asn Ala
245 250 255

Ser Thr Leu Gly Gly Phe Asn Asp Glu Phe Val Phe Ser Gly Arg Leu
260 265 270

20080423_F_59071_PCT_sequence_listing.txt

Asp Asn Leu Thr Ser Cys Phe Thr Ser Met His Gly Leu Thr Leu Ala
275 280 285

Ala Asp Thr Glu Ile Asp Arg Glu Ser Gly Ile Arg Leu Met Ala Cys
290 295 300

Phe Asp His Glu Glu Ile Gly Ser Ser Ser Ala Gln Gly Ala Asp Ser
305 310 315 320

Asn Phe Leu Pro Asn Ile Leu Glu Arg Leu Ser Ile Leu Lys Gly Asp
325 330 335

Gly Ser Asp Gln Thr Lys Pro Leu Phe His Ser Ala Ile Leu Glu Thr
340 345 350

Ser Ala Lys Ser Phe Phe Leu Ser Ser Asp Val Ala His Ala Val His
355 360 365

Pro Asn Tyr Ala Asn Lys Tyr Glu Ser Gln His Lys Pro Leu Leu Gly
370 375 380

Gly Gly Pro Val Ile Lys Ile Asn Ala Asn Gln Arg Tyr Met Thr Asn
385 390 395 400

Ser Pro Gly Leu Val Leu Val Lys Arg Leu Ala Glu Ala Ala Lys Val
405 410 415

Pro Leu Gln Leu Phe Val Val Ala Asn Asp Ser Pro Cys Gly Ser Thr
420 425 430

Ile Gly Pro Ile Leu Ala Ser Lys Thr Gly Ile Arg Thr Leu Asp Leu
435 440 445

Gly Asn Pro Val Leu Ser Met His Ser Ile Arg Glu Thr Gly Gly Ser
450 455 460

Ala Asp Leu Glu Phe Gln Ile Lys Leu Phe Lys Glu Phe Phe Glu Arg
465 470 475 480

Tyr Thr Ser Ile Glu Ser Glu Ile Val Val
485 490

<210> 169

<211> 576

<212> PRT

<213> Saccharomyces cerevisiae

<400> 169

Met Ile Ala Leu Pro Val Glu Lys Ala Pro Arg Lys Ser Leu Trp Gln
1 5 10 15

Arg His Arg Ala Phe Ile Ser Gly Ile Val Ala Leu Ile Ile Ile Gly
20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Thr Phe Phe Leu Thr Ser Gly Leu His Pro Ala Pro Pro His Glu Ala
35 40 45

Lys Arg Pro His His Gly Lys Gly Pro Met His Ser Pro Lys Cys Glu
50 55 60

Lys Ile Glu Pro Leu Ser Pro Ser Phe Lys His Ser Val Asp Thr Ile
65 70 75 80

Leu His Asp Pro Ala Phe Arg Asn Ser Ser Ile Glu Lys Leu Ser Asn
85 90 95

Ala Val Arg Ile Pro Thr Val Val Gln Asp Lys Asn Pro Asn Pro Ala
100 105 110

Asp Asp Pro Asp Phe Tyr Lys His Phe Tyr Glu Leu His Asp Tyr Phe
115 120 125

Glu Lys Thr Phe Pro Asn Ile His Lys His Leu Lys Leu Glu Lys Val
130 135 140

Asn Glu Leu Gly Leu Leu Tyr Thr Trp Glu Gly Ser Asp Pro Asp Leu
145 150 155 160

Lys Pro Leu Leu Leu Met Ala His Gln Asp Val Val Pro Val Asn Asn
165 170 175

Glu Thr Leu Ser Ser Trp Lys Phe Pro Pro Phe Ser Gly His Tyr Asp
180 185 190

Pro Glu Thr Asp Phe Val Trp Gly Arg Gly Ser Asn Asp Cys Lys Asn
195 200 205

Leu Leu Ile Ala Glu Phe Glu Ala Ile Glu Gln Leu Leu Ile Asp Gly
210 215 220

Phe Lys Pro Asn Arg Thr Ile Val Met Ser Leu Gly Phe Asp Glu Glu
225 230 235 240

Ala Ser Gly Thr Leu Gly Ala Ala Ser Leu Ala Ser Phe Leu His Glu
245 250 255

Arg Tyr Gly Asp Asp Gly Ile Tyr Ser Ile Ile Asp Glu Gly Glu Gly
260 265 270

Ile Met Glu Val Asp Lys Asp Val Phe Val Ala Thr Pro Ile Asn Ala
275 280 285

Glu Lys Gly Tyr Val Asp Phe Glu Val Ser Ile Leu Gly His Gly Gly
290 295 300

20080423_F_59071_PCT_sequence_listing.txt

His Ser Ser Val Pro Pro Asp His Thr Thr Ile Gly Ile Ala Ser Glu
 305 310 315 320
 Leu Ile Thr Glu Phe Glu Ala Asn Pro Phe Asp Tyr Glu Phe Glu Phe
 325 330 335
 Asp Asn Pro Ile Tyr Gly Leu Leu Thr Cys Ala Ala Glu His Ser Lys
 340 345 350
 Ser Leu Ser Lys Asp Val Lys Lys Thr Ile Leu Gly Ala Pro Phe Cys
 355 360 365
 Pro Arg Arg Lys Asp Lys Leu Val Glu Tyr Ile Ser Asn Gln Ser His
 370 375 380
 Leu Arg Ser Leu Ile Arg Thr Thr Gln Ala Val Asp Ile Ile Asn Gly
 385 390 395 400
 Gly Val Lys Ala Asn Ala Leu Pro Glu Thr Thr Arg Phe Leu Ile Asn
 405 410 415
 His Arg Ile Asn Leu His Ser Ser Val Ala Glu Val Phe Glu Arg Asn
 420 425 430
 Ile Glu Tyr Ala Lys Lys Ile Ala Glu Lys Tyr Gly Tyr Gly Leu Ser
 435 440 445
 Lys Asn Gly Asp Asp Tyr Ile Ile Pro Glu Thr Glu Leu Gly His Ile
 450 455 460
 Asp Ile Thr Leu Leu Arg Glu Leu Glu Pro Ala Pro Leu Ser Pro Ser
 465 470 475 480
 Ser Gly Pro Val Trp Asp Ile Leu Ala Gly Thr Ile Gln Asp Val Phe
 485 490 495
 Glu Asn Gly Val Leu Gln Asn Asn Glu Glu Phe Tyr Val Thr Thr Gly
 500 505 510
 Leu Phe Ser Gly Asn Thr Asp Thr Lys Tyr Tyr Trp Asn Leu Ser Lys
 515 520 525
 Asn Ile Tyr Arg Phe Val Gly Ser Ile Ile Asp Ile Asp Leu Leu Lys
 530 535 540
 Thr Leu His Ser Val Asn Glu His Val Asp Val Pro Gly His Leu Ser
 545 550 555 560
 Ala Ile Ala Phe Val Tyr Glu Tyr Ile Val Asn Val Asn Glu Tyr Ala
 565 570 575

20080423_F_59071_PCT_sequence_listing.txt

<210> 170

<211> 167

<212> PRT

<213> Saccharomyces cerevisiae

<400> 170

Met Asn Leu Arg Phe Glu Leu Gln Lys Leu Leu Asn Val Cys Phe Leu
1 5 10 15

Phe Ala Ser Ala Tyr Met Phe Trp Gln Gly Leu Ala Ile Ala Thr Asn
20 25 30

Ser Ala Ser Pro Ile Val Val Val Leu Ser Gly Ser Met Glu Pro Ala
35 40 45

Phe Gln Arg Gly Asp Ile Leu Phe Leu Trp Asn Arg Asn Thr Phe Asn
50 55 60

Gln Val Gly Asp Val Val Val Tyr Glu Val Glu Gly Lys Gln Ile Pro
65 70 75 80

Ile Val His Arg Val Leu Arg Gln His Asn Asn His Ala Asp Lys Gln
85 90 95

Phe Leu Leu Thr Lys Gly Asp Asn Asn Ala Gly Asn Asp Ile Ser Leu
100 105 110

Tyr Ala Asn Lys Lys Ile Tyr Leu Asn Lys Ser Lys Glu Ile Val Gly
115 120 125

Thr Val Lys Gly Tyr Phe Pro Gln Leu Gly Tyr Ile Thr Ile Trp Ile
130 135 140

Ser Glu Asn Lys Tyr Ala Lys Phe Ala Leu Leu Gly Met Leu Gly Leu
145 150 155 160

Ser Ala Leu Leu Gly Gly Glu
165

<210> 171

<211> 321

<212> PRT

<213> Saccharomyces cerevisiae

<400> 171

Met Thr Arg Pro Pro Leu Val Arg Gly Ile Phe Ser Leu Gly Leu Ser
1 5 10 15

Val Ala Val Leu Lys Gly Val Glu Lys Thr Val Arg Lys His Leu Glu
20 25 30

Arg Gln Gly Trp Ile Glu Pro Gln Lys Val Asp Tyr Glu Leu Ile Phe
35 40 45

20080423_F_59071_PCT_sequence_listing.txt

Thr Ile Asp Arg Leu Lys Asn Leu Val Asp Asn Lys Arg Glu Ala Leu
50 55 60

Thr Ala Glu Gln Pro Asp Ala Gly Glu Leu Ser Trp Arg Lys Val Phe
65 70 75 80

Asn Phe Ile Ser Arg Gln Ser Ser Glu Leu Asp Thr Arg Ile Tyr Val
85 90 95

Leu Ile Leu Leu Leu Ser Phe Leu Leu Pro Ile Ala Trp Thr Val Leu
100 105 110

Asp Gly Asp Arg Glu Thr Thr Leu Glu Asp Lys Asp Asn Asp Cys Asn
115 120 125

Val Asp Leu Ile Glu Asn Glu Arg Arg Leu Lys His Tyr Asn Asp Gly
130 135 140

Glu Arg Ala Val Leu Gln Phe Gly Lys Asn Arg Ser Glu Pro Ile Ile
145 150 155 160

Leu Ser Tyr Lys Asp Met Asn Val Leu Glu Gly Glu His Glu Phe Thr
165 170 175

Ser Lys Glu Glu His Ser Asn Ser His Leu Thr Ser Lys Ser Glu Asn
180 185 190

Ala Leu Asn Gln Val Gly Ser Glu Asp Leu Leu Gly Cys His Leu Glu
195 200 205

Lys Gln Leu Glu Glu Asp Lys Asn Glu Pro Asn Gly Glu Ala Asp Gly
210 215 220

Glu Asp Asp Asn Asn Arg Glu Lys Asp Cys Ser Ser Ser Ser Glu Val
225 230 235 240

Glu Ser Gln Ser Lys Cys Arg Lys Glu Ser Thr Ala Glu Pro Asp Ser
245 250 255

Leu Ser Arg Asp Thr Arg Thr Thr Ser Ser Leu Lys Ser Ser Thr Ser
260 265 270

Phe Pro Ile Ser Phe Lys Gly Ser Ile Asp Leu Lys Ser Leu Asn Gln
275 280 285

Pro Ser Ser Leu Leu His Ile Gln Val Ser Pro Thr Lys Ser Ser Asn
290 295 300

Leu Asp Ala Gln Val Asn Thr Glu Gln Ala Tyr Ser Gln Pro Phe Arg
305 310 315 320

Tyr

<210> 172
 <211> 346
 <212> PRT
 <213> Saccharomyces cerevisiae
 <400> 172

Met Lys Ala Ser His Ile Cys Ser Tyr Leu Leu Ser Ile Ala Pro Leu
 1 5 10 15

Val Val Ser His Gly Val His His Asn Arg Asp His Gly His Glu Ala
 20 25 30

Asn His Glu Ser Lys Gln Ser Phe Leu Ile Leu Lys Gln Glu Ser Ile
 35 40 45

Phe Tyr Ser Leu Val Cys Phe Leu Gln Asn His Leu Phe Val Leu Gly
 50 55 60

Pro Arg Tyr Asn Ala Ile Val Ala Ile Leu Ile Ile Gln Leu Met Pro
 65 70 75 80

Cys Leu Phe Val Leu Phe Val Pro Gly Leu Arg Lys Asn Asp Arg Ala
 85 90 95

Ser Leu Thr Leu Ser Leu Leu Val Ser Phe Ser Leu Gly Thr Leu Leu
 100 105 110

Gly Asp Ile Leu Leu His Val Ile Pro Glu Ser Leu Ser Gly Val Thr
 115 120 125

Asp Val Thr Met Val Gly Gly Ala Ile Phe Leu Gly Phe Ile Ser Phe
 130 135 140

Leu Thr Leu Asp Lys Thr Met Arg Ile Leu Ser Gly Thr Ser Asn Asp
 145 150 155 160

Asp Gly Ser Ile His Ser His Ser His Ser His Thr Pro Gln Gln Thr
 165 170 175

Ala Glu Lys Lys Ala Gly Phe Asn Met Ser Ala Tyr Leu Asn Val Ile
 180 185 190

Ser Gly Ile Ala His His Ile Thr Asp Gly Ile Ala Leu Ala Thr Ser
 195 200 205

Phe Tyr Ser Ser Thr Gln Val Gly Ile Met Thr Ser Ile Ala Val Thr
 210 215 220

Phe His Glu Ile Pro His Glu Leu Gly Asp Phe Ala Ile Leu Leu Ser
 225 230 235 240

20080423_F_59071_PCT_sequence_listing.txt

Ser Gly Phe Thr Phe Pro Gln Ala Ile Arg Ala Gln Ala Val Thr Ala
245 250 255

Phe Gly Ala Val Val Gly Thr Ser Ile Gly Cys Trp Met Asn Glu Ile
260 265 270

Gly Asn Asn Ser His Lys Ala Thr Ser Ser Ser Ala Asn Ala Ser Glu
275 280 285

Leu Met Leu Pro Phe Thr Ala Gly Gly Leu Ile Tyr Ile Ala Thr Thr
290 295 300

Ser Val Val Pro Gln Ile Leu His Ser Ser Ala Pro Asp Ser Lys Leu
305 310 315 320

Arg Glu Phe Lys Lys Trp Ala Leu Gln Leu Val Phe Ile Phe Val Gly
325 330 335

Phe Ala Val Met Ala Leu Met Asp Glu His
340 345

<210> 173
<211> 122
<212> PRT
<213> Saccharomyces cerevisiae

<400> 173

Met Ala Val Pro Gly Tyr Tyr Glu Leu Tyr Arg Arg Ser Thr Ile Gly
1 5 10 15

Asn Ser Leu Val Asp Ala Leu Asp Thr Leu Ile Ser Asp Gly Arg Ile
20 25 30

Glu Ala Ser Leu Ala Met Arg Val Leu Glu Thr Phe Asp Lys Val Val
35 40 45

Ala Glu Thr Leu Lys Asp Asn Thr Gln Ser Lys Leu Thr Val Lys Gly
50 55 60

Asn Leu Asp Thr Tyr Gly Phe Cys Asp Asp Val Trp Thr Phe Ile Val
65 70 75 80

Lys Asn Cys Gln Val Thr Val Glu Asp Ser His Arg Asp Ala Ser Gln
85 90 95

Asn Gly Ser Gly Asp Ser Gln Ser Val Ile Ser Val Asp Lys Leu Arg
100 105 110

Ile Val Ala Cys Asn Ser Lys Lys Ser Glu
115 120

20080423_F_59071_PCT_sequence_listing.txt

<210> 174

<211> 230

<212> PRT

<213> Saccharomyces cerevisiae

<400> 174

Met Pro Val Pro Ser Val Thr Val Thr Thr Asp Asn Glu Tyr Glu Asp
1 5 10 15

Ile Ser Ser Phe Ser Ser Ile Asp Ser Tyr Lys Pro Glu Pro Phe Thr
20 25 30

Gly Phe Lys Asp Ser Glu Ala Pro Glu Gln Pro Leu Leu Lys Asn Asp
35 40 45

Thr Ile Val Gly Lys Gly Gln Leu Glu Asp Asp Ser Asn Val Asp Asp
50 55 60

Gln His Arg His Ser Asp Val His Ser His His Ser Ser Ser Thr Leu
65 70 75 80

Lys Arg Pro Thr Ser Asn Ser Ile Glu Lys Met Val Thr His Asn Ala
85 90 95

Leu Glu Gly Asn Ser Glu Thr Val Asp Ser Leu Lys Glu Asp Gly Leu
100 105 110

Asn Leu Asn Lys Lys Ala Leu Pro Asp Ile Thr Ala Pro Val Thr Asn
115 120 125

Ser Ala His Asp Ala Ala Phe Pro Glu Glu Tyr Arg Leu Glu Thr Glu
130 135 140

Thr Gly Leu Val Lys Leu Lys Thr Leu Glu Ser Leu Lys Arg Glu Asp
145 150 155 160

Ser Arg Val Ser Ser Thr Lys Lys Glu His Ile Asn Asp His Thr Asp
165 170 175

Met His Ser Thr Arg Ser Lys Val Thr Thr Asn Ser Gln Gly Ser Ser
180 185 190

Leu Glu Pro Asn Lys Leu Asn Met Ala Val Glu Lys Asn Lys Lys Arg
195 200 205

Ile Glu Lys Tyr Gln Lys His Lys Ser Glu Lys Gly Ile Lys Gly Phe
210 215 220

Phe His Arg Ile Phe Asp
225 230

<210> 175

<211> 430

20080423_F_59071_PCT_sequence_listing.txt

<212> PRT

<213> Saccharomyces cerevisiae

<400> 175

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Met Asp Asp Ile Ser Gly Arg Gln Thr Leu Pro Arg Ile Asn Arg Leu
1      5      10     15
Leu Glu His Val Gly Asn Pro Gln Asp Ser Leu Ser Ile Leu His Ile
20     25     30
Ala Gly Thr Asn Gly Lys Glu Thr Val Ser Lys Phe Leu Thr Ser Ile
35     40     45
Leu Gln His Pro Gly Gln Gln Arg Gln Arg Val Leu Ile Gly Arg Tyr
50     55     60
Thr Thr Ser Ser Leu Leu Asn Ala Lys Glu Glu Asp Ile Ser Ile Asn
65     70     75     80
Asn Glu Ala Ile Ser Leu Ile Glu Tyr Ser Arg Ile Glu Lys Glu Leu
85     90     95
Ile Glu Ala Asp Ser Ser Leu Lys Leu Gln Cys Asn Asn Leu Glu Leu
100    105    110
Leu Thr Ser Val Ala Leu Val Tyr Phe Ala Lys Lys Asn Cys Gln Trp
115    120    125
Cys Ile Ile Glu Thr Gly Leu Ala Gly Lys Gln Asp Pro Gly Ser Ile
130    135    140
Ile Ala Gly Gln Ser Arg Val Cys Cys Ala Ile Thr Asn Val Gly Ile
145    150    155    160
Ser Asp Glu Ala Phe Leu Cys Lys Phe Leu Ser Gln Ile Thr Glu Ser
165    170    175
Ser Thr Asn Lys Ala Ile Phe Leu Leu Asp Gly Ser Asn Asp Glu Phe
180    185    190
Val Arg Asn Thr Ile Thr Lys Arg Cys His Asp Val Gly Cys Pro Leu
195    200    205
Glu Ile Thr Asp Pro Ser Leu Arg Asp Tyr Asn Val His Thr Asp Thr
210    215    220
Trp Gly Thr Leu Glu Val Arg Leu Pro Tyr Ser Glu Glu Glu Tyr Gln
225    230    235    240
Ile Phe Asn Leu Arg Val Ala Ile Ala Val Leu Asp Phe Leu Ser Lys
245    250    255

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20080423_F_59071_PCT_sequence_listing.txt

Glu Lys Lys Val Cys Ile Ser Lys Asp Gln Leu Ser Gln Gly Leu Ile
260 265 270

Ser Val Asp Trp Pro Arg Ser Leu His Arg Leu Asp Tyr Cys Tyr Glu
275 280 285

Ser Thr Ser Gly Lys Lys Ile Ala Leu Leu Leu Asp Asn Ala Asn Asn
290 295 300

Ala Lys Ala Ala Arg Asn Leu Ala Cys His Leu Arg Thr Thr Tyr Gly
305 310 315 320

Asp Thr Pro Leu Thr Phe Val Ile Ala Ile Thr Thr Gly Lys Lys Val
325 330 335

Ser Pro Leu Leu Asp Pro Leu Ile Arg Pro Gln Asp Tyr Val Ile Val
340 345 350

Thr Arg Phe Gly Ser Val Val Gly Met Pro Trp Ile Gln Ser Leu Glu
355 360 365

Pro Val Asn Leu Leu Ala Phe Ile Lys Asn Arg Tyr Thr Arg Asn Val
370 375 380

Asn Met Gln Pro Asp Leu Gln Ser Val Trp Thr Phe Leu Glu Thr Ser
385 390 395 400

Gly Leu Lys Thr Ile Val Pro Val Ile Val Cys Gly Ser Leu Tyr Ile
405 410 415

Cys Lys Glu Leu Leu Arg Leu His Asn Cys His Leu Pro Val
420 425 430

<210> 176
<211> 683
<212> PRT
<213> Saccharomyces cerevisiae

<400> 176

Met Asn Lys Glu Leu Ala Ser Lys Phe Leu Ser Ser Ile Lys His Glu
1 5 10 15

Arg Glu Gln Asp Ile Gln Thr Thr Ser Arg Leu Leu Thr Thr Leu Ser
20 25 30

Ile Gln Gln Leu Val Gln Asn Gly Leu Ala Ile Asn Asn Ile His Leu
35 40 45

Glu Asn Ile Arg Ser Gly Leu Ile Gly Lys Leu Tyr Met Glu Leu Gly
50 55 60

Pro Asn Leu Ala Val Asn Asp Lys Ile Gln Arg Gly Asp Ile Lys Val
65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Gly Asp Ile Val Leu Val Arg Pro Ala Lys Thr Lys Val Asn Thr Lys
85 90 95

Thr Lys Pro Lys Val Lys Lys Val Ser Glu Asp Ser Asn Gly Glu Gln
100 105 110

Ala Glu Cys Ser Gly Val Val Tyr Lys Met Ser Asp Thr Gln Ile Thr
115 120 125

Ile Ala Leu Glu Glu Ser Gln Asp Val Ile Ala Thr Thr Phe Tyr Ser
130 135 140

Tyr Ser Lys Leu Tyr Ile Leu Lys Thr Thr Asn Val Val Thr Tyr Asn
145 150 155 160

Arg Met Glu Ser Thr Met Arg Lys Leu Ser Glu Ile Ser Ser Pro Ile
165 170 175

Gln Asp Lys Ile Ile Gln Tyr Leu Val Asn Glu Arg Pro Phe Ile Pro
180 185 190

Asn Thr Asn Ser Phe Gln Asn Ile Lys Ser Phe Leu Asn Pro Asn Leu
195 200 205

Asn Asp Ser Gln Lys Thr Ala Ile Asn Phe Ala Ile Asn Asn Asp Leu
210 215 220

Thr Ile Ile His Gly Pro Pro Gly Thr Gly Lys Thr Phe Thr Leu Ile
225 230 235 240

Glu Leu Ile Gln Gln Leu Leu Ile Lys Asn Pro Glu Glu Arg Ile Leu
245 250 255

Ile Cys Gly Pro Ser Asn Ile Ser Val Asp Thr Ile Leu Glu Arg Leu
260 265 270

Thr Pro Leu Val Pro Asn Asn Leu Leu Leu Arg Ile Gly His Pro Ala
275 280 285

Arg Leu Leu Asp Ser Asn Lys Arg His Ser Leu Asp Ile Leu Ser Lys
290 295 300

Lys Asn Thr Ile Val Lys Asp Ile Ser Gln Glu Ile Asp Lys Leu Ile
305 310 315 320

Gln Glu Asn Lys Lys Leu Lys Asn Tyr Lys Gln Arg Lys Glu Asn Trp
325 330 335

Asn Glu Ile Lys Leu Leu Arg Lys Asp Leu Lys Lys Arg Glu Phe Lys
340 345 350

20080423_F_59071_PCT_sequence_listing.txt

Thr Ile Lys Asp Leu Ile Ile Gln Ser Arg Ile Val Val Thr Thr Leu
355 360 365

His Gly Ser Ser Ser Arg Glu Leu Cys Ser Leu Tyr Arg Asp Asp Pro
370 375 380

Asn Phe Gln Leu Phe Asp Thr Leu Ile Ile Asp Glu Val Ser Gln Ala
385 390 395 400

Met Glu Pro Gln Cys Trp Ile Pro Leu Ile Ala His Gln Asn Gln Phe
405 410 415

His Lys Leu Val Leu Ala Gly Asp Asn Lys Gln Leu Pro Pro Thr Ile
420 425 430

Lys Thr Glu Asp Asp Lys Asn Val Ile His Asn Leu Glu Thr Thr Leu
435 440 445

Phe Asp Arg Ile Ile Lys Ile Phe Pro Lys Arg Asp Met Val Lys Phe
450 455 460

Leu Asn Val Gln Tyr Arg Met Asn Gln Lys Ile Met Glu Phe Pro Ser
465 470 475 480

His Ser Met Tyr Asn Gly Lys Leu Leu Ala Asp Ala Thr Val Ala Asn
485 490 495

Arg Leu Leu Ile Asp Leu Pro Thr Val Asp Ala Thr Pro Ser Glu Asp
500 505 510

Asp Asp Asp Thr Lys Ile Pro Leu Ile Trp Tyr Asp Thr Gln Gly Asp
515 520 525

Glu Phe Gln Glu Thr Ala Asp Glu Ala Thr Ile Leu Gly Ser Lys Tyr
530 535 540

Asn Glu Gly Glu Ile Ala Ile Val Lys Glu His Ile Glu Asn Leu Arg
545 550 555 560

Ser Phe Asn Val Pro Glu Asn Ser Ile Gly Val Ile Ser Pro Tyr Asn
565 570 575

Ala Gln Val Ser His Leu Lys Lys Leu Ile His Asp Glu Leu Lys Leu
580 585 590

Thr Asp Ile Glu Ile Ser Thr Val Asp Gly Phe Gln Gly Arg Glu Lys
595 600 605

Asp Val Ile Ile Leu Ser Leu Val Arg Ser Asn Glu Lys Phe Glu Val
610 615 620

20080423_F_59071_PCT_sequence_listing.txt

Gly Phe Leu Lys Glu 625 Glu Arg Arg Leu Asn Val Ala Met Thr Arg Pro 630 635 640

Arg Arg Gln Leu Val 645 Val Val Gly Asn Ile Glu Val Leu Gln Arg Cys 650 655

Gly Asn Lys Tyr 660 Leu Lys Ser Trp Ser Glu Trp Cys Glu Glu Asn Ala 665 670

Asp Val Arg Tyr Pro Asn Ile Asp Asp Tyr Leu 675 680

<210> 177

<211> 353

<212> PRT

<213> Saccharomyces cerevisiae

<400> 177

Met Ile Gln Phe Lys Ser Pro Gly Asn Trp Leu Phe Ile Val Pro Trp 1 5 10 15

Ile Ala Phe Ile Pro Trp Tyr Gly Met Leu Ile Ala Met Leu Ile Cys 20 25 30

Trp Ala Ser Gln Gly His Pro Ile Tyr Trp Phe Met His Ser Glu Gln 35 40 45

Phe Pro Val Tyr Ile Ser Asp Ile Gly Ala Thr Asn Leu Arg Pro Leu 50 55 60

Phe Ile Ser Cys Ala Gly Trp Gln Gly Leu Gly Tyr Val Ile Thr Val 65 70 75 80

Ala Leu Glu Phe Phe Gln Arg Ser Gly Tyr Leu Pro Phe Gln Leu Lys 85 90 95

Lys Lys Asp Pro Ser Ile Ser Asp Ser Thr Ser Tyr Ala Glu Lys Leu 100 105 110

His Ser Gly Lys Tyr Leu Met Pro Pro Tyr Tyr Thr Lys Asp Glu Arg 115 120 125

Asn Leu Ile Phe Ala Ala Phe Val Leu Gly Ser Ile Gly Glu Leu Ala 130 135 140

Leu Leu Phe Ser Ser Ile Phe Ser Thr Ala Leu Tyr His Arg Val His 145 150 155 160

Ile Ala Met Val Ser Val Phe Val Val Phe Met Phe Leu Ser Thr Cys 165 170 175

Cys Leu Ile Ala Glu Tyr Phe Leu Met Gly Arg His Tyr Ala Ser Val 180 185 190

20080423_F_59071_PCT_sequence_listing.txt

His Pro Leu Ala Ser Pro His Phe Asn Pro Gln Ser Ser Glu Lys Ser
195 200 205

Phe Asn Gln Asp Tyr Asn Thr Val Asp Glu Leu Pro Trp Tyr Lys Trp
210 215 220

Lys Gly His Val Trp Asn Lys Phe Thr Ile Ser Ala Thr Leu Lys Val
225 230 235 240

Ile Trp Leu Thr Leu Ala Val Val Trp Ala Ile Cys Phe Gly Ala Ile
245 250 255

Asn Asp Arg Ser Lys Ser Ala Cys Phe Glu Trp Leu Leu Ala Phe Trp
260 265 270

Phe Gly Ile Ile Phe Met Ile Leu Ser Ala Asp Phe Tyr Leu Gly Gly
275 280 285

Arg Tyr Arg Gln Ser Arg Tyr Phe Asn His Val Glu Ser Phe Ser Gly
290 295 300

Tyr Tyr Lys Tyr Asp Lys Ala Leu Gly Leu Tyr His Ser Glu Asp Val
305 310 315 320

Leu Pro Ser Asp Asp Asn Ala Gly Val Ile Ala Thr Glu Thr Ala Ser
325 330 335

Ser Asn Ile Tyr Asn Asn Ser Ser Ser Asn Glu Ser Ile Gln Val Val
340 345 350

Val

<210> 178
<211> 263
<212> PRT
<213> Saccharomyces cerevisiae

<400> 178

Met Ile Ala Thr Ser Arg Ala Val Asn Met Asn Lys Glu Ser Lys His
1 5 10 15

Lys Lys Ala Val Ala Lys Pro Cys Arg Glu Arg Gln Thr Ser Val Thr
20 25 30

Arg Ala Met Arg Pro Ala Val Ala Arg Asp Pro Arg Arg Leu Ser Thr
35 40 45

Ser Ser Ser Pro Ser Ser Ser Pro Met Ser Ala Gln Arg Arg Leu Ser
50 55 60

20080423_F_59071_PCT_sequence_listing.txt

Arg Glu Glu Ile Ile Asn Glu Met Glu Lys Glu Gln Asp Ala Ile Val
65 70 75 80

Val Arg Leu Leu Arg Glu Ile Glu Thr Leu Lys Glu Glu Asn Ser Arg
85 90 95

Leu Lys Asn Gln Leu His His Pro Val Pro Ala Arg Arg Ser Ser Pro
100 105 110

Phe Phe Glu Gly Glu Ser Ala Ile Leu Asp Asp Asp Asp Cys Asn Tyr
115 120 125

Gly Tyr Thr Leu Asp Thr Pro Lys Leu Lys Leu Thr Asp Gly Ala Ser
130 135 140

Arg His Thr Val Leu Pro Leu Thr Pro Lys Asp Ser Met Thr His Ile
145 150 155 160

Ser His Ser Ala Arg Arg Ser Ser Arg Asn Ala Ser Ile Ser Asn Gly
165 170 175

Thr Ser Ile Ser Asp Thr Ile Phe Pro Ile Glu Thr Lys Ile His Ser
180 185 190

Ala Pro Thr Thr Asn Arg Asn Leu Pro Ser Ala Asp Leu Pro His His
195 200 205

Thr Leu Leu Pro Arg Ser Leu Ser Gly Ile Ser Ser Ser Asp Leu Thr
210 215 220

Glu Ser Gly Ala Leu Leu His Asp Arg Arg Arg Arg Ser Ser Asn Tyr
225 230 235 240

Ser Leu Asp Gly Ser Asn Ser Leu Lys Ala Asp Leu Met Ala Lys Arg
245 250 255

Phe Gln Thr Gly Ser Leu Lys
260

<210> 179
<211> 312
<212> PRT
<213> Saccharomyces cerevisiae
<400> 179

Met Cys Ile Leu Met Ala Thr Arg Ala His Pro Asp Tyr Glu Leu Ile
1 5 10 15

Leu Ile Ser Asn Arg Asp Glu Phe Leu Ala Arg Lys Thr His Ala Thr
20 25 30

Cys Trp His Asn Asn Asp Phe Ile Leu Ser Pro Tyr Asp Leu Ala Lys
35 40 45

20080423_F_59071_PCT_sequence_listing.txt

Thr Ser Ala Glu Lys Gln Ile Phe Gly Thr Trp Ser Gly Ile Asn Lys
50 55 60

Glu Gly Lys Leu Ala Thr Ile Leu Asn Leu Lys Leu Asp Asn Glu Gln
65 70 75 80

Asn Asn Thr Lys Ser Arg Ser Arg Gly Leu Leu Pro Phe Ile Phe Leu
85 90 95

Ser Ile His Lys Ala Asp Phe Glu Asp Trp Asp Asn Tyr Lys Lys Phe
100 105 110

Glu Gly His Tyr Asp Gly Leu Lys Ser Thr Gly Asp Phe Asn Phe Phe
115 120 125

Tyr Gly Asp Val Ile Lys Lys Gln Tyr Lys Val Ile Asp Ser Leu Gly
130 135 140

Arg Thr Phe Asp Val Leu Ser Ser Thr Cys Arg Lys Asp Leu Asp Ser
145 150 155 160

Tyr Met Val Val Ser Asn Gly Lys Phe Tyr Asp Ser Ser Ser Ile Pro
165 170 175

Gly Gln Ala Trp Glu Lys Val Lys Val Ala Arg Asp Ser Leu Glu Asn
180 185 190

Leu Val Leu Glu Asn Ile Glu Ser Asp Glu Glu Lys Ile Ile Ser Ser
195 200 205

Cys Phe Gln Leu Ala Ser Lys Ser Ser Leu Pro Ser Thr Ile Ser Asn
210 215 220

Pro Asp Val Leu Gln Met Val Asp Pro Asn Val Thr Met Asn Thr Ile
225 230 235 240

Tyr Val Pro Pro Leu Arg Arg Pro Pro Arg Asp Asp Leu Gly Ala Ser
245 250 255

Ile Pro Asp Gly Asp Tyr Tyr Gly Thr Arg Ser Gln Ile Val Leu Leu
260 265 270

Val Ser Lys Asp Ser Thr Arg Val Thr Phe Ile Glu Arg Val Leu Tyr
275 280 285

Ser Ser Asp Glu Asp Val Arg Lys Tyr Ser Val Thr Ser Pro Lys Glu
290 295 300

Glu Lys Arg Phe Lys Phe Lys Leu
305 310

20080423_F_59071_PCT_sequence_listing.txt

<210> 180
 <211> 492
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 180

Met Glu Ser Arg Thr Thr Gly Pro Leu Thr Thr Glu Thr Tyr Asp Gly
 1 5 10 15

Pro Thr Val Ala Phe Met Ile Leu Gly Ala Ala Leu Val Phe Phe Met
 20 25 30

Val Pro Gly Leu Gly Phe Leu Tyr Ser Gly Leu Ala Arg Arg Lys Ser
 35 40 45

Ala Leu Ala Leu Ile Trp Val Val Leu Met Ala Thr Leu Val Gly Ile
 50 55 60

Leu Gln Trp Tyr Phe Trp Gly Tyr Ser Leu Ala Phe Ser Lys Ser Ala
 65 70 75 80

Pro Asn Asn Lys Phe Ile Gly Asn Leu Asp Ser Phe Gly Phe Arg Asn
 85 90 95

Val Tyr Gly Lys Lys Phe Asp Glu Asp Ala Tyr Pro Glu Leu Ala Tyr
 100 105 110

Ala Thr Phe Gln Met Met Phe Ser Cys Val Asn Leu Ser Ile Ile Ala
 115 120 125

Gly Ala Thr Ala Glu Arg Gly Arg Leu Leu Pro His Met Val Phe Leu
 130 135 140

Phe Ile Leu Ala Thr Ile Gly Tyr Cys Pro Val Thr Tyr Trp Ile Trp
 145 150 155 160

Ser Pro Gly Gly Trp Ala Tyr Gln Trp Gly Val Leu Asp Trp Ala Gly
 165 170 175

Gly Gly Asn Ile Glu Ile Leu Ser Ala Val Ser Gly Phe Val Tyr Ser
 180 185 190

Trp Phe Leu Gly Lys Arg Asn Glu Lys Leu Leu Ile Asn Phe Arg Pro
 195 200 205

His Asn Val Ser Leu Val Thr Leu Gly Thr Ser Ile Leu Trp Phe Gly
 210 215 220

Trp Leu Leu Phe Asn Ser Ala Ser Ser Leu Ser Pro Asn Leu Arg Ser
 225 230 235 240

Val Tyr Ala Phe Met Asn Thr Cys Leu Ser Ala Ile Thr Gly Gly Met
 Seite 262

Thr Trp Cys Leu Leu Asp Tyr Arg Ser Glu Lys Lys Trp Ser Thr Val
260 265 270

Gly Leu Cys Ser Gly Ile Ile Ser Gly Leu Val Ala Ala Thr Pro Ser
275 280 285

Ser Gly Cys Ile Thr Leu Tyr Gly Ser Leu Ile Gln Gly Ile Val Ala
290 295 300

Gly Val Val Cys Asn Phe Ala Thr Lys Leu Lys Tyr Tyr Ala Lys Val
305 310 315 320

Asp Asp Ala Met Asp Ile Leu Ala Glu His Gly Val Ala Gly Val Ile
325 330 335

Gly Leu Ile Phe Asn Ala Leu Phe Gly Ala Asp Trp Val Ile Gly Met
340 345 350

Asp Gly Thr Thr Glu His Glu Gly Gly Trp Val Thr His Asn Tyr Lys
355 360 365

Gln Met Tyr Lys Gln Ile Ala Tyr Ile Ala Ala Ser Ile Gly Tyr Thr
370 375 380

Ala Ala Val Thr Ala Ile Ile Cys Phe Val Leu Gly Tyr Ile Pro Gly
385 390 395 400

Met Arg Leu Arg Ile Ser Glu Glu Ala Glu Glu Ala Gly Met Asp Glu
405 410 415

Asp Gln Ile Gly Glu Phe Ala Tyr Asp Tyr Val Glu Val Arg Arg Asp
420 425 430

Tyr Tyr Leu Trp Gly Val Asp Glu Asp Ser Gln Arg Ser Asp Val Asn
435 440 445

His Arg Val Asn Asn Ala His Leu Ala Ala Glu Arg Ser Ser Ser Gly
450 455 460

Thr Asn Ser Ser Ser Asp Gly Asn Gly Glu Met Ile Gln Ser Glu Lys
465 470 475 480

Ile Leu Pro Ile His Gln Glu Asp Pro Ala Asn Arg
485 490

<210> 181
<211> 282
<212> PRT
<213> Saccharomyces cerevisiae
<400> 181

20080423_F_59071_PCT_sequence_listing.txt

Met Asp Pro Ser Leu Val Leu Glu Gln Thr Ile Gln Asp Val Ser Asn
1 5 10 15

Leu Pro Ser Glu Phe Arg Tyr Leu Leu Glu Glu Ile Gly Ser Asn Asp
20 25 30

Leu Lys Leu Ile Glu Glu Lys Lys Lys Tyr Glu Gln Lys Glu Ser Gln
35 40 45

Ile His Lys Phe Ile Arg Gln Gln Gly Ser Ile Pro Lys His Pro Gln
50 55 60

Glu Asp Gly Leu Asp Lys Glu Ile Lys Glu Ser Leu Leu Lys Cys Gln
65 70 75 80

Ser Leu Gln Arg Glu Lys Cys Val Leu Ala Asn Thr Ala Leu Phe Leu
85 90 95

Ile Ala Arg His Leu Asn Lys Leu Glu Lys Asn Ile Ala Leu Leu Glu
100 105 110

Glu Asp Gly Val Leu Ala Pro Val Glu Glu Asp Gly Asp Met Asp Ser
115 120 125

Ala Ala Glu Ala Ser Arg Glu Ser Ser Val Val Ser Asn Ser Ser Val
130 135 140

Lys Lys Arg Arg Ala Ala Ser Ser Ser Gly Ser Val Pro Pro Thr Leu
145 150 155 160

Lys Lys Lys Lys Thr Ser Arg Thr Ser Lys Leu Gln Asn Glu Ile Asp
165 170 175

Val Ser Ser Arg Glu Lys Ser Val Thr Pro Val Ser Pro Ser Ile Glu
180 185 190

Lys Lys Ile Ala Arg Thr Lys Glu Phe Lys Asn Ser Arg Asn Gly Lys
195 200 205

Gly Gln Asn Gly Ser Pro Glu Asn Glu Glu Glu Asp Lys Thr Leu Tyr
210 215 220

Cys Phe Cys Gln Arg Val Ser Phe Gly Glu Met Val Ala Cys Asp Gly
225 230 235 240

Pro Asn Cys Lys Tyr Glu Trp Phe His Tyr Asp Cys Val Asn Leu Lys
245 250 255

Glu Pro Pro Lys Gly Thr Trp Tyr Cys Pro Glu Cys Lys Ile Glu Met
260 265 270

20080423_F_59071_PCT_sequence_listing.txt

Glu Lys Asn Lys Leu Lys Arg Lys Arg Asn
275 280

<210> 182
<211> 687
<212> PRT
<213> Saccharomyces cerevisiae

<400> 182

Met Cys Ala Ser Leu Asn Glu Val Lys Lys Asn Asp Thr Tyr Gly Val
1 5 10 15

Ser Gln Lys Gly Tyr Asn Asp Asn Phe Ser Glu Ser Glu Gly Val Leu
20 25 30

His Gly Ser Lys Ser Met Pro Thr Ser Met Lys Asn Met Leu Gln Ser
35 40 45

Pro Thr Met Val Asn Met Cys Asp Ile Leu Gln Asn Lys Glu Ala Ala
50 55 60

Asn Asp Glu Lys Pro Val Ile Pro Thr Thr Asp Thr Ala Thr Ala Gly
65 70 75 80

Thr Gly Thr Glu Asp Ile Ser Ser Thr Gln Ser Glu Glu Thr Asp Gln
85 90 95

Asn Ser His Leu Ile Ala Ser Glu Ile Leu Glu Gly Thr Phe Lys Asp
100 105 110

Val Ser Tyr Lys Glu Tyr Ala Asn Phe Leu Gly Asn Asp Asn Asn Asn
115 120 125

Gln Val Leu Thr Glu Phe Val Lys Leu Leu Ser Pro Leu Pro Ser Ser
130 135 140

Leu Leu Glu Thr Leu Phe Asn Leu Ser Lys Ser Ile Tyr Phe Ile Ala
145 150 155 160

Glu Ala Gln Asn Ile Asp Arg Ile Leu Glu Cys Leu Ser Ile Glu Trp
165 170 175

Ile Ala Cys His Pro Asn Thr His Trp Lys Ser Gly Tyr Lys Ser Cys
180 185 190

His Ile Val Leu Phe Ser Leu Leu Ile Leu Asn Ser Asp Leu His Asn
195 200 205

Asn Phe Gln Val Asp His Lys Lys Ile Lys Phe Ser Met Val Ala Phe
210 215 220

Ile Asn Asn Thr Leu Arg Ala Leu Arg Glu Glu Asn Glu Tyr Glu Glu
225 230 235 240

20080423_F_59071_PCT_sequence_listing.txt

Leu Lys Ile Tyr Ser Arg Glu His Leu Ile Ile Glu Glu Leu Ser Glu
 245 250 255
 Tyr Tyr Lys Thr Leu Asn Glu Thr Pro Leu Pro Leu Cys Thr Glu Ser
 260 265 270
 Arg Thr Ser Ile Asn Ile Ser Asp Asn Gln Ser Ser Leu Lys Arg Phe
 275 280 285
 Ser Thr Leu Gly Ser Arg Glu Phe Ser Thr Ser Asn Leu Arg Ser Val
 290 295 300
 Asn Ser Asn Ser Thr Thr Leu Tyr Ser Arg Asp Gly Gln Val Ser Val
 305 310 315 320
 Arg Glu Met Ser Ala Lys Ser Asn Lys Asn Phe His Asn Asn His Pro
 325 330 335
 Met Asp Ala Leu Tyr Leu Lys Glu Ser Phe Asp Asp Gly Leu Ile Thr
 340 345 350
 Glu Asn Gly Ser Ser Trp Phe Met Asp Asp Leu Ile Leu Ile Ser Lys
 355 360 365
 Lys Ser Leu Pro Arg Lys Tyr Ser Lys Arg Asp Lys Asp Gln Val Ala
 370 375 380
 Ala Pro Lys Met Thr Ser Lys Arg Asn Lys Ser Phe Phe Gly Trp Leu
 385 390 395 400
 Lys Pro Ser Lys Thr Thr Thr Leu Ile Glu His Thr Ser Arg Arg Thr
 405 410 415
 Ser Leu Ser Tyr Leu Asn Lys Asp Ser Glu Trp Glu Arg Val Lys Ile
 420 425 430
 Gln Val Lys Glu Gly Arg Ile Phe Ile Phe Lys Ile Lys Pro Asp Val
 435 440 445
 Lys Asp Ile Ile Gln Ser Ser Glu Thr Asp Ser Ala Thr Ile Asp Tyr
 450 455 460
 Phe Lys Asp Ile Ser Ser Ser Tyr Phe Ala Tyr Ser Leu Leu Glu Ala
 465 470 475 480
 Glu Ala His Val Val Gln Asp Asn Ile Ile Ile Gly Ser Gly Ala Met
 485 490 495
 Lys Ser Asn Val Cys Asn Lys Asn Thr Lys Arg Lys Ser Gly Asn Phe
 500 505 510

20080423_F_59071_PCT_sequence_listing.txt

Thr Val Ser Phe Pro Glu Asn Ile Asn Gly Pro Lys Leu Val Leu Glu
515 520 525

Phe Gln Thr Arg Ser Val Glu Glu Ala His Lys Phe Met Asp Cys Ile
530 535 540

Asn Phe Trp Ala Gly Arg Ile Ser Pro Val Pro Leu Thr Gln Phe Glu
545 550 555 560

Ala Val Ser Asn Ala Glu Tyr Gly Trp Ser Asp Lys Ile Leu Thr Glu
565 570 575

His Ala Ser Leu Asn Leu Lys Asn Ile Val Val Ser Glu Trp Lys Pro
580 585 590

Leu Leu Gly Leu Glu Leu Leu Tyr Glu Asp Ala Lys Asp Val Glu Met
595 600 605

Val Glu Leu Lys Glu Arg Leu Lys Glu Leu Met Asn Phe Thr Arg Gln
610 615 620

Leu Gly Ile Trp Ile Asp Lys His Asn Glu Ile Lys Asp Lys Leu Val
625 630 635 640

Glu Ile Trp Ser Phe Asp Asp Asn Tyr Phe Glu Ala Val Met Asn Asn
645 650 655

Trp Asn Ser Arg Tyr Leu Tyr Met Asn Asn Gln Tyr Lys Lys Arg Leu
660 665 670

Ser Tyr Leu Lys Ala Leu Gln Lys Ala Met Gly Ser Val Gln Phe
675 680 685

<210> 183
<211> 512
<212> PRT
<213> Saccharomyces cerevisiae

<400> 183

Met Val Ala Thr Ile Met Gln Thr Thr Thr Val Leu Thr Thr Val
1 5 10 15

Ala Ala Met Ser Thr Thr Leu Ala Ser Asn Tyr Ile Ser Ser Gln Ala
20 25 30

Ser Ser Ser Thr Ser Val Thr Thr Val Thr Thr Ile Ala Thr Ser Ile
35 40 45

Arg Ser Thr Pro Ser Asn Leu Leu Phe Ser Asn Val Ala Ala Gln Pro
50 55 60

Lys Ser Ser Ser Ala Ser Thr Ile Gly Leu Ser Ile Gly Leu Pro Ile
Seite 267

65 70 75 80
 Gly Ile Phe Cys Phe Gly Leu Leu Ile Leu Leu Cys Tyr Phe Tyr Leu
 85 90 95
 Lys Arg Asn Ser Val Ser Ile Ser Asn Pro Pro Met Ser Ala Thr Ile
 100 105 110
 Pro Arg Glu Glu Glu Tyr Cys Arg Arg Thr Asn Trp Phe Ser Arg Leu
 115 120 125
 Phe Trp Gln Ser Lys Cys Glu Asp Gln Asn Ser Tyr Ser Asn Arg Asp
 130 135 140
 Ile Glu Lys Tyr Asn Asp Thr Gln Trp Thr Ser Gly Asp Asn Met Ser
 145 150 155 160
 Ser Lys Ile Gln Tyr Lys Ile Ser Lys Pro Ile Ile Pro Gln His Ile
 165 170 175
 Leu Thr Pro Lys Lys Thr Val Lys Asn Pro Tyr Ala Trp Ser Gly Lys
 180 185 190
 Asn Ile Ser Leu Asp Pro Lys Val Asn Glu Met Glu Glu Glu Lys Val
 195 200 205
 Val Asp Ala Phe Leu Tyr Thr Lys Pro Pro Asn Ile Val His Ile Glu
 210 215 220
 Ser Ser Met Pro Ser Tyr Asn Asp Leu Pro Ser Gln Lys Thr Val Ser
 225 230 235 240
 Ser Lys Lys Thr Ala Leu Lys Thr Ser Glu Lys Trp Ser Tyr Glu Ser
 245 250 255
 Pro Leu Ser Arg Trp Phe Leu Arg Gly Ser Thr Tyr Phe Lys Asp Tyr
 260 265 270
 Gly Leu Ser Lys Thr Ser Leu Lys Thr Pro Thr Gly Ala Pro Gln Leu
 275 280 285
 Lys Gln Met Lys Met Leu Ser Arg Ile Ser Lys Gly Tyr Phe Asn Glu
 290 295 300
 Ser Asp Ile Met Pro Asp Glu Arg Ser Pro Ile Leu Glu Tyr Asn Asn
 305 310 315 320
 Thr Pro Leu Asp Ala Asn Asp Ser Val Asn Asn Leu Gly Asn Thr Thr
 325 330 335
 Pro Asp Ser Gln Ile Thr Ser Tyr Arg Asn Asn Asn Ile Asp Leu Ile
 340 345 350

20080423_F_59071_PCT_sequence_listing.txt

Thr Ala Arg Pro His Ser Val Ile Tyr Gly Thr Thr Ala Gln Gln Thr
355 360 365

Leu Glu Thr Asn Phe Asn Asp His His Asp Cys Asn Lys Ser Thr Glu
370 375 380

Lys His Glu Leu Ile Ile Pro Thr Pro Ser Lys Pro Leu Lys Lys Arg
385 390 395 400

Lys Lys Arg Arg Gln Ser Lys Met Tyr Gln His Leu Gln His Leu Ser
405 410 415

Arg Ser Lys Pro Leu Pro Leu Thr Pro Asn Ser Lys Tyr Asn Gly Glu
420 425 430

Ala Ser Val Gln Leu Gly Lys Thr Tyr Thr Val Ile Gln Asp Tyr Glu
435 440 445

Pro Arg Leu Thr Asp Glu Ile Arg Ile Ser Leu Gly Glu Lys Val Lys
450 455 460

Ile Leu Ala Thr His Thr Asp Gly Trp Cys Leu Val Glu Lys Cys Asn
465 470 475 480

Thr Gln Lys Gly Ser Ile His Val Ser Val Asp Asp Lys Arg Tyr Leu
485 490 495

Asn Glu Asp Arg Gly Ile Val Pro Gly Asp Cys Leu Gln Glu Tyr Asp
500 505 510

<210> 184
<211> 527
<212> PRT
<213> Saccharomyces cerevisiae

<400> 184

Met Ser Leu Ser Gln Val Ser Pro Leu Pro His Ile Lys Asp Val Val
1 5 10 15

Leu Gly Asp Thr Val Gly Gln Gly Ala Phe Ala Cys Val Lys Asn Ala
20 25 30

His Leu Gln Met Asp Pro Ser Ile Ile Leu Ala Val Lys Phe Ile His
35 40 45

Val Pro Thr Cys Lys Lys Met Gly Leu Ser Asp Lys Asp Ile Thr Lys
50 55 60

Glu Val Val Leu Gln Ser Lys Cys Ser Lys His Pro Asn Val Leu Arg
65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Leu Ile Asp Cys Asn Val Ser Lys Glu Tyr Met Trp Ile Ile Leu Glu
85 90 95

Met Ala Asp Gly Gly Asp Leu Phe Asp Lys Ile Glu Pro Asp Val Gly
100 105 110

Val Asp Ser Asp Val Ala Gln Phe Tyr Phe Gln Gln Leu Val Ser Ala
115 120 125

Ile Asn Tyr Leu His Val Glu Cys Gly Val Ala His Arg Asp Ile Lys
130 135 140

Pro Glu Asn Ile Leu Leu Asp Lys Asn Gly Asn Leu Lys Leu Ala Asp
145 150 155 160

Phe Gly Leu Ala Ser Gln Phe Arg Arg Lys Asp Gly Thr Leu Arg Val
165 170 175

Ser Met Asp Gln Arg Gly Ser Pro Pro Tyr Met Ala Pro Glu Val Leu
180 185 190

Tyr Ser Glu Glu Gly Tyr Tyr Ala Asp Arg Thr Asp Ile Trp Ser Ile
195 200 205

Gly Ile Leu Leu Phe Val Leu Leu Thr Gly Gln Thr Pro Trp Glu Leu
210 215 220

Pro Ser Leu Glu Asn Glu Asp Phe Val Phe Phe Ile Glu Asn Asp Gly
225 230 235 240

Asn Leu Asn Trp Gly Pro Trp Ser Lys Ile Glu Phe Thr His Leu Asn
245 250 255

Leu Leu Arg Lys Ile Leu Gln Pro Asp Pro Asn Lys Arg Val Thr Leu
260 265 270

Lys Ala Leu Lys Leu His Pro Trp Val Leu Arg Arg Ala Ser Phe Ser
275 280 285

Gly Asp Asp Gly Leu Cys Asn Asp Pro Glu Leu Leu Ala Lys Lys Leu
290 295 300

Phe Ser His Leu Lys Val Ser Leu Ser Asn Glu Asn Tyr Leu Lys Phe
305 310 315 320

Thr Gln Asp Thr Asn Ser Asn Asn Arg Tyr Ile Ser Thr Gln Pro Ile
325 330 335

Gly Asn Glu Leu Ala Glu Leu Glu His Asp Ser Met His Phe Gln Thr
340 345 350

Val Ser Asn Thr Gln Arg Ala Phe Thr Ser Tyr Asp Ser Asn Thr Asn
Seite 270

355

360

365

Tyr Asn Ser Gly Thr Gly Met Thr Gln Glu Ala Lys Trp Thr Gln Phe
 370 375 380

Ile Ser Tyr Asp Ile Ala Ala Leu Gln Phe His Ser Asp Glu Asn Asp
 385 390 395 400

Cys Asn Glu Leu Val Lys Arg His Leu Gln Phe Asn Pro Asn Lys Leu
 405 410 415

Thr Lys Phe Tyr Thr Leu Gln Pro Met Asp Val Leu Leu Pro Ile Leu
 420 425 430

Glu Lys Ala Leu Asn Leu Ser Gln Ile Arg Val Lys Pro Asp Leu Phe
 435 440 445

Ala Asn Phe Glu Arg Leu Cys Glu Leu Leu Gly Tyr Asp Asn Val Phe
 450 455 460

Pro Leu Ile Ile Asn Ile Lys Thr Lys Ser Asn Gly Gly Tyr Gln Leu
 465 470 475 480

Cys Gly Ser Ile Ser Ile Ile Lys Ile Glu Glu Glu Leu Lys Ser Val
 485 490 495

Gly Phe Glu Arg Lys Thr Gly Asp Pro Leu Glu Trp Arg Arg Leu Phe
 500 505 510

Lys Lys Ile Ser Thr Ile Cys Arg Asp Ile Ile Leu Ile Pro Asn
 515 520 525

<210> 185

<211> 153

<212> PRT

<213> Saccharomyces cerevisiae

<400> 185

Met Thr Phe Leu Gln Phe Ile Asn Asn Asn Arg Gln Glu Gly Gln Gly
 1 5 10 15

Tyr Ile Ser Glu Lys Leu Phe Lys Thr Lys Lys Asn Glu Met Ile Arg
 20 25 30

Lys Thr Val Thr Asn Leu Val Ala Val Arg Leu Lys Asn Leu Ser His
 35 40 45

Glu Phe Asp Val Ile Glu Asn Tyr Leu Arg Tyr Ile Ala Ser Thr Ser
 50 55 60

Glu His Leu Phe Thr Ala Ile Lys Arg His Phe Asn Lys Cys Ala Arg
 65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Lys Leu Leu Lys Glu Ala Ile Asp Ser Lys Ser Asn Ser Glu Thr Ala
85 90 95

Thr Val Val Leu Gln Glu Gly Phe Ser Gly Ile Cys Leu Leu Lys Ala
100 105 110

Ser Ser Ile Ile Leu Lys Leu Lys Leu Lys Phe Pro Lys Lys Lys Asp
115 120 125

Arg Thr Asp Ile Ser Lys Leu Cys Asp Lys Lys Glu Arg Met Thr Gln
130 135 140

Trp Leu Glu Ile Ser Ile Leu Met Asn
145 150

<210> 186
<211> 142
<212> PRT
<213> Saccharomyces cerevisiae

<400> 186

Met Ala Tyr Asn Gln Glu Asp Ser Lys Arg Leu Ser Asp Lys Tyr Lys
1 5 10 15

Lys Glu Gly His Phe Asp Lys Leu Lys Arg Glu Ile Leu Ser Asn Pro
20 25 30

Trp Asn Asn Thr Glu Glu Asn Ser Glu Ser Phe Glu Gln Ala Leu Arg
35 40 45

Lys Arg Val Ala Ser Thr Val Lys Glu Met Val Asn Glu Asp Glu Glu
50 55 60

Leu Ile Phe Lys Asn Arg Gly Leu Thr Ser Ala Leu Ile Glu Ser Gln
65 70 75 80

Leu Val Lys Asp Asn Tyr Leu Lys Leu Gly Ser Lys Met Glu Gly Asp
85 90 95

Asn Gly Asp Gly Glu Lys Lys Phe Asp Leu Asp Val Tyr Val Arg Ser
100 105 110

Lys Leu Gln Asp Pro Lys Leu Leu Glu Met Ile Lys Gly Gln Leu Gln
115 120 125

Glu Thr Leu Asn Ser Tyr Glu Glu Glu Ala Asn Gly Ser Thr
130 135 140

<210> 187
<211> 483
<212> PRT
<213> Saccharomyces cerevisiae

20080423_F_59071_PCT_sequence_listing.txt

<400> 187

Met Tyr Leu Ser Phe Tyr Ile Thr Asp Thr Lys Asn Lys Leu Ile Phe
 1 5 10 15
 Gln Tyr Leu Leu Gly Ala Thr Ala Pro Ser Phe Lys His Leu Trp Thr
 20 25 30
 Arg Val Arg Thr Thr Cys Pro Gln Leu Leu Glu Asp Ser Ser Ser Asp
 35 40 45
 Asp Tyr Leu Asp His Ser Met Val Gly Arg Asp Leu Glu Val Tyr Lys
 50 55 60
 Tyr Phe Ser Val Ile Asn Lys Leu Asn Tyr Trp Cys Leu Ala Ser Thr
 65 70 75 80
 Ser Lys Ser Lys Gly Pro Leu Asp Cys Phe Thr Phe Leu Glu Thr Ile
 85 90 95
 Asp Arg Ile Leu Leu Glu Tyr Phe Asp Lys Asp Lys Leu Ser Ile Lys
 100 105 110
 Lys Ile Val Asn Asn Tyr Asp Arg Ile Ser Leu Ile Phe Asn Cys Cys
 115 120 125
 Val Glu Ala Gly Glu Pro Asn Val Ser Asp Met Leu Tyr Val Asn Lys
 130 135 140
 Ile Lys Glu Ala Val Pro Glu Arg Ser Asp Leu Ser Lys Phe Ile Ser
 145 150 155 160
 Ser Thr Ala His Asn Leu Gln Gln Ala Val Gln Leu Pro Gln Gln Arg
 165 170 175
 Gln Gln Gln Leu Gln Gln Asn Gln Ile Ser Arg Gly Ser Asn Ser Leu
 180 185 190
 Ile Glu Asn Glu Glu Ile Val Pro Trp Arg Thr Ser Arg Ala Ser Lys
 195 200 205
 His Glu Asn Asn Glu Leu Tyr Val Asp Leu Leu Glu Thr Phe His Val
 210 215 220
 Val Phe Glu Lys Lys Lys Ser His Leu Arg Leu Leu Thr Gly Ser Ile
 225 230 235 240
 His Gly Ile Val Asp Val Arg Ser Tyr Leu Asn Asp Asn Pro Leu Val
 245 250 255
 Ala Val Lys Leu Asn Thr Met Gly Asn Asp Ile Gly Ile Pro Ser Leu
 260 265 270

20080423_F_59071_PCT_sequence_listing.txt

His Asp Cys Val Glu Ile Asn Asp Gly Val Phe Ser Pro Ser Asn Ile
275 280 285

Thr Phe Ile Pro Pro Asp Gly Lys Phe Arg Leu Leu Glu Tyr Ser Val
290 295 300

Asp Leu Ser Ser Gln Val Lys Gln Ser Gly Val Arg Met Asn Ser Ile
305 310 315 320

Gly Leu Met Ser Leu His Phe Gln Asn Gly Leu Gly Lys Asp Ser Asp
325 330 335

Glu Phe Glu Leu Ser Leu Asn Ile Glu Asn Phe Lys Lys Val Ser Gln
340 345 350

Val Asp Asp Leu Lys Ile Asp Leu Gln Phe Asn Val Glu Asn Ala Asp
355 360 365

Pro Asn Glu Ile Ala Tyr Lys Ile Lys Ile Leu Arg Asn Thr His Gly
370 375 380

Arg Phe Glu Asn Ser Ile Ile Met Gly Gln Gly Gln Trp Ile Phe Asp
385 390 395 400

Lys Ser Thr Ala Thr Gly Thr Val Pro Val Leu Arg Gly Cys Ile Glu
405 410 415

Tyr Glu Asn Thr Gly Pro Asn Phe Thr Lys Lys Val Asp Leu Gln Thr
420 425 430

Val Ser Leu Glu Tyr Ser Tyr Ile Gly Gln Ser Ala Ser Gly Ile Tyr
435 440 445

Val Glu Ala Ile Asp Ile Val Ser Gly Leu Thr Ile Gly Lys Asn Thr
450 455 460

Lys Leu Tyr Lys Gly Ala Lys Tyr Lys Thr Gln Thr Gly Asn Phe Gln
465 470 475 480

Val Arg Leu

<210> 188
<211> 104
<212> PRT
<213> Saccharomyces cerevisiae

<400> 188

Met Lys Phe Leu Lys Asn Lys Ala Pro Ala Asn Leu Val Asp Asn Gly
1 5 10 15

Arg Phe Val Glu Ala Ile Thr Cys Asn Lys Val Lys Pro Asn Pro Ser
Seite 274

20

25

30

Cys Val Ser Asn Cys Leu Lys Phe Leu Ser Glu Val Leu Ala Val Glu
35 40 45

Ala Ile Thr Asp Ser Ala Arg Asn Leu Ala Thr Val Ser Lys Ser Asp
50 55 60

Ile Leu Leu Phe Ser Leu Leu Gln Leu Ser Ser Asn Lys Gln Ser Gly
65 70 75 80

Ser Ser Leu Pro Leu Phe Asp Leu Val Phe Ile Leu Leu Ser Thr Phe
85 90 95

Phe Leu Phe His Asn Pro Cys Asn
100

<210> 189

<211> 191

<212> PRT

<213> Saccharomyces cerevisiae

<400> 189

Met Ala Ser Ser Ser Ser Thr Leu Pro Leu His Met Tyr Ile Arg Pro
1 5 10 15

Leu Ile Ile Glu Asp Leu Lys Gln Ile Leu Asn Leu Glu Ser Gln Gly
20 25 30

Phe Pro Pro Asn Glu Arg Ala Ser Glu Glu Ile Ile Ser Phe Arg Leu
35 40 45

Ile Asn Cys Pro Glu Leu Cys Ser Gly Leu Phe Ile Arg Glu Ile Glu
50 55 60

Gly Lys Glu Val Lys Lys Glu Thr Leu Ile Gly His Ile Met Gly Thr
65 70 75 80

Lys Ile Pro His Glu Tyr Ile Thr Ile Glu Ser Met Gly Lys Leu Gln
85 90 95

Val Glu Ser Ser Asn His Ile Gly Ile His Ser Val Val Ile Lys Pro
100 105 110

Glu Tyr Gln Lys Lys Asn Leu Ala Thr Leu Leu Leu Thr Asp Tyr Ile
115 120 125

Gln Lys Leu Ser Asn Gln Glu Ile Gly Asn Lys Ile Val Leu Ile Ala
130 135 140

His Glu Pro Leu Ile Pro Phe Tyr Glu Arg Val Gly Phe Lys Ile Ile
145 150 155 160

20080423_F_59071_PCT_sequence_listing.txt

Ala Glu Asn Thr Asn Val Ala Lys Asp Lys Asn Phe Ala Glu Gln Lys
165 170 175

Trp Ile Asp Met Glu Arg Glu Leu Ile Lys Glu Glu Tyr Asp Asn
180 185 190

<210> 190
<211> 225
<212> PRT
<213> Zea mays

<400> 190

Met Arg Arg Leu Trp Arg Trp Tyr Gln Gln Cys Leu Ala Ala His Pro
1 5 10 15

Val Arg Thr Gln Val Val Ser Ser Gly Ile Leu Trp Gly Leu Gly Asp
20 25 30

Ile Gly Ala Gln Thr Val Thr Tyr Tyr Ser Ala Ser Pro Asp Arg Arg
35 40 45

Gly His Asp Ser Ser Pro Pro Asp Pro Glu Asp Lys Asp Asn Lys Asp
50 55 60

Asn Lys Glu Phe Lys Val Asp Trp Lys Arg Val Gly Ile Thr Ser Ser
65 70 75 80

Phe Gly Phe Ala Phe Val Gly Pro Val Gly His Tyr Trp Tyr Glu Tyr
85 90 95

Leu Asp Arg Ile Ile Arg Arg Arg Phe Gln Pro Asn Thr Phe Lys Phe
100 105 110

Val Ala Ser Lys Val Ala Ala Asp Gly Phe Leu Phe Gly Pro Leu Asp
115 120 125

Leu Leu Leu Phe Phe Ser Tyr Val Gly Leu Gly Gln Gly Arg Ser Ile
130 135 140

Glu Gln Val Lys Glu Asp Val Lys Arg Asp Phe Ile Pro Ala Leu Val
145 150 155 160

Leu Gly Gly Thr Ile Trp Pro Ala Val Gln Ile Ala Asn Phe Arg Phe
165 170 175

Val Pro Val Arg Tyr Gln Leu Leu Tyr Val Asn Leu Phe Cys Leu Leu
180 185 190

Asp Ser Cys Phe Leu Ser Trp Ile Glu Gln Gln Gly Asp Ala Ser Trp
195 200 205

Lys Arg Trp Phe Thr Ser Phe Gln Lys Ile Glu Asp Gln Lys Gly Lys
Seite 276

Val
225

<210> 191
<211> 235
<212> PRT
<213> Arabidopsis thaliana
<400> 191

Met Leu Lys Leu Trp Arg Trp Tyr Gln Arg Cys Leu Thr Val His Pro
1 5 10 15

Val Lys Thr Gln Val Ile Ser Ser Gly Phe Leu Trp Gly Phe Gly Asp
20 25 30

Val Thr Ala Gln Tyr Ile Thr His Ser Thr Ala Lys Arg Arg Leu Leu
35 40 45

Arg Leu Thr Glu Thr Asn Lys Asp Ala Asp Ala Asp Thr Glu Ile Lys
50 55 60

Val Lys Trp Lys Gln Asp Ala Glu Phe Lys Val Asn Trp Lys Arg Val
65 70 75 80

Ala Ile Thr Ser Met Phe Gly Phe Gly Phe Val Gly Pro Val Gly His
85 90 95

Phe Trp Tyr Glu Gly Leu Asp Lys Phe Ile Lys Leu Lys Leu Arg Tyr
100 105 110

Val Pro Lys Ser Thr Arg Phe Val Ala Ala Lys Val Ala Met Asp Gly
115 120 125

Leu Ile Phe Gly Pro Val Asp Leu Leu Val Phe Phe Thr Tyr Met Gly
130 135 140

Phe Ala Thr Gly Lys Asn Thr Ala Glu Val Lys Glu Gly Leu Lys Arg
145 150 155 160

Asp Phe Leu Pro Ala Leu Ala Leu Glu Gly Gly Ala Trp Pro Leu Leu
165 170 175

Gln Ile Ala Asn Phe Arg Tyr Val Pro Val Gln Tyr Gln Leu Leu Tyr
180 185 190

Val Asn Ile Phe Cys Leu Val Asp Ser Ala Phe Leu Ser Trp Val Glu
195 200 205

Gln Gln Lys Asp Ala Ala Trp Lys Gln Trp Phe Thr Ser Ser Phe Gln
210 215 220

20080423_F_59071_PCT_sequence_listing.txt

Pro Leu Lys Glu Arg Gly Gly Gln Gly Gly Val
225 230 235

<210> 192
<211> 472
<212> PRT
<213> Glycine max

<400> 192

Met Glu Pro Arg Val Ala Asn Lys Phe Arg Leu Gly Arg Lys Ile Gly
1 5 10 15

Ser Gly Ser Phe Gly Glu Ile Tyr Leu Gly Thr Asn Thr Gln Thr Asn
20 25 30

Glu Glu Val Ala Val Lys Leu Glu Asn Val Lys Thr Lys His Pro Gln
35 40 45

Leu Leu Tyr Glu Ser Lys Leu Tyr Lys Ile Leu Gln Gly Gly Thr Gly
50 55 60

Ile Pro Asn Val Arg Trp Phe Gly Val Glu Gly Asp Tyr Asn Val Leu
65 70 75 80

Val Met Asp Leu Leu Gly Pro Ser Leu Glu Asp Leu Phe Asn Phe Cys
85 90 95

Thr Arg Lys Leu Ser Leu Lys Thr Val Leu Met Leu Ala Asp Gln Met
100 105 110

Ile Asn Arg Val Glu Phe Ile His Ser Lys Ser Phe Leu His Arg Asp
115 120 125

Ile Lys Pro Asp Asn Phe Leu Met Gly Leu Gly Arg Arg Ala Asn Gln
130 135 140

Val Tyr Ala Ile Asp Phe Gly Leu Ala Lys Lys His Arg Asp Thr Ser
145 150 155 160

Thr His Gln His Ile Pro Tyr Arg Glu Asn Lys Asn Leu Thr Gly Thr
165 170 175

Ala Arg Tyr Ala Ser Met Asn Thr His Leu Gly Ile Glu Gln Ser Arg
180 185 190

Arg Asp Asp Leu Glu Ser Leu Gly Phe Val Leu Met Tyr Phe Leu Arg
195 200 205

Gly Ser Leu Pro Trp Gln Gly Leu Lys Ala Gly Thr Lys Lys Gln Lys
210 215 220

Tyr Glu Arg Ile Ser Glu Lys Lys Val Ser Thr Ser Ile Glu Ser Leu
Seite 278

20080423_F_59071_PCT_sequence_listing.txt

225 230 235 240

Cys Arg Ser Tyr Pro Ser Glu Phe Ala Ser Tyr Phe His Tyr Cys Arg
245 250 255

Ser Leu Gln Phe Asp Asp Lys Pro Asp Tyr Ala Tyr Leu Lys Arg Leu
260 265 270

Phe Arg Asp Leu Phe Ile Arg Glu Gly Phe Gln Phe Asp Tyr Val Phe
275 280 285

Asp Trp Thr Ile Leu Lys Tyr Gln Gln Ser Gln Ile Ala Thr Pro Pro
290 295 300

Ala Arg Ala Ile Gly Pro Ala Ala Gly Pro Ser Ser Gly Leu Pro Pro
305 310 315 320

Ala Val Val Asn Ala Asp Arg Gln Thr Gly Gly Glu Asn Ser Arg His
325 330 335

Thr Gly Trp Ser Ser Ser Asp Pro Ala Arg Arg Arg Asn Ser Gly Pro
340 345 350

Ile Ala Asn Asp Gly Met Leu Ser Arg Gln Lys Ala Pro Phe Pro Ser
355 360 365

Asp Ser Thr Arg Ser Lys Asp Val Met Leu Ser Ser Ser Asn Phe Arg
370 375 380

Ser Ser Gly Ser Thr Arg Arg Gly Val Val Ser Ser Ser Arg Asp Ala
385 390 395 400

Thr Val Gly Asn Glu Thr Glu Pro Ser His Pro Leu Thr Val Asp Ala
405 410 415

Ser Gln Gly Ala Leu Arg Lys Ile Ser Gly Ala Gln Arg Ser Ser Pro
420 425 430

Ile Met Pro Phe Glu His Asn Arg Thr Ser Ser Gly Arg Asn Thr Ser
435 440 445

Asn Met Lys Asn Tyr Glu Ser Thr Ile Arg Gly Ile Glu Thr Leu Asn
450 455 460

Phe Asn Asp Glu Arg Leu Gln Tyr
465 470

<210> 193
<211> 306
<212> PRT
<213> Glycine max

<400> 193

20080423_F_59071_PCT_sequence_listing.txt

Met Pro Ser His Ala Asp Leu Asp Arg Gln Ile Glu His Leu Met Glu
1 5 10 15

Cys Lys Pro Leu Pro Glu Ala Glu Val Lys Ala Leu Cys Asp Gln Ala
20 25 30

Arg Ala Ile Leu Val Glu Glu Trp Asn Val Gln Pro Val Lys Cys Pro
35 40 45

Val Thr Val Cys Gly Asp Ile His Gly Gln Phe Tyr Asp Leu Ile Glu
50 55 60

Leu Phe Arg Ile Gly Gly Asn Ala Pro Asp Thr Asn Tyr Leu Phe Met
65 70 75 80

Gly Asp Tyr Val Asp Arg Gly Tyr Tyr Ser Val Glu Thr Val Thr Leu
85 90 95

Leu Val Ala Leu Lys Val Arg Tyr Arg Asp Arg Ile Thr Ile Leu Arg
100 105 110

Gly Asn His Glu Ser Arg Gln Ile Thr Gln Val Tyr Gly Phe Tyr Asp
115 120 125

Glu Cys Leu Arg Lys Tyr Gly Asn Ala Asn Val Trp Lys Phe Phe Thr
130 135 140

Asp Leu Phe Asp Tyr Leu Pro Leu Thr Ala Leu Ile Glu Ser Gln Ile
145 150 155 160

Phe Cys Leu His Gly Gly Leu Ser Pro Ser Leu Asp Thr Leu Asp Asn
165 170 175

Ile Arg Ala Leu Asp Arg Ile Gln Glu Val Pro His Glu Gly Pro Met
180 185 190

Cys Asp Leu Leu Trp Ser Asp Pro Asp Asp Arg Cys Gly Trp Gly Ile
195 200 205

Ser Pro Arg Gly Ala Gly Tyr Thr Phe Gly Gln Asp Ile Ala Ala Gln
210 215 220

Phe Asn His Thr Asn Gly Leu Ser Leu Ile Ser Arg Ala His Gln Leu
225 230 235 240

Val Met Glu Gly Phe Asn Trp Cys Gln Asp Lys Asn Val Val Thr Val
245 250 255

Phe Ser Ala Pro Asn Tyr Cys Tyr Arg Cys Gly Asn Met Ala Ala Ile
260 265 270

20080423_F_59071_PCT_sequence_listing.txt

Leu Glu Ile Gly Glu Asn Met Asp Gln Asn Phe Leu Gln Phe Asp Pro
275 280 285

Ala Pro Arg Gln Ile Glu Pro Asp Thr Thr Arg Lys Thr Pro Asp Tyr
290 295 300

Phe Leu
305

<210> 194
<211> 423
<212> PRT
<213> Glycine max

<400> 194

Met Glu Arg Ile Val Gly Gly Lys Tyr Lys Leu Gly Arg Lys Ile Gly
1 5 10 15

Ser Gly Ser Phe Gly Glu Ile Tyr Leu Ala Thr His Ile Asp Thr Phe
20 25 30

Glu Ile Val Ala Val Lys Ile Glu Asn Ser Lys Thr Lys His Pro Gln
35 40 45

Leu Leu Tyr Glu Ala Lys Leu Tyr Asn Ile Leu Gln Gly Gly Ser Gly
50 55 60

Ile Pro Asn Ile Lys Trp Ser Gly Ile Asp Gly Glu Asp Asn Val Leu
65 70 75 80

Val Ile Asp Leu Leu Gly Pro Ser Leu Glu Asp Leu Phe Val Tyr Cys
85 90 95

Gly Arg Lys Phe Ser Leu Lys Thr Val Leu Met Leu Ala Asp Gln Met
100 105 110

Ile Thr Arg Ile Glu Tyr Val His Ser Lys Gly Phe Leu His Arg Asp
115 120 125

Ile Lys Pro Asp Asn Phe Leu Met Gly Leu Gly Arg Lys Ala Asn Gln
130 135 140

Val Tyr Ile Ile Asp Phe Gly Leu Ala Lys Arg Tyr Arg Asp Ser Thr
145 150 155 160

Thr Asn Arg His Ile Pro Tyr Arg Glu Asn Lys Asn Leu Thr Gly Thr
165 170 175

Ala Arg Tyr Ala Ser Cys Asn Thr His Leu Gly Ile Glu Gln Ser Arg
180 185 190

Arg Asp Asp Leu Glu Ser Leu Gly Tyr Val Leu Leu Tyr Phe Leu Arg
195 200 205

20080423_F_59071_PCT_sequence_listing.txt

Gly Ser Leu Pro Trp Gln Gly Leu Lys Ala Ala Thr Lys Lys Gln Lys
210 215 220

Tyr Asp Lys Ile Cys Gln Lys Lys Leu Ser Thr Pro Ile Glu Val Leu
225 230 235 240

Cys Lys Ser His Pro Val Glu Phe Ala Ser Tyr Phe His Tyr Cys His
245 250 255

Ser Leu Thr Phe Asp Gln Arg Pro Asp Tyr Gly Phe Leu Lys Arg Leu
260 265 270

Phe Arg Asp Leu Phe Ala Arg Asp Gly Tyr Asp Phe Asp Tyr Val Phe
275 280 285

Asp Trp Thr Ile Leu Lys Tyr Gln Gln Ser Gln Lys Asn Pro Val Pro
290 295 300

Gly Ala Ser Asn Ser Arg Ala Ile Pro Met Asp Ile Asp Asn His Gln
305 310 315 320

Gly Leu Asn Ser Tyr Ser Gly His Val Lys Glu Arg Ile Arg Ala Gly
325 330 335

Asp Ala Thr Gly Ser Gly Val Lys Ile Gln Phe Lys Ser Pro Val Gly
340 345 350

Lys Asn Leu Ser Tyr Glu Lys Pro Leu Asp Lys Asn Ile Phe Gly Glu
355 360 365

Ala Asn Ile Pro Ser Thr Ser Phe Ser Pro Ala Ser Thr Ser Gln Arg
370 375 380

Asn Ser Leu Lys Gln Ser Leu Ser Ala Glu Ala Ser Asn Pro Gly His
385 390 395 400

Ala Gln Gly Ser Lys Ile Gly Pro Ser Ser Ser Leu Met Ser Ser Leu
405 410 415

Gln His Met Ser Ser Ala Lys
420

<210> 195
<211> 651
<212> PRT
<213> Glycine max

<400> 195

Met Ser Ser Pro Gly Phe Pro Gly Gly Gly Ser Ala Ser Glu Phe Phe
1 5 10 15

20080423_F_59071_PCT_sequence_listing.txt

Ala Gly Ala Gly Val Phe Gly Gly Arg Ser Ile Pro Gly Ala Thr Met
20 25 30

Asn Asn Pro Asn Ala Ala Ala Ser Ala Thr Ile Asn Asn Leu His Pro
35 40 45

Leu Tyr Arg Thr Gln Gln Gln Gln Asn Leu Pro Ala Met Phe Leu Asp
50 55 60

Pro Ser Ser Gln Ile Ala Gln Arg Gln Thr Pro Thr Phe Ile Gly Lys
65 70 75 80

Arg Thr Leu Thr Glu Phe Gln Ala Tyr Asn Gln Thr Asn Asn Asn Pro
85 90 95

Asn His Val Leu Ser Asn Leu Leu Leu Arg Ser Val Lys Pro Arg Thr
100 105 110

Ser Leu Tyr His Thr Ser Met Asp Phe Pro Val Pro Glu Leu Gln Asn
115 120 125

Gln Asn Leu Tyr Ser Asn Gln Thr Gln Arg Phe Gly Val Pro Leu Leu
130 135 140

His Gln Leu Arg Pro Gln Pro Ile Asn Leu Pro Asn Asn Gly Pro Val
145 150 155 160

Pro Met Thr Gly Pro Asn Phe Gly Tyr Arg Asn Ser Asn Leu Gly Leu
165 170 175

Pro Gln Asn Gln Asn Arg Val Arg Val Ser Leu Pro Val Ser Val Pro
180 185 190

Val Gln Val His Ser Ser Glu Pro Glu Lys Lys Ile Met Asp His Arg
195 200 205

Leu Leu Glu Leu Glu Lys Gln Leu Leu Glu Asp Asn Asp Asp Glu Gly
210 215 220

Glu Ala Asp Ala Ala Ser Val Ile Thr Thr Ser Glu Trp Ser Glu Thr
225 230 235 240

Tyr Gln Asn Leu Ile Ser Pro Ser Pro Val Gln Lys Pro Val Leu Thr
245 250 255

Thr Thr Ser Pro Thr Ser Ser Thr Thr Ser Ser Thr Ser Ser Ser
260 265 270

Ser Val Ala Ser Pro Ala Ser Gly Cys Ser Lys Gln Thr Leu Met Glu
275 280 285

Ala Ala Ser Ala Ile Val Glu Gly Lys His Asp Val Ala Ala Glu Ile
Seite 283

20080423_F_59071_PCT_sequence_listing.txt

290

295

300

Leu Asn Arg Leu Asn Gly Val Asn Arg Ser Asp Arg Leu Thr Asp Cys
 305 310 315 320

Met Val Ser Ala Leu Lys Ser Arg Met Asn Pro Val Glu Tyr Pro Pro
 325 330 335

Pro Val Ala Glu Leu Phe Arg Lys Glu His Ala Asp Ser Thr Gln Met
 340 345 350

Leu Leu Glu Asn Ser Val Cys Phe Thr Val Gly Phe Met Ala Ala Asn
 355 360 365

Leu Ala Ile Leu Glu Ala Ala Phe Glu Glu Lys Thr Glu Thr Ser Arg
 370 375 380

Phe Cys Val Val Asp Phe Glu Ile Gly Gln Gly Lys Gln Tyr Leu His
 385 390 395 400

Leu Leu Asn Ala Leu Ser Ala Arg Gly Gln Asn Val Ala Val Lys Ile
 405 410 415

Ala Ala Val Ala Glu Lys Gly Gly Glu Glu Arg Val Arg Ala Val Gly
 420 425 430

Asp Met Leu Arg Leu Leu Ala Glu Arg Leu Arg Ile Arg Phe Glu Phe
 435 440 445

Lys Ile Val Ala Thr Gln Lys Ile Ala Glu Leu Thr Arg Glu Ser Leu
 450 455 460

Gly Cys Asp Ala Asp Asp Val Leu Met Val Asn Phe Ala Phe Lys Leu
 465 470 475 480

Asn Lys Ile Pro Asp Glu Ser Val Ser Pro Glu Asn Pro Arg Asp Glu
 485 490 495

Leu Leu Arg Arg Val Lys Arg Leu Ala Pro Arg Val Val Thr Val Val
 500 505 510

Glu Gln Glu Ile Asn Gly Asn Thr Ala Pro Phe Leu Ala Arg Val Ala
 515 520 525

Glu Thr Leu Ser Tyr Tyr Gly Ala Leu Leu Glu Ser Ile Glu Ala Thr
 530 535 540

Thr Val Gly Lys Asp Asn Ser Ile Asn Asn Ser Asp Arg Val Arg Leu
 545 550 555 560

Glu Glu Gly Leu Ser Arg Lys Leu His Asn Ser Val Ala Cys Glu Gly
 565 570 575

20080423_F_59071_PCT_sequence_listing.txt

Arg Asp Arg Val Glu Arg Cys Glu Val Phe Gly Lys Trp Arg Ala Arg
580 585 590

Met Ser Met Ala Gly Phe Glu Leu Lys Pro Leu Ser Gln Ser Met Val
595 600 605

Glu Ser Ile Lys Ala Arg Leu Ile Ser Ala Asn Asn Arg Val Asn Ser
610 615 620

Gly Leu Thr Val Lys Glu Glu Asn Gly Gly Ile Cys Phe Gly Trp Met
625 630 635 640

Gly Arg Thr Leu Thr Val Ala Ser Ala Trp Arg
645 650

<210> 196

<211> 217

<212> PRT

<213> Saccharomyces cerevisiae

<400> 196

Met Ser Ser Leu Leu Ile Ser Tyr Glu Ser Asp Phe Lys Thr Thr Leu
1 5 10 15

Glu Gln Ala Lys Ala Ser Leu Ala Glu Ala Pro Ser Gln Pro Leu Ser
20 25 30

Gln Arg Asn Thr Thr Leu Lys His Val Glu Gln Gln Gln Asp Glu Leu
35 40 45

Phe Asp Leu Leu Asp Gln Met Asp Val Glu Val Asn Asn Ser Ile Gly
50 55 60

Asp Ala Ser Glu Arg Ala Thr Tyr Lys Ala Lys Leu Arg Glu Trp Lys
65 70 75 80

Lys Thr Ile Gln Ser Asp Ile Lys Arg Pro Leu Gln Ser Leu Val Asp
85 90 95

Ser Gly Asp Arg Asp Arg Leu Phe Gly Asp Leu Asn Ala Ser Asn Ile
100 105 110

Asp Asp Asp Gln Arg Gln Gln Leu Leu Ser Asn His Ala Ile Leu Gln
115 120 125

Lys Ser Gly Asp Arg Leu Lys Asp Ala Ser Arg Ile Ala Asn Glu Thr
130 135 140

Glu Gly Ile Gly Ser Gln Ile Met Met Asp Leu Arg Ser Gln Arg Glu
145 150 155 160

20080423_F_59071_PCT_sequence_listing.txt

Thr Leu Glu Asn Ala Arg Gln Thr Leu Phe Gln Ala Asp Ser Tyr Val
165 170 175

Asp Lys Ser Ile Lys Thr Leu Lys Thr Met Thr Arg Arg Leu Val Ala
180 185 190

Asn Lys Phe Ile Ser Tyr Ala Ile Ile Ala Val Leu Ile Leu Leu Ile
195 200 205

Leu Leu Val Leu Phe Ser Lys Phe Lys
210 215

<210> 197
<211> 221
<212> PRT
<213> Glycine max
<400> 197

Met Ser Asn Val Phe Glu Gly Tyr Glu Arg Gln Tyr Cys Glu Leu Ser
1 5 10 15

Ala Asn Leu Ala Lys Lys Cys Thr Ala Ala Gly Ala Leu Asn Gly Glu
20 25 30

Gln Lys Lys Gln Lys Val Ser Glu Val Lys Ala Gly Ile Asp Glu Ala
35 40 45

Glu Ala Leu Ile Arg Lys Met Asp Leu Glu Ala Arg Ser Leu Gln Pro
50 55 60

Asn Ile Lys Gly Val Leu Leu Ala Lys Leu Arg Glu Tyr Lys Ser Asp
65 70 75 80

Leu Asn Asn Leu Lys Ser Glu Val Lys Lys Ile Val Ser Gly Asn Leu
85 90 95

Asn Pro Ser Ala Arg Asp Glu Leu Leu Glu Ser Gly Met Ala Asp Ala
100 105 110

Met Thr Ala Ser Ala Asp Gln Arg Thr Arg Leu Met Val Ser Thr Glu
115 120 125

Arg Leu Asn Lys Thr Ser Asp Arg Val Lys Asp Ser Arg Arg Thr Met
130 135 140

Leu Glu Thr Glu Glu Leu Gly Val Ser Ile Leu Gln Asp Leu His Ser
145 150 155 160

Gln Arg Gln Ser Leu Leu His Ala His Asn Thr Leu His Gly Val Asp
165 170 175

Asp Asn Ile Gly Lys Ser Lys Lys Ile Leu Thr Asn Met Ser Arg Arg
180 185 190

20080423_F_59071_PCT_sequence_listing.txt

Met Asn Lys Asn Lys Trp Val Ile Gly Gly Ile Val Leu Val Leu Val
195 200 205

Ile Ala Ile Ile Val Ile Leu Tyr Phe Lys Phe Ser Lys
210 215 220

<210> 198
<211> 207
<212> PRT
<213> Physcomitrella patens

<400> 198

Met Val Ala Glu Ser Val Leu Val Cys Arg Ser Ser Val Val Gly Ala
1 5 10 15

Gly Leu Gln Ser Phe Val Gly Glu Gly Ala Lys Arg Glu Ser Ala Gly
20 25 30

Pro Gly Arg Ser Val Phe Leu Gly Ala Gln Val Gln Lys Met Gly Ala
35 40 45

Gly Met Ser Ala Arg Ser Asp Val Arg Pro Ala Ala Val Pro Lys Ala
50 55 60

Ser Gly Asp Val Ser Glu Gln Thr Asp Tyr Lys Thr Phe Ser Asp Glu
65 70 75 80

Glu Trp Lys Lys Arg Leu Ser Gln Gln Gln Phe Tyr Val Ala Arg Lys
85 90 95

Lys Gly Thr Glu Arg Pro Phe Thr Gly Glu Tyr Trp Asn Thr Lys Thr
100 105 110

Ala Gly Thr Tyr Leu Cys Val Cys Cys Lys Thr Pro Leu Phe Ser Ser
115 120 125

Lys Thr Lys Phe Asp Ser Gly Thr Gly Trp Pro Ser Tyr Tyr Asp Thr
130 135 140

Ile Gly Asp Asn Val Lys Ser His Met Asp Trp Ser Ile Pro Phe Met
145 150 155 160

Pro Arg Thr Glu Val Val Cys Ala Val Cys Asp Ala His Leu Gly His
165 170 175

Val Phe Asp Asp Gly Pro Arg Pro Thr Gly Lys Arg Tyr Cys Ile Asn
180 185 190

Ser Ala Ala Ile Asp Leu Lys Ala Glu Lys Gln Glu Glu Arg Asn
195 200 205

20080423_F_59071_PCT_sequence_listing.txt

<210> 199

<211> 672

<212> PRT

<213> Physcomitrella patens

<400> 199

Met Gln Ile Asn Asn Gly Phe Leu His Leu Val Ser Thr Leu Leu Gly
1 5 10 15

Leu Leu His Leu Ala Thr Phe Ala Thr Ala Glu Leu Lys Thr Ile Glu
20 25 30

Phe Ser Phe Pro Asn Phe Lys Ser Pro Glu Asn Asp Gly Thr Ile Asn
35 40 45

Ile Pro Asn Ala Thr Asp Val Pro Ser Gly Arg Asn Val Leu Phe Leu
50 55 60

Pro Lys Glu Lys Asn Ala Met Ser Val Gly Trp Val Ile Tyr Glu Glu
65 70 75 80

Lys Val Gln Phe Trp Asp Asn Ser Asp Asp Ala Ala Ser Phe Ser Thr
85 90 95

Glu Phe Thr Phe Ser Thr Ser Gly Tyr Asn Ala Ser Thr Gly Gly Ser
100 105 110

Gly Leu Ala Phe Leu Ile Thr Pro Asp Phe Ser Ile Gly Asp Ile Arg
115 120 125

Gly Tyr Leu Gly Ile Phe Ser Ser Thr Thr Asn Ala Ser Thr Asn Asn
130 135 140

Gln Lys Ile Ala Val Glu Ile Asp Val Phe Lys Asn Pro Trp Asp Pro
145 150 155 160

Ser Ala Ser His Ile Gly Leu Asp Val Asn Ser Ile Glu Ser Val Lys
165 170 175

Val Lys Asp Tyr Cys Pro Val Met Asp Asn Arg Cys Thr Tyr Phe Thr
180 185 190

Asn Lys Gly Asp Ile Asn Val Trp Ile Asp Tyr Met Ala Glu Ser Glu
195 200 205

Thr Leu Glu Val Arg Leu Ala Met Gly Ser Ser Ser Val Lys Pro Thr
210 215 220

Gln Pro Asp Leu Gln Phe Ile Gly Leu Asn Leu Pro Arg Thr Ile Arg
225 230 235 240

Asn Phe Met Tyr Val Gly Phe Ser Ala Ala Thr Gly Ser Asp Phe Tyr
245 250 255

20080423_F_59071_PCT_sequence_listing.txt

Pro Ala His Thr Phe Arg Leu Arg Arg Trp Ser Phe Lys Thr Thr Ala
260 265 270

Pro Ser Asn Gly Lys Lys Asn Ile Leu Leu Ile Ala Val Leu Ser Ala
275 280 285

Ala Ala Gly Leu Ile Phe Ile Ile Ile Val Val Leu Leu Cys Ile Cys
290 295 300

Arg Ala Arg Leu Arg Cys Cys Cys Cys Ala Pro Ala Pro Ala Pro Cys
305 310 315 320

Leu Asp Asp Pro Phe Pro Gln Ile Ala Gln Leu Ala Ser Gly Pro Arg
325 330 335

Ile Phe Thr Tyr Arg Glu Leu Ser Asp Ala Thr Lys Gly Phe Ser Glu
340 345 350

Asn Glu Leu Leu Gly Gln Gly Gly Phe Gly Lys Val Phe Arg Gly Val
355 360 365

Leu Arg Ser Gly Thr Met Ile Ala Val Lys Lys Ile Ser Glu Gly Ser
370 375 380

Asp Gln Gly Glu Gln Gln Phe Val Ala Glu Val Ser Ile Ile Ser Asn
385 390 395 400

Ile Arg His Arg Ser Val Val Gln Leu Gln Gly Trp Cys His Glu Gln
405 410 415

Gly Gln Leu Ile Leu Val Tyr Asp Tyr Met Pro Asn Gly Gly Leu Asp
420 425 430

Gln His Leu Tyr Ala Ser Asn Cys Pro Leu Asn Trp Thr Met Arg Tyr
435 440 445

Asn Val Ile Val Asp Leu Ala Ser Ala Leu Ala Tyr Leu His Glu Lys
450 455 460

Leu Glu Gln Cys Val Ile His Arg Asp Ile Lys Ala Ser Asn Val Met
465 470 475 480

Leu Asp Arg Asp Phe Lys Gly Arg Leu Gly Asp Phe Gly Leu Ala Lys
485 490 495

Ser Ser Ala Arg Asp Met Val Ala Ala Thr Thr Lys Leu Ala Gly Thr
500 505 510

Met Val Tyr Met Ala Pro Glu Leu Pro Ile Thr Phe Lys Pro Thr Thr
515 520 525

20080423_F_59071_PCT_sequence_listing.txt

Glu Ser Asp Val Tyr Ser Phe Gly Ile Leu Ala Leu Glu Val Ile Cys
530 535 540

Arg Arg Arg Pro Phe Asp Gly Thr Val Ile Leu Leu Asp Trp Val Trp
545 550 555 560

Glu Lys His Glu Gln Gly Glu Leu Leu Gln Val Val Asp Pro Gly Leu
565 570 575

Asn Gln Ala Phe Asp Arg Thr Gln Ala Gln Val Ala Leu Ser Val Ala
580 585 590

Leu Met Cys Ala Asn Pro Asn Pro Asn Glu Arg Leu Arg Met Gln Met
595 600 605

Ala Arg Gln Met Leu Ile Gly Glu Val Ser Val Pro Pro Leu Pro Ala
610 615 620

Asn Arg Pro Phe Met Leu Tyr Ser Asn Val Asn Ser Glu Gln Gly Ser
625 630 635 640

Cys Asn Asn Ser Gly Phe His Ser Asp Ala Trp Asn Thr Ala Ala Ile
645 650 655

Glu Asn Gly Arg Val Thr Ile Ile Gln Arg Pro Glu Met Asn Pro Arg
660 665 670

<210> 200
<211> 825
<212> PRT
<213> Physcomitrella patens

<400> 200

Met Ser Thr Thr Thr Val Ser Glu Asp Ala Glu Asp Gly Arg Gly Gly
1 5 10 15

Arg Asn Gly Gln Gln Ala Asn Gln Gly Arg Leu Trp Asp Met Asp Gln
20 25 30

Arg Ile Asp Gln Pro Leu Gly Ala Glu Ala Asp His Val Arg Ser Met
35 40 45

Tyr Arg Asp Gln Thr Met Pro Pro Ser Val Val Leu Cys Leu Ala Phe
50 55 60

Gln Ser Leu Gly Val Val Tyr Gly Asp Leu Gly Thr Ser Pro Leu Tyr
65 70 75 80

Val Phe Lys Ser Thr Phe Ala Asn Gly Gly Val Arg Asn Glu Asp Asp
85 90 95

Ile Ile Gly Ala Leu Ser Leu Ile Ile Tyr Thr Leu Thr Ile Ile Pro
Seite 290

100

105

110

Leu Ile Lys Tyr Val Phe Ile Val Leu Arg Ala Asn Asp Asn Gly Glu
 115 120 125

Gly Gly Ser Phe Ala Leu Tyr Ser Leu Leu Cys Arg Tyr Cys Asn Ile
 130 135 140

Ser Ala Leu Pro Asn Gln His Pro Ser Asp Ala Glu Leu Thr Thr Tyr
 145 150 155 160

Val Val Asp Asn Ala Arg Arg Lys Thr Trp Ile Gln Arg Lys Leu Glu
 165 170 175

Ser Ser Val Leu Ala Gln Gln Val Leu Leu Val Ile Val Leu Phe Gly
 180 185 190

Thr Cys Met Val Ile Gly Asp Gly Ile Leu Thr Pro Ser Ile Ser Val
 195 200 205

Leu Ser Ala Val Val Gly Ile Lys Ala Ala Ser Ser Ser Leu Asp Thr
 210 215 220

Asn Leu Val Thr Gly Ile Ser Cys Val Ile Leu Val Ile Leu Phe Ser
 225 230 235 240

Val Gln Arg Phe Gly Thr Ala Lys Ile Ser Val Leu Phe Ala Pro Ile
 245 250 255

Phe Leu Val Trp Phe Leu Ser Leu Ala Cys Ile Gly Cys Tyr Asn Ile
 260 265 270

Ile Lys Trp Glu Lys Ser Ile Phe Leu Ala Phe Asn Pro Leu Gln Ile
 275 280 285

Val His Phe Phe Arg Arg Asn Gly Arg Gln Gly Trp Glu His Leu Gly
 290 295 300

Gly Ile Val Leu Cys Met Thr Gly Thr Glu Ala Leu Phe Ala Asp Leu
 305 310 315 320

Gly His Phe Ser Cys Arg Ser Ile Gln Ile Val Phe Thr Ser Leu Val
 325 330 335

Tyr Pro Cys Leu Phe Leu Thr Tyr Leu Gly Gln Ala Ala Tyr Leu Val
 340 345 350

Glu His Met Glu Asp Val Asn Asp Pro Phe Tyr Ser Ser Leu Pro Ser
 355 360 365

Ser Ile Tyr Trp Pro Ile Phe Val Leu Ala Thr Ile Ser Ala Met Ile
 370 375 380

20080423_F_59071_PCT_sequence_listing.txt

Ala Ser Arg Ala Met Ile Ser Ala Thr Phe Ser Ile Val Lys Gln Ala
385 390 395 400

Thr Ala Leu Gly Cys Phe Pro Arg Val Lys Val Val His Thr Ser Asn
405 410 415

Asn Val Ala Gly Gln Val Tyr Ile Pro Glu Ile Asn Trp Ile Leu Met
420 425 430

Val Leu Cys Leu Cys Val Thr Ala Gly Phe Arg Asp Thr Asp Gln Ile
435 440 445

Gly Asn Ala Tyr Gly Ile Ala Val Val Met Val Met Ile Val Thr Thr
450 455 460

Leu Leu Met Thr Leu Val Ile Ile Ile Ile Trp Arg Lys His Phe Leu
465 470 475 480

Leu Ala Leu Leu Phe Leu Val Val Phe Ala Ser Ile Glu Gly Ile Tyr
485 490 495

Val Ser Ala Val Leu Phe Lys Thr Thr Gln Gly Gly Trp Val Pro Leu
500 505 510

Val Ile Ser Val Val Phe Gly Thr Val Met Gly Thr Trp His Tyr Gly
515 520 525

Thr Leu Lys Arg Tyr Gln Tyr Glu Met Gln His Lys Val Ser Val Gly
530 535 540

Trp Leu Leu Gly Leu Gly Pro Ser Leu Gly Leu Val Arg Val Pro Gly
545 550 555 560

Ile Gly Leu Met Tyr Thr Asp Leu Ala His Gly Val Pro Pro Leu Phe
565 570 575

Ser His Phe Ile Thr Asn Leu Pro Ala Ile His Ser Thr Val Val Phe
580 585 590

Val Cys Val Lys Tyr Leu Pro Val Asn Thr Val Pro Gln Asp Glu Arg
595 600 605

Phe Leu Ile Arg Arg Ile Gly Ser Arg Ala Tyr Ser Met Tyr Arg Cys
610 615 620

Ala Ala Arg Tyr Gly Tyr Ile Asp Leu His Lys Lys Asp Asp Asn Phe
625 630 635 640

Glu Gln Leu Leu Ile Gln Ser Leu Ile Ser Phe Val Glu Ile Glu Ser
645 650 655

20080423_F_59071_PCT_sequence_listing.txt

Met Arg Glu Ser Ser Gly Arg Glu Ser Met Ala Ala Ser Trp Thr Pro
660 665 670

Asp Gln Gln Pro Met Glu Glu Ala Thr Val Pro Thr Thr Ser Thr Ile
675 680 685

Thr Pro Asn Arg Leu Gln Leu Gln Arg Met Leu Arg Leu His Ser Leu
690 695 700

Met Gly Gly Gly Asn Ser Val Gly Asp Gly Tyr Ser Thr Gln Tyr Ser
705 710 715 720

Gln Thr Ala Ser Asn Ser Val Glu Met Ser Ala Asn Gln Glu Cys Ser
725 730 735

Ile Pro Asn Leu Ser Val Asn Gly Ser Asn Ser Ser Ser Ser Pro His
740 745 750

Pro Gln Asp Glu Val Ala Phe Leu Asn Ala Cys Lys Asp Ala Gly Val
755 760 765

Val Tyr Ile Leu Gly Asn Asn Ile Val Lys Ala Arg Lys Asp Ala Gly
770 775 780

Phe Phe Lys Lys Leu Val Ile Asn Tyr Met Tyr Thr Phe Leu Arg Arg
785 790 795 800

Ile Ser Arg Asp Ser Ser Val Val Leu Asn Ile Pro His Glu Cys Leu
805 810 815

Leu His Val Gly Met Val Tyr Tyr Val
820 825

<210> 201
<211> 306
<212> PRT
<213> Oryza sativa

<400> 201

Met Pro Ser His Ala Asp Leu Glu Arg Gln Ile Glu Gln Leu Met Glu
1 5 10 15

Cys Lys Pro Leu Ser Glu Ser Glu Val Lys Ala Leu Cys Asp Gln Ala
20 25 30

Arg Ala Ile Leu Val Glu Glu Trp Asn Val Gln Pro Val Lys Cys Pro
35 40 45

Val Thr Val Cys Gly Asp Ile His Gly Gln Phe Tyr Asp Leu Ile Glu
50 55 60

Leu Phe Arg Ile Gly Gly Asn Ala Pro Asp Thr Asn Tyr Leu Phe Met
Seite 293

65 70 75 80
 Gly Asp Tyr Val Asp Arg Gly Tyr Tyr Ser Val Glu Thr Val Thr Leu
 85 90 95
 Leu Val Ala Leu Lys Val Arg Tyr Arg Asp Arg Ile Thr Ile Leu Arg
 100 105 110
 Gly Asn His Glu Ser Arg Gln Ile Thr Gln Val Tyr Gly Phe Tyr Asp
 115 120 125
 Glu Cys Leu Arg Lys Tyr Gly Asn Ala Asn Val Trp Lys Tyr Phe Thr
 130 135 140
 Asp Leu Phe Asp Tyr Leu Pro Leu Thr Ala Leu Ile Glu Ser Gln Ile
 145 150 155 160
 Phe Cys Leu His Gly Gly Leu Ser Pro Ser Leu Asp Thr Leu Asp Asn
 165 170 175
 Ile Arg Ala Leu Asp Arg Ile Gln Glu Val Pro His Glu Gly Pro Met
 180 185 190
 Cys Asp Leu Leu Trp Ser Asp Pro Asp Asp Arg Cys Gly Trp Gly Ile
 195 200 205
 Ser Pro Arg Gly Ala Gly Tyr Thr Phe Gly Gln Asp Ile Ala Ala Gln
 210 215 220
 Phe Asn His Thr Asn Gly Leu Ser Leu Ile Ser Arg Ala His Gln Leu
 225 230 235 240
 Val Met Glu Gly Phe Asn Trp Cys Gln Asp Lys Asn Val Val Thr Val
 245 250 255
 Phe Ser Ala Pro Asn Tyr Cys Tyr Arg Cys Gly Asn Met Ala Ala Ile
 260 265 270
 Leu Glu Ile Gly Glu Asn Met Asp Gln Asn Phe Leu Gln Phe Asp Pro
 275 280 285
 Ala Pro Arg Gln Ile Glu Pro Asp Thr Thr Arg Lys Thr Pro Asp Tyr
 290 295 300
 Phe Leu
 305

<210> 202
 <211> 518
 <212> PRT
 <213> Oryza sativa
 <400> 202

20080423_F_59071_PCT_sequence_listing.txt

Met Asp Ala Ser Ala Gly Gly Gly Gly Asn Ser Leu Pro Thr Ala Gly
1 5 10 15

Ala Asp Gly Ala Lys Arg Arg Val Cys Tyr Phe Tyr Asp Ala Glu Val
20 25 30

Gly Asn Tyr Tyr Tyr Gly Gln Gly His Pro Met Lys Pro His Arg Ile
35 40 45

Arg Met Thr His Ala Leu Leu Ala His Tyr Gly Leu Leu Asp Gln Met
50 55 60

Gln Val Leu Lys Pro His Pro Ala Arg Asp Arg Asp Leu Cys Arg Phe
65 70 75 80

His Ala Asp Asp Tyr Val Ala Phe Leu Arg Ser Val Thr Pro Glu Thr
85 90 95

Gln Gln Asp Gln Ile Arg Ala Leu Lys Arg Phe Asn Val Gly Glu Asp
100 105 110

Cys Pro Val Phe Asp Gly Leu Tyr Ser Phe Cys Gln Thr Tyr Ala Gly
115 120 125

Gly Ser Val Gly Gly Ala Val Lys Leu Asn His Gly His Asp Ile Ala
130 135 140

Ile Asn Trp Ala Gly Gly Leu His His Ala Lys Lys Cys Glu Ala Ser
145 150 155 160

Gly Phe Cys Tyr Val Asn Asp Ile Val Leu Ala Ile Leu Glu Leu Leu
165 170 175

Lys Tyr His Gln Arg Val Leu Tyr Val Asp Ile Asp Ile His His Gly
180 185 190

Asp Gly Val Glu Glu Ala Phe Tyr Thr Thr Asp Arg Val Met Thr Val
195 200 205

Ser Phe His Lys Phe Gly Asp Tyr Phe Pro Gly Thr Gly Asp Ile Arg
210 215 220

Asp Ile Gly His Ser Lys Gly Lys Tyr Tyr Ser Leu Asn Val Pro Leu
225 230 235 240

Asp Asp Gly Ile Asp Asp Glu Ser Tyr Gln Ser Leu Phe Lys Pro Ile
245 250 255

Met Gly Lys Val Met Glu Val Phe Arg Pro Gly Ala Val Val Leu Gln
260 265 270

20080423_F_59071_PCT_sequence_listing.txt

Cys Gly Ala Asp Ser Leu Ser Gly Asp Arg Leu Gly Cys Phe Asn Leu
275 280 285

Ser Ile Arg Gly His Ala Glu Cys Val Arg Phe Met Arg Ser Phe Asn
290 295 300

Val Pro Leu Leu Leu Leu Gly Gly Gly Gly Tyr Thr Ile Arg Asn Val
305 310 315 320

Ala Arg Cys Trp Cys Tyr Glu Thr Gly Val Ala Leu Gly His Glu Leu
325 330 335

Thr Asp Lys Met Pro Pro Asn Glu Tyr Phe Glu Tyr Phe Gly Pro Asp
340 345 350

Tyr Thr Leu His Val Ala Pro Ser Asn Met Glu Asn Lys Asn Thr Arg
355 360 365

Gln Gln Leu Asp Asp Ile Arg Ser Arg Leu Leu Asp Asn Leu Ser Lys
370 375 380

Leu Arg His Ala Pro Ser Val Gln Phe Gln Glu Arg Pro Pro Glu Ala
385 390 395 400

Glu Leu Pro Glu Gln Asp Glu Asp Gln Glu Asp Pro Asp Glu Arg His
405 410 415

His Ala Asp Ser Asp Val Glu Met Asp Asp Val Lys Pro Leu Asp Asp
420 425 430

Ser Gly Arg Arg Ser Ser Ile Gln Asn Val Arg Val Lys Arg Glu Ser
435 440 445

Ala Glu Thr Asp Ala Ala Asp Gln Asp Gly Asn Arg Val Ala Ala Glu
450 455 460

Asn Thr Lys Gly Thr Glu Pro Ala Ala Asp Gly Val Gly Ser Ser Lys
465 470 475 480

Gln Thr Val Pro Thr Asp Ala Ser Ala Met Ala Ile Asp Glu Pro Gly
485 490 495

Ser Leu Lys Val Glu Pro Asp Asn Ser Asn Lys Leu Gln Asp Gln Pro
500 505 510

Ser Val His Gln Lys Thr
515

<210> 203
<211> 470
<212> PRT
<213> Brassica napus

20080423_F_59071_PCT_sequence_listing.txt

<400> 203

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Met Glu Thr Asp Glu Ser Gly Val Ser Leu Ala Ser Gly Pro Asp Gly
1      5      10      15

Arg Lys Arg Arg Val Ser Tyr Phe Tyr Glu Pro Thr Ile Gly Asn Tyr
      20      25      30

Tyr Tyr Gly Gln Gly His Pro Met Lys Pro His Arg Ile Arg Met Ala
      35      40      45

His Ser Leu Ile Val His Tyr Asn Leu His Arg Arg Leu Glu Ile Ser
      50      55      60

Arg Pro Tyr Leu Ala Asp Ala Ala Asp Ile Gly Arg Phe His Ser Pro
65      70      75      80

Glu Tyr Val Asp Phe Leu Arg Ser Val Ser Pro Glu Ser Val Gly Asp
      85      90      95

Ser Ser Ala Arg Asn Leu Arg Arg Phe Asn Val Gly Glu Asp Cys Pro
      100      105      110

Val Phe Asp Gly Leu Phe Glu Phe Cys Arg Ala Ser Ala Gly Gly Ser
      115      120      125

Ile Gly Ala Ala Val Lys Leu Asn Arg Gln Asp Ala Asp Ile Ala Ile
      130      135      140

Asn Trp Gly Gly Gly Leu His His Ala Lys Lys Ser Glu Ala Ser Gly
145      150      155      160

Phe Cys Tyr Val Asn Asp Ile Val Leu Gly Ile Leu Glu Leu Leu Lys
      165      170      175

Met Phe Arg Arg Val Leu Tyr Ile Asp Ile Asp Val His His Gly Asp
      180      185      190

Gly Val Glu Glu Ala Phe Tyr Thr Thr Asp Arg Val Met Thr Val Ser
      195      200      205

Phe His Lys Phe Gly Asp Phe Phe Pro Gly Thr Gly His Ile Arg Asp
      210      215      220

Val Gly Ala Glu Lys Gly Lys Tyr Tyr Ala Leu Asn Val Pro Leu Asn
225      230      235      240

Asp Gly Met Asp Asp Glu Ser Phe Arg Ser Leu Phe Arg Pro Leu Ile
      245      250      255

Gln Lys Val Met Glu Val Tyr Arg Pro Glu Ala Val Val Leu Gln Cys
      260      265      270

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20080423_F_59071_PCT_sequence_listing.txt

Gly Ala Asp Ser Leu Ser Gly Asp Arg Leu Gly Cys Phe Asn Leu Ser
275 280 285

Val Lys Gly His Ala Asp Cys Leu Arg Phe Leu Arg Ser Tyr Asn Val
290 295 300

Pro Leu Met Val Leu Gly Gly Gly Tyr Thr Ile Arg Asn Val Ala
305 310 315 320

Arg Cys Trp Cys Tyr Glu Thr Ala Val Ala Val Gly Val Glu Pro Asp
325 330 335

Asn Lys Leu Pro Tyr Asn Glu Tyr Phe Glu Tyr Phe Gly Pro Asp Tyr
340 345 350

Thr Leu His Val Glu Pro Gly Pro Met Glu Asn Leu Asn Thr Pro Lys
355 360 365

Asp Met Glu Arg Ile Arg Asn Thr Leu Leu Glu Gln Leu Ser Gly Leu
370 375 380

Ile His Ala Pro Ser Val Pro Phe Gln His Thr Pro Pro Val Asn Arg
385 390 395 400

Val Leu Asp Glu Pro Glu Glu Asp Leu Glu Lys Arg Pro Lys Pro Arg
405 410 415

Ile Trp Ser Gly Thr Ala Asn Tyr Glu Ser Asp Ser Asp Asp Glu
420 425 430

Lys Pro Leu Gly Gly Phe Ser Gly Ile Asn Gly Pro Thr Met Asp Arg
435 440 445

Asp Ser Thr Gly Glu Asp Glu Met Glu Asp Asp Ser Ala Glu Pro Glu
450 455 460

Val Asp Pro Pro Ser Ser
465 470

<210> 204
<211> 306
<212> PRT
<213> Physcomitrella patens

<400> 204

Met Pro Ser Tyr Ala Asp Val Asp Arg Gln Ile Glu Gln Leu Ser Glu
1 5 10 15

Cys Lys Pro Leu Ser Glu Leu Glu Val Lys Asn Leu Cys Asp Gln Ala
20 25 30

Arg Thr Ile Leu Val Glu Glu Trp Asn Val Gln Pro Val Lys Cys Pro
Seite 298

35

40

45

Val Thr Val Cys Gly Asp Ile His Gly Gln Phe His Asp Leu Ile Glu
50 55 60

Leu Phe Arg Ile Gly Gly Lys Ala Pro Asp Thr Asn Tyr Leu Phe Met
65 70 75 80

Gly Asp Tyr Val Asp Arg Gly Tyr Tyr Ser Val Glu Thr Val Ser Leu
85 90 95

Leu Val Ala Leu Lys Val Arg Tyr Arg Asp Arg Ile Thr Ile Leu Arg
100 105 110

Gly Asn His Glu Ser Arg Gln Ile Thr Gln Val Tyr Gly Phe Tyr Asp
115 120 125

Glu Cys Leu Arg Lys Tyr Gly Asn Ala Asn Val Trp Lys Tyr Phe Thr
130 135 140

Asp Leu Phe Asp Tyr Leu Pro Leu Thr Ala Leu Ile Glu His Glu Ile
145 150 155 160

Phe Cys Leu His Gly Gly Leu Ser Pro Ser Leu Asp Thr Leu Asp His
165 170 175

Ile Arg Ala Leu Asp Arg Ile Gln Glu Val Pro His Glu Gly Pro Met
180 185 190

Cys Asp Leu Leu Trp Ser Asp Pro Asp Asp Arg Cys Gly Trp Gly Ile
195 200 205

Ser Pro Arg Gly Ala Gly Tyr Thr Phe Gly Gln Asp Ile Ala Glu Gln
210 215 220

Phe Asn His Thr Asn Gly Leu Ser Leu Val Ala Arg Ala His Gln Leu
225 230 235 240

Val Met Glu Gly Tyr Asn Trp Cys Gln Asp Lys Asn Val Val Thr Val
245 250 255

Phe Ser Ala Pro Asn Tyr Cys Tyr Arg Cys Gly Asn Met Ala Ala Ile
260 265 270

Met Glu Ile Asp Glu Thr Met Asn Arg Ser Phe Leu Gln Phe Glu Pro
275 280 285

Ala Pro Arg Gln Ser Glu Pro Asp Val Thr Arg Lys Thr Pro Asp Tyr
290 295 300

Phe Leu
305

20080423_F_59071_PCT_sequence_listing.txt

<210> 205
 <211> 626
 <212> PRT
 <213> Physcomitrella patens

<400> 205

Met Glu Glu Leu Ala Ser Ser Asp Val Pro Asn Lys Leu Lys Lys Lys
 1 5 10 15

Glu Ser Lys Met Lys Lys Arg Val Ile Thr Pro Gly Ala Leu Leu Lys
 20 25 30

Ala Val Val Arg Ser Gly Glu Gly Thr Lys Arg Pro Val Glu Gly Asp
 35 40 45

Gln Ile Ile Phe His Tyr Val Thr Arg Thr Asn Gln Gly Val Val Val
 50 55 60

Glu Thr Ser Arg Ser Asp Phe Gly Gly Lys Gly Val Pro Leu Arg Leu
 65 70 75 80

Val Leu Gly Lys Ser Lys Met Ile Ala Gly Trp Glu Glu Gly Ile Thr
 85 90 95

Thr Met Ala Lys Gly Glu Ile Ala Met Leu Lys Val Gln Pro Glu Leu
 100 105 110

His Tyr Gly Asp Pro Glu Cys Pro Val Pro Val Pro Glu Asn Phe Pro
 115 120 125

Val Ser Asp Glu Leu Leu Tyr Glu Val Glu Leu Phe Asn Phe Cys Lys
 130 135 140

Ala Lys Ile Ile Thr Glu Asp Leu Gly Val Thr Lys Val Val Leu Glu
 145 150 155 160

Glu Gly Glu Gly Trp Glu Thr Ala Arg Pro Pro Tyr Glu Val Lys Leu
 165 170 175

Trp Ile Thr Gly Arg Ile Leu Gly Gly Ser Thr Phe Phe Thr His Lys
 180 185 190

Glu Cys Asp Pro Ile His Val Glu Phe Gly Lys Glu Gln Leu Pro Glu
 195 200 205

Gly Leu Glu Lys Ala Val Gly Thr Met Thr Arg Lys Glu Lys Ser Ile
 210 215 220

Ile Tyr Ile Ser Ser Ser Tyr Cys Thr Asn Ser Ser Asn Ala Tyr Lys
 225 230 235 240

20080423_F_59071_PCT_sequence_listing.txt

Leu Asn Ile Ser Pro Gln Ala Gln Glu Leu Glu Phe Glu Val Gln Leu
245 250 255

Val Gln Leu Ile Gln Val Arg Asp Met Phe Gly Asp Gly Gly Leu Ile
260 265 270

Lys Arg Arg Leu Arg Asp Gly Leu Gly Glu Phe Pro Val Asp Cys Pro
275 280 285

Leu Gln Asp Ser Val Leu Arg Val His Tyr Lys Ala Met Leu Pro Asp
290 295 300

Asp Gly Gly Arg Ile Phe Ile Asp Thr Arg Ser Asn Gly Gly Glu Pro
305 310 315 320

Val Glu Phe Ala Ser Gly Glu Gly Val Val Pro Glu Gly Leu Glu Ala
325 330 335

Ser Leu Arg Leu Met Leu Pro Gly Glu Leu Ala Leu Ile Asn Ser Val
340 345 350

Ser Lys Tyr Ala Tyr Asp Lys Phe Gln Arg Pro Glu Ser Val Pro Glu
355 360 365

Gly Ala Ser Val Gln Trp Glu Val Glu Leu Leu Glu Phe Glu Ser Ala
370 375 380

Lys Asp Trp Thr Gly Leu Asn Phe Gln Glu Ile Met Ala Glu Ala Asp
385 390 395 400

Ser Ile Lys Thr Thr Gly Asn Arg Leu Phe Lys Glu Gly Lys His Glu
405 410 415

Leu Ala Lys Ala Lys Tyr Glu Lys Val Leu Arg Asp Phe Arg His Val
420 425 430

Asn Pro Gly Ser Asp Glu Glu Ala Lys Glu Leu Gln Asp Thr Asn Asn
435 440 445

Ala Leu Arg Leu Asn Val Ala Ala Cys Tyr His Lys Leu His Glu Tyr
450 455 460

Ile Lys Cys Ile Glu Thr Cys Asn Lys Val Leu Glu Gly Asn Pro His
465 470 475 480

His Val Lys Gly Leu Phe Arg Arg Gly Thr Ala Tyr Met Glu Thr Gly
485 490 495

Asp Phe Asp Glu Ala Arg Ala Asp Phe Lys Gln Met Ile Thr Val Asp
500 505 510

Lys Ala Val Thr Val Asp Ala Thr Ala Ala Leu Gln Lys Leu Lys Gln

515

520

525

Lys Glu Arg Glu Ala Glu Leu Lys Ala Lys Lys Gln Phe Lys Gly Leu
 530 535 540

Phe Asp Leu Lys Pro Gly Glu Leu Ser Glu Gly Leu Glu Glu Val Lys
 545 550 555 560

Pro Val Ser Glu Ile His Glu Lys Thr Val Val Asn Glu Glu Leu Pro
 565 570 575

Ile Ala Ser Met Asp Gln His Gln His Ser Lys His Glu Thr Glu Glu
 580 585 590

Gly Ser His Glu Ser Pro Arg Ala Ser Ser Arg Leu Leu Arg Leu Leu
 595 600 605

Lys Gly Gly Glu His Leu Ile Arg Thr Val Thr Phe Gly Lys Cys Thr
 610 615 620

Ile Leu
 625

<210> 206

<211> 429

<212> PRT

<213> Linum usitatissimum

<400> 206

Met Lys Ser Lys Asp Lys Ile Ser Tyr Phe Tyr Asp Gly Asp Val Gly
 1 5 10 15

Ser Val Tyr Phe Gly Pro Asn His Pro Met Lys Pro His Arg Leu Cys
 20 25 30

Met Thr His His Leu Val Leu Ser Tyr Asp Leu His Lys Lys Met Glu
 35 40 45

Ile Tyr Arg Pro His Lys Ala Tyr Pro Val Glu Leu Ala Gln Phe His
 50 55 60

Ser Ala Asp Tyr Val Glu Phe Leu His Arg Ile Thr Pro Asp Thr Gln
 65 70 75 80

His Leu Tyr Arg Thr Asp Leu Ala Arg Tyr Asn Leu Gly Glu Asp Cys
 85 90 95

Pro Val Phe Glu Asn Leu Phe Glu Phe Cys Gln Ile Tyr Ala Gly Gly
 100 105 110

Thr Ile Asp Ala Ala Arg Arg Leu Asn Asn Gln Leu Cys Asp Ile Ala
 115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Ile Asn Trp Ala Gly Gly Leu His His Ala Lys Lys Cys Glu Ala Ser
130 135 140

Gly Phe Cys Tyr Ile Asn Asp Leu Val Leu Gly Ile Leu Glu Leu Leu
145 150 155 160

Lys Tyr His Ala Arg Val Leu Tyr Ile Asp Ile Asp Val His His Gly
165 170 175

Asp Gly Val Glu Glu Ala Phe Tyr Phe Thr Asp Arg Val Met Thr Val
180 185 190

Ser Phe His Lys Phe Gly Asp Leu Phe Phe Pro Gly Thr Gly Asp Val
195 200 205

Lys Glu Ile Gly Glu Arg Glu Gly Lys Phe Tyr Ala Ile Asn Val Pro
210 215 220

Leu Arg Asp Gly Ile Asp Asp Ser Ser Phe Asn Arg Leu Phe Lys Thr
225 230 235 240

Ile Ile Ser Lys Val Val Glu Ile Tyr Gln Pro Gly Ala Ile Val Leu
245 250 255

Gln Cys Gly Ala Asp Ser Leu Ala Gly Asp Arg Leu Gly Cys Phe Asn
260 265 270

Leu Ser Ile Asp Gly His Ala Glu Cys Val Lys Phe Val Lys Lys Phe
275 280 285

Asn Ile Pro Leu Leu Val Thr Gly Gly Gly Gly Tyr Thr Lys Glu Asn
290 295 300

Val Ala Arg Cys Trp Thr Val Glu Thr Gly Val Leu Leu Asp Thr Glu
305 310 315 320

Leu Pro Asn Glu Ile Pro Glu Asn Glu Tyr Ile Lys Tyr Phe Gly Pro
325 330 335

Asp Tyr Thr Leu Lys Ile Pro Ser Arg Tyr Ile Glu Asn Leu Asn Ser
340 345 350

Lys Ser Tyr Leu Ser Ser Leu Lys Val Gln Val Met Glu Asn Leu Arg
355 360 365

Tyr Ile Gln His Ala Pro Ser Val Gln Met Gln Glu Val Pro Pro Asp
370 375 380

Phe Tyr Ile Pro Asp Phe Asp Glu Asp Glu Gln Asn Pro Asp Glu Arg
385 390 395 400

20080423_F_59071_PCT_sequence_listing.txt

Met Asp Gln His Thr Arg Asp Lys Gln Val Gln Arg Asp Asp Glu Tyr
405 410 415

Tyr Asp Gly Asp Asn Asp Asn Asp Pro Thr Asp Arg Ser
420 425

<210> 207
<211> 684
<212> PRT
<213> Glycine max
<400> 207

Met Asp Leu Glu Ser Val Ile His Arg Asn Thr Ile Lys Glu Glu Ser
1 5 10 15

Trp Lys Thr Val Leu Thr Leu Ala Tyr Gln Ser Leu Gly Val Val Tyr
20 25 30

Gly Asp Leu Ser Thr Ser Pro Leu Tyr Val Tyr Lys Ser Ala Phe Ala
35 40 45

Glu Asp Ile Gln His Ser Asp Thr Asn Glu Glu Ile Tyr Gly Val Leu
50 55 60

Ser Phe Val Phe Trp Thr Leu Thr Leu Ile Pro Leu Leu Lys Tyr Val
65 70 75 80

Phe Ile Val Leu Arg Ala Asp Asp Asn Gly Glu Gly Gly Thr Phe Ala
85 90 95

Leu Tyr Ser Leu Leu Cys Arg His Ala Arg Val Ser Leu Leu Pro Asn
100 105 110

Thr Gln Leu Ala Asp Glu His Leu Thr Glu Tyr Thr Met Asp Asn Gly
115 120 125

Thr Val Pro Val Asn Arg Lys Asn Val Gly Leu Gly Leu Lys Asn Leu
130 135 140

Leu Glu Lys His Arg Val Leu Gln Arg Val Leu Leu Val Leu Ala Leu
145 150 155 160

Ile Gly Thr Cys Met Val Ile Gly Asp Gly Val Leu Thr Pro Ala Ile
165 170 175

Ser Val Phe Ser Ala Val Ser Gly Leu Glu Leu Ser Met Ser Lys Glu
180 185 190

Gln His Arg Tyr Val Glu Val Pro Val Ala Cys Val Ile Leu Ile Phe
195 200 205

Leu Phe Ala Leu Gln His Tyr Gly Thr His Arg Val Gly Ser Leu Phe
210 215 220

20080423_F_59071_PCT_sequence_listing.txt

Ala Pro Val Val Leu Thr Trp Leu Leu Cys Ile Ser Ala Ile Gly Val
225 230 235 240

Tyr Asn Ile Phe His Trp Asn Pro His Val Tyr Glu Ala Leu Ser Pro
245 250 255

Tyr Tyr Met Phe Lys Phe Leu Lys Lys Thr Gln Lys Gly Gly Trp Met
260 265 270

Ser Leu Gly Gly Ile Leu Leu Cys Ile Thr Gly Ser Glu Ala Met Tyr
275 280 285

Ala Asp Leu Gly His Phe Ser Gln Leu Ser Ile Lys Ile Ala Phe Thr
290 295 300

Phe Leu Val Tyr Pro Ser Leu Ile Leu Ala Tyr Met Gly Gln Ala Ala
305 310 315 320

Tyr Leu Ser Arg His His Ser Leu Glu Ser Asp Tyr Arg Ile Gly Phe
325 330 335

Tyr Val Ser Val Pro Val Lys Leu Arg Trp Pro Val Leu Ala Ile Ala
340 345 350

Ile Leu Gln Ala Val Val Gly Ser Gln Ala Val Ile Thr Gly Thr Phe
355 360 365

Ser Ile Ile Lys Gln Cys Ser Ala Met Gly Cys Phe Pro Lys Val Lys
370 375 380

Ile Ile His Thr Ser Ser Lys Met His Gly Gln Ile Tyr Ile Pro Glu
385 390 395 400

Ile Asn Trp Ser Leu Met Leu Leu Cys Leu Ala Ile Thr Val Gly Phe
405 410 415

Arg Asp Thr Lys Arg Met Gly Asn Ala Ala Gly Leu Ala Val Ile Thr
420 425 430

Val Met Leu Val Thr Thr Cys Leu Met Ser Leu Ala Ile Val Leu Cys
435 440 445

Trp His Lys Asn Ile Leu Leu Ala Val Cys Phe Ile Val Phe Phe Gly
450 455 460

Ser Ile Glu Ala Leu Tyr Phe Ser Ala Ser Leu Ile Lys Phe Leu Glu
465 470 475 480

Gly Ala Trp Val Pro Ile Ala Leu Ser Leu Ile Phe Leu Ile Ala Met
485 490 495

20080423_F_59071_PCT_sequence_listing.txt

Tyr Val Trp His Tyr Gly Thr Leu Lys Lys Tyr Glu Phe Asp Val His
500 505 510

Asn Lys Val Pro Ile Asn Trp Leu Leu Ser Leu Gly Pro Ser Leu Gly
515 520 525

Ile Val Arg Val Lys Gly Ile Gly Leu Ile His Thr Glu Leu Val Ser
530 535 540

Gly Ile Pro Ala Ile Phe Ser His Phe Val Thr Asn Leu Pro Ala Phe
545 550 555 560

His Gln Val Val Ile Phe Leu Cys Ile Lys Ser Val Gln Val Pro His
565 570 575

Val Arg Pro Glu Glu Arg Phe Leu Val Gly Arg Val Gly Pro Lys Glu
580 585 590

Tyr Arg Leu Tyr Arg Cys Ile Ala Arg Tyr Gly Tyr His Asp Ile His
595 600 605

Lys Asp Asp Ile Glu Phe Glu Arg Asp Leu Ile Cys Ser Ile Ala Glu
610 615 620

Phe Ile Arg Ser Asp Ala Ser Glu Tyr Gly Leu Gly Phe Gly Ser Phe
625 630 635 640

Glu Glu Asp Thr Lys Met Thr Val Val Gly Thr Ser Ala Ser Asn Leu
645 650 655

Glu Gly Ser Ile Arg Met Thr Glu Asp Asp Asp Gln Val Asp Ser Gln
660 665 670

Met Glu Gly Pro Ser Glu Leu Met Glu Val Lys Ser
675 680

<210> 208
<211> 334
<212> PRT
<213> Glycine max

<400> 208

Met Leu Lys His Asp Thr Gly Asn Gly Val Phe Asp Thr Gly Met Asp
1 5 10 15

Pro Gly Phe Leu Glu Val Leu Glu Lys His Pro Glu Asn Ser Asp Arg
20 25 30

Val Lys Asn Leu Val Ser Ile Leu Lys Arg Gly Pro Ile Ser Pro Tyr
35 40 45

Ile Ser Trp His Leu Gly Thr Pro Ala Lys Ile Pro Glu Leu Phe Ser
Seite 306

50

55

60

Phe His Thr Pro Glu Tyr Ile Asn Glu Leu Val Glu Val Asp Lys Glu
65 70 75 80

Gly Gly Lys Gln Leu Cys Gly Gly Thr Phe Leu Asn Pro Gly Ser Trp
85 90 95

Asp Ala Ala Leu Leu Ala Ala Gly Thr Thr Leu Ser Ala Met Lys His
100 105 110

Leu Leu Asn Gly Asp Gly Lys Val Ser Tyr Ala Leu Val Arg Pro Pro
115 120 125

Gly His His Ala Gln Pro Ser Leu Ala Asp Gly Tyr Cys Phe Leu Asn
130 135 140

Asn Ala Gly Leu Ala Val Gln Leu Ala Leu Asp Ser Gly Cys Lys Lys
145 150 155 160

Val Ala Val Ile Asp Ile Asp Val His Tyr Gly Asn Gly Thr Ala Glu
165 170 175

Gly Phe Tyr Arg Ser Asn Lys Val Leu Thr Ile Ser Leu His Met Asn
180 185 190

His Gly Ser Trp Gly Pro Ser His Pro Gln Ser Gly Ser Val Asp Glu
195 200 205

Leu Gly Glu Gly Glu Gly Tyr Gly Phe Asn Leu Asn Ile Pro Leu Pro
210 215 220

Asn Gly Thr Gly Asp Lys Gly Tyr Val His Ala Phe Asn Glu Leu Val
225 230 235 240

Val Pro Ser Ile Gln Lys Phe Gly Pro Asp Met Ile Val Leu Val Leu
245 250 255

Gly Gln Asp Ser Asn Ala Phe Asp Pro Asn Gly Arg Gln Cys Leu Thr
260 265 270

Met Glu Gly Tyr Arg Glu Ile Gly Arg Ile Val His Leu Leu Ala Lys
275 280 285

Arg His Ser Ala Gly Arg Leu Leu Ile Val Gln Glu Gly Gly Tyr His
290 295 300

Val Thr Tyr Ser Ala Tyr Cys Leu His Ala Thr Leu Glu Gly Ile Leu
305 310 315 320

Asn Leu Pro Met Pro Leu Leu Ala Asp Pro Ile Ala Phe Thr
325 330

20080423_F_59071_PCT_sequence_listing.txt

<210> 209
 <211> 638
 <212> PRT
 <213> Brassica napus

<400> 209

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Met Ala Ala Arg Val Glu Ala Ala Thr Met Gly Gly Gly Glu Ile Asp
1          5          10          15

Glu Glu Ser Asp Glu Arg Gly Ser Met Trp Asp Leu Asp Gln Lys Leu
          20          25          30

Asp Gln Ser Met Asp Glu Glu Ala Gly Arg Leu Arg Asn Met Tyr Lys
          35          40          45

Glu Lys Lys Phe Ser Ala Leu Leu Leu Leu Gln Leu Ser Phe Gln Ser
          50          55          60

Leu Gly Val Val Tyr Gly Asp Leu Gly Thr Ser Pro Leu Tyr Val Phe
65          70          75          80

Tyr Asn Thr Phe Pro His Gly Ile Lys Asp Pro Glu Asp Thr Ile Gly
          85          90          95

Ala Leu Ser Leu Ile Ile Tyr Ser Leu Thr Leu Ile Pro Leu Leu Lys
          100          105          110

Tyr Val Phe Val Val Cys Lys Ala Asn Asp Asn Gly Gln Gly Gly Thr
          115          120          125

Phe Ala Leu Tyr Ser Leu Leu Cys Arg His Ala Lys Val Lys Thr Ile
          130          135          140

Lys Asn Gln His Arg Thr Asp Glu Glu Leu Thr Thr Tyr Ser Arg Ser
145          150          155          160

Thr Phe His Glu His Ser Phe Ala Ala Lys Thr Lys Arg Trp Leu Glu
          165          170          175

Asp Arg Thr Ser Arg Lys Thr Ala Leu Leu Val Leu Val Leu Val Gly
          180          185          190

Thr Cys Met Val Ile Gly Asp Gly Ile Leu Thr Pro Ala Ile Ser Val
          195          200          205

Leu Ser Ala Ala Gly Gly Leu Arg Val Asn Leu Pro His Ile Ser Asn
          210          215          220

Gly Val Val Val Leu Val Ala Val Val Ile Leu Val Ser Leu Phe Ser
225          230          235          240
    
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20080423_F_59071_PCT_sequence_listing.txt

Val Gln His Tyr Gly Thr Asp Arg Val Gly Trp Leu Phe Ala Pro Ile
245 250 255

Val Phe Leu Trp Phe Leu Ser Ile Ala Ser Ile Gly Met Tyr Asn Ile
260 265 270

Trp Lys His Asp Thr Thr Val Leu Lys Ala Phe Ser Pro Val Tyr Ile
275 280 285

Tyr Arg Tyr Phe Lys Arg Gly Gly Ile Asp Arg Trp Thr Ser Leu Gly
290 295 300

Gly Ile Met Leu Ser Ile Thr Gly Ile Glu Ala Leu Phe Ala Asp Leu
305 310 315 320

Ser His Phe Pro Val Ser Ala Val Gln Ile Ala Phe Thr Ala Ile Val
325 330 335

Phe Pro Cys Leu Leu Leu Ala Tyr Ser Gly Gln Ala Ala Tyr Ile Arg
340 345 350

Asn His Pro His His Val Ala Asp Ala Phe Tyr Arg Ser Ile Pro Gly
355 360 365

Ser Val Tyr Trp Pro Met Phe Ile Ile Ala Thr Ala Ala Ala Ile Val
370 375 380

Ala Ser Gln Ala Thr Ile Ser Ala Thr Phe Ser Leu Ile Lys Gln Ala
385 390 395 400

Leu Ala His Gly Cys Phe Pro Arg Val Lys Val Val His Thr Ser Arg
405 410 415

Lys Phe Leu Gly Gln Ile Tyr Val Pro Asp Ile Asn Trp Ile Leu Met
420 425 430

Ile Leu Cys Ile Ala Val Thr Ala Gly Phe Lys Asn Gln Ser Gln Ile
435 440 445

Gly Asn Ala Tyr Gly Thr Ala Val Val Ile Val Met Leu Val Thr Thr
450 455 460

Leu Leu Met Thr Leu Ile Met Ile Leu Val Trp Arg Cys His Trp Val
465 470 475 480

Leu Val Leu Val Phe Thr Val Leu Ser Leu Val Val Glu Cys Thr Tyr
485 490 495

Phe Ser Ala Met Leu Phe Lys Val Asp Gln Gly Gly Trp Val Pro Leu
500 505 510

Val Ile Ala Ala Ala Phe Leu Leu Ile Met Ser Val Trp His Tyr Gly
Seite 309

515

520

525

Thr Leu Lys Arg Tyr Glu Phe Glu Met His Ser Arg Val Ser Met Ala
 530 535 540

Trp Ile Leu Gly Leu Gly Pro Ser Leu Gly Leu Val Arg Val Pro Gly
 545 550 555 560

Val Gly Leu Val Tyr Thr Glu Leu Ala Ser Gly Val Pro His Ile Phe
 565 570 575

Ser His Phe Ile Thr Asn Leu Pro Ala Ile His Ser Val Val Val Phe
 580 585 590

Val Cys Val Lys Asn Leu Pro Val Tyr Thr Val Pro Glu Glu Glu Arg
 595 600 605

Phe Leu Val Lys Arg Ile Gly Pro Lys Lys Leu Pro His Val Pro Leu
 610 615 620

Arg Cys Lys Val Trp Ile Trp Arg Leu Ala Gln Glu Arg Arg
 625 630 635

<210> 210

<211> 336

<212> PRT

<213> Physcomitrella patens

<400> 210

Met Arg Val Gln Cys Asp Val Cys Glu Lys Asn Lys Ala Ala Val Met
 1 5 10 15

Cys Cys Ala Asp Glu Ala Ala Leu Cys Thr Ser Cys Asp Thr Arg Val
 20 25 30

His Ala Ala Asn Lys Leu Ala Asn Lys His Val Arg Val Pro Leu Val
 35 40 45

Gly Gln Leu Glu Pro Pro Arg Cys Asp Ile Cys Gln Glu Lys Pro Gly
 50 55 60

Phe Phe Phe Cys Leu Glu Asp Arg Ala Leu Leu Cys Arg Asp Cys Asp
 65 70 75 80

Val Ser Ile His Ser Ala Asn Lys Leu Ser Ser Asn His Gln Arg Phe
 85 90 95

Leu Leu Thr Gly Thr Arg Val Gly Leu Asp Ser Ile Ser Gly Gln Glu
 100 105 110

Gly Ala Glu Val Val Leu Glu Glu Ser Pro Arg Val Pro Thr Pro Ser
 115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Thr Ala Thr Ser Thr Leu Pro Ser Ile Ser Lys Ser Thr Leu Ser Ser
130 135 140

Gly Ser Lys Leu Lys Asp Asn Ser Gln Pro Val Pro Ala Asn Ala Thr
145 150 155 160

Pro Thr Pro Asn Pro Ser Trp Leu Thr Asn Gly Gly Arg Asn Ser Glu
165 170 175

Arg Ala Lys Ile Lys Ser Lys Pro Val Gly Thr Thr Ser Ala Asn Val
180 185 190

Ser Asp Pro His Gly Ser Ser Phe Gly Lys Arg Asn Ser Ile Pro Ala
195 200 205

Asp Phe Leu Ser Asp Ala Val Pro Val Trp Gly Val Asp Glu Leu Leu
210 215 220

Asn Leu Pro Glu Leu Ala Glu Gly Tyr His Ile Gly Asp Ile Gly Ser
225 230 235 240

Ser Lys Ala Asp Met Asn Asn Leu Gly Asp Tyr Asp Trp Met Ala Asp
245 250 255

Leu Ser Met Phe Glu Glu Gln Met Tyr Ala Ala Gly Ser Phe His Glu
260 265 270

Val Pro Gln Leu Ser Ala Pro Ala Pro Thr Val Gly Leu Thr Arg Gly
275 280 285

Gly Arg Ala Thr Ala Leu Ser Lys Gly Lys Gly Lys Gln Asp Ala Ala
290 295 300

Ile Val Pro Gln Phe Asp Asp Ala Phe Val Val Pro Asp Leu Gly Leu
305 310 315 320

Ser Val Ser Pro Ser Ser Pro Ala Pro Val Thr Lys Arg Arg Arg Thr
325 330 335

<210> 211

<211> 239

<212> PRT

<213> Physcomitrella patens

<400> 211

Met Thr Glu Thr Thr Gly Ser Gly Ala Leu Ser Gln Ala Ala Asp Cys
1 5 10 15

Leu Pro Leu Thr Tyr Gln Arg Pro Val Arg Asp Asp Leu Glu Thr His
20 25 30

Leu Pro Lys Pro Tyr Leu Ala Arg Ala Leu Val Ala Pro Asp Thr Glu
Seite 311

35

40

45

His Pro Asn Gly Thr Leu Gly His Arg His Asn Gly Met Thr Val Leu
 50 55 60

Gln Gln His Ile Ala Phe Phe Asp Gln Asn Gly Asp Gly Ile Ile Tyr
 65 70 75 80

Pro Trp Glu Thr Tyr Ala Gly Leu Arg Glu Ile Gly Phe Asn Val Ile
 85 90 95

Trp Ser Ala Met Val Ala Phe Ile Ile Asn Val Val Met Ser Tyr Ala
 100 105 110

Ser Leu Pro Gly Trp Leu Pro Ser Pro Phe Leu Pro Ile Tyr Ile Tyr
 115 120 125

Asn Ile His Lys Ala Lys His Gly Ser Asp Ser Gly Ala Tyr Asp Thr
 130 135 140

Glu Gly Arg Tyr Val Pro Val Tyr Phe Glu Asn Val Phe Ser Lys Tyr
 145 150 155 160

Ala Arg Thr Val Pro Asp Lys Leu Thr Leu Gly Glu Ile Trp Ser Met
 165 170 175

Thr Glu Gly Asn Arg Val Ala Tyr Asp Phe Phe Gly Trp Ala Ala Ala
 180 185 190

Lys Gly Glu Trp Ile Leu Leu Tyr Met Leu Ala Lys Asp Glu Glu Gly
 195 200 205

Met Leu Ser Lys Glu Ala Cys Arg Arg Cys Phe Asp Gly Ser Leu Phe
 210 215 220

Glu Tyr Cys Ala Lys Met Asn Arg Met Gln His Glu Lys Ala Tyr
 225 230 235

<210> 212

<211> 358

<212> PRT

<213> Physcomitrella patens

<400> 212

Met Pro Lys Pro Cys Asp Ala Cys His Val Ser Ser Ala Ala Val Phe
 1 5 10 15

Cys Arg Ala Asp Ala Ala Tyr Leu Cys Val Gly Cys Asp Gly Lys Val
 20 25 30

His Gly Ala Asn Lys Leu Ala Ser Arg His Glu Arg Val Trp Met Cys
 35 40 45

20080423_F_59071_PCT_sequence_listing.txt

Glu Val Cys Glu Val Ala Pro Ala Val Val Thr Cys Lys Ala Asp Ala
 50 55 60
 Ala Ser Leu Cys Val Ala Cys Asp Thr Asp Ile His Ser Ala Asn Pro
 65 70 75 80
 Leu Ala Gln Arg His Glu Arg Val Pro Val Thr Pro Leu Phe Glu Ser
 85 90 95
 Ala Ser Pro Leu Arg Gly Pro Asp Phe Cys Val Leu Val Ser Glu Asn
 100 105 110
 Gly Cys His Asp Leu Leu Lys Gly Cys Glu Asp Ala Ser Val Val Glu
 115 120 125
 Ala Val Ser Trp Leu Leu Pro His Pro Lys Ile Ser Thr Asn Ser Ile
 130 135 140
 Ile Arg Gly Ser Ala Ala Ala Asp Glu Met Gly Ser Ser Pro Phe His
 145 150 155 160
 Asp Arg Pro Phe Ser Pro Lys Pro Lys Lys Gln Lys Val Glu Leu Pro
 165 170 175
 Ala Asp Ile Phe Ser Asp Val Asp Pro Phe Leu Asp Leu Asp Asp Ala
 180 185 190
 Thr Val Thr Gly Ile Gln Pro Asp Ser Leu Val Pro Val His Met Pro
 195 200 205
 Glu Cys Ser Glu Asp Thr Asp Ser Leu Ala His Ser Met Asp Pro Ser
 210 215 220
 Phe Thr Lys Phe Pro Leu Ser Ala Lys Ser Gly Tyr Ser Tyr Gly Thr
 225 230 235 240
 Ser Thr Leu Thr Gln Ser Ile Ser Cys Ser Ser Leu Asp Ala Ala Val
 245 250 255
 Val Pro Asp Ser Ser Leu Ser Asp Ile Ser Thr Pro Tyr Leu Asp Ser
 260 265 270
 Gln Ser Ser Gln Asp Met Ser Ala Arg Leu Pro His Gln Thr Gly Gly
 275 280 285
 Pro Ile Asp Thr Val Asp Arg Glu Ala Arg Val Leu Arg Tyr Lys Glu
 290 295 300
 Lys Arg Gln Lys Arg Lys Phe Glu Lys Thr Ile Arg Tyr Ala Ser Arg
 305 310 315 320

20080423_F_59071_PCT_sequence_listing.txt

Lys Ala Tyr Ala Glu Ser Arg Pro Arg Ile Lys Gly Arg Phe Ala Lys
325 330 335

Arg Thr Asp Ser Asp Met Glu Gln Phe Gly Ser Val Asp Ser Ser Phe
340 345 350

Gly Val Val Pro Ser Phe
355

<210> 213
<211> 431
<212> PRT
<213> Physcomitrella patens

<400> 213

Met Pro Val Lys Asp Arg Ile Ser Tyr Phe Tyr Asp Gly Asp Val Gly
1 5 10 15

Ser Val Tyr Tyr Gly Pro Asn His Pro Met Lys Pro His Arg Leu Cys
20 25 30

Met Thr Asn Ser Leu Val Leu Ala Tyr Gly Leu His Asn Lys Met Glu
35 40 45

Ile Tyr Arg Pro His Lys Ala Tyr Pro Val Glu Leu Ala Gln Phe His
50 55 60

Ser Val Asp Tyr Val Glu Phe Leu Gly Arg Ile Thr Pro Glu Ser Gln
65 70 75 80

Glu Lys Tyr Ala Ala Glu Leu Ile Arg Tyr Asn Met Gly Glu Asp Cys
85 90 95

Pro Val Phe Asp Asn Leu Phe Glu Phe Cys Gln Ile Tyr Ala Gly Gly
100 105 110

Thr Ile Asp Ala Ala His Arg Leu Asn His Gly Leu Cys Asp Ile Ala
115 120 125

Ile Asn Trp Ala Gly Gly Leu His His Ala Lys Lys Cys Glu Ala Ser
130 135 140

Gly Phe Cys Tyr Val Asn Asp Leu Val Leu Gly Ile Leu Glu Leu Leu
145 150 155 160

Lys Tyr His Ala Arg Val Leu Tyr Ile Asp Ile Asp Ile His His Gly
165 170 175

Asp Gly Val Glu Glu Ala Phe Tyr Leu Thr Asp Arg Val Met Thr Val
180 185 190

Ser Phe His Lys Phe Gly Asp Tyr Phe Phe Pro Gly Thr Gly Asp Val
195 200 205

20080423_F_59071_PCT_sequence_listing.txt

Lys Asp Val Gly Glu Arg Glu Gly Lys Tyr Tyr Ala Ile Asn Val Pro
 210 215 220
 Leu Lys Asp Gly Ile Asp Asp Ala Asn Phe Ile Arg Met Phe Arg Val
 225 230 235 240
 Val Ile Gln Lys Val Val Glu Val Tyr Gln Pro Gly Ala Ile Val Leu
 245 250 255
 Gln Cys Gly Ala Asp Ser Leu Ala Gly Asp Arg Leu Gly Cys Phe Asn
 260 265 270
 Leu Ser Ile Asp Gly His Ser Glu Cys Val Lys Phe Val Lys Lys Phe
 275 280 285
 Asn Ile Pro Leu Leu Val Thr Gly Gly Gly Gly Tyr Thr Lys Glu Asn
 290 295 300
 Val Ala Arg Cys Trp Thr Val Glu Thr Gly Val Leu Val Asp Thr Glu
 305 310 315 320
 Leu Pro Asn Glu Ile Pro Asp Asn Asp Tyr Leu Lys Tyr Phe Lys Pro
 325 330 335
 Asp Cys Thr Leu Lys Thr Thr Ser Gly Asn His Met Glu Asn Leu Asn
 340 345 350
 Gly Lys Thr Tyr Leu Ser Thr Ile Lys Gln Gln Val Met Glu Asn Leu
 355 360 365
 Arg Arg Ile Ala His Ala Pro Ser Val Gln Met His Glu Val Pro Pro
 370 375 380
 Asp Thr Tyr Ile Pro Glu Phe Asp Glu Asp Glu Leu Asn Pro Asp Glu
 385 390 395 400
 Arg Met Asp Gln His Thr Gln Asp Lys His Ile Gln Arg Glu Glu Glu
 405 410 415
 Tyr Tyr Glu Asp Asp Asn Asp Asn Asp His Asp Met Asp Asp Ser
 420 425 430
 <210> 214
 <211> 426
 <212> PRT
 <213> Brassica napus
 <400> 214
 Met Arg Ser Lys Asp Lys Ile Ser Tyr Phe Tyr Asp Gly Asp Val Gly
 1 5 10 15

20080423_F_59071_PCT_sequence_listing.txt

Ser Val Tyr Phe Gly Pro Asn His Pro Met Lys Pro His Arg Leu Cys
20 25 30

Met Thr His His Leu Ile Leu Ala Tyr Gly Leu His Ser Lys Met Glu
35 40 45

Val Tyr Arg Pro His Lys Ala Tyr Pro Ile Glu Met Ala Gln Phe His
50 55 60

Ser Pro Asp Tyr Val Glu Phe Leu Gln Arg Ile Asn Pro Glu Asn Lys
65 70 75 80

Asp Leu Phe Pro Asn Glu Met Ala Arg Tyr Asn Leu Gly Glu Asp Cys
85 90 95

Pro Val Phe Glu Asp Met Phe Glu Phe Cys Gln Ile Tyr Ala Gly Ala
100 105 110

Thr Ile Asp Ala Ala Arg Arg Leu Asn Asn Lys Leu Cys Asp Ile Ala
115 120 125

Ile Asn Trp Ala Gly Gly Leu His His Ala Lys Lys Cys Asp Ala Ser
130 135 140

Gly Phe Cys Tyr Ile Asn Asp Leu Val Leu Gly Ile Leu Glu Leu Leu
145 150 155 160

Lys His His Pro Arg Val Leu Tyr Ile Asp Ile Asp Val His His Gly
165 170 175

Asp Gly Val Glu Glu Ala Phe Tyr Phe Thr Asp Arg Val Met Thr Val
180 185 190

Ser Phe His Lys Phe Gly Asp Lys Phe Phe Pro Gly Thr Gly Asp Val
195 200 205

Lys Glu Ile Gly Glu Arg Glu Gly Lys Phe Tyr Ala Ile Asn Val Pro
210 215 220

Leu Arg Asp Gly Ile Asp Asp Ser Ser Phe Asn Arg Leu Phe Arg Ala
225 230 235 240

Ile Ile Ser Lys Val Val Glu Ile Tyr Gln Pro Gly Ala Ile Val Leu
245 250 255

Gln Cys Gly Ala Asp Ser Leu Ala Arg Asp Arg Leu Gly Cys Phe Asn
260 265 270

Leu Ser Ile Asp Gly His Ala Glu Cys Val Lys Phe Val Lys Lys Phe
275 280 285

Asn Ile Pro Leu Leu Val Thr Gly Gly Gly Gly Tyr Thr Lys Glu Asn
Seite 316

290

295

300

Val Ala Arg Cys Trp Thr Val Glu Thr Gly Ile Leu Leu Asp Thr Glu
305 310 315 320

Leu Pro Asn Glu Ile Pro Asp Asn Asp Tyr Ile Lys Tyr Phe Gly Pro
325 330 335

Asp Tyr Ser Leu Lys Ile Pro Gly Gly His Ile Glu Asn Leu Asn Thr
340 345 350

Lys Ser Tyr Ile Ser Thr Ile Lys Ala Gln Ile Leu Asp Asn Leu Arg
355 360 365

Tyr Ile Gln His Ala Pro Ser Val Gln Met Gln Glu Val Pro Pro Asp
370 375 380

Phe Tyr Ile Pro Asp Phe Asp Glu Asp Glu Arg Asn Pro Asp Val Arg
385 390 395 400

Val Asp Gln Arg Ser Arg Asp Lys Gln Ile Gln Arg Asp Asp Glu Tyr
405 410 415

Phe Asp Gly Asp Lys Asp Asn Asp Ala Ser
420 425

<210> 215
<211> 417
<212> PRT
<213> Glycine max

<400> 215

Met His Leu Leu Lys Phe Pro Arg Ser Pro Ser Ser Phe Gly Asn Ala
1 5 10 15

Phe Phe Leu Val Gly His His Val Leu Asp Ile Arg Val Phe Arg Lys
20 25 30

Asn Gln Arg Cys Phe Arg Ala Ser Ile Ser Cys Ser Ala Val Arg Asn
35 40 45

Gly Ser Ile Glu Gln Leu Ser Asp Ala Arg Leu Ile Tyr Ser Val Ala
50 55 60

Pro Ser Met Gly His Asn Gln Glu Ser His Pro Glu Ser His Phe Arg
65 70 75 80

Val Pro Ala Ile Val Asn Ala Leu Glu Glu Met Gln Leu Thr Ser Lys
85 90 95

Phe Arg Gly Pro Glu Val Ile Glu Leu Gln His Phe Glu Pro Ala Ser
100 105 110

20080423_F_59071_PCT_sequence_listing.txt

Val Asp Asp Ile Ala Ser Val His Ala Arg Ala Tyr Val Ser Gly Leu
115 120 125

Glu Lys Val Met Asp Gln Ala Val Glu Lys Gly Leu Ile Phe Leu Asp
130 135 140

Gly Ser Gly Pro Thr Tyr Ala Thr Ala Thr Thr Phe Gln Glu Ser Ile
145 150 155 160

Val Ala Ala Gly Ala Gly Leu Ala Leu Val Asp Ser Val Val Ala Cys
165 170 175

Ser Lys Ile Lys Gly Asp Ala Pro Thr Gly Phe Ala Leu Ile Arg Pro
180 185 190

Pro Gly His His Ala Val Pro Gln Gly Pro Met Gly Phe Cys Ile Phe
195 200 205

Gly Asn Val Ala Ile Ala Ala Arg Tyr Ser Gln Arg Val His Gly Leu
210 215 220

Lys Arg Val Phe Ile Ile Asp Phe Asp Val His His Gly Asn Gly Thr
225 230 235 240

Asn Asp Ala Phe Tyr Asp Asp Pro Asp Val Phe Phe Leu Ser Phe His
245 250 255

Gln Asp Gly Ser Tyr Pro Gly Thr Gly Lys Phe Asp Glu Val Gly Ser
260 265 270

Gly Asp Gly Glu Gly Thr Thr Leu Asn Leu Pro Leu Pro Gly Gly Ser
275 280 285

Gly Asp Thr Ala Ile Arg Thr Val Phe Asp Glu Val Ile Val Pro Cys
290 295 300

Ala Gln Arg Phe Lys Pro Asp Ile Ile Leu Val Ser Ala Gly Tyr Asp
305 310 315 320

Gly His Val Leu Asp Pro Leu Ala Asn Leu Gln Tyr Thr Thr Gly Thr
325 330 335

Tyr Tyr Met Leu Ala Ser Ser Ile Lys Gln Leu Ala Lys Asp Leu Cys
340 345 350

Gly Gly Arg Cys Val Phe Phe Leu Glu Gly Gly Tyr Asn Leu Lys Ser
355 360 365

Leu Ser Tyr Ser Val Ala Asp Thr Phe Arg Ala Leu Leu Gly Asp Arg
370 375 380

20080423_F_59071_PCT_sequence_listing.txt

Ser Leu Ala Ser Glu Phe Asp Asn Pro Asn Ile Leu Tyr Glu Glu Pro
385 390 395 400

Ser Thr Lys Val Lys Gln Ala Ile Gln Lys Ile Lys His Ile His Ser
405 410 415

Leu

<210> 216
<211> 532
<212> PRT
<213> Physcomitrella patens

<400> 216

Met Ile Ser Gly Ala Ser Gly Ala Pro Ala Gly Ala Pro Val Pro Thr
1 5 10 15

Ala Thr Gly Ser Val Ala Ala Pro Leu Pro Ala Leu Glu Trp Lys Phe
20 25 30

Ser Gln Val Phe Gly Glu Arg Ala Ile Gly Glu Glu Val Gln Glu Val
35 40 45

Asp Ile Ile Ser Ala Ile Glu Phe Asp Lys Thr Gly Glu His Leu Ala
50 55 60

Thr Gly Asp Arg Gly Gly Arg Val Val Leu Phe Glu Arg Thr Asp Gly
65 70 75 80

Lys Asp Gln Arg Thr Arg Arg Glu Leu Glu Arg Ala Asp Ser Ala Gly
85 90 95

Ser Arg His Pro Glu Tyr Arg Tyr Ser Thr Glu Phe Gln Ser His Glu
100 105 110

Pro Glu Phe Asp Tyr Leu Lys Ser Leu Glu Ile Glu Glu Lys Ile Asn
115 120 125

Lys Ile Arg Trp Cys Gln Thr Ala Asn Ala Ala Gln Phe Leu Ile Ser
130 135 140

Thr Asn Asp Lys Thr Ile Lys Leu Trp Lys Val Thr Glu Lys Lys Val
145 150 155 160

Lys Gln Val Lys Asn Leu Asn Val Asp Pro Gly Ala Arg Gly Asn Gly
165 170 175

Asn Pro Leu Ser Asn Asn Met Met Leu Asn Pro Lys Gly Phe Ala Pro
180 185 190

Arg Leu Ser Met Asn Gly Val Ala Ala Asn Arg Ser Thr Pro Ala Ile
195 200 205

20080423_F_59071_PCT_sequence_listing.txt

Ser Pro Asp Phe Val Phe Pro Pro Gly Gly Ile Pro Ser Leu His Leu
210 215 220

Pro Ser Val Trp Ser Asn Glu Thr Ala Leu Val Ala Arg Cys Arg Arg
225 230 235 240

Ala Tyr Ala Asn Ala His Ala Tyr His Ile Asn Ser Ile Ser Asn Asn
245 250 255

Ser Asp Cys Glu Thr Tyr Ile Ser Ala Asp Asp Leu Arg Ile Asn Leu
260 265 270

Trp Asn Leu Glu Val Ser Asp Gln Ser Phe Asn Ile Val Asp Ile Lys
275 280 285

Pro Thr Asn Met Glu Asp Leu Thr Glu Val Ile Thr Ser Ala Glu Phe
290 295 300

His Pro Ser His Cys Asn Val Leu Ala Tyr Ser Ser Ser Lys Gly Ser
305 310 315 320

Ile Arg Leu Ile Asp Met Arg Gln Ser Ala Leu Cys Asp Arg His Ser
325 330 335

Lys Leu Phe Glu Glu Thr Glu His Ala Gly Ser Arg Ser Phe Phe Thr
340 345 350

Glu Ile Ile Ala Ser Ile Ser Asp Ile Lys Phe Ala Arg Gly Gly Arg
355 360 365

Tyr Ile Leu Ser Arg Asp Tyr Met Thr Leu Lys Leu Trp Asp Val Asn
370 375 380

Met Glu Ser Ser Pro Val Ala Val Phe Lys Val His Glu Tyr Leu Arg
385 390 395 400

Pro Lys Leu Cys Asp Leu Tyr Glu Asn Asp Ser Ile Phe Asp Lys Phe
405 410 415

Glu Cys Cys Leu Ser Gly Asp Gly Met Arg Val Ala Thr Gly Ser Tyr
420 425 430

Ser Asn Leu Phe Arg Val Phe Gly Ala Ala Thr Gly Ser Glu Glu Ala
435 440 445

Ser Thr Leu Glu Ala Ser Lys Thr Pro Asn Arg Arg Ile Val Thr Pro
450 455 460

Pro Ser Lys Ala Gly Ser Arg Leu Ala Asn Leu Ala Arg Gly Arg Arg
465 470 475 480

20080423_F_59071_PCT_sequence_listing.txt

Asp Asn Arg Arg Gly Gly Glu Ser Pro Gly Ile Asp Leu Asn Gly Gly
485 490 495

Val Gln Asp Phe Thr Ser Lys Leu Leu His Leu Ala Trp His Pro Ala
500 505 510

Ala Asn Val Ile Ala Phe Ala Leu Ala Arg Cys Ser Leu His Pro Thr
515 520 525

Ala Cys Thr Cys
530

<210> 217
<211> 343
<212> PRT
<213> Physcomitrella patens

<400> 217

Met Ala Ser Glu Gly Val Leu Leu Gly Met Gly Asn Pro Leu Leu Asp
1 5 10 15

Ile Ser Cys Val Val Asp Asp Ala Phe Leu Glu Lys Tyr Gly Leu Thr
20 25 30

Leu Asn Asn Ala Ile Leu Ala Glu Asp Lys His Leu Pro Met Tyr Lys
35 40 45

Glu Leu Ala Ala Asn Pro Asp Val Glu Tyr Ile Ala Gly Gly Ala Thr
50 55 60

Gln Asn Thr Ile Arg Ile Ala Gln Trp Met Leu Gly Glu Ser Asn Ala
65 70 75 80

Thr Ser Tyr Phe Gly Cys Val Gly Lys Asp Glu Tyr Gly Asp Arg Met
85 90 95

Phe Lys Leu Ala Ser Glu Gly Gly Val Asn Ile Arg Tyr Asp Val Asp
100 105 110

Glu Asp Leu Pro Thr Gly Thr Cys Gly Val Leu Val Val Lys Gly Glu
115 120 125

Arg Ser Leu Val Ala Asn Leu Ser Ala Ala Asn Lys Tyr Lys Ile Asp
130 135 140

His Leu Lys Lys Pro Glu Asn Trp Ala Phe Val Glu Lys Ala Lys Tyr
145 150 155 160

Ile Tyr Ser Ala Gly Phe Phe Leu Thr Val Ser Pro Glu Ser Met Met
165 170 175

Thr Val Ala Lys His Ala Ala Glu Thr Gly Lys Tyr Tyr Met Ile Asn
Seite 321

180

185

190

Leu Ala Ala Pro Phe Ile Cys Gln Phe Phe Lys Asp Pro Leu Met Glu
 195 200 205

Leu Phe Pro Tyr Val Asp Phe Ile Phe Gly Asn Glu Ser Glu Ala Arg
 210 215 220

Ala Phe Ala Gln Val Gln Gly Trp Glu Thr Glu Asp Thr Lys Val Ile
 225 230 235 240

Ala Val Lys Leu Ala Ala Leu Pro Lys Ala Gly Gly Thr His Lys Arg
 245 250

Val Ala Val Ile Thr Gln Gly Thr Asp Pro Thr Ile Val Ala Glu Asp
 260 265 270

Gly Lys Val Thr Glu Phe Pro Val Thr Pro Ile Pro Lys Glu Lys Leu
 275 280 285

Val Asp Thr Asn Ala Ala Gly Asp Ser Phe Val Gly Gly Phe Leu Ser
 290 295 300

Gln Leu Val Leu Gly Lys Asp Ile Ala Gln Cys Val Arg Ala Gly Asn
 305 310 315 320

Tyr Ala Ala Ser Val Ile Ile Gln Arg Ser Gly Cys Thr Phe Pro Ser
 325 330 335

Lys Pro Ser Phe Glu Ser Gln
 340

<210> 218

<211> 191

<212> PRT

<213> Physcomitrella patens

<400> 218

Met Ala Phe Ser Gly Thr Thr Gln Lys Cys Lys Ala Cys Glu Lys Thr
 1 5 10 15

Val Tyr Leu Val Glu Gln Leu Thr Ala Asp Gly Val Val Tyr His Lys
 20 25 30

Ser Cys Phe Arg Cys Asn His Cys Lys Gly Thr Leu Lys Leu Ala Asn
 35 40 45

Tyr Ala Ser Leu Glu Gly Val Leu Tyr Cys Lys Pro His Phe Glu Gln
 50 55 60

Leu Leu Lys Val Thr Gly Ser Phe Asp Lys Ser Phe Glu His Lys Pro
 65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Ser Glu Gly Leu Lys₈₅ Lys Ala Glu Lys₉₀ Gly Glu Asn Lys Ala Pro Ser₉₅

Lys Ala Ser Leu₁₀₀ Met Phe Ser Gly Thr₁₀₅ Gln Glu Lys Cys Ile₁₁₀ Ala Cys

Ser Lys Thr₁₁₅ Val Tyr Pro Ile Glu₁₂₀ Lys Thr Thr Val Glu₁₂₅ Gly Leu Pro

Tyr His₁₃₀ Lys Gln Cys Phe Lys₁₃₅ Cys Val His Gly Gly₁₄₀ Cys Thr Ile Ser

Pro Ser Asn Tyr Ala Ala₁₅₀ Leu Glu Gly Arg Leu₁₅₅ Tyr Cys Lys Pro His₁₆₀

Tyr Ser Gln Leu Phe₁₆₅ Lys Glu Lys Gly Asn Tyr Ser Gln Leu Thr₁₇₅ Lys

Ala Pro Ala Leu₁₈₀ Lys Val Ala Ala Ser₁₈₅ Gln Ala Ile Thr Glu Ser₁₉₀

<210> 219

<211> 449

<212> PRT

<213> Physcomitrella patens

<400> 219

Met Thr Thr Ala Thr₅ Pro Ser Ile Pro Ala Thr Asn Val Glu Arg Thr₁₅

Arg Val Gly Lys₂₀ Tyr Asp Leu Gly Lys₂₅ Thr Leu Gly Glu Gly₃₀ Thr Phe

Ala Lys Val₃₅ Lys Val Ala Lys His₄₀ Ile Asp Thr Gly His₄₅ Thr Val Ala

Ile Lys₅₀ Ile Leu Asp Lys Asp₅₅ Lys Ile Leu Lys His₆₀ Lys Met Val Glu

Gln Ile Lys Arg Glu Ile₇₀ Ser Thr Met Lys Leu₇₅ Val Lys His Pro Tyr₈₀

Val Val Gln Leu Leu₈₅ Glu Val Met Ala Ser₉₀ Arg Thr Lys Ile Tyr Ile₉₅

Val Leu Glu Tyr₁₀₀ Val Thr Gly Gly Glu₁₀₅ Leu Phe Asn Lys Ile₁₁₀ Ala Gln

Gln Gly Arg₁₁₅ Leu Ser Glu Asp Asp₁₂₀ Ala Arg Lys Tyr Phe₁₂₅ Gln Gln Leu

Ile Asp Ala Val Asp Tyr Cys His Ser Arg Gln Val Phe His Arg Asp

20080423_F_59071_PCT_sequence_listing.txt

130

135

140

Leu Lys Pro Glu Asn Leu Leu Leu Asp Ala Lys Gly Ser Leu Lys Ile
 145 150 155 160

Ser Asp Phe Gly Leu Ser Ala Leu Pro Gln Gln Phe Arg Ala Asp Gly
 165 170 175

Leu Leu His Thr Thr Cys Gly Thr Pro Asn Tyr Val Ala Pro Glu Val
 180 185 190

Ile Met Asp Lys Gly Tyr Ser Gly Ala Thr Ala Asp Leu Trp Ser Cys
 195 200 205

Gly Val Ile Leu Tyr Val Leu Met Ala Gly Tyr Leu Pro Phe Glu Glu
 210 215 220

Pro Thr Ile Met Ala Leu Tyr Lys Lys Ile Tyr Arg Ala Gln Phe Ser
 225 230 235 240

Trp Pro Pro Trp Phe Pro Ser Gly Ala Arg Lys Leu Ile Ser Lys Ile
 245 250 255

Leu Asp Pro Asn Pro Arg Thr Arg Ile Ser Ala Ala Glu Ile Tyr Lys
 260 265 270

Asn Asp Trp Phe Lys Lys Gly Tyr Thr Pro Ala Gln Phe Asp Arg Glu
 275 280 285

Ala Asp Val Asn Leu Asp Asp Val Asn Ala Ile Phe Ser Gly Ser Gln
 290 295 300

Glu His Ile Val Val Glu Arg Lys Glu Ser Lys Pro Val Thr Met Asn
 305 310 315 320

Ala Phe Glu Leu Ile Ser Leu Ser Ser Gly Leu Asn Leu Ser Ser Leu
 325 330 335

Phe Glu Thr Lys Glu Ile Pro Glu Lys Glu Asp Thr Arg Phe Thr Ser
 340 345 350

Lys Lys Ser Ala Lys Glu Ile Ile Ser Ser Ile Glu Glu Ala Ala Lys
 355 360 365

Pro Leu Gly Phe Asn Val Gln Lys Arg Asp Tyr Lys Met Lys Leu Gln
 370 375 380

Gly Asp Lys Leu Gly Arg Lys Gly His Leu Ser Val Ser Thr Glu Val
 385 390 395 400

Phe Glu Val Ala Pro Ser Leu Tyr Met Val Glu Leu Gln Lys Asn Ser
 405 410 415

20080423_F_59071_PCT_sequence_listing.txt

Gly Asp Thr Leu Glu Tyr Asn His Phe Tyr Lys Asn Leu Ser Lys Gly
420 425 430

Leu Lys Asp Ile Val Trp Lys Ala Asp Pro Leu Pro Ala Cys Glu Gln
435 440 445

Lys

<210> 220
<211> 91
<212> PRT
<213> Physcomitrella patens

<400> 220

Met Pro Gln Ile Gln Tyr Ser Glu Lys Tyr Phe Asp Asp Thr Tyr Glu
1 5 10 15

Tyr Arg His Val Val Leu Pro Pro Asp Ile Ala Lys Leu Leu Pro Lys
20 25 30

Asn Arg Leu Leu Ser Glu Ala Glu Trp Arg Gly Ile Gly Val Gln Gln
35 40 45

Ser Arg Gly Trp Val His Tyr Ala Ile His Arg Pro Glu Pro His Ile
50 55 60

Met Leu Phe Arg Arg Pro Leu Asn Tyr Gly Gln Pro Gln Gln Ala Ala
65 70 75 80

Ala Val Gln Gln Gln Pro Thr Gly Met Lys Ala
85 90

<210> 221
<211> 412
<212> PRT
<213> Physcomitrella patens

<400> 221

Met Met Glu Ala Glu Gln Ser Tyr Val Gln Lys Leu Glu Ser Leu Leu
1 5 10 15

Gly Gly Val Ser Thr Leu Val Arg Glu Glu Glu Glu Thr Ala Ser Val
20 25 30

Ser Glu Asp Glu Asp Asp Ser Asn Ser Leu Pro Gln Ile Gln Val Ala
35 40 45

Val Lys Ser Lys Arg Lys Gly Glu Arg Arg Lys Arg Arg Glu Arg Ala
50 55 60

Leu Glu Arg Ala Glu Lys Val Ala Thr Asp Leu Ala Ser Ala Pro Pro
Seite 325

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65          70          75          80
Leu Pro Lys Pro Lys Lys Pro Gln Leu Ala Ala Asp Pro Ser Asp Pro
      85          90          95
Val Arg Ala Tyr Leu Arg Asp Ile Gly Arg Thr Lys Leu Leu Thr Ala
      100      105      110
Arg Glu Glu Val Asp Leu Ser His Gln Ile Gln Asp Leu Leu Lys Leu
      115      120      125
Glu Asn Ile Lys Ser Asn Leu Glu Arg Glu Ile Gly Arg Asn Ala Thr
      130      135      140
Ile Gly Glu Trp Ser Arg Ala Val Gly Met Glu Gln Asn Ala Phe Glu
      145      150      155      160
Ala Arg Leu Lys Lys Gly Arg Phe Ala Lys Asp Lys Met Val Asn Ser
      165      170      175
Asn Leu Arg Leu Val Val Ser Ile Ala Lys Asn Tyr Gln Gly Arg Gly
      180      185      190
Met Thr Leu Gln Asp Leu Ile Gln Glu Gly Ser Met Gly Leu Val Arg
      195      200      205
Gly Ala Glu Lys Phe Asp Pro Thr Lys Gly Phe Lys Phe Ser Thr Tyr
      210      215      220
Ala His Trp Trp Ile Arg Gln Ala Val Thr Arg Ser Ile Ala Asp Gln
      225      230      235      240
Ser Arg Thr Phe Arg Leu Pro Ile His Leu Tyr Glu Val Ile Ser Arg
      245      250      255
Ile Asn Lys Ala Lys Arg Met Leu Val Gln Glu His Gly Arg Glu Ala
      260      265      270
Arg Asn Glu Glu Val Ala Glu Leu Val Gly Leu Thr Val Glu Lys Leu
      275      280      285
Lys Ser Val Val Lys Ser Ala Lys Ala Pro Gly Ser Met Glu Arg Pro
      290      295      300
Ile Gly Lys Asp Gly Asp Thr Thr Leu Gly Glu Leu Val Ala Asp Thr
      305      310      315      320
Asp Val Asp Ser Pro Glu Asp Ala Ile Val Lys Gln Leu Met Arg Gln
      325      330      335
Asp Ile Glu Gly Val Leu Arg Thr Leu Asn Pro Arg Glu Arg Glu Val
      340      345      350

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20080423_F_59071_PCT_sequence_listing.txt

Leu Arg Leu Arg Phe Gly Leu Asp Asp Gly Arg Ser Lys Thr Leu Glu
355 360 365

Glu Ile Gly Gln Ile Phe Lys Ala Thr Arg Glu Arg Ile Arg Gln Ile
370 375 380

Glu Ala Lys Ala Met Arg Lys Leu Arg Gln Pro Ser Arg Asn Ser Ile
385 390 395 400

Leu Arg Glu Tyr Leu Asp Val Lys Ser Asp Ala Ile
405 410

<210> 222
<211> 469
<212> PRT
<213> Physcomitrella patens
<400> 222

Met Lys Glu Leu Asn Glu Asp Met Glu Ile Pro Leu Gly Arg Asp Gly
1 5 10 15

Glu Gly Met Gln Ser Lys Gln Cys Pro Arg Gly His Trp Arg Pro Ala
20 25 30

Glu Asp Asp Lys Leu Arg Glu Leu Val Ser Gln Phe Gly Pro Gln Asn
35 40 45

Trp Asn Leu Ile Ala Glu Lys Leu Gln Gly Arg Ser Gly Lys Ser Cys
50 55 60

Arg Leu Arg Trp Phe Asn Gln Leu Asp Pro Arg Ile Asn Arg His Pro
65 70 75 80

Phe Ser Glu Glu Glu Glu Arg Leu Leu Ile Ala His Lys Arg Tyr
85 90 95

Gly Asn Lys Trp Ala Leu Ile Ala Arg Leu Phe Pro Gly Arg Thr Asp
100 105 110

Asn Ala Val Lys Asn His Trp His Val Val Thr Ala Arg Gln Ser Arg
115 120 125

Glu Arg Thr Arg Thr Tyr Gly Arg Ile Lys Gly Pro Val His Arg Arg
130 135 140

Gly Lys Gly Asn Arg Ile Asn Thr Ser Ala Leu Gly Asn Tyr His His
145 150 155 160

Asp Ser Lys Gly Ala Leu Thr Ala Trp Ile Glu Ser Lys Tyr Ala Thr
165 170 175

20080423_F_59071_PCT_sequence_listing.txt

Val Glu Gln Ser Ala Glu Gly Leu Ala Arg Ser Pro Cys Thr Gly Arg
180 185 190

Gly Ser Pro Pro Leu Pro Thr Gly Phe Ser Ile Pro Gln Ile Ser Gly
195 200 205

Gly Ala Phe His Arg Pro Thr Asn Met Ser Thr Ser Pro Leu Ser Asp
210 215 220

Val Thr Ile Glu Ser Pro Lys Phe Ser Asn Ser Glu Asn Ala Gln Ile
225 230 235 240

Ile Thr Ala Pro Val Leu Gln Lys Pro Met Gly Asp Pro Arg Ser Val
245 250 255

Cys Leu Pro Asn Ser Thr Val Ser Asp Lys Gln Gln Val Leu Gln Ser
260 265 270

Asn Ser Ile Asp Gly Gln Ile Ser Ser Gly Leu Gln Thr Ser Ala Ile
275 280 285

Val Ala His Asp Glu Lys Ser Gly Val Ile Ser Met Asn His Gln Ala
290 295 300

Pro Asp Met Ser Cys Val Gly Leu Lys Ser Asn Phe Gln Gly Ser Leu
305 310 315 320

His Pro Gly Ala Val Arg Ser Ser Trp Asn Gln Ser Leu Pro His Cys
325 330 335

Phe Gly His Ser Asn Lys Leu Val Glu Glu Cys Arg Ser Ser Thr Gly
340 345 350

Ala Cys Thr Glu Arg Ser Glu Ile Leu Gln Glu Gln His Ser Ser Leu
355 360 365

Gln Phe Lys Cys Ser Thr Ala Tyr Asn Thr Gly Arg Tyr Gln His Glu
370 375 380

Asn Leu Cys Gly Pro Ala Phe Ser Gln Gln Asp Thr Ala Asn Glu Val
385 390 395 400

Ala Asn Phe Ser Thr Leu Ala Phe Ser Gly Leu Val Lys His Arg Gln
405 410 415

Glu Arg Leu Cys Lys Asp Ser Gly Ser Ala Leu Lys Leu Gly Leu Ser
420 425 430

Trp Val Thr Ser Asp Ser Thr Leu Asp Leu Ser Val Ala Lys Met Ser
435 440 445

Ala Ser Gln Pro Glu Gln Ser Ala Pro Val Ala Phe Ile Asp Phe Leu
Seite 328

450

455

460

Gly Val Gly Ala Ala
465

<210> 223

<211> 594

<212> PRT

<213> Physcomitrella patens

<400> 223

Met Glu Ser Glu Asp Glu Met Gln Asp Ala Trp Ala Gly Thr Ser Asp
1 5 10 15

Gly Glu Phe Val Asn Glu Glu Glu Asp Glu Glu Ser Asp Ala Leu Ala
20 25 30

Ser Asp Asp Asp Asn Asp Glu Ser Asp Tyr Gly Phe Asp Tyr Ser Asn
35 40 45

Val Asp Asp Leu His Pro Ser Ser Arg Leu Pro Gln Thr Asn Phe Thr
50 55 60

Ile Leu Ser Glu Lys Asp Ile Arg Gln Arg Gln Asp Glu Ala Val Ser
65 70 75 80

Thr Ile Thr Asn Phe Leu Ser Ile Ser Pro Ala Asp Ala Gly Val Leu
85 90 95

Leu Arg His Phe Lys Trp Ser Val Ser Lys Val Asn Asp Glu Trp Phe
100 105 110

Ala Asp Glu Glu Arg Val Arg Ala Ser Val Gly Leu Leu Glu Lys Pro
115 120 125

Ala Thr Ser Lys Arg Gln Thr Gln Thr Glu Met Thr Cys Glu Ile Cys
130 135 140

Phe Glu Val His Pro Phe Glu Lys Met Arg Ala Pro Arg Cys Gly His
145 150 155 160

Tyr Phe Cys Glu Thr Cys Trp Thr Gly Tyr Ile His Thr Ala Ile Asn
165 170 175

Asp Gly Pro Gly Cys Leu Thr Leu Arg Cys Ala Asp Pro Ser Cys Gly
180 185 190

Ser Ala Ile Gly Glu Asp Met Val Leu Ser Leu Val Ser Thr Asp Asp
195 200 205

Gln Gln Lys Tyr Met Arg Tyr Leu Leu Arg Ser Tyr Val Glu Asp Asn
210 215 220

20080423_F_59071_PCT_sequence_listing.txt

Arg Lys Val Lys Trp Cys Pro Ala Pro Gly Cys Glu Tyr Ala Val Glu
225 230 235 240

Phe Gln Pro Gly Val Gly Ser Tyr Asp Leu Val Cys Lys Cys Gly Phe
245 250 255

Asn Phe Cys Trp Asn Cys Arg Glu Glu Ala His Arg Pro Val Asp Cys
260 265 270

Glu Thr Val Asn Lys Trp Ile Leu Lys Asn Cys Ala Glu Ser Glu Asn
275 280 285

Met Asn Trp Ile Leu Ala Asn Ser Lys Pro Cys Pro Lys Cys Lys Arg
290 295 300

Pro Ile Glu Lys Asn Gln Gly Cys Met His Ile Thr Cys Thr Pro Pro
305 310 315 320

Cys Lys Phe Glu Phe Cys Trp Leu Cys Leu Gly Ala Trp Thr Asp His
325 330 335

Gly Glu Arg Thr Gly Gly Phe Tyr Ala Cys Asn Arg Tyr Glu Thr Ala
340 345 350

Lys Gln Glu Gly Val Tyr Asp Glu Ala Glu Arg Arg Arg Glu Met Ala
355 360 365

Lys Asn Ser Leu Glu Arg Tyr Thr His Tyr Tyr Glu Arg Trp Ala Thr
370 375 380

Asn Glu Ser Ser Arg Ala Lys Ala Leu Ala Asp Leu Gln Asp Met Gln
385 390 395 400

Asn Val Gln Ile Glu Lys Leu Ser Val Thr Gln Cys Gln Pro Val Ser
405 410 415

Gln Leu Lys Phe Val Thr Asp Ala Trp Leu Gln Ile Val Glu Cys Arg
420 425 430

Arg Val Leu Lys Trp Thr Tyr Ala Tyr Gly Tyr Tyr Leu Pro Glu Asn
435 440 445

Glu His Thr Lys Arg Gln Phe Phe Glu Tyr Ser Gln Gly Glu Ala Glu
450 455 460

Ala Gly Leu Glu Arg Leu His Gln Cys Ala Glu Lys Asp Leu Leu Thr
465 470 475 480

Phe Leu Gly Gly Thr Pro Thr Ser Ser Phe Asn Asp Phe Arg Thr Lys
485 490 495

20080423_F_59071_PCT_sequence_listing.txt

Leu Ala Gly Leu Thr Ser Val Thr Lys Thr Tyr Phe Glu Asn Leu Val
500 505 510

Arg Ala Leu Glu Asn Asn Leu Ser Asp Val Asp Ile Pro Lys Ala Ala
515 520 525

Ala Lys Ser Ser Ser Ser Ser Lys Ala Ser Gly Ser Ser Lys Gly Arg
530 535 540

Gly Gly Arg Pro Lys Val Gly Ser Ser Lys Ser Gly Gly Ser Ser Arg
545 550 555 560

Ser Gly Glu Glu Ser Thr His Trp Ser Cys Glu His Cys Thr Tyr Ala
565 570 575

Asn Thr Thr Ala Ala Ser Ser Ile Val Cys Val Ile Cys Asn His Ala
580 585 590

Arg Ser

<210> 224

<211> 376

<212> PRT

<213> Physcomitrella patens

<400> 224

Met Asp Val Ala Gly Ala Gly Gly Gly Ala Ala Asp Gly Asn Ile
1 5 10 15

Gln Gly Val Pro Thr His Asn Gly Glu Tyr Thr Gln Tyr Asn Ile Phe
20 25 30

Gly Asn Leu Phe Glu Val Ser Arg Lys Tyr Val Pro Pro Ile Arg Pro
35 40 45

Ile Gly Arg Gly Ala Tyr Gly Ile Val Cys Ser Ala Val Asn Ser Glu
50 55 60

Thr Gly Glu Glu Val Ala Ile Lys Lys Ile Gly Asn Ala Phe Asp Asn
65 70 75 80

Arg Ile Asp Ala Lys Arg Thr Leu Arg Glu Ile Lys Leu Leu Arg His
85 90 95

Met Asp His Glu Asn Ile Val Ala Ile Arg Asp Ile Ile Arg Pro Pro
100 105 110

Thr Arg Glu Asn Phe Asn Asp Val Tyr Ile Val Tyr Glu Leu Met Asp
115 120 125

Thr Asp Leu His Gln Ile Ile Arg Ser Asn Gln Pro Leu Thr Glu Asp
130 135 140

20080423_F_59071_PCT_sequence_listing.txt

His Cys Gln Tyr Phe Leu Tyr Gln Leu Leu Arg Gly Leu Lys Tyr Ile
145 150 155 160

His Ser Ala Lys Val Leu His Arg Asp Leu Lys Pro Ser Asn Leu Leu
165 170 175

Leu Asn Ala Asn Cys Asp Leu Lys Ile Cys Asp Phe Gly Leu Ala Arg
180 185 190

Thr Thr Ser Glu Thr Asp Phe Met Thr Glu Tyr Val Val Thr Arg Trp
195 200 205

Tyr Arg Ala Pro Glu Leu Leu Leu Asn Cys Ser Glu Tyr Thr Ala Ala
210 215 220

Ile Asp Val Trp Ser Val Gly Cys Ile Phe Met Glu Leu Leu Asn Arg
225 230 235 240

Glu Pro Leu Phe Pro Gly Arg Asp Tyr Val Gln Gln Leu Arg Leu Ile
245 250 255

Thr Glu Leu Ile Gly Ser Pro Glu Asp His Asp Leu Gly Phe Leu Arg
260 265 270

Ser Asp Asn Ala Arg Arg Tyr Ile Arg Gln Leu Pro Arg Phe Ala Arg
275 280 285

Gln Pro Leu Asp Arg Lys Phe Pro Asn Met Gly Pro Ala Ala Ile Asp
290 295 300

Leu Val Glu His Met Leu Arg Phe Asp Pro Ala Arg Arg Ile Thr Val
305 310 315 320

Glu Glu Ala Leu Ala His Pro Tyr Leu Ala Thr Leu His Asp Ile Asn
325 330 335

Asp Glu Pro Ile Cys His Ser Pro Phe Glu Phe Asp Phe Glu Gln Pro
340 345 350

Ser Phe Thr Glu Glu His Ile Lys Glu Leu Ile Met Met Glu Ala Ile
355 360 365

Ala Val Gln Pro Trp Glu Cys Gly
370 375

<210> 225

<211> 590

<212> PRT

<213> Physcomitrella patens

<400> 225

20080423_F_59071_PCT_sequence_listing.txt

Met Gly Asn Cys Cys Lys Lys Ser Ser Val Ala Glu Glu Ala Thr Arg
1 5 10 15

Lys Tyr Lys Ala Pro Glu Gln Trp Ile Thr Lys Asn Glu Pro Ser Ala
20 25 30

Gln Thr His Gln Gln Lys Pro Gln Asn Gly Ala Thr His Thr Lys Pro
35 40 45

Arg Ser Arg Lys Pro Pro Pro Gly Val Val His Ser Arg Asn Arg Ser
50 55 60

Lys Lys Val Glu Lys Leu Ala Glu Ser Lys Gln Pro Glu Pro Trp Lys
65 70 75 80

Ser Pro Pro Glu Ser Thr Ala Asp Arg Lys Lys Lys Pro Arg Val Arg
85 90 95

Ala Ala Ile Asn Gly Lys Asp Asn Lys Glu Met Ala Pro Leu Gly Lys
100 105 110

Arg Thr Asn Phe Gly Tyr Gly Arg Asp Phe Lys Ser Lys Tyr Thr Leu
115 120 125

Gly Lys Leu Leu Gly His Gly Gln Phe Gly Tyr Thr Tyr Val Ala Ile
130 135 140

Glu Lys Ser Thr Gly Ser Arg Val Ala Val Lys Thr Ile Glu Lys Lys
145 150 155 160

Gln Met Thr Leu Pro Ile Ser Val Glu Asp Val Lys Arg Glu Val Lys
165 170 175

Ile Leu Arg Thr Leu Ser Gly His Glu Asn Val Val Gln Phe Tyr Ala
180 185 190

Ser Phe Glu Asp Asp Asp Leu Val Tyr Ile Val Met Glu Leu Cys Glu
195 200 205

Gly Gly Glu Leu Leu Asp Arg Ile Leu Ala Lys Lys Asp Ser Arg Tyr
210 215 220

Ser Glu Lys Asp Ala Ala Lys Ile Val Arg Gln Met Leu Asn Val Ala
225 230 235 240

Ala Arg Cys His Leu Asn Gly Val Val His Arg Asp Met Lys Pro Glu
245 250 255

Asn Phe Leu Phe Lys Ser Thr Ser Glu Asp Ser Pro Leu Lys Ala Thr
260 265 270

Asp Phe Gly Leu Ser Asp Tyr Ile Arg Pro Gly Asn Arg Phe His Asp
Seite 333

275

280

285

Val Val Gly Ser Ala Tyr Tyr Val Ala Pro Glu Val Leu Lys Lys Lys
 290 300

Ser Gly Pro Glu Ser Asp Val Trp Ser Ile Gly Val Ile Thr Tyr Ile
 305 310 315 320

Leu Leu Cys Gly Arg Arg Pro Phe Trp Asp Lys Thr Glu Lys Gly Ile
 325 330 335

Phe Asp Glu Val Leu Lys Lys Asn Pro Asp Tyr Gly Glu Lys Pro Trp
 340 345 350

Pro Thr Ile Ser Ser Ser Ala Lys Asp Phe Val Lys Lys Leu Leu Val
 355 360 365

Lys Asp Pro Ala Ala Arg Leu Thr Ala Ala Gln Ala Leu Ser His Pro
 370 375 380

Trp Ala Lys Glu Gly Gly Asp Ala Leu Asp Ile Pro Leu Asp Ile Ser
 385 390 395 400

Val Leu Ser Asn Met Arg Glu Phe Val Lys Tyr Ser Arg Leu Lys Gln
 405 410 415

Leu Ala Leu Arg Ala Leu Ala Ser Thr Leu Asp Ser Ser Asp Ile Ala
 420 425 430

Asp Leu Gln Asp Gln Phe Asn Ala Ile Asp Ile Asp Arg Asn Gly Lys
 435 440 445

Ile Thr Leu Glu Glu Met Arg Glu Ala Leu Gln Lys Asp Arg Pro Trp
 450 455 460

Ser Ile Gln Glu Ser Arg Ile Val Glu Ile Leu Gln Ala Met Asp Ser
 465 470 475 480

Asn Ser Asp Gly Leu Val Asp Phe Asp Glu Phe Val Ala Ala Thr Leu
 485 490 495

His Val His Gln Leu Glu Glu Thr Asp Ser Glu Lys Trp Gln Ser Arg
 500 505 510

Ser Gln Ala Ala Phe Ser Gln Phe Asp Phe Asp Gly Asp Gly Tyr Ile
 515 520 525

Thr Ala Asp Glu Leu Lys Ile Ala Thr Gly Leu Asn Gly Ser Met Asp
 530 535 540

Ser Ile Leu Val Glu Ala Asp Ile Asp Gly Asp Gly Lys Ile Ser Leu
 545 550 555 560

20080423_F_59071_PCT_sequence_listing.txt

Ser Glu Phe Gln Lys Leu Leu Arg Gln Ala Ser Leu Gly Ser Arg Thr
565 570 575

Asn Glu His His Thr Leu Val Thr His Asn His Arg Lys Cys
580 585 590

<210> 226
<211> 357
<212> PRT
<213> Physcomitrella patens

<400> 226

Met Met Ser Pro Thr Cys Arg Arg Ser Gly Ser Val Arg Ala Arg Val
1 5 10 15

Thr Thr Gly Asn Cys Val Glu Arg Ile Gly Lys Ile Ala Arg Phe Val
20 25 30

Thr Leu Leu Leu Ile Phe Ala Val Trp Ile Glu Leu Ala Ala Ala His
35 40 45

Gly Gly Ala Ala Asp Glu Ala Thr Pro Glu Asp Gly Pro Pro Pro Asn
50 55 60

Leu Arg Ala Lys Gly Leu Ile Leu Val Lys Val Tyr Cys Leu Ile Ile
65 70 75 80

Val Phe Phe Val Thr Leu Leu Gly Gly Ile Ser Pro Tyr Phe Val Pro
85 90 95

Trp Asn Ala Ser Phe Leu Val Leu Gly Thr Gln Tyr Ala Ala Gly Val
100 105 110

Phe Leu Thr Thr Ala Leu Leu His Phe Leu Ser Asp Ala His Asn Ile
115 120 125

Phe Gln Ala Leu Thr Thr Lys Gln Tyr Ala Phe Ala Glu Met Leu Ala
130 135 140

Ile Ala Gly Tyr Leu Ile Thr Leu Phe Gly Asp Leu Ile Ile Gln Arg
145 150 155 160

Leu Ile Leu Arg Gly Ala Arg Ser Ser Ala Gln Leu Gly Ser Leu Asp
165 170 175

Gly Glu Lys Asp Gly Ala Ala Lys Leu Asp Glu Lys Gly Arg Ala Glu
180 185 190

Val Asn Ala Thr Leu Leu His Arg Ala Ser Phe Gly Asp Thr Leu Leu
195 200 205

20080423_F_59071_PCT_sequence_listing.txt

Leu Ile Leu Ala Leu Cys Phe His Ser Val Phe Glu Gly Ile Ala Ile
210 215 220

Gly Val Ser Val Thr Lys Gln Asp Ala Trp Lys Ala Phe Trp Thr Ile
225 230 235 240

Thr Leu His Lys Val Phe Ala Ala Ile Ala Met Gly Ile Ala Leu Leu
245 250 255

Arg Met Leu Pro Asn Arg Pro Leu Leu Ser Cys Phe Cys Tyr Ser Phe
260 265 270

Ala Phe Ala Ile Ser Thr Pro Ile Gly Ile Ala Ile Gly Ile Ile Ile
275 280 285

Asp Ala Thr Thr Glu Gly Ala Val Ala Asp Trp Ile Tyr Ala Ile Ala
290 295 300

Met Gly Leu Ala Thr Gly Val Phe Ile Tyr Val Ala Ile Asn His Leu
305 310 315 320

Leu Gly Lys Glu Tyr Met Pro Ser Lys Thr Ser Val Glu Gln Pro Phe
325 330 335

Lys Lys Phe Ile Ala Leu Thr Leu Gly Ala Ala Thr Met Ala Ile Val
340 345 350

Met Ile Trp Asp Ala
355

<210> 227
<211> 698
<212> PRT
<213> Physcomitrella patens

<400> 227

Met Ala Ser Ala Thr Ala Ala Thr Met Ala Ser Leu Leu Thr Pro Gly
1 5 10 15

Ser Leu Arg Arg Gly Leu Gly Ser Gln Glu Ser Ser Thr Gln Phe Ala
20 25 30

Pro Leu Ala Gly Pro Arg Lys Thr Ser Val Ser Arg Arg Val Thr Ala
35 40 45

Ser Ala Ser Gly Lys Asn Asp Asn Gly Val Val Glu Asp Val Asp Met
50 55 60

Gly Lys Arg Gly Met Leu Lys Gly Val Ala Gly Ala Leu Ala Ala Val
65 70 75 80

Leu Pro Ala Val Ile Ala Lys Lys Ala Ser Ala Ala Glu Glu Gln Gly
85 90 95

20080423_F_59071_PCT_sequence_listing.txt

Val Ala Ser Ser Arg Met Ser Tyr Ser Arg Phe Leu Glu Tyr Leu Asp
 100 105 110
 Met Asp Arg Val Lys Lys Val Asp Leu Tyr Glu Asn Gly Thr Ile Ala
 115 120 125
 Ile Val Glu Ala Val Ser Pro Glu Leu Gly Asn Arg Val Gln Arg Val
 130 135 140
 Arg Val Gln Leu Pro Gly Thr Ser Ser Glu Leu Leu Ser Lys Phe Arg
 145 150 155 160
 Ser Lys Asn Val Asp Phe Ala Ala His Ser Pro Gln Glu Asp Ser Gly
 165 170 175
 Ser Val Ile Leu Asn Leu Ile Gly Asn Leu Ala Phe Pro Leu Leu Leu
 180 185 190
 Val Gly Gly Leu Phe Phe Leu Ser Arg Arg Ser Gln Gly Gly Met Gly
 195 200 205
 Pro Gly Gly Pro Gly Asn Pro Met Ala Phe Gly Lys Ser Lys Ala Lys
 210 215 220
 Phe Gln Met Glu Pro Asn Thr Gly Ile Thr Phe Gln Asp Val Ala Gly
 225 230 235 240
 Val Asp Glu Ala Lys Gln Asp Phe Met Glu Val Val Glu Phe Leu Lys
 245 250 255
 Arg Pro Glu Arg Phe Thr Ala Val Gly Ala Lys Ile Pro Lys Gly Val
 260 265 270
 Leu Leu Val Gly Pro Pro Gly Thr Gly Lys Thr Leu Leu Ala Lys Ala
 275 280 285
 Ile Ala Gly Glu Ala Gly Val Pro Phe Phe Ser Ile Ser Gly Ser Glu
 290 295 300
 Phe Val Glu Met Phe Val Gly Val Gly Ala Ser Arg Val Arg Asp Leu
 305 310 315 320
 Phe Lys Lys Ala Lys Glu Asn Ala Pro Cys Ile Val Phe Val Asp Glu
 325 330 335
 Ile Asp Ala Val Gly Arg Gln Arg Gly Thr Gly Ile Gly Gly Gly Asn
 340 345 350
 Asp Glu Arg Glu Gln Thr Leu Asn Gln Leu Leu Thr Glu Met Asp Gly
 355 360 365

20080423_F_59071_PCT_sequence_listing.txt

Phe Glu Gly Asn Thr Gly Val Ile Val Ile Ala Ala Thr Asn Arg Ala
 370 375 380
 Asp Ile Leu Asp Ala Ala Leu Leu Arg Pro Gly Arg Phe Asp Arg Gln
 385 390 395 400
 Val Ser Val Asp Val Pro Asp Val Lys Gly Arg Thr Asp Ile Leu Lys
 405 410 415
 Val His Ala Ser Asn Lys Lys Phe Ala Asp Asp Val Ser Leu Asp Ile
 420 425 430
 Ile Ala Met Arg Thr Pro Gly Phe Ser Gly Ala Asp Leu Ala Asn Leu
 435 440 445
 Leu Asn Glu Ala Ala Ile Leu Thr Gly Arg Arg Gly Lys Thr Ala Ile
 450 455 460
 Ser Ala Lys Glu Ile Asp Asp Ser Ile Asp Arg Ile Val Ala Gly Met
 465 470 475 480
 Glu Gly Thr Val Met Thr Asp Gly Lys Ser Lys Ser Leu Val Ala Tyr
 485 490 495
 His Glu Val Gly His Ala Ile Cys Gly Thr Leu Thr Pro Gly His Asp
 500 505 510
 Ala Val Gln Lys Val Thr Leu Ile Pro Arg Gly Gln Ala Arg Gly Leu
 515 520 525
 Thr Trp Phe Ile Pro Gly Glu Asp Pro Thr Leu Ile Ser Lys Gln Gln
 530 535 540
 Ile Phe Ala Arg Ile Val Gly Ala Leu Gly Gly Arg Ala Thr Glu Gln
 545 550 555 560
 Val Val Phe Gly Asp Ala Glu Val Thr Thr Gly Ala Ser Ser Asp Leu
 565 570 575
 Gln Gln Val Thr Ser Met Ala Lys Gln Met Val Thr Val Phe Gly Met
 580 585 590
 Ser Asp Ile Gly Pro Trp Ala Leu Met Asp Pro Ser Ser Gln Gly Gly
 595 600 605
 Asp Met Ile Met Arg Met Met Ala Arg Asn Ser Met Ser Glu Lys Leu
 610 615 620
 Ala Glu Asp Ile Asp Lys Ala Val Lys Ala Ile Ser Asp Glu Ala Tyr
 625 630 635 640

20080423_F_59071_PCT_sequence_listing.txt

Glu Val Ala Leu Gly His Ile Arg Asn Asn Arg Thr Ala Met Asp Lys
645 650 655

Ile Val Glu Val Leu Leu Glu Lys Glu Thr Leu Ser Gly Ala Glu Phe
660 665 670

Arg Ala Ile Leu Ser Glu Tyr Thr Glu Ile Pro Ala Glu Asn Arg Val
675 680 685

Ser Asp Asn Gln Ala Ala Pro Val Ala Val
690 695

<210> 228
<211> 257
<212> PRT
<213> Physcomitrella patens

<400> 228

Met Thr Glu Leu Arg Glu Glu Asn Val Tyr Met Ala Lys Leu Ala Glu
1 5 10 15

Gln Ala Glu Arg Tyr Asp Glu Met Val Glu Ala Met Glu Asn Val Val
20 25 30

Lys Ala Val Glu Asn Glu Glu Leu Thr Val Glu Glu Arg Asn Leu Leu
35 40 45

Ser Val Ala Phe Lys Asn Val Ile Gly Ala Arg Arg Ala Ser Trp Arg
50 55 60

Ile Ile Ser Ser Ile Glu Gln Lys Glu Glu Ala Lys Gly Ser Glu Glu
65 70 75 80

His Val Ala Ala Ile Lys Glu Tyr Arg Ser Lys Val Glu Ala Glu Leu
85 90 95

Ser Thr Ile Cys Asp Thr Ile Leu Lys Leu Leu Asp Ser His Leu Ile
100 105 110

Pro Ser Ser Thr Ser Gly Glu Ser Lys Val Phe Tyr Leu Lys Met Lys
115 120 125

Gly Asp Tyr His Arg Tyr Leu Ala Glu Phe Lys Ala Gly Ala Glu Arg
130 135 140

Lys Glu Ala Ala Glu Ala Thr Leu His Ala Tyr Lys His Ala Gln Asp
145 150 155 160

Ile Ser Thr Thr Glu Leu Ala Ser Thr His Pro Ile Arg Leu Gly Leu
165 170 175

Ala Leu Asn Phe Ser Val Phe Tyr Tyr Glu Ile Leu Val Ser Pro Asp
180 185 190

20080423_F_59071_PCT_sequence_listing.txt

Arg Ala Cys His Leu Ala Lys Gln Ala Phe Asp Glu Ala Ile Ser Glu
195 200 205

Leu Asp Thr Leu Gly Glu Glu Ser Tyr Lys Asp Ser Thr Leu Ile Met
210 215 220

Gln Leu Leu Arg Asp Asn Leu Thr Leu Trp Thr Ser Asp Met Gln Asp
225 230 235 240

Asp Ile Gly Glu Glu Gly Lys Asp Ser Lys Val Glu Asp Ala Asp Asp
245 250 255

His

<210> 229
<211> 308
<212> PRT
<213> Physcomitrella patens

<400> 229

Met Ser Val Ser Gly Met Asp Asn Tyr Glu Lys Leu Glu Lys Val Gly
1 5 10 15

Glu Gly Thr Tyr Gly Lys Val Tyr Lys Ala Arg Asp Lys Arg Ser Gly
20 25 30

Gln Leu Val Ala Leu Lys Lys Thr Arg Leu Glu Met Glu Glu Glu Gly
35 40 45

Val Pro Ser Thr Ala Leu Arg Glu Val Ser Leu Leu Gln Met Leu Ser
50 55 60

His Ser Met Tyr Ile Val Arg Leu Leu Cys Val Glu His Val Glu Lys
65 70 75 80

Gly Ser Lys Pro Met Leu Tyr Leu Val Phe Glu Tyr Met Asp Thr Asp
85 90 95

Leu Lys Lys Tyr Ile Asp Leu His Gly Arg Gly Pro Ser Gly Lys Pro
100 105 110

Leu Pro Pro Lys Val Val Gln Ser Phe Met Tyr Gln Leu Cys Thr Gly
115 120 125

Leu Ala His Cys His Gly His Gly Val Met His Arg Asp Leu Lys Pro
130 135 140

Gln Asn Leu Leu Val Asp Lys Gln Thr Arg Arg Leu Lys Ile Ala Asp
145 150 155 160

20080423_F_59071_PCT_sequence_listing.txt

Leu Gly Leu Gly Arg Ala Phe Thr Val Pro Met Lys Ser Tyr Thr His
165 170 175

Glu Ile Val Thr Leu Trp Tyr Arg Ala Pro Glu Val Leu Leu Gly Ala
180 185 190

Thr His Tyr Ser Leu Pro Val Asp Ile Trp Ser Val Gly Cys Ile Phe
195 200 205

Ala Glu Leu Val Arg Lys Met Pro Leu Phe Thr Gly Asp Ser Glu Leu
210 215 220

Gln Gln Leu Leu His Ile Phe Arg Leu Leu Gly Thr Pro Asn Glu Thr
225 230 235 240

Ile Trp Pro Gly Val Ser Gln His Arg Asp Trp His Glu Phe Pro Gln
245 250 255

Trp Arg Pro Gln Asp Leu Ser Leu Ala Val Pro Gly Leu Ser Ala Val
260 265 270

Gly Leu Asp Leu Leu Ala Lys Met Leu Val Phe Glu Pro Ser Lys Arg
275 280 285

Ile Ser Ala Lys Ala Ala Leu Ser His Thr Tyr Phe Ala Asp Val Asp
290 295 300

Lys Thr Ala Thr
305

<210> 230
<211> 397
<212> PRT
<213> Physcomitrella patens
<400> 230

Met Glu Gly Thr Ser Glu Asn Ser Pro Val Val Glu Lys Pro Glu Thr
1 5 10 15

Asn Glu Arg Thr Glu Gly Asn Val Lys Val Ala Lys Asn Pro Gly Asp
20 25 30

Ser Ala Val Leu His Lys Lys Asn Ser Met Val Arg Ala Asp Leu Val
35 40 45

Asn Leu Ala Asp Leu Asp Thr Ala Leu Asn Arg Val His Asn Lys Leu
50 55 60

Pro Asn Ser Ile Glu Thr Ala Ser Ala Glu Pro Pro Ala Pro Pro Glu
65 70 75 80

Glu Trp Glu Ile Asn Pro Arg Glu Ile Thr Leu Lys His Met Ile Ala
85 90 95

20080423_F_59071_PCT_sequence_listing.txt

Arg Gly Thr Phe Gly Thr Val His Lys Gly Val Tyr Lys Gly Gln Asp
100 105 110

Val Ala Val Lys Leu Leu Glu Trp Gly Glu Glu Asn Thr Met Lys Lys
115 120 125

Thr Glu Val Gln Tyr Tyr Arg Asn Gln Phe Arg Gln Glu Val Ala Val
130 135 140

Trp His Lys Leu Asp His Pro Asn Val Thr Lys Phe Ile Gly Ala Ser
145 150 155 160

Met Gly Asn Ser Asp Leu Arg Ile Pro Ser Ala Val Asp Gly Asp Asp
165 170 175

Gly Phe His His Val Pro Asn Asn Ala Cys Cys Val Val Val Glu Tyr
180 185 190

Leu Ala Gly Gly Thr Leu Lys Asp His Leu Ile Arg Ser Arg Arg Lys
195 200 205

Lys Leu Ser Tyr Lys Val Val Val Gln Leu Ala Leu Asp Val Ser Arg
210 215 220

Gly Leu Ala Tyr Leu His Ser Gln Lys Ile Ala His Arg Asp Val Lys
225 230 235 240

Thr Glu Asn Met Leu Leu Asp Lys Gln Met Arg Val Lys Ile Ala Asp
245 250 255

Phe Gly Val Ala Arg Val Glu Ala Ser Asn Pro Lys Asp Met Thr Gly
260 265 270

Asp Thr Gly Thr Pro Gly Tyr Met Ala Pro Glu Ile Leu Asp Gly Lys
275 280 285

Pro Tyr Asn Lys Lys Cys Asp Val Tyr Ser Phe Gly Ile Cys Leu Trp
290 295 300

Glu Val Tyr Cys Cys Asp Met Pro Tyr Leu Asp Leu Ser Phe Ala Asp
305 310 315 320

Met Thr Ser Ala Val Val His Gln Asn Leu Arg Pro Glu Val Pro Lys
325 330 335

Cys Cys Pro Gln Gly Leu Ala Asp Ile Met Arg Gln Cys Trp Asp Ala
340 345 350

Asn Pro Glu Lys Arg Pro Ala Met Ala Asp Val Val Gln Met Leu Glu
355 360 365

20080423_F_59071_PCT_sequence_listing.txt

Ala Leu Asp Thr Ser Lys Gly Gly Gly Met Ile Pro Thr Asp Ala Gln
370 375 380

Pro His Gly Cys Leu Cys Phe Gly Arg Phe Lys Gly Pro
385 390 395

<210> 231
<211> 337
<212> PRT
<213> Physcomitrella patens

<400> 231

Met Ser Thr Glu Gly Gly Leu His Val Leu Asp Gly Ser Gln Ile Arg
1 5 10 15

Asn Ala Leu Pro Asp Leu Gln Ser Arg Asn Ser Phe Ser Lys Asn Asp
20 25 30

Glu Gly Ser Lys Gly Tyr Leu Thr Pro Ser Glu Met Arg Gln Ala Ala
35 40 45

Glu Ala Glu Ala Ala Ala Leu Leu Leu Gly Val Gln Leu Ser Ser Lys
50 55 60

Ile Phe Glu Asn Ala Ala Ser Lys Leu Pro Thr Glu Asp Ser Ala Glu
65 70 75 80

Ile Thr Glu Asp Val Phe Ser Ser Thr Leu Gln Ser Tyr Leu Thr Ala
85 90 95

Ile Ala Asp Ala Leu Glu Asp Glu Pro Val Val Val Ser Val Leu Asp
100 105 110

Gly Ser Ala Ile Lys Ala Leu Leu Glu Asp Glu Asp Asp Phe Ala Met
115 120 125

Val Ala Glu Asp Leu Phe Glu Lys Leu Asp Thr Asp Glu Ser Gly Lys
130 135 140

Leu Ser Ser Lys Glu Leu Arg Pro Ala Ile Met Gln Leu Gly Val Glu
145 150 155 160

Gln Gly Val Pro Pro Ala Ala Ala Thr Thr Glu Ala Glu Glu Leu Val
165 170 175

Thr Lys Leu Ile Asn Lys Tyr Gly Gln Gly Thr Glu Glu Leu Gly Gln
180 185 190

Ala Gln Phe Ala Ala Leu Leu Gln Asp Val Leu Gln Asp Met Ala Glu
195 200 205

Ser Leu Ala Glu Lys Pro Ile Thr Ile Val Arg Asp Val Lys Met Leu
Seite 343

210

215

220

Asn Gly Ser His Leu Arg Lys Met Leu Ala Asp Glu Lys Ala Phe Lys
 225 230 235 240

Glu Met Ala Asp Asn Met Phe Asn Asp Leu Asp Val Asn Lys Asp Gln
 245 250 255

Arg Leu Ser Lys Ala Glu Ile Arg Pro Leu Phe Glu Gln Gln Thr Ala
 260 265 270

Ala Trp Gly Leu Pro Pro Val Gly Asp Ser Asp Thr Glu Glu Leu Phe
 275 280 285

Asp Glu Val Phe Lys Ala Val Asp Ser Asp Lys Ser Gly Glu Val Glu
 290 295 300

Lys Pro Glu Phe Ala Val Leu Val Lys Thr Leu Leu Ala Asp Phe Ala
 305 310 315 320

Glu Thr Leu Arg Leu Asn Pro Ile Leu Val Glu Ile Glu Thr Ala Ser
 325 330 335

Arg

<210> 232

<211> 333

<212> PRT

<213> Physcomitrella patens

<400> 232

Met Ser Lys Ala Arg Val Tyr Thr Asp Val Asn Val Gln Arg Pro Lys
 1 5 10 15

Asp Tyr Trp Asp Tyr Glu Ala Leu Thr Ile Gln Trp Gly Asp Gln Asp
 20 25 30

Asp Tyr Glu Val Val Arg Lys Met Gly Arg Gly Lys Tyr Ser Glu Val
 35 40 45

Phe Glu Gly Ile Asn Thr Val Asn Asn Glu Arg Cys Val Ile Lys Ile
 50 55 60

Leu Lys Pro Val Lys Lys Lys Ile Lys Arg Glu Ile Lys Ile Leu
 65 70 75 80

Gln Asn Leu Cys Gly Gly Pro Asn Ile Val Lys Leu Phe Asp Ile Val
 85 90 95

Arg Asp Gln Gln Ser Lys Thr Pro Ser Leu Val Phe Glu Tyr Val Asn
 100 105 110

20080423_F_59071_PCT_sequence_listing.txt

Asn Leu Asp Phe Lys Val Leu Tyr Pro Thr Leu Thr Asp Tyr Asp Ile
115 120 125

Arg Tyr Tyr Ile His Glu Leu Leu Lys Ala Leu Asp Tyr Cys His Ser
130 135 140

Gln Gly Ile Met His Arg Asp Val Lys Pro His Asn Val Met Ile Asp
145 150 155 160

His Glu Gln Arg Lys Leu Arg Leu Ile Asp Trp Gly Leu Ala Glu Phe
165 170 175

Tyr His Pro Gly Lys Glu Tyr Asn Val Arg Val Ala Ser Arg Tyr Phe
180 185 190

Lys Gly Pro Glu Leu Leu Val Asp Leu Gln Asp Tyr Asp Tyr Ala Leu
195 200 205

Asp Met Trp Ser Leu Gly Cys Met Phe Ala Gly Met Ile Phe Arg Lys
210 215 220

Glu Pro Phe Phe Tyr Gly His Asp Asn Tyr Asp Gln Leu Val Lys Ile
225 230 235 240

Ala Lys Val Leu Gly Thr Asp Glu Leu Tyr Ala Tyr Leu Asn Lys Tyr
245 250 255

Arg Leu Glu Leu Asp Pro His Leu Glu Ala Leu Val Gly Arg His Ser
260 265 270

Arg Lys Pro Trp Ser Lys Phe Leu Asn Ser Asp Asn Gln His Leu Val
275 280 285

Ala Pro Glu Ala Val Asp Phe Leu Gly Lys Leu Leu Arg Tyr Asp His
290 295 300

Gln Glu Arg Leu Thr Ala Arg Glu Ala Met Ala His Pro Tyr Phe Tyr
305 310 315 320

Pro Val Arg Ser Met Glu Ala Ser Asn Arg Arg Ser Thr
325 330

<210> 233
<211> 732
<212> PRT
<213> Physcomitrella patens

<400> 233

Met Leu Gly Ser Ser Lys Val Val Ala Met Asn Gly Glu Ala Lys Lys
1 5 10 15

Phe Val Arg Phe Arg Pro Leu Glu Ser Gln Val Ser Met Gly Ser Asp
Seite 345

20

25

30

Pro Lys Thr Pro Leu Arg Ser Ser Phe Ser Val Asp Ser Ser Gly Val
 35 40 45

Ala Thr Gly Arg Arg Gly Trp Gln Arg Ser Ser Lys Gly Phe Phe Lys
 50 55 60

Leu Gly Gln Ser Leu Lys Phe Lys Ser Ser Ser Gln Glu Tyr Asp Glu
 65 70 75 80

Asp Met Pro Lys Asp Leu Gln Trp Lys Thr Leu Asp Pro Ser Ser Pro
 85 90 95

Ser Leu Tyr Lys Trp Asn Thr Phe Phe Leu Val Ser Cys Leu Val Ala
 100 105 110

Ile Phe Val Asp Pro Leu Phe Phe Tyr Leu Pro Lys Val Asp Tyr Ser
 115 120 125

Asn Ser Cys Ile Arg Ile Ser Arg Asp Leu Gln Ala Ser Val Thr Val
 130 135 140

Phe Arg Thr Ile Ser Asp Phe Phe Tyr Val Val His Met Val Leu Arg
 145 150 155 160

Phe Arg Thr Ala Phe Val Arg Pro Ser Thr Arg Val Phe Gly Arg Gly
 165 170 175

Glu Leu Val Thr Asp Pro Arg Glu Ile Ala Ile Arg Tyr Leu Lys Phe
 180 185 190

Asp Phe Trp Ile Asp Phe Val Ala Val Leu Pro Ile Pro Gln Val Val
 195 200 205

Ile Trp Leu Val Val Pro His Val Asp Gly Val Thr Ser Leu Asn Ile
 210 215 220

Asn Thr Lys Asp Ala Leu Arg Tyr Ile Val Val Phe Gln Tyr Val Pro
 225 230 235 240

Arg Met Leu Arg Ile Phe Pro Leu Leu Ser Lys Met Ile Asn Ser Thr
 245 250 255

Gly Val Leu Leu Glu Thr Ala Trp Ala Gly Ala Ala Phe Asn Leu Ile
 260 265 270

Leu Tyr Met Leu Ala Ser His Ile Leu Gly Ala Thr Trp Tyr Leu Leu
 275 280 285

Ser Val Glu Arg Gln Asp Thr Cys Trp Thr Asp Val Cys Leu Arg Asn
 290 295 300

20080423_F_59071_PCT_sequence_listing.txt

Ala Pro Asp Lys Ala Leu Cys Arg Arg Glu Ile Phe Asp Cys Ala Trp
305 310 315 320

Gln Gly Ala Ala Val Asn Ala Trp Tyr Gly Asn Phe Thr Thr Asp Ser
325 330 335

Asn Val Phe Cys Asn Tyr Ile Ala Val Pro Met Gly Ala Asp Thr Phe
340 345 350

Asn Tyr Gly Ile Tyr Asn Asn Ala Ile Ser Asn Thr Ile Ser Ser Ser
355 360 365

Asp Leu Ala Phe Ser Gln Thr Tyr Phe Phe Cys Leu Trp Gln Gly Leu
370 375 380

Leu Ala Leu Ser Ser Leu Ser Gln Thr Leu Asn Val Ser Thr Phe Val
385 390 395 400

Gly Glu Ile Ile Phe Thr Ile Ile Ile Ile Ile Val Gly Leu Phe Leu
405 410 415

Phe Ala Phe Leu Ile Gly Asn Met Gln Thr Tyr Leu Gln Ser Leu Thr
420 425 430

Leu Arg Leu Glu Glu Met Arg Val Lys Arg Arg Asp Thr Glu Gln Trp
435 440 445

Met Arg His Arg Asn Leu Pro His Asp Ile Val Gln Arg Val Arg Arg
450 455 460

Tyr Asp Gln Tyr Lys Trp Val Ala Thr Arg Gly Val Asp Glu Glu Thr
465 470 475 480

Leu Val Gln Ser Leu Pro Ser Asp Leu Arg Arg Asp Ile Lys Arg His
485 490 495

Leu Cys Leu Arg Leu Val Arg Asn Val Pro Phe Cys Asp Gln Met Asp
500 505 510

Glu Ser Leu Leu Asp Ala Met Cys Glu Arg Leu Arg Pro Ala Leu Cys
515 520 525

Thr Glu Gly Thr His Ile Leu Arg Glu Gly Asp Pro Val Asn Glu Met
530 535 540

Phe Phe Val Ile Arg Gly Glu Leu Lys Ser Glu Thr Thr Asn Gly Gly
545 550 555 560

Arg Thr Gly Phe Tyr Asn Lys Ala Val Leu Ser Ser Gly Asp Phe Cys
565 570 575

20080423_F_59071_PCT_sequence_listing.txt

Gly Glu Glu Leu Leu Thr Trp Ala Leu Asp Pro Lys Pro Gln Ser His
580 585 590

Leu Pro Thr Ser Thr Ser Ser Val Lys Ala Leu Lys Glu Val Glu Ala
595 600 605

Phe Ser Leu Ser Ser Asp Asp Leu Lys Phe Ile Ala Ser Gln Phe Arg
610 615 620

Arg Leu His Ser Lys Gln Leu Gln His Thr Phe Arg Tyr Tyr Ser Asn
625 630 635 640

His Trp Arg Thr Trp Gly Ala Cys Phe Ile Gln Ala Ala Trp Arg Arg
645 650 655

Tyr Gln Arg Arg Arg Leu Ala Glu Leu Arg Arg Lys Glu Glu Asp Gln
660 665 670

Tyr Leu Ser Leu Gln Gly Glu Pro Thr Asp Arg Ile Ser Leu Gly Ala
675 680 685

Thr Ile Leu Ala Gly Arg Phe Ala Lys Asn Ala Met Arg Gly Val Gln
690 695 700

Arg Leu Arg Ser Met His Ala Ala Glu Leu Ala Arg Ile Ser Asn Ile
705 710 715 720

Pro Lys Pro Ser Glu Ser Asp Phe Ser Gln Asp Asn
725 730

<210> 234
<211> 303
<212> PRT
<213> Physcomitrella patens
<400> 234

Met Gly Ser Ser Lys Ala Glu Glu Asn Leu Ala Leu Arg Leu Gly Leu
1 5 10 15

Thr Ala Ala Ser Ala Met Ala Ser Glu Ser Val Thr Phe Pro Ile Asp
20 25 30

Ile Thr Lys Thr Arg Leu Gln Leu Gln Gly Glu Met Gly Ala Thr Ala
35 40 45

Gly Ala Pro Lys Arg Gly Ala Ile Ser Met Ala Ile Ser Ile Gly Lys
50 55 60

Glu Glu Gly Ile Ala Gly Leu Tyr Arg Gly Leu Ser Pro Ala Leu Leu
65 70 75 80

Arg His Val Phe Tyr Thr Ser Ile Arg Ile Val Ala Tyr Glu Asn Leu
Seite 348

Arg Thr Ala Leu Ser His Gly Glu His Pro Glu Asn Leu Ser Val Ala
100 105 110

Lys Lys Ala Phe Ile Gly Gly Thr Ser Gly Ile Ile Gly Gln Val Ile
115 120 125

Ala Ser Pro Ala Asp Leu Val Lys Val Arg Met Gln Ala Asp Gly Arg
130 135 140

Leu Val Lys Leu Gly Gln Gln Pro Arg Tyr Thr Gly Val Ala Asp Ala
145 150 155 160

Phe Thr Lys Ile Ala Arg Ala Glu Gly Val Thr Gly Leu Trp Arg Gly
165 170 175

Val Gly Pro Asn Ala Gln Arg Ala Phe Leu Val Asn Met Gly Glu Leu
180 185 190

Ala Cys Tyr Asp Gln Ser Lys Gln Trp Ile Ile Gly Arg Gly Ile Ala
195 200 205

Ala Asp Asn Ile Gly Ala His Thr Leu Ala Ser Val Met Ser Gly Leu
210 215 220

Ser Ala Thr Ile Leu Ser Cys Pro Ala Asp Val Val Lys Thr Arg Met
225 230 235 240

Met Asn Gln Gly Ala Ala Gly Ala Val Tyr Arg Asn Ser Leu Asp Cys
245 250 255

Leu Thr Lys Thr Val Lys Ala Glu Gly Val Met Ala Leu Trp Lys Gly
260 265 270

Phe Phe Pro Thr Trp Thr Arg Leu Gly Pro Trp Gln Phe Val Phe Trp
275 280 285

Val Ser Tyr Glu Gln Leu Arg Arg Ile Ser Gly Leu Ser Ser Phe
290 295 300

<210> 235
<211> 268
<212> PRT
<213> Physcomitrella patens
<400> 235

Met Ala Ser Lys Tyr Pro Arg Lys Cys Arg Glu His Ala Ser Pro Gly
1 5 10 15

Val Gly Gly Arg Glu Ser Thr His Arg Phe Asp Ser Arg Ser Gln Ser
20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Tyr Ser Phe Ser Glu Lys Pro Tyr His Arg Arg Arg Arg Asp Ala Phe
35 40 45

Arg Asp Met Ile Ser Asp Leu Val His Gln Pro Ser Asp Thr Ala Val
50 55 60

Pro Gly Phe Arg Gly Val Arg Tyr Arg Gln Lys Leu Asn Lys Tyr Val
65 70 75 80

Thr Glu Ile Arg Pro Thr Arg Cys Ser Lys Lys Ile Trp Leu Gly Thr
85 90 95

Tyr Asp Thr Ala Glu Glu Ala Ala Arg Ala Phe Asp Ile Gly Asn Leu
100 105 110

Cys Cys Lys Lys Asn Leu Pro Leu Asn Phe Pro Asp Ser Thr Gln Met
115 120 125

Leu Gln Arg Ile Ser Ser Lys Leu Thr Pro Glu Ala Gln Arg Lys Ala
130 135 140

Ile Ala Thr Leu Ala Lys Asp Val Val Arg Met Glu Asn Asp Arg Ser
145 150 155 160

Lys Leu Gly Gly Gly Asn Leu Thr Thr Thr Glu Pro Pro Val His Ser
165 170 175

Glu Pro Ile Thr Gln His Leu Ala Ala Ala Glu Ile Arg Ala Val Thr
180 185 190

Tyr Ile Glu Gln Pro Leu Glu Ile Val Tyr Gly Val Glu Glu Ser Ala
195 200 205

Thr Ala Met Ser Val Thr Glu Ala Asn Ala Arg Asp Asn His Ser Trp
210 215 220

Ser Trp Asp Leu Gly Lys Val Ile Leu Asp Asp Glu Leu Ser Glu Ile
225 230 235 240

Pro Asn Phe Val Gly Glu Leu Asp His Glu Ala Met Asp Phe Ser Ser
245 250 255

His Gly Glu Val Tyr Tyr His His Tyr Asp Ser Gln
260 265

<210> 236

<211> 281

<212> PRT

<213> Physcomitrella patens

<400> 236

Met Gly Arg Gly Lys Ile Glu Ile Lys Lys Ile Glu Asn Thr Thr Ser
Seite 350

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1           5           10           15
Arg Gln Val Thr Phe Ser Lys Arg Arg Gly Gly Leu Leu Lys Lys Ala
      20      25      30
His Glu Leu Ala Val Leu Cys Asp Ala Glu Val Ala Leu Val Ile Phe
      35      40      45
Ser Ser Thr Gly Lys His Phe Glu Phe Ala Ser Ser Gly Ser Met Arg
      50      55      60
Asp Ile Ile Glu Arg Tyr Arg Lys Ser Ser Asp Gly Ala Val Lys Arg
      65      70      75      80
Gly Thr Asn Thr Asp Leu Leu Gly Arg Glu Val Ile Lys Leu Lys Gln
      85      90      95
Gln Val Glu Arg Leu Glu Ser Ser Gln Arg His Met Leu Gly Glu Asp
      100      105      110
Leu Ser Ala Leu Lys Val Ser Asp Leu Leu Glu Leu Glu Gln Gln Leu
      115      120      125
Asp Gln Gly Ala Ser Arg Val Arg Ala Arg Lys Asn Gln Leu Ile Leu
      130      135      140
Glu Glu Ile Glu Asp Leu Arg Arg Lys Glu His Glu Leu Met Ile Ala
      145      150      155      160
Asn Glu Ala Leu Arg Lys Lys Ile Ala Asp Ala Glu Gly Ala Ala Glu
      165      170      175
Ala Ala Ala Arg Ala Asn Phe Pro Asp Ala Arg Leu Glu Ser Pro Lys
      180      185      190
Pro Phe Ala Ser Asp Phe Ser Arg Asp Met Ser Val Ser Ser Gln Leu
      195      200      205
Ala Ala Ser Val Tyr Pro His Pro Asn Leu Leu Gln Ala Gln Arg Ser
      210      215      220
Gln Thr Ser Leu Gln Leu Gly Trp Leu Ser Glu Gln Gln Ile Pro Ser
      225      230      235      240
Thr Glu Glu Gly Cys Ala Gly Glu Ser Ser Leu Lys Trp Asp His Pro
      245      250      255
His Phe His Ile Gln Asn Arg Leu His Ala Asn Ile Ser Pro Ser Val
      260      265      270
Arg Ile Tyr Lys Leu His Val Asp Arg
      275      280

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20080423_F_59071_PCT_sequence_listing.txt

<210> 237
 <211> 360
 <212> PRT
 <213> Physcomitrella patens

<400> 237

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Met Ser Pro Ser Val Asp Cys Leu Ala Ser Leu Tyr Cys Ala Glu Asp
1          5          10          15

Val Ser Gly Thr Ala Trp Asn Glu Ser Glu Met Cys Gly Ala Ala Asp
          20          25          30

Arg Val Phe Glu Ser Gln Pro Ala Val Phe Met Asp Phe Pro Val Glu
          35          40          45

Asp Asp Glu Ala Ile Ala Thr Leu Leu Met Lys Glu Ala Gln Phe Met
50          55          60

Pro Glu Ala Asp Tyr Leu Glu Arg Tyr Gln Ser Arg Lys Leu Ser Leu
65          70          75          80

Glu Ala Arg Leu Ala Ala Ile Glu Trp Ile Leu Lys Val His Ser Phe
          85          90          95

Tyr Asn Tyr Ser Pro Leu Thr Val Ala Leu Ala Val Asn Tyr Met Asp
          100          105          110

Arg Phe Leu Ser Arg Tyr Tyr Phe Pro Glu Gly Lys Glu Trp Met Leu
          115          120          125

Gln Leu Leu Ser Val Ala Cys Ile Ser Leu Ala Ala Lys Met Glu Glu
130          135          140

Ser Asp Val Pro Ile Leu Leu Asp Phe Gln Val Glu Gln Glu Glu His
145          150          155          160

Ile Phe Glu Ala His Thr Ile Gln Arg Met Glu Leu Leu Val Leu Ser
          165          170          175

Thr Leu Glu Trp Arg Met Ser Gly Val Thr Pro Phe Ser Tyr Val Asp
          180          185          190

Tyr Phe Phe His Lys Leu Gly Val Ser Asp Leu Leu Leu Arg Ala Leu
          195          200          205

Leu Ser Arg Val Ser Glu Ile Ile Leu Lys Ser Ile Arg Val Thr Thr
210          215          220

Ser Leu Gln Tyr Leu Pro Ser Val Val Ala Ala Ala Ser Ile Ile Cys
225          230          235          240
    
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20080423_F_59071_PCT_sequence_listing.txt

Ala Leu Glu Glu Val Thr Thr Ile Arg Thr Gly Asp Leu Leu Arg Thr
245 250 255

Phe Asn Glu Leu Leu Val Asn Val Glu Ser Val Lys Asp Cys Tyr Ile
260 265 270

Asp Met Arg Gln Ser Glu Ile Gly Pro Tyr Cys Val Arg Met Gly Leu
275 280 285

Lys Arg Lys Ile Leu His Ala Ser Glu Pro Gln Ser Pro Val Gly Val
290 295 300

Leu Glu Ala Ala Asp Val Ser Ser Pro Ser Gly Thr Val Leu Gly Phe
305 310 315 320

Ser Ser Arg Glu Ser Ser Pro Asp Val Thr Asp Ser Pro Pro Ser Thr
325 330 335

Asn Ser Gln Arg Lys Arg Arg Lys Leu Ser Leu His Asn Glu Ser Cys
340 345 350

Leu His Val Glu Ser Ala Ser Leu
355 360

<210> 238
<211> 774
<212> PRT
<213> Physcomitrella patens

<400> 238

Met Ala Gly Ser Lys His Glu Arg Ser Gly Asp Ser Pro Val Gly Thr
1 5 10 15

Gly Glu Val Ser Pro Leu Ala Ala Gln Leu Gln Gln Ala Trp Leu Gln
20 25 30

Thr Gln Met Pro Lys Ala Gln Lys Arg Ser Phe Thr Ser Val Ala Asn
35 40 45

Ala Gln Asn Gln Leu Pro Arg Leu Ser Pro Pro Gly Pro Gly Ser Glu
50 55 60

Met Ser Ala Ser Ser Lys Pro Pro Ser Ser Ser Val Leu Lys Ser Leu
65 70 75 80

Ser Thr Leu Phe Pro Glu Leu Ala Asn Val Gln Glu Lys Lys Glu Ala
85 90 95

Lys Ile Ser Ser Val Phe Glu Glu Gly Glu Gln Pro Ile Pro Ile His
100 105 110

Pro Glu Leu Arg Gln Lys Lys Ala Glu Cys Leu Glu Val Met Phe Gly
115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Gln Asp Val Val Glu Gln Thr Gln Ala Gln Gly Leu Arg Asp Tyr Asp
130 135 140

Arg His Ala Ser Thr Glu Arg Ser Leu Ser Asp Ser Leu Ile Gln Gln
145 150 155 160

Ser Asp Asp Ser Leu Asp Phe Ser Asp Leu Gly Pro Leu Ser Val Ser
165 170 175

Asn Ser Phe Ser Arg Pro Ser Ala Gln Pro Gly Arg Gly Thr Phe Glu
180 185 190

Asp Asp Leu Ser Tyr Ile Cys Ser Ala Tyr Gly Ser Arg Pro Ser Ala
195 200 205

Ser Glu Tyr Glu Thr Ser Ala Glu Val Glu Gln Glu Lys Thr Pro Leu
210 215 220

Phe Glu Tyr Leu Thr Asp Ile Leu Met Asp Glu Asn Val Glu Glu Lys
225 230 235 240

Lys Cys Met Phe Ile Glu Met Ser Ala Tyr Gln Ala Met Ala Lys Glu
245 250 255

Leu Gly Asp Leu Ile Ser Tyr Asp Pro Pro Pro Met Pro Ile Pro Glu
260 265 270

Thr Arg Arg Ser Asp Pro His Phe Glu Glu Asp Val Arg Phe Val Asp
275 280 285

Ser Trp Ile Asp Glu Ile Leu Ser Gly Pro Leu Pro Ala Asp Arg Thr
290 295 300

Asp Ser Pro Gly Ala Glu Ala Lys Leu Asp Ile Lys His Gly Ser Ser
305 310 315 320

Pro Glu Glu Leu Tyr Ser His Thr Asp Ala Asp Arg Gly Ser Ser Val
325 330 335

Trp Asn Asp Thr Ala Ser Asp Thr Ala Ser Tyr Leu His Pro Asp Ser
340 345 350

Thr Leu Ser Pro Val Asp Phe Gly Asn Ser His Ala Leu Glu Asn Gly
355 360 365

Ser Gly Gly Ser Leu Gln Val Gly Thr Arg His Leu Ser Ser Ile Ser
370 375 380

Ser Ser Asn Gly Asn Gly Val His Ala Pro Pro Val Asp Leu Thr Asp
385 390 395 400

20080423_F_59071_PCT_sequence_listing.txt

Leu Leu Ile Arg Cys Ala Gln Ala Val Glu Gln Ala Asp Tyr Arg His
 405 410 415
 Ala Asn Glu Leu Ile His Glu Leu Arg His His Ser Ser Ala Tyr Gly
 420 425 430
 Asn Gly Ser Gln Arg Met Ala His Tyr Phe Met Glu Ala Leu Val Ala
 435 440 445
 Lys Ile Ser Gly Thr Gly Gly Gln Leu Tyr Ser Ala Leu Ser Asn Tyr
 450 455 460
 Arg Pro Ser Glu Ala Gln Met Leu Arg Ala Gln Met Leu Phe Cys Glu
 465 470 475 480
 His Cys Pro Phe Ile Gln Val Pro His Ile Tyr Ala Asn His Ala Ile
 485 490 495
 Met Val Ala Phe Lys Gly Ala Pro Arg Val His Ile Ile Asp Tyr Gly
 500 505 510
 Ile Leu Tyr Gly Ile Gln Trp Leu Cys Leu Ile His Gln Leu Ser Gln
 515 520 525
 Arg Pro Glu Gly Pro Pro His Leu Arg Ile Thr Gly Ile Asp Arg Pro
 530 535 540
 Gln Pro Gly Phe Arg Pro Ser Ala Arg Ile Gln Asp Thr Gly Arg Arg
 545 550 555 560
 Leu Ala Lys Leu Ala Lys Gln Met Gly Val Pro Phe Glu Phe His Ala
 565 570 575
 Ile Ala Glu Lys Trp Glu Ala Ile Thr Pro Ala His Leu Leu Leu Arg
 580 585 590
 Asp Asp Glu Val Leu Ala Val Asn Ser Met Phe Arg Phe Arg His Leu
 595 600 605
 Leu Asp Glu Ser Val Thr Ala Ala Ser Pro Arg Asn Leu Val Leu Ser
 610 615 620
 Arg Ile Arg Ser Leu Asn Pro Lys Ile Phe Val Gln Gly Val Leu Asn
 625 630 635 640
 Ala Gly Tyr Asn Ala Pro Phe Phe Met Ser Arg Phe Arg Glu Ala Leu
 645 650 655
 Ala Tyr Phe Ser Thr Ile Phe Asp Ser Met Glu Cys Ser Phe Pro Ala
 660 665 670

20080423_F_59071_PCT_sequence_listing.txt

Glu His Pro Asp Arg Gln Ile Ile Asp His Glu Ile Val Gly Arg Glu
675 680 685

Ile Leu Asn Val Val Ala Cys Glu Gly Pro Glu Arg Val Glu Arg Ser
690 695 700

Glu Thr Tyr Arg Gln Trp Gln Ala Arg Thr Met Arg Ala Gly Phe Gln
705 710 715 720

Gln Lys Pro Asn Ser Pro Asn Val Met Ala Lys Ile Arg Met Ala Met
725 730 735

Arg Ser Tyr His Arg Asp Tyr Gly Ile Gly Glu Asp Gly Ala Trp Phe
740 745 750

Leu Leu Gly Trp Lys Glu Arg Ile Thr His Ala Met Thr Val Trp Glu
755 760 765

Pro Leu Pro Asp Ser Pro
770

<210> 239
<211> 188
<212> PRT
<213> Physcomitrella patens
<400> 239

Met Ala Thr Glu Arg Val Ser Gln Glu Thr Thr Ser Gln Ala Pro Glu
1 5 10 15

Gly Pro Val Met Cys Lys Asn Leu Cys Gly Phe Phe Gly Ser Gln Ala
20 25 30

Thr Met Gly Leu Cys Ser Lys Cys Tyr Arg Glu Thr Val Met Gln Ala
35 40 45

Lys Met Thr Ala Leu Ala Glu Gln Ala Thr Gln Ala Ala Gln Ala Thr
50 55 60

Ser Ala Thr Ala Ala Ala Val Gln Pro Pro Ala Pro Val His Glu Thr
65 70 75 80

Lys Leu Thr Cys Glu Val Glu Arg Thr Met Ile Val Pro His Gln Ser
85 90 95

Ser Ser Tyr Gln Gln Asp Leu Val Thr Pro Ala Ala Ala Ala Pro Gln
100 105 110

Ala Val Lys Ser Ser Ile Ala Ala Pro Ser Arg Pro Glu Pro Asn Arg
115 120 125

Cys Gly Ser Cys Arg Lys Arg Val Gly Leu Thr Gly Phe Lys Cys Arg
130 135 140

20080423_F_59071_PCT_sequence_listing.txt

Cys Gly Asn Leu Tyr Cys Ala Leu His Arg Tyr Ser Asp Lys His Thr
145 150 155 160

Cys Thr Tyr Asp Tyr Lys Ala Ala Gly Gln Glu Ala Ile Ala Lys Ala
165 170 175

Asn Pro Leu Val Val Ala Glu Lys Val Val Lys Phe
180 185

<210> 240
<211> 473
<212> PRT
<213> Physcomitrella patens

<400> 240

Met Glu Pro Arg Val Gly Asn Lys Tyr Arg Leu Gly Arg Lys Ile Gly
1 5 10 15

Ser Gly Ser Phe Gly Glu Ile Tyr Leu Gly Thr Asn Leu Val Thr His
20 25 30

Glu Glu Val Gly Ile Lys Leu Glu Ser Ile Lys Ala Lys His Pro Gln
35 40 45

Leu Leu Tyr Glu Ser Lys Leu Tyr Arg Ile Leu Gln Gly Gly Thr Gly
50 55 60

Ile Pro Asn Ile Arg Trp Tyr Gly Ile Glu Gly Asp Tyr Asn Val Met
65 70 75 80

Val Leu Asp Leu Leu Gly Pro Ser Leu Glu Asp Leu Phe Asn Phe Cys
85 90 95

Ser Arg Lys Phe Ser Leu Lys Thr Val Leu Met Leu Ala Asp Gln Leu
100 105 110

Ile Asn Arg Val Glu Tyr Val His Ala Lys Ser Phe Leu His Arg Asp
115 120 125

Ile Lys Pro Asp Asn Phe Leu Met Gly Leu Gly Arg Arg Ala Asn Gln
130 135 140

Val Tyr Met Ile Asp Phe Gly Leu Ala Lys Lys Tyr Arg Asp Pro Thr
145 150 155 160

Thr His Gln His Ile Pro Tyr Arg Glu Asn Lys Asn Leu Thr Gly Thr
165 170 175

Ala Arg Tyr Ala Ser Ile Asn Thr His Leu Gly Ile Glu Gln Ser Arg
180 185 190

20080423_F_59071_PCT_sequence_listing.txt

Arg Asp Asp Leu Glu Ser Leu Gly Tyr Val Leu Met Tyr Phe Leu Arg
195 200 205

Gly Ser Leu Pro Trp Gln Gly Met Lys Ala Gly Thr Lys Lys Gln Lys
210 215 220

Tyr Glu Lys Ile Ser Glu Lys Lys Met Ser Thr Pro Ile Glu Phe Leu
225 230 235 240

Cys Lys Ala Tyr Pro Ser Glu Phe Ala Ser Tyr Phe His Tyr Cys Arg
245 250 255

Ser Leu Arg Phe Asp Asp Lys Pro Asp Tyr Ala Tyr Leu Lys Arg Ile
260 265 270

Phe Arg Asp Leu Phe Ile Arg Glu Gly Phe Gln Phe Asp Tyr Val Phe
275 280 285

Asp Trp Thr Ile Leu Lys Tyr Gln Gln Thr His Phe Ser Gly Gly Pro
290 295 300

Leu Arg Pro Ala Ala Ala Gly Gly Ser Ser Gly Ala Ala Ala Ala
305 310 315 320

Ala Ala Ala Gly Ile Gly Thr Val Pro Arg Asp Ala Gln Arg Ala Ile
325 330 335

Glu Pro Thr Asp Val Ala Ala Arg Thr Arg Met Val Gly Ala Thr Arg
340 345 350

Ser Ser Gly Leu Asn Pro Leu Asp Ala Ser Lys His Lys Ser Thr Ser
355 360 365

Pro Asp Glu Ala Ala Ser Lys Asp Ile Ala Leu Ser Gly Leu Ala Glu
370 375 380

Pro Glu Arg Thr His Ala Ser Ser Phe Val Arg Gly Ser Ser Ser Ser
385 390 395 400

Arg Arg Ala Val Val Gly Cys Ala Arg Pro Ala Gly Ser Thr Glu Ala
405 410 415

Gly Asp Gly Thr Arg Val Leu Ala Gly Lys Met Gly Pro Thr Ser Leu
420 425 430

Arg Thr Ser Ala Gly Met Gln Arg Ser Ser Pro Val Ala Ser Thr Asp
435 440 445

Pro Lys Arg Thr Gly Arg Asp Ser Tyr Ala Gly Asn Ser Gly Arg Asn
450 455 460

Pro Ser Ser Ser Arg Asn Ser Lys Glu

465

<210> 241
<211> 337
<212> PRT
<213> Physcomitrella patens
<400> 241

Met Val Val Ala Val Ala Val Leu Phe Ala Val Val Leu Phe Ile Leu
1 5 10 15

Cys Leu His Ile Tyr Ala Lys Trp Phe Trp Arg Asn Gln Gly Ala Ile
20 25 30

Val Ala Ser Asp Gly Thr Leu Arg Thr Leu Ser Trp Arg Arg Arg Arg
35 40 45

Tyr Thr Val Pro Val Asn Ala Thr Pro Val Thr Gln Ala Val Gly Leu
50 55 60

Glu Arg Ala Val Ile Glu Ala Leu Pro Thr Phe Glu Phe Asp Gly Glu
65 70 75 80

Arg Ala Lys Arg Val Phe Glu Cys Ala Val Cys Leu Glu Glu Phe Glu
85 90 95

Leu Gly Glu Lys Gly Arg Thr Leu Pro Lys Cys Asp His Ser Phe His
100 105 110

Leu Asp Cys Ile Asp Met Trp Leu His Ser His Ser Thr Cys Pro Leu
115 120 125

Cys Arg Thr Ser Val Gly Ala Asp Glu Thr Glu Lys Lys Thr Glu Ala
130 135 140

Ala Thr Val Met Gln Ile Ser Glu Pro Pro Gln Met Glu Ala Pro Val
145 150 155 160

Met Gly Asp Val Gly Ala Pro Phe Met Ala Ala Met Arg Ala Ser Arg
165 170 175

Arg Ser Gln Arg Ser Arg Gly Gln Leu Pro Ala Leu Asn Ser Ser Pro
180 185 190

Arg Gly Asn Ser Leu Pro Arg Thr Ala Glu Asp Gln Gly Gly Glu Asn
195 200 205

His Arg Arg Ser Gly Thr Ser Glu Thr Ala Val Ala Val Asp Gln Gln
210 215 220

Gln Asn Ile Lys Asp Tyr Glu Thr Pro Ser Gly Ile Pro Ser Asn Val
225 230 235 240

20080423_F_59071_PCT_sequence_listing.txt

Leu Phe Trp Gly Asn His Ala Gln Met Ser Ser Ala Gly Ala Gly Gly
245 250 255
Ser Ala Glu Ala Arg Ala Ala Ser Ser Ile Arg Ala Pro Phe Gln Val
260 265 270
Thr Ile Asp Ile Pro Arg Ser Gly Pro Ala Ala Val Ser Asn Ser Ser
275 280 285
Asn Val Leu Ser Pro Met Ala Arg Ala Ser Ala Ser Phe Arg Arg Leu
290 295 300
Leu Ser Arg Gly Lys Ser Val Val Ser Pro Gln Thr Gly Glu Asp Gly
305 310 315 320
Val Asp Glu Gly Gly Pro Ser Ser Ser Pro Arg Pro Pro Pro Pro His
325 330 335

Ala

<210> 242
<211> 192
<212> PRT
<213> Physcomitrella patens
<400> 242

Met Phe Leu Val Asp Trp Phe Tyr Gly Phe Leu Ala Ser Ile Gly Leu
1 5 10 15
Trp Gln Lys Glu Ala Lys Ile Leu Phe Leu Gly Leu Asp Asn Ala Gly
20 25 30
Lys Thr Thr Leu Leu His Met Leu Lys Asp Glu Lys Leu Gly Gln His
35 40 45
Gln Pro Thr Gln Tyr Pro Thr Ser Glu Glu Leu Ser Ile Asn Arg Val
50 55 60
Lys Phe Lys Ala Phe Asp Leu Gly Gly His Thr Ile Ala Arg Arg Val
65 70 75 80
Trp Arg Asp Tyr Tyr Ala Lys Val Asp Ala Ile Val Tyr Leu Val Asp
85 90 95
Ala Val Asp Arg Glu Arg Phe Ala Glu Ser Lys Lys Glu Leu Asp Ser
100 105 110
Leu Leu Ser Asp Asp Ser Leu Ser Gln Val Pro Val Leu Val Leu Gly
115 120 125
Asn Lys Ile Asp Ile Pro Tyr Ala Ser Ser Glu Asp Glu Leu Arg Phe
Seite 360

20080423_F_59071_PCT_sequence_listing.txt

130

135

140

Thr Leu Gly Leu Thr Met Thr Thr Gly Lys Gly Thr Val Asn Leu Gly
145 150 155 160

Asp Ser Asn Ile Arg Pro Ile Glu Val Phe Met Cys Ser Ile Val Arg
165 170 175

Lys Met Gly Tyr Gly Glu Gly Phe Lys Trp Met Thr Gln Tyr Ile Lys
180 185 190

<210> 243

<211> 191

<212> PRT

<213> Triticum aestivum

<400> 243

Met Ala Gly Lys Gly Gly Pro Glu Asn Ser Asn Cys Ala Tyr Arg Gly
1 5 10 15

Val Arg Gln Arg Thr Trp Gly Lys Trp Val Ala Glu Ile Arg Glu Pro
20 25 30

Asn Arg Gly Asn Arg Leu Trp Leu Gly Ser Phe Pro Thr Ala Val Glu
35 40 45

Ala Ala Arg Ala Tyr Asp Asp Ala Ala Arg Ala Met Tyr Gly Ala Lys
50 55 60

Ala Arg Val Asn Phe Ser Glu Gln Ser Pro Asp Ala Ser Ser Gly Cys
65 70 75 80

Thr Leu Ala Pro Pro Leu Leu Met Ser Asn Gly Ala Thr Ala Ala Ser
85 90 95

His Pro Ser Asp Gly Lys Asp Glu Ser Glu Ser Ala Gly Thr Val Ala
100 105 110

His Lys Val Lys Lys Glu Val Ser Asn Asp Leu Arg Ser Thr His Glu
115 120 125

Glu His Lys Thr Leu Glu Val Ser Gln Pro Lys Gly Lys Ala Leu His
130 135 140

Lys Glu Ala Asn Val Ser Tyr Asp Tyr Phe Asn Val Glu Glu Val Leu
145 150 155 160

Asp Met Ile Ile Val Glu Leu Ser Ala Asp Val Lys Met Glu Ala His
165 170 175

Glu Glu Tyr Gln Asp Gly Asp Asp Gly Phe Ser Leu Phe Ser Tyr
180 185 190

20080423_F_59071_PCT_sequence_listing.txt

<210> 244
 <211> 456
 <212> PRT
 <213> Glycine max

<400> 244

Met Glu Pro Arg Val Gly Asn Lys Phe Arg Leu Gly Arg Lys Ile Gly
 1 5 10 15

Ser Gly Ser Phe Gly Glu Ile Tyr Leu Gly Thr Asn Ile Gln Thr Asn
 20 25 30

Glu Glu Val Ala Ile Lys Leu Glu Asn Val Lys Thr Lys His Pro Gln
 35 40 45

Leu Leu Tyr Glu Ser Lys Leu Tyr Arg Val Leu Gln Gly Gly Thr Gly
 50 55 60

Ile Pro Asp Val Arg Trp Phe Gly Val Glu Gly Asp Tyr Asn Val Leu
 65 70 75 80

Val Met Asp Leu Leu Gly Pro Ser Leu Glu Asp Leu Phe Asn Phe Cys
 85 90 95

Ser Arg Lys Leu Ser Leu Lys Thr Val Leu Met Leu Ala Asp His Met
 100 105 110

Ile Asn Arg Val Glu Phe Val His Ser Lys Ser Phe Leu His Arg Asp
 115 120 125

Ile Lys Pro Asp Asn Phe Leu Met Gly Leu Gly Arg Arg Ala Asn Gln
 130 135 140

Val Tyr Cys Ile Asp Phe Gly Leu Ala Lys Lys Tyr Arg Asp Ser Ser
 145 150 155 160

Thr His Gln His Ile Pro Tyr Arg Glu Asn Lys Asn Leu Thr Gly Thr
 165 170 175

Ala Arg Tyr Ala Ser Met Asn Thr His Leu Gly Ile Glu Gln Ser Arg
 180 185 190

Arg Asp Asp Leu Glu Ser Val Gly Phe Val Leu Met Tyr Phe Leu Arg
 195 200 205

Gly Ser Leu Pro Trp Gln Gly Leu Lys Ala Gly Thr Lys Lys His Lys
 210 215 220

Tyr Glu Arg Ile Ser Glu Lys Lys Val Ser Thr Ser Ile Glu Ala Leu
 225 230 235 240

Cys Arg Gly Tyr Pro Thr Glu Phe Ala Ser Tyr Phe His Tyr Cys Arg
 Seite 362

Ser Leu Arg Phe Asp Asp Arg Pro Asp Tyr Ala Tyr Leu Lys Arg Ile
260 265 270

Phe Cys Asp Leu Phe Ile Arg Glu Gly Phe Gln Phe Asp Tyr Val Phe
275 280 285

Asp Trp Thr Ile Leu Lys Tyr Gln Gln Ser Gln Leu Ala Ala Pro Pro
290 295 300

Ala Arg Ala Ile Gly Pro Asn Val Gly Thr Ser Ser Ala Met Pro Pro
305 310 315 320

Ala Val Thr Asn Ala Asp Arg Gln Thr Gly Glu Glu Glu Gly Arg Pro
325 330 335

Pro Gly Leu Val Ser Gly Asp Ser Thr Arg Arg Arg Met Ser Gly Pro
340 345 350

Ile Thr Asn Ser Val Asn Ile Ser Lys Gln Lys Asn Pro Val Thr Thr
355 360 365

Asp Ala Ala Leu Asn Lys Glu Ala Met Leu Ser Arg Pro Asn Val Leu
370 375 380

Gly Gln Ser Ser Gly Ser Arg Arg Ala Ala Val Ser Ser Arg Arg Asp
385 390 395 400

Ala Phe Val Gly Ser Asp Leu Asp Leu Arg Thr Arg Ser Thr Glu Ala
405 410 415

Asn Pro Gly Thr Ala Ile Lys Thr Ser Ser Ala Arg Asn Ala Ser His
420 425 430

Val Lys Asn Tyr Glu Thr Ala Ile Lys Gly Ile Glu Gly Leu Gln Leu
435 440 445

Glu Asn Asp Glu Lys Ala His Tyr
450 455

<210> 245
<211> 473
<212> PRT
<213> Triticum aestivum

<400> 245

Met Asp His Ile Val Gly Gly Lys Phe Lys Leu Gly Lys Lys Ile Gly
1 5 10 15

Ser Gly Ser Phe Gly Glu Leu Phe Leu Ala Val Asn Val Gln Thr Gly
20 25 30

20080423_F_59071_PCT_sequence_listing.txt

Glu Glu Val Ala Val Lys Leu Glu Asn Val Lys Thr Lys His Pro Gln
 35 40 45
 Leu His Tyr Glu Ser Lys Leu Tyr Met Leu Leu Gln Gly Gly Thr Gly
 50 55 60
 Ile Pro His Leu Lys Trp Phe Gly Val Glu Gly Glu Tyr Asn Val Met
 65 70 75 80
 Val Ile Asp Leu Leu Gly Pro Ser Leu Glu Asp Leu Phe Asn Tyr Cys
 85 90 95
 Ser Arg Lys Phe Ser Leu Lys Thr Val Leu Met Leu Ala Asp Gln Met
 100 105 110
 Ile Asn Arg Val Glu Tyr Met His Gln Lys Gly Phe Leu His Arg Asp
 115 120 125
 Ile Lys Pro Asp Asn Phe Leu Met Gly Leu Gly Arg Lys Ala Asn Gln
 130 135 140
 Val Tyr Ile Ile Asp Tyr Gly Leu Ala Lys Lys Phe Arg Asp Leu Gln
 145 150 155 160
 Thr His Lys His Ile Pro Tyr Arg Glu Asn Lys Asn Leu Thr Gly Thr
 165 170 175
 Ala Arg Tyr Ala Ser Val Asn Thr His Leu Gly Val Glu Gln Ser Arg
 180 185 190
 Arg Asp Asp Leu Glu Ser Leu Gly Tyr Val Leu Met Tyr Phe Leu Arg
 195 200 205
 Gly Ser Leu Pro Trp Gln Gly Leu Lys Ala Gly Thr Lys Lys Gln Lys
 210 215 220
 Tyr Asp Lys Ile Ser Glu Lys Lys Met Leu Thr Pro Val Glu Val Leu
 225 230 235 240
 Cys Lys Ser Tyr Pro Ser Glu Phe Ile Ser Tyr Phe His Tyr Cys Arg
 245 250 255
 Ser Leu Arg Phe Glu Asp Lys Pro Asp Tyr Ser Tyr Leu Lys Arg Leu
 260 265 270
 Phe Arg Asp Leu Phe Ile Arg Glu Gly Tyr Gln Phe Asp Tyr Val Phe
 275 280 285
 Asp Trp Thr Ile Leu Lys Tyr Pro Gln Ile Gly Ser Asn Pro Arg Met
 290 295 300

20080423_F_59071_PCT_sequence_listing.txt

Arg Pro Ser Glu Arg Val Ser Gly Ala Ala Gly Pro Ser Ile Glu Lys
305 310 315 320

Ile Glu Lys Ala Pro Gly Glu Ala Ser Ala Arg Arg Asn Pro Ser Ala
325 330 335

Ser Leu Asn Gln Ser Asp Asn His Ala Thr Arg Pro Arg Glu Thr Val
340 345 350

Ser Met Ser Leu Lys Glu Ile Met His Ser Thr Asp Arg Ser Gly Glu
355 360 365

Arg Thr Val Glu Arg Thr Val Glu Arg Pro Arg Thr Ser Ser Arg Thr
370 375 380

Gly Ser Ala Ser Arg Arg Ala Val Ala Ser Ser Ser Arg Pro Gly Ser
385 390 395 400

Ser Met Glu Pro Ser Glu Gln Gln Tyr Ser Arg Thr Ser Arg Leu Phe
405 410 415

Ser Ser Ser Asn Asn Gly Gly Ser Arg Pro Ser Ser Thr Gln Arg Val
420 425 430

Asn Pro Gly Val Gly Glu Ser Arg Ala Thr Ser Leu Ser Arg Ala Ala
435 440 445

Val Ala Arg Gly Ser Arg Asp Glu Pro Leu His Arg Ser Leu Glu Leu
450 455 460

Leu Ser Leu Gly Thr Gly Lys Arg Lys
465 470

<210> 246

<211> 524

<212> PRT

<213> Saccharomyces cerevisiae

<400> 246

Met Ser Gln Arg Ser Ser Gln His Ile Val Gly Ile His Tyr Ala Val
1 5 10 15

Gly Pro Lys Ile Gly Glu Gly Ser Phe Gly Val Ile Phe Glu Gly Glu
20 25 30

Asn Ile Leu His Ser Cys Gln Ala Gln Thr Gly Ser Lys Arg Asp Ser
35 40 45

Ser Ile Ile Met Ala Asn Glu Pro Val Ala Ile Lys Phe Glu Pro Arg
50 55 60

His Ser Asp Ala Pro Gln Leu Arg Asp Glu Phe Arg Ala Tyr Arg Ile
65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Leu Asn Gly Cys Val Gly Ile Pro His Ala Tyr Tyr Phe Gly Gln Glu
 85 90 95
 Gly Met His Asn Ile Leu Ile Ile Asp Leu Leu Gly Pro Ser Leu Glu
 100 105 110
 Asp Leu Phe Glu Trp Cys Gly Arg Lys Phe Ser Val Lys Thr Thr Cys
 115 120 125
 Met Val Ala Lys Gln Met Ile Asp Arg Val Arg Ala Ile His Asp His
 130 135 140
 Asp Leu Ile Tyr Arg Asp Ile Lys Pro Asp Asn Phe Leu Ile Ser Gln
 145 150 155 160
 Tyr Gln Arg Ile Ser Pro Glu Gly Lys Val Ile Lys Ser Cys Ala Ser
 165 170 175
 Ser Ser Asn Asn Asp Pro Asn Leu Ile Tyr Met Val Asp Phe Gly Met
 180 185 190
 Ala Lys Gln Tyr Arg Asp Pro Arg Thr Lys Gln His Ile Pro Tyr Arg
 195 200 205
 Glu Arg Lys Ser Leu Ser Gly Thr Ala Arg Tyr Met Ser Ile Asn Thr
 210 215 220
 His Phe Gly Arg Glu Gln Ser Arg Arg Asp Asp Leu Glu Ser Leu Gly
 225 230 235 240
 His Val Phe Phe Tyr Phe Leu Arg Gly Ser Leu Pro Trp Gln Gly Leu
 245 250 255
 Lys Ala Pro Asn Asn Lys Leu Lys Tyr Glu Lys Ile Gly Met Thr Lys
 260 265 270
 Gln Lys Leu Asn Pro Asp Asp Leu Leu Leu Asn Asn Ala Ile Pro Tyr
 275 280 285
 Gln Phe Ala Thr Tyr Leu Lys Tyr Ala Arg Ser Leu Lys Phe Asp Glu
 290 295 300
 Asp Pro Asp Tyr Asp Tyr Leu Ile Ser Leu Met Asp Asp Ala Leu Arg
 305 310 315 320
 Leu Asn Asp Leu Lys Asp Asp Gly His Tyr Asp Trp Met Asp Leu Asn
 325 330 335
 Gly Gly Lys Gly Trp Asn Ile Lys Ile Asn Arg Arg Ala Asn Leu His
 340 345 350

20080423_F_59071_PCT_sequence_listing.txt

Gly Tyr Gly Asn Pro Asn Pro Arg Val Asn Gly Asn Thr Ala Arg Asn
355 360 365

Asn Val Asn Thr Asn Ser Lys Thr Arg Asn Thr Thr Pro Val Ala Thr
370 375 380

Pro Lys Gln Gln Ala Gln Asn Ser Tyr Asn Lys Asp Asn Ser Lys Ser
385 390 395 400

Arg Ile Ser Ser Asn Pro Gln Ser Phe Thr Lys Gln Gln His Val Leu
405 410 415

Lys Lys Ile Glu Pro Asn Ser Lys Tyr Ile Pro Glu Thr His Ser Asn
420 425 430

Leu Gln Arg Pro Ile Lys Ser Gln Ser Gln Thr Tyr Asp Ser Ile Ser
435 440 445

His Thr Gln Asn Ser Pro Phe Val Pro Tyr Ser Ser Ser Lys Ala Asn
450 455 460

Pro Lys Arg Ser Asn Asn Glu His Asn Leu Pro Asn His Tyr Thr Asn
465 470 475 480

Leu Ala Asn Lys Asn Ile Asn Tyr Gln Ser Gln Arg Asn Tyr Glu Gln
485 490 495

Glu Asn Asp Ala Tyr Ser Asp Asp Glu Asn Asp Thr Phe Cys Ser Lys
500 505 510

Ile Tyr Lys Tyr Cys Cys Cys Cys Phe Cys Cys Cys
515 520

<210> 247

<211> 417

<212> PRT

<213> Physcomitrella patens

<400> 247

Met Asp Ser Gly Gly Asp Arg Val Arg Ala Pro Gln Lys Gln Ser Arg
1 5 10 15

Glu Glu Asp Gln Tyr Arg Ser Leu Asn Ile Ala Thr Glu His Arg Gln
20 25 30

His Ile Gln Lys His Gln Gln His Gln Gln Gln Pro Gly Thr Gly Leu
35 40 45

Val Val Glu Thr Leu Gln Lys Thr Leu Cys Asn Val Thr Val Thr Ser
50 55 60

Pro Thr Ser Ser Pro Glu Gly Gly Arg Leu Arg Thr Val Ala Asn Lys
Seite 367

65

70

75

80

Tyr Ala Val Glu Gly Met Val Gly Ser Gly Ala Phe Cys Lys Val Tyr
 85 90 95

Gln Gly Ser Asp Leu Thr Asn His Glu Val Val Gly Ile Lys Leu Glu
 100 105 110

Asp Thr Arg Thr Glu His Ala Gln Leu Met His Glu Ser Arg Leu Tyr
 115 120 125

Asn Ile Leu Arg Gly Gly Lys Gly Val Pro Asn Met Arg Trp Phe Gly
 130 135 140

Lys Glu Gln Asp Tyr Asn Val Met Val Leu Asp Leu Leu Gly Pro Asn
 145 150 155 160

Leu Leu His Leu Phe Lys Val Cys Gly Gln Arg Phe Ser Leu Lys Thr
 165 170 175

Val Ile Met Leu Gly Tyr Gln Met Ile Asp Arg Val Glu Tyr Val His
 180 185 190

Ser Arg Gly Leu Val His Arg Asp Leu Lys Pro Asp Asn Phe Leu Met
 195 200 205

Gly Cys Gly Arg Gln Gly Asn Gln Val Phe Ile Ile Asp Phe Gly Leu
 210 215 220

Ala Lys Glu Tyr Ile Asp Pro Ala Thr Arg Arg His Ile Pro Tyr Arg
 225 230 235 240

Asp Arg Lys Ser Phe Thr Gly Thr Ala Arg Tyr Ala Ser Arg Asn Gln
 245 250 255

His Lys Gly Ile Glu His Ser Arg Arg Asp Asp Ile Glu Ser Leu Gly
 260 265 270

Tyr Ile Leu Met Tyr Phe Leu Arg Gly Asn Leu Pro Trp Gln Gly Gln
 275 280 285

Gly Gly Gln Arg Phe Thr Asp Gln Lys Gln His Glu Tyr Met His Asn
 290 295 300

Lys Ile Lys Met Glu Thr Thr Ile Glu Asp Leu Cys Asp Gly Tyr Pro
 305 310 315 320

Arg Gln Phe Ala Asp Phe Leu His His Ala Arg Glu Leu Gly Phe Tyr
 325 330 335

Glu Gln Pro Asp Tyr Ser Tyr Leu Arg Ser Leu Phe Arg Asp Leu Phe
 340 345 350

20080423_F_59071_PCT_sequence_listing.txt

Ile Gln Lys Lys Phe Gln Leu Asp His Val Tyr Asp Trp Thr Val Tyr
355 360 365

Thr Gln Pro Pro Gln Asn Gly Ser Ala Gln Thr Val Arg Ser Pro Ala
370 375 380

Ala Gly Pro Gln Thr His Leu Gln Ser Arg Pro Ser Asn Val Ser Tyr
385 390 395 400

Cys Pro Pro Leu Thr Lys Pro Glu Phe Arg Arg Glu Val Val Ala Ala
405 410 415

Asn

<210> 248
<211> 484
<212> PRT
<213> Physcomitrella patens

<400> 248

Met Glu Pro Arg Val Gly Asn Lys Tyr Arg Leu Gly Arg Lys Ile Gly
1 5 10 15

Ser Gly Ser Phe Gly Glu Ile Tyr Leu Gly Thr Asn Val Gln Thr Asn
20 25 30

Glu Glu Val Gly Ile Lys Leu Glu Ser Ile Lys Thr Lys His Pro Gln
35 40 45

Leu Leu Tyr Glu Ser Lys Leu Tyr Arg Ile Leu Gln Gly Gly Thr Gly
50 55 60

Ile Pro Asn Ile Arg Trp Phe Gly Ile Glu Gly Asp Tyr Asn Val Leu
65 70 75 80

Val Leu Asp Leu Leu Gly Pro Ser Leu Glu Asp Leu Phe Asn Phe Cys
85 90 95

Ser Arg Lys Phe Ser Leu Lys Thr Val Leu Met Leu Ala Asp Gln Leu
100 105 110

Ile Asn Arg Val Glu Tyr Val His Ala Lys Ser Phe Leu His Arg Asp
115 120 125

Ile Lys Pro Asp Asn Phe Leu Met Gly Leu Gly Arg Arg Ala Asn Gln
130 135 140

Val Tyr Ile Ile Asp Phe Gly Leu Ala Lys Lys Tyr Arg Asp Pro Ser
145 150 155 160

20080423_F_59071_PCT_sequence_listing.txt

Thr His Gln His Ile 165 Pro Tyr Arg Glu Asn Lys Asn Leu Thr Gly Thr 175

Ala Arg Tyr Ala 180 Ser Ile Asn Thr His 185 Leu Gly Ile Glu Gln Ser Arg 190

Arg Asp Asp 195 Leu Glu Ser Leu Gly 200 Tyr Val Leu Met Tyr 205 Phe Leu Arg

Gly Ser 210 Leu Pro Trp Gln Gly 215 Leu Lys Ala Gly Thr 220 Lys Lys Gln Lys

Tyr Glu Lys Ile Ser Glu 230 Lys Lys Met Ser Thr 235 Pro Ile Glu Val Leu 240

Cys Lys Asn Tyr Pro 245 Ser Glu Phe Ala Ser 250 Tyr Phe His Tyr Cys 255 Arg

Ser Leu Arg Phe 260 Asp Asp Lys Pro Asp 265 Tyr Ala Tyr Leu Lys Arg Ile 270

Phe Arg Asp 275 Leu Phe Ile Arg Glu 280 Gly Phe Gln Phe Asp 285 Tyr Val Phe

Asp Trp Thr Ile Leu Lys Tyr 295 Gln Gln Ser Gln Ile 300 Ser Gly Gly Ser

Ser Thr Arg Leu Gly Ala 310 Ser Ala Gly Gln Thr 315 Ser Gly Ala Leu Gly 320

Thr Gly Ala Thr Gly 325 Ser Arg Asp Leu Gln 330 Arg Pro Thr Glu Pro Met 335

Asp Pro Ser Arg 340 Arg Arg Leu Pro Gly 345 Gly Ala Asn Gly Ser 350 Gly Val

Ala Asn Ala 355 Leu Asp Ser Ser Lys 360 His Lys Ser Pro Gly 365 Leu Asp Glu

Ser Ala Lys Asp Ser Ala 375 Leu Ala Val Val Ser Glu 380 Pro Glu Arg Met

His Thr Ser Ser Tyr Ala 390 Thr Arg Gly Gly Ser 395 Ser Ser Arg Arg Ala 400

Val Leu Ser Ser Ser 405 Arg Pro Ser Gly Ala 410 Ser Ala Glu Val Val Asp 415

Ser Ser Arg Thr 420 Gly Ser Ser Lys Leu 425 Gly Pro Thr Ser Leu 430 Arg Ser

Ser Ala Gly Met Gln Arg Ser Ser Pro Val Thr Ser Asp Pro Lys Arg

435

440

445

Ile Ser Ser Arg His Pro Gln Pro Pro Ser Ala Asn Leu Arg Ile Tyr
 450 455 460

Glu Ala Ala Ile Lys Gly Val Glu Ser Leu Ser Val Glu Val Asp Gln
 465 470 475 480

Ser Arg Tyr Lys

<210> 249

<211> 747

<212> PRT

<213> Physcomitrella patens

<400> 249

Met Glu Ala Cys Asn Cys Val Glu Pro Gln Trp Pro Pro Asp Asp Leu
 1 5 10 15

Leu Met Arg Tyr Gln Tyr Ile Ser Asp Phe Phe Ile Ala Leu Ala Tyr
 20 25 30

Phe Ser Ile Pro Leu Glu Leu Ile Tyr Phe Val Lys Lys Ser Ser Ile
 35 40 45

Phe Pro Tyr Arg Trp Val Leu Val Gln Phe Gly Ala Phe Ile Val Leu
 50 55 60

Cys Gly Ala Thr His Leu Ile Ser Leu Trp Thr Phe Ser Ser Arg Ser
 65 70 75 80

Arg Thr Val Ala Val Val Leu Thr Ile Ala Lys Val Leu Thr Ala Val
 85 90 95

Val Ser Cys Ala Thr Ala Leu Met Leu Val His Ile Ile Pro Asp Leu
 100 105 110

Leu Ser Val Lys Thr Arg Glu Leu Phe Leu Lys Lys Lys Ala Ala Glu
 115 120 125

Leu Asp Arg Glu Met Gly Leu Ile Arg Thr Gln Glu Glu Thr Gly Arg
 130 135 140

His Val Arg Met Leu Thr His Glu Ile Arg Ser Thr Leu Asp Arg His
 145 150 155 160

Thr Ile Leu Asn Thr Thr Leu Ile Glu Leu Gly Lys Thr Leu Ser Leu
 165 170 175

Glu Glu Cys Thr Leu Trp Met Pro Ser Pro Asp Gly Gln Glu Leu Gln
 180 185 190

20080423_F_59071_PCT_sequence_listing.txt

Leu Lys Asn Ala Leu Arg Ala Glu Ser Leu His Val Thr Val Pro Ile
 195 200 205
 His His Pro Thr Ile Lys Gln Val Phe Ser Thr Pro Arg Ala Val Val
 210 215 220
 Ile Ser Pro Asn Ser Pro Val Cys Val Thr Arg Ile Arg Gly Ala Lys
 225 230 235 240
 Tyr Met Thr Gly Glu Val Val Ala Ile Arg Val Pro Leu Leu His Leu
 245 250 255
 Thr Asn Phe His Phe Ser Asp Trp Pro Asp Ala Gly Thr Arg Pro Phe
 260 265 270
 Ala Leu Met Val Leu Met Leu Pro Leu Asn Ser Ala Arg Arg Trp His
 275 280 285
 Val His Glu Leu Glu Leu Val Glu Val Val Ala Asp Gln Val Ala Val
 290 295 300
 Ala Leu Ser His Ala Thr Ile Leu Glu Glu Ser Met Pro Ala Arg Asp
 305 310 315 320
 Leu Leu Met Glu Gln Asn Val Ala Leu Glu His Ala Arg Gln Glu Ala
 325 330 335
 Glu Thr Ala Ile Arg Ala Arg Asn Asp Phe Leu Ala Val Met Asn His
 340 345 350
 Glu Met Arg Thr Pro Met His Ala Ile Ile Ala Leu Ser Ser Leu Leu
 355 360 365
 Gln Glu Thr Glu Leu Thr Pro Glu Gln Arg Ser Met Val Glu Thr Val
 370 375 380
 Leu Lys Ser Ser Asn Leu Leu Ala Thr Leu Ile Asn Asp Val Leu Asp
 385 390 395 400
 Leu Ser Arg Leu Glu Asp Gly Ser Leu Glu Leu Asp Ile Gln Thr Phe
 405 410 415
 Asn Leu Pro Asn Val Phe Lys Glu Val Leu Asn Leu Val Lys Pro Ile
 420 425 430
 Ala Ser Val Lys Arg Leu Gln Val Asn Leu Thr Met Gly Pro Asp Ile
 435 440 445
 Pro Glu Ile Ala Val Gly Asp Asp Lys Arg Leu Leu Gln Thr Ala Leu
 450 455 460

20080423_F_59071_PCT_sequence_listing.txt

Asn Val Val Gly Asn Ala Val Lys Phe Thr Lys Glu Gly His Val Asn
465 470 475 480

Val Ile Val Gly Leu Glu Arg Pro Glu Tyr Pro Arg Asp Pro Arg Gln
485 490 495

Pro Asp Phe Arg Pro Leu Ser Gly Asp Asn His Phe Tyr Leu Arg Val
500 505 510

Gln Val Arg Asp Thr Gly Leu Gly Leu Asn Pro Gln Asp Ile Pro Met
515 520 525

Leu Phe Asn Lys Phe Val Gln Ala Asp Ser Thr Thr Thr Arg Asn Tyr
530 535 540

Gly Gly Thr Gly Leu Gly Leu Ala Ile Cys Lys Arg Phe Val Asn Leu
545 550 555 560

Met Asp Gly His Ile Trp Ile Glu Ser Glu Gly Val Gly Arg Gly Pro
565 570 575

Ile Val Thr Phe Ile Val Lys Leu Asn Leu Pro Glu Thr Ser Ser His
580 585 590

Leu Ser Ile His Ile Ala Pro Thr Ser Gln Pro Ser Gly Ser Gln Ser
595 600 605

Arg Thr Asp Phe Ser Gly Val Arg Ile Leu Val Thr Asp Asp Asn Gly
610 615 620

Val Asn Arg Met Val Thr Arg Gly Leu Leu Met Arg Leu Gly Arg Glu
625 630 635 640

Val Thr Leu Ala Ala Ser Gly Arg Glu Cys Leu Gln Leu Ile Gln Gln
645 650 655

Arg Asn Gln Ala Phe Asn Val Leu Leu Leu Asp Val Cys Met Pro Glu
660 665 670

Met Asp Gly Tyr Glu Val Ala Thr Gln Ile Gln Lys Arg Leu Thr Arg
675 680 685

Arg Asp Arg Pro Leu Leu Val Ala Leu Thr Ala Asn Thr Asp Arg Ile
690 695 700

Thr His Glu Lys Cys Leu Arg Leu Gly Met Asp Gly Val Val Thr Lys
705 710 715 720

Pro Ile Ser Leu Glu Lys Met Arg Leu Val Leu Thr Glu Leu Leu Glu
725 730 735

Arg Gly Ser Ile Ser Glu Leu Thr Gln Arg Leu
Seite 373

<210> 250
<211> 575
<212> PRT
<213> Physcomitrella patens
<400> 250

Met Gly Asn Thr Cys Val Gly Ala Ala Gly Tyr Phe Gln Gly Phe Thr
1 5 10 15

Ser Ala Ile Ala Leu Gly Gly Arg Ser Ser Arg Ser Asn Ser Glu Arg
20 25 30

Ser Pro Thr Ala Ser Lys Ile Asp Asp Ser Asp Arg Lys Val Glu Val
35 40 45

Asp Thr Pro Ala Thr Gln Gln Asn Pro Pro Arg Gln Asn His Ile Pro
50 55 60

Ser Val Asp Thr Ala Asp Gln Gln Gln Phe Lys Glu Val Ile Glu Ala
65 70 75 80

Met Lys Lys Gly Arg Glu Ile Lys Ser Val Ser Gly Gln Ser Leu Thr
85 90 95

His Ser Val Leu Gln Arg Lys Thr Glu Asn Leu Arg Asp Leu Tyr Ile
100 105 110

Leu Gly Lys Lys Leu Gly Gln Gly Gln Phe Gly Thr Thr Tyr Leu Cys
115 120 125

Ile Glu Lys Ala Thr Asn Lys Glu Tyr Ala Cys Lys Ser Ile Ala Lys
130 135 140

Arg Lys Leu Ile Ser Lys Glu Asp Val Glu Asp Val Arg Arg Glu Leu
145 150 155 160

Gln Ile Met His His Leu Ser Gly His Pro Asn Ile Val Met Ile Lys
165 170 175

Gly Ala Tyr Glu Asp Pro Ala Ser Val His Leu Val Val Glu Leu Cys
180 185 190

Ala Gly Gly Glu Leu Phe Asp Arg Ile Ile Gln Arg Gly Gln Tyr Ser
195 200 205

Glu Ala Lys Ala Ala Val Leu Thr Arg Thr Ile Val Gly Val Val Glu
210 215 220

Thr Cys His Ser Leu Gly Val Met His Arg Asp Leu Lys Pro Glu Asn
225 230 235 240

20080423_F_59071_PCT_sequence_listing.txt

Phe	Leu	Phe	Ser	Ser 245	Thr	Lys	Glu	Asp	Ala 250	Ala	Leu	Lys	Thr	Thr 255	Asp
Phe	Gly	Leu	Ser 260	Val	Phe	Phe	Lys	Pro 265	Gly	Glu	Val	Phe	Arg 270	Asp	Val
Val	Gly	Ser 275	Pro	Tyr	Tyr	Val	Ala 280	Pro	Glu	Val	Leu	Arg 285	Lys	Asn	Tyr
Gly	Pro 290	Glu	Ala	Asp	Val	Trp 295	Ser	Ala	Gly	Val	Ile 300	Leu	Tyr	Ile	Leu
Leu 305	Ser	Gly	Val	Pro	Pro 310	Phe	Trp	Ala	Glu	Thr 315	Glu	Gln	Gly	Ile	Phe 320
Glu	Gln	Val	Leu	Lys 325	Ser	Glu	Leu	Asp	Phe 330	Ala	Ser	Asp	Pro	Trp 335	Pro
Lys	Ile	Ser	Asp 340	Ser	Ala	Lys	Asp	Leu 345	Ile	Arg	Lys	Met	Leu 350	Asn	Pro
Gln	Ala	Ser 355	Lys	Arg	Leu	Lys	Ala 360	His	Gln	Val	Leu	Cys 365	His	Pro	Trp
Ile	Cys 370	Glu	Asp	Gly	Val	Ala 375	Pro	Asp	Arg	Pro	Ile 380	Asp	Ser	Ala	Val
Gln 385	Ser	Arg	Leu	Lys	His 390	Phe	Ser	Ala	Met	Asn 395	Lys	Leu	Lys	Lys	Ile 400
Ala	Ile	Arg	Val	Ile 405	Ala	Glu	Ser	Leu	Ser 410	Glu	Glu	Glu	Ile	Ala 415	Gly
Leu	Lys	Glu	Met 420	Phe	Lys	Met	Met	Asp 425	Thr	Asp	Asn	Ser	Gly 430	Ser	Ile
Ser	Tyr	Asp 435	Glu	Leu	Lys	Ala	Gly 440	Leu	Lys	Lys	Val	Gly 445	Ser	Ile	Leu
Lys	Glu 450	Glu	Asp	Ile	Arg	Gln 455	Leu	Met	Asp	Ala	Ala 460	Asp	Val	Asp	Gly
Asn 465	Gly	Thr	Ile	Asp	Tyr 470	Gly	Glu	Phe	Leu	Ala 475	Ala	Thr	Leu	His	Leu 480
Asn	Lys	Ile	Glu	Arg 485	Asp	Glu	Asn	Met	Leu 490	Ala	Ala	Phe	Ser	Tyr 495	Leu
Asp	Lys	Asp	Asn 500	Ser	Gly	Tyr	Leu	Thr 505	Ile	Asp	Glu	Leu	Gln 510	His	Ala

20080423_F_59071_PCT_sequence_listing.txt

Leu Ala Gln Phe Asn Met Gly Asp Ile Ser Val Asp Glu Leu Leu His
515 520 525

Glu Val Asp Gln Asn Asn Asp Gly Gln Ile Asp Tyr Ala Glu Phe Val
530 535 540

Thr Met Met Arg Lys Gly Asn Pro Gly Ala Ala Gly Arg Ser Ser Phe
545 550 555 560

Arg Asn Ser Gln Ser Leu Ser Leu Asn Asp Val Leu Met Met Gly
565 570 575

<210> 251

<211> 253

<212> PRT

<213> Physcomitrella patens

<400> 251

Met Glu Arg Arg Thr Val Ala Ala His Pro Trp His Asp Leu Glu Ile
1 5 10 15

Gly Pro Gln Ala Pro Ala Ile Phe Asn Cys Val Ile Glu Ile Gly Lys
20 25 30

Gly Ser Lys Val Lys Tyr Glu Leu Asp Lys Lys Ser Gly Leu Ile Lys
35 40 45

Val Asp Arg Ile Leu Tyr Ser Ser Val Val Tyr Pro His Asn Tyr Gly
50 55 60

Phe Ile Pro Arg Thr Leu Cys Glu Asp Glu Asp Pro Ile Asp Val Leu
65 70 75 80

Val Ile Met Gln Glu Pro Val Leu Pro Gly Cys Phe Leu Arg Ala Arg
85 90 95

Ala Ile Gly Leu Met Pro Met Ile Asp Gln Gly Glu Lys Asp Asp Lys
100 105 110

Ile Ile Ala Val Cys Ala Asp Asp Pro Glu Tyr Gly Asp Phe Lys Asp
115 120 125

Ile Lys Glu Pro Pro Pro His Arg Leu Ala Glu Ile Arg Arg Phe Phe
130 135 140

Glu Asp Tyr Lys Lys Asn Glu Asn Lys Ser Val Ala Val Asp Glu Phe
145 150 155 160

Leu Gly His Glu Ala Ala Ile Ala Ala Ile Gly His Ser Met Asp Leu
165 170 175

Tyr Ala Ser Tyr Ile Val Glu Ser Leu Arg Gln Ser His Ala Pro Val
180 185 190

20080423_F_59071_PCT_sequence_listing.txt

Pro Asn Lys Thr Ile Ser Arg Thr Glu Ser Ser Lys Met Met Cys Gly
195 200 205

Ser Ser Leu Arg His Arg Leu Arg Ser Glu Arg Lys Ser Leu Leu Lys
210 215 220

Glu Glu Val Gln Glu Glu Pro Ile Ala Gly Gln Ile Ser Asp Ser Ser
225 230 235 240

Leu Gln Ser Met Ala Thr Glu Val Gln Asn Gly Ser Ser
245 250

<210> 252

<211> 462

<212> PRT

<213> Physcomitrella patens

<400> 252

Met Glu Ile Pro Leu Gly Arg Asp Gly Glu Gly Met Gln Ser Lys Gln
1 5 10 15

Cys Pro Arg Gly His Trp Arg Pro Ala Glu Asp Asp Lys Leu Arg Glu
20 25 30

Leu Val Ser Gln Phe Gly Pro Gln Asn Trp Asn Leu Ile Ala Glu Lys
35 40 45

Leu Gln Gly Arg Ser Gly Lys Ser Cys Arg Leu Arg Trp Phe Asn Gln
50 55 60

Leu Asp Pro Arg Ile Asn Arg His Pro Phe Ser Glu Glu Glu Glu Glu
65 70 75 80

Arg Leu Leu Ile Ala His Lys Arg Tyr Gly Asn Lys Trp Ala Leu Ile
85 90 95

Ala Arg Leu Phe Pro Gly Arg Thr Asp Asn Ala Val Lys Asn His Trp
100 105 110

His Val Val Thr Ala Arg Gln Ser Arg Glu Arg Thr Arg Thr Tyr Gly
115 120 125

Arg Ile Lys Gly Pro Val His Arg Arg Gly Lys Gly Asn Arg Ile Asn
130 135 140

Thr Ser Ala Leu Gly Asn Tyr His His Asp Ser Lys Gly Ala Leu Thr
145 150 155 160

Ala Trp Ile Glu Ser Lys Tyr Ala Thr Val Glu Gln Ser Ala Glu Gly
165 170 175

20080423_F_59071_PCT_sequence_listing.txt

Leu Ala Arg Ser Pro Cys Thr Gly Arg Gly Ser Pro Pro Leu Pro Thr
180 185 190

Gly Phe Ser Ile Pro Gln Ile Ser Gly Gly Ala Phe His Arg Pro Thr
195 200 205

Asn Met Ser Thr Ser Pro Leu Ser Asp Val Thr Ile Glu Ser Pro Lys
210 215 220

Phe Ser Asn Ser Glu Asn Ala Gln Ile Ile Thr Ala Pro Val Leu Gln
225 230 235 240

Lys Pro Met Gly Asp Pro Arg Ser Val Cys Leu Pro Asn Ser Thr Val
245 250 255

Ser Asp Lys Gln Gln Val Leu Gln Ser Asn Ser Ile Asp Gly Gln Ile
260 265 270

Ser Ser Gly Leu Gln Thr Ser Ala Ile Val Ala His Asp Glu Lys Ser
275 280 285

Gly Val Ile Ser Met Asn His Gln Ala Pro Asp Met Ser Cys Val Gly
290 295 300

Leu Lys Ser Asn Phe Gln Gly Ser Leu His Pro Gly Ala Val Arg Ser
305 310 315 320

Ser Trp Asn Gln Ser Leu Pro His Cys Phe Gly His Ser Asn Lys Leu
325 330 335

Val Glu Glu Cys Arg Ser Ser Thr Gly Ala Cys Thr Glu Arg Ser Glu
340 345 350

Ile Leu Gln Glu Gln His Ser Ser Leu Gln Phe Lys Cys Ser Thr Ala
355 360 365

Tyr Asn Thr Gly Arg Tyr Gln His Glu Asn Leu Cys Gly Pro Ala Phe
370 375 380

Ser Gln Gln Asp Thr Ala Asn Glu Val Ala Asn Phe Ser Thr Leu Ala
385 390 395 400

Phe Ser Gly Leu Val Lys His Arg Gln Glu Arg Leu Cys Lys Asp Ser
405 410 415

Gly Ser Ala Leu Lys Leu Gly Leu Ser Trp Val Thr Ser Asp Ser Thr
420 425 430

Leu Asp Leu Ser Val Ala Lys Met Ser Ala Ser Gln Pro Glu Gln Ser
435 440 445

Ala Pro Val Ala Phe Ile Asp Phe Leu Gly Val Gly Ala Ala
Seite 378

450

455

460

<210> 253
<211> 779
<212> PRT
<213> Medicago truncatula
<400> 253

Met Ala Ala Glu Ser Phe Gln Val Ala Thr Ser Ser Leu Cys Ser Leu
1 5 10 15

Asn Gly Ser His Arg Lys Pro Thr Leu Leu Ser Pro Leu Arg Phe Met
20 25 30

Gly Thr Cys Phe Arg Pro Val Gln Ser Arg Ser Phe Ser Ser Ser
35 40 45

Leu Ser Gln Phe Phe Arg Thr Ser Pro Ile Lys Pro Thr Ser Pro Gln
50 55 60

Leu Val Arg Thr Arg Arg Asn Phe Ser Val Phe Ala Met Ser Thr Pro
65 70 75 80

Asp Glu Ala Lys Arg Ala Val Pro Leu Lys Asp Tyr Arg Asn Ile Gly
85 90 95

Ile Met Ala His Ile Asp Ala Gly Lys Thr Thr Thr Thr Glu Arg Ile
100 105 110

Leu Phe Tyr Thr Gly Arg Asn Tyr Lys Ile Gly Glu Val His Glu Gly
115 120 125

Thr Ala Thr Met Asp Trp Met Glu Gln Glu Gln Glu Arg Gly Ile Thr
130 135 140

Ile Thr Ser Ala Ala Thr Thr Thr Phe Trp Asp Asn His Arg Ile Asn
145 150 155 160

Ile Ile Asp Thr Pro Gly His Val Asp Phe Thr Leu Glu Val Glu Arg
165 170 175

Ala Leu Arg Val Leu Asp Gly Ala Ile Cys Leu Phe Asp Ser Val Ala
180 185 190

Gly Val Glu Pro Gln Ser Glu Thr Val Trp Arg Gln Ala Asp Arg Tyr
195 200 205

Gly Val Pro Arg Ile Cys Phe Val Asn Lys Met Asp Arg Leu Gly Ala
210 215 220

Asn Phe Phe Arg Thr Arg Asp Met Ile Val Thr Asn Leu Gly Ala Lys
225 230 235 240

20080423_F_59071_PCT_sequence_listing.txt

Pro Leu Val Leu Gln Leu Pro Ile Gly Ala Glu Asp Ser Phe Lys Gly
245 250 255

Val Ile Asp Leu Val Arg Met Lys Ala Ile Val Trp Gly Gly Glu Glu
260 265 270

Leu Gly Ala Lys Phe Thr Tyr Glu Asp Ile Pro Val Asp Leu Leu Glu
275 280 285

Gln Ala Gln Asp Tyr Arg Ser Gln Met Ile Glu Thr Ile Val Glu Leu
290 295 300

Asp Asp Glu Ala Met Glu Asn Tyr Leu Glu Gly Val Glu Pro Asp Glu
305 310 315 320

Ala Thr Ile Lys Lys Leu Ile Arg Lys Gly Ser Ile Ala Ala Thr Phe
325 330 335

Val Pro Val Met Cys Gly Ser Ala Phe Lys Asn Lys Gly Val Gln Pro
340 345 350

Leu Leu Asp Ala Val Val Asp Tyr Leu Pro Ser Pro Leu Asp Val Pro
355 360 365

Pro Met Lys Gly Thr Asp Pro Glu Asn Pro Glu Ala Thr Ile Glu Arg
370 375 380

Ile Ala Gly Asp Asp Glu Pro Phe Ser Gly Leu Ala Phe Lys Ile Met
385 390 395 400

Ser Asp Ser Phe Val Gly Ser Leu Thr Phe Val Arg Val Tyr Ser Gly
405 410 415

Lys Leu Thr Ala Gly Ser Tyr Val Leu Asn Ser Asn Lys Gly Lys Lys
420 425 430

Glu Arg Ile Gly Arg Leu Leu Glu Met His Ala Asn Ser Arg Glu Asp
435 440 445

Val Lys Val Ala Leu Thr Gly Asp Ile Val Ala Leu Ala Gly Leu Lys
450 455 460

Asp Thr Ile Thr Gly Glu Thr Leu Cys Asp Pro Glu Ser Pro Val Val
465 470 475 480

Leu Glu Arg Met Asp Phe Pro Asp Pro Val Ile Lys Ile Ala Ile Glu
485 490 495

Pro Lys Thr Lys Ala Asp Ile Asp Lys Met Ala Ala Gly Leu Val Lys
500 505 510

20080423_F_59071_PCT_sequence_listing.txt

Leu Ala Gln Glu Asp Pro Ser Phe His Phe Ser Arg Asp Glu Glu Ile
515 520 525

Asn Gln Thr Val Ile Glu Gly Met Gly Glu Leu His Leu Glu Ile Ile
530 535 540

Val Asp Arg Leu Lys Arg Glu Tyr Lys Val Glu Ala Asn Val Gly Ala
545 550 555 560

Pro Gln Val Asn Tyr Arg Glu Ser Ile Ser Lys Ile His Glu Ala Arg
565 570 575

Tyr Val His Lys Lys Gln Ser Gly Gly Gln Gly Gln Phe Ala Asp Ile
580 585 590

Thr Val Arg Phe Glu Pro Met Glu Pro Gly Ser Gly Tyr Glu Phe Lys
595 600 605

Ser Glu Ile Lys Gly Gly Ala Val Pro Lys Glu Tyr Ile Pro Gly Val
610 615 620

Val Lys Gly Leu Glu Glu Cys Met Ser Asn Gly Val Leu Ala Gly Phe
625 630 635 640

Pro Val Val Asp Val Arg Ala Val Leu Val Asp Gly Ser Tyr His Asp
645 650 655

Val Asp Ser Ser Val Leu Ala Phe Gln Leu Ala Ala Arg Gly Ala Phe
660 665 670

Arg Glu Gly Ile Arg Lys Ala Gly Pro Arg Met Leu Glu Pro Ile Met
675 680 685

Lys Val Glu Val Val Thr Pro Glu Glu His Leu Gly Asp Val Ile Gly
690 695 700

Asp Leu Asn Ser Arg Arg Gly Gln Ile Asn Ser Phe Gly Asp Lys Pro
705 710 715 720

Gly Gly Leu Lys Val Val Asp Ser Leu Val Pro Leu Ala Glu Met Phe
725 730 735

Gln Tyr Val Ser Thr Leu Arg Gly Met Thr Lys Gly Arg Ala Ser Tyr
740 745 750

Ser Met Gln Leu Ala Met Phe Asp Val Val Pro Gln His Ile Gln Asn
755 760 765

Gln Leu Ala Thr Lys Val Gln Glu Val Ser Ala
770 775

20080423_F_59071_PCT_sequence_listing.txt

<211> 796

<212> PRT

<213> Escherichia coli

<400> 254

Met Ala Ile Asn Asn Thr Gly Ser Arg Arg Leu Leu Val Thr Leu Thr
1 5 10 15

Ala Leu Phe Ala Ala Leu Cys Gly Leu Tyr Leu Leu Ile Gly Gly Gly
20 25 30

Trp Leu Val Ala Ile Gly Gly Ser Trp Tyr Tyr Pro Ile Ala Gly Leu
35 40 45

Val Met Leu Gly Val Ala Trp Met Leu Trp Arg Ser Lys Arg Ala Ala
50 55 60

Leu Trp Leu Tyr Ala Ala Leu Leu Leu Gly Thr Met Ile Trp Gly Val
65 70 75 80

Trp Glu Val Gly Phe Asp Phe Trp Ala Leu Thr Pro Arg Ser Asp Ile
85 90 95

Leu Val Phe Phe Gly Ile Trp Leu Ile Leu Pro Phe Val Trp Arg Arg
100 105 110

Leu Val Ile Pro Ala Ser Gly Ala Val Ala Ala Leu Val Val Ala Leu
115 120 125

Leu Ile Ser Gly Gly Ile Leu Thr Trp Ala Gly Phe Asn Asp Pro Gln
130 135 140

Glu Ile Asn Gly Thr Leu Ser Ala Asp Ala Thr Pro Ala Glu Ala Ile
145 150 155 160

Ser Pro Val Ala Asp Gln Asp Trp Pro Ala Tyr Gly Arg Asn Gln Glu
165 170 175

Gly Gln Arg Phe Ser Pro Leu Lys Gln Ile Asn Ala Asp Asn Val His
180 185 190

Asn Leu Lys Glu Ala Trp Val Phe Arg Thr Gly Asp Val Lys Gln Pro
195 200 205

Asn Asp Pro Gly Glu Ile Thr Asn Glu Val Thr Pro Ile Lys Val Gly
210 215 220

Asp Thr Leu Tyr Leu Cys Thr Ala His Gln Arg Leu Phe Ala Leu Asp
225 230 235 240

Ala Ala Ser Gly Lys Glu Lys Trp His Tyr Asp Pro Glu Leu Lys Thr
245 250 255

20080423_F_59071_PCT_sequence_listing.txt

Asn Glu Ser Phe Gln His Val Thr Cys Arg Gly Val Ser Tyr His Glu
 260 265 270
 Ala Lys Ala Glu Thr Ala Ser Pro Glu Val Met Ala Asp Cys Pro Arg
 275 280 285
 Arg Ile Ile Leu Pro Val Asn Asp Gly Arg Leu Ile Ala Ile Asn Ala
 290 295 300
 Glu Asn Gly Lys Leu Cys Glu Thr Phe Ala Asn Lys Gly Val Leu Asn
 305 310 315 320
 Leu Gln Ser Asn Met Pro Asp Thr Lys Pro Gly Leu Tyr Glu Pro Thr
 325 330 335
 Ser Pro Pro Ile Ile Thr Asp Lys Thr Ile Val Met Ala Gly Ser Val
 340 345 350
 Thr Asp Asn Phe Ser Thr Arg Glu Thr Ser Gly Val Ile Arg Gly Phe
 355 360 365
 Asp Val Asn Thr Gly Glu Leu Leu Trp Ala Phe Asp Pro Gly Ala Lys
 370 375 380
 Asp Pro Asn Ala Ile Pro Ser Asp Glu His Thr Phe Thr Phe Asn Ser
 385 390 395 400
 Pro Asn Ser Trp Ala Pro Ala Ala Tyr Asp Ala Lys Leu Asp Leu Val
 405 410 415
 Tyr Leu Pro Met Gly Val Thr Thr Pro Asp Ile Trp Gly Gly Asn Arg
 420 425 430
 Thr Pro Glu Gln Glu Arg Tyr Ala Ser Ser Ile Leu Ala Leu Asn Ala
 435 440 445
 Thr Thr Gly Lys Leu Ala Trp Ser Tyr Gln Thr Val His His Asp Leu
 450 455 460
 Trp Asp Met Asp Leu Pro Ala Gln Pro Thr Leu Ala Asp Ile Thr Val
 465 470 475 480
 Asn Gly Gln Lys Val Pro Val Ile Tyr Ala Pro Ala Lys Thr Gly Asn
 485 490 495
 Ile Phe Val Leu Asp Arg Arg Asn Gly Glu Leu Val Val Pro Ala Pro
 500 505 510
 Glu Lys Pro Val Pro Gln Gly Ala Ala Lys Gly Asp Tyr Val Thr Pro
 515 520 525

20080423_F_59071_PCT_sequence_listing.txt

Thr Gln Pro Phe Ser Glu Leu Ser Phe Arg Pro Thr Lys Asp Leu Ser
530 535 540

Gly Ala Asp Met Trp Gly Ala Thr Met Phe Asp Gln Leu Val Cys Arg
545 550 555 560

Val Met Phe His Gln Met Arg Tyr Glu Gly Ile Phe Thr Pro Pro Ser
565 570 575

Glu Gln Gly Thr Leu Val Phe Pro Gly Asn Leu Gly Met Phe Glu Trp
580 585 590

Gly Gly Ile Ser Val Asp Pro Asn Arg Glu Val Ala Ile Ala Asn Pro
595 600 605

Met Ala Leu Pro Phe Val Ser Lys Leu Ile Pro Arg Gly Pro Gly Asn
610 615 620

Pro Met Glu Gln Pro Lys Asp Ala Lys Gly Thr Gly Thr Glu Ser Gly
625 630 635 640

Ile Gln Pro Gln Tyr Gly Val Pro Tyr Gly Val Thr Leu Asn Pro Phe
645 650 655

Leu Ser Pro Phe Gly Leu Pro Cys Lys Gln Pro Ala Trp Gly Tyr Ile
660 665 670

Ser Ala Leu Asp Leu Lys Thr Asn Glu Val Val Trp Lys Lys Arg Ile
675 680 685

Gly Thr Pro Gln Asp Ser Met Pro Phe Pro Met Pro Val Pro Val Pro
690 695 700

Phe Asn Met Gly Met Pro Met Leu Gly Gly Pro Ile Ser Thr Ala Gly
705 710 715 720

Asn Val Leu Phe Ile Ala Ala Thr Ala Asp Asn Tyr Leu Arg Ala Tyr
725 730 735

Asn Met Ser Asn Gly Glu Lys Leu Trp Gln Gly Arg Leu Pro Ala Gly
740 745 750

Gly Gln Ala Thr Pro Met Thr Tyr Glu Val Asn Gly Lys Gln Tyr Val
755 760 765

Val Ile Ser Ala Gly Gly His Gly Ser Phe Gly Thr Lys Met Gly Asp
770 775 780

Tyr Ile Val Ala Tyr Ala Leu Pro Asp Asp Val Lys
785 790 795

<210> 255

20080423_F_59071_PCT_sequence_listing.txt

<211> 443

<212> PRT

<213> Escherichia coli

<400> 255

Met Ser Thr Ser Asp Ser Ile Val Ser Ser Gln Thr Lys Gln Ser Ser
1 5 10 15

Trp Arg Lys Ser Asp Thr Thr Trp Thr Leu Gly Leu Phe Gly Thr Ala
20 25 30

Ile Gly Ala Gly Val Leu Phe Phe Pro Ile Arg Ala Gly Phe Gly Gly
35 40 45

Leu Ile Pro Ile Leu Leu Met Leu Val Leu Ala Tyr Pro Ile Ala Phe
50 55 60

Tyr Cys His Arg Ala Leu Ala Arg Leu Cys Leu Ser Gly Ser Asn Pro
65 70 75 80

Ser Gly Asn Ile Thr Glu Thr Val Glu Glu His Phe Gly Lys Thr Gly
85 90 95

Gly Val Val Ile Thr Phe Leu Tyr Phe Phe Ala Ile Cys Pro Leu Leu
100 105 110

Trp Ile Tyr Gly Val Thr Ile Thr Asn Thr Phe Met Thr Phe Trp Glu
115 120 125

Asn Gln Leu Gly Phe Ala Pro Leu Asn Arg Gly Phe Val Ala Leu Phe
130 135 140

Leu Leu Leu Leu Met Ala Phe Val Ile Trp Phe Gly Lys Asp Leu Met
145 150 155 160

Val Lys Val Met Ser Tyr Leu Val Trp Pro Phe Ile Ala Ser Leu Val
165 170 175

Leu Ile Ser Leu Ser Leu Ile Pro Tyr Trp Asn Ser Ala Val Ile Asp
180 185 190

Gln Val Asp Leu Gly Ser Leu Ser Leu Thr Gly His Asp Gly Ile Leu
195 200 205

Ile Thr Val Trp Leu Gly Ile Ser Ile Met Val Phe Ser Phe Asn Phe
210 215 220

Ser Pro Ile Val Ser Ser Phe Val Val Ser Lys Arg Glu Glu Tyr Glu
225 230 235 240

Lys Asp Phe Gly Arg Asp Phe Thr Glu Arg Lys Cys Ser Gln Ile Ile
245 250 255

20080423_F_59071_PCT_sequence_listing.txt

Ser Arg Ala Ser Met Leu Met Val Ala Val Val Met Phe Phe Ala Phe
260 265 270

Ser Cys Leu Phe Thr Leu Ser Pro Ala Asn Met Ala Glu Ala Lys Ala
275 280 285

Gln Asn Ile Pro Val Leu Ser Tyr Leu Ala Asn His Phe Ala Ser Met
290 295 300

Thr Gly Thr Lys Thr Thr Phe Ala Ile Thr Leu Glu Tyr Ala Ala Ser
305 310 315 320

Ile Ile Ala Leu Val Ala Ile Phe Lys Ser Phe Phe Gly His Tyr Leu
325 330 335

Gly Thr Leu Glu Gly Leu Asn Gly Leu Val Leu Lys Phe Gly Tyr Lys
340 345 350

Gly Asp Lys Thr Lys Val Ser Leu Gly Lys Leu Asn Thr Ile Ser Met
355 360 365

Ile Phe Ile Met Gly Ser Thr Trp Val Val Ala Tyr Ala Asn Pro Asn
370 375 380

Ile Leu Asp Leu Ile Glu Ala Met Gly Ala Pro Ile Ile Ala Ser Leu
385 390 395 400

Leu Cys Leu Leu Pro Met Tyr Ala Ile Arg Lys Ala Pro Ser Leu Ala
405 410 415

Lys Tyr Arg Gly Arg Leu Asp Asn Val Phe Val Thr Val Ile Gly Leu
420 425 430

Leu Thr Ile Leu Asn Ile Val Tyr Lys Leu Phe
435 440

<210> 256
<211> 336
<212> PRT
<213> Escherichia coli

<400> 256

Met Ser Ala Leu Asn Lys Lys Ser Phe Leu Thr Tyr Leu Lys Glu Gly
1 5 10 15

Gly Ile Tyr Val Val Leu Leu Val Leu Leu Ala Ile Ile Ile Phe Gln
20 25 30

Asp Pro Thr Phe Leu Ser Leu Leu Asn Leu Ser Asn Ile Leu Thr Gln
35 40 45

Ser Ser Val Arg Ile Ile Ile Ala Leu Gly Val Ala Gly Leu Ile Val
Seite 386

20080423_F_59071_PCT_sequence_listing.txt

50

55

60

Thr Gln Gly Thr Asp Leu Ser Ala Gly Arg Gln Val Gly Leu Ala Ala
65 70 75 80

Val Val Ala Ala Thr Leu Leu Gln Ser Met Asp Asn Ala Asn Lys Val
85 90 95

Phe Pro Glu Met Ala Thr Met Pro Ile Ala Leu Val Ile Leu Ile Val
100 105 110

Cys Ala Ile Gly Ala Val Ile Gly Leu Ile Asn Gly Leu Ile Ile Ala
115 120 125

Tyr Leu Asn Val Thr Pro Phe Ile Thr Thr Leu Gly Thr Met Ile Ile
130 135 140

Val Tyr Gly Ile Asn Ser Leu Tyr Tyr Asp Phe Val Gly Ala Ser Pro
145 150 155 160

Ile Ser Gly Phe Asp Ser Gly Phe Ser Thr Phe Ala Gln Gly Phe Val
165 170 175

Ala Leu Gly Ser Phe Arg Leu Ser Tyr Ile Thr Phe Tyr Ala Leu Ile
180 185 190

Ala Val Ala Phe Val Trp Val Leu Trp Asn Lys Thr Arg Phe Gly Lys
195 200 205

Asn Ile Phe Ala Ile Gly Gly Asn Pro Glu Ala Ala Lys Val Ser Gly
210 215 220

Val Asn Val Gly Leu Asn Leu Leu Met Ile Tyr Ala Leu Ser Gly Val
225 230 235 240

Phe Tyr Ala Phe Gly Gly Met Leu Glu Ala Gly Arg Ile Gly Ser Ala
245 250 255

Thr Asn Asn Leu Gly Phe Met Tyr Glu Leu Asp Ala Ile Ala Ala Cys
260 265 270

Val Val Gly Gly Val Ser Phe Ser Gly Gly Val Gly Thr Val Ile Gly
275 280 285

Val Val Thr Gly Val Ile Ile Phe Thr Val Ile Asn Tyr Gly Leu Thr
290 295 300

Tyr Ile Gly Val Asn Pro Tyr Trp Gln Tyr Ile Ile Lys Gly Ala Ile
305 310 315 320

Ile Ile Phe Ala Val Ala Leu Asp Ser Leu Lys Tyr Ala Arg Lys Lys
325 330 335

20080423_F_59071_PCT_sequence_listing.txt

<210> 257
 <211> 383
 <212> PRT
 <213> Escherichia coli

<400> 257

Met Met Ala Asn Arg Met Ile Leu Asn Glu Thr Ala Trp Phe Gly Arg
 1 5 10 15

Gly Ala Val Gly Ala Leu Thr Asp Glu Val Lys Arg Arg Gly Tyr Gln
 20 25 30

Lys Ala Leu Ile Val Thr Asp Lys Thr Leu Val Gln Cys Gly Val Val
 35 40 45

Ala Lys Val Thr Asp Lys Met Asp Ala Ala Gly Leu Ala Trp Ala Ile
 50 55 60

Tyr Asp Gly Val Val Pro Asn Pro Thr Ile Thr Val Val Lys Glu Gly
 65 70 75 80

Leu Gly Val Phe Gln Asn Ser Gly Ala Asp Tyr Leu Ile Ala Ile Gly
 85 90 95

Gly Gly Ser Pro Gln Asp Thr Cys Lys Ala Ile Gly Ile Ile Ser Asn
 100 105 110

Asn Pro Glu Phe Ala Asp Val Arg Ser Leu Glu Gly Leu Ser Pro Thr
 115 120 125

Asn Lys Pro Ser Val Pro Ile Leu Ala Ile Pro Thr Thr Ala Gly Thr
 130 135 140

Ala Ala Glu Val Thr Ile Asn Tyr Val Ile Thr Asp Glu Glu Lys Arg
 145 150 155 160

Arg Lys Phe Val Cys Val Asp Pro His Asp Ile Pro Gln Val Ala Phe
 165 170 175

Ile Asp Ala Asp Met Met Asp Gly Met Pro Pro Ala Leu Lys Ala Ala
 180 185 190

Thr Gly Val Asp Ala Leu Thr His Ala Ile Glu Gly Tyr Ile Thr Arg
 195 200 205

Gly Ala Trp Ala Leu Thr Asp Ala Leu His Ile Lys Ala Ile Glu Ile
 210 215 220

Ile Ala Gly Ala Leu Arg Gly Ser Val Ala Gly Asp Lys Asp Ala Gly
 225 230 235 240

20080423_F_59071_PCT_sequence_listing.txt

Glu Glu Met Ala Leu Gly Gln Tyr Val Ala Gly Met Gly Phe Ser Asn
245 250 255

Val Gly Leu Gly Leu Val His Gly Met Ala His Pro Leu Gly Ala Phe
260 265 270

Tyr Asn Thr Pro His Gly Val Ala Asn Ala Ile Leu Leu Pro His Val
275 280 285

Met Arg Tyr Asn Ala Asp Phe Thr Gly Glu Lys Tyr Arg Asp Ile Ala
290 295 300

Arg Val Met Gly Val Lys Val Glu Gly Met Ser Leu Glu Glu Ala Arg
305 310 315 320

Asn Ala Ala Val Glu Ala Val Phe Ala Leu Asn Arg Asp Val Gly Ile
325 330 335

Pro Pro His Leu Arg Asp Val Gly Val Arg Lys Glu Asp Ile Pro Ala
340 345 350

Leu Ala Gln Ala Ala Leu Asp Asp Val Cys Thr Gly Gly Asn Pro Arg
355 360 365

Glu Ala Thr Leu Glu Asp Ile Val Glu Leu Tyr His Thr Ala Trp
370 375 380

<210> 258

<211> 72

<212> PRT

<213> Escherichia coli

<400> 258

Met Phe His Cys Pro Leu Cys Gln His Ala Ala His Ala Arg Thr Ser
1 5 10 15

Arg Tyr Ile Thr Asp Thr Thr Lys Glu Arg Tyr His Gln Cys Gln Asn
20 25 30

Val Asn Cys Ser Ala Thr Phe Ile Thr Tyr Glu Ser Val Gln Arg Tyr
35 40 45

Ile Val Lys Pro Gly Glu Val His Val Val Arg Pro His Pro Leu Pro
50 55 60

Ser Gly Gln Gln Ile Met Trp Met
65 70

<210> 259

<211> 226

<212> PRT

<213> Escherichia coli

<400> 259

20080423_F_59071_PCT_sequence_listing.txt

Met Ile Arg Ser His Thr Met Thr Ile Thr Ser Leu Asp Gly Tyr Arg
1 5 10 15

Trp Leu Lys Asn Asp Ile Ile Arg Gly Asn Phe Gln Pro Asp Glu Lys
20 25 30

Leu Arg Met Ser Leu Leu Thr Ser Arg Tyr Ala Leu Gly Val Gly Pro
35 40 45

Leu Arg Glu Ala Leu Ser Gln Leu Val Ala Glu Arg Leu Val Thr Val
50 55 60

Val Asn Gln Lys Gly Tyr Arg Val Ala Ser Met Ser Glu Gln Glu Leu
65 70 75 80

Leu Asp Ile Phe Asp Ala Arg Ala Asn Met Glu Ala Met Leu Val Ser
85 90 95

Leu Ala Ile Ala Arg Gly Gly Asp Glu Trp Glu Ala Asp Val Leu Ala
100 105 110

Lys Ala His Leu Leu Ser Lys Leu Glu Ala Cys Asp Ala Ser Glu Lys
115 120 125

Met Leu Asp Glu Trp Asp Leu Arg His Gln Ala Phe His Thr Ala Ile
130 135 140

Val Ala Gly Cys Gly Ser His Tyr Leu Leu Gln Met Arg Glu Arg Leu
145 150 155 160

Phe Asp Leu Ala Ala Arg Tyr Arg Phe Ile Trp Leu Arg Arg Thr Val
165 170 175

Leu Ser Val Glu Met Leu Glu Asp Lys His Asp Gln His Gln Thr Leu
180 185 190

Thr Ala Ala Val Leu Ala Arg Asp Thr Ala Arg Ala Ser Glu Leu Met
195 200 205

Arg Gln His Leu Leu Thr Pro Ile Pro Ile Ile Gln Gln Ala Met Ala
210 215 220

Gly Asn
225

<210> 260

<211> 682

<212> PRT

<213> Escherichia coli

<400> 260

Met Asn Met Phe Phe Arg Leu Thr Ala Leu Ala Gly Leu Leu Ala Ile
Seite 390

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1           5           10           15
Ala Gly Gln Thr Phe Ala Val Glu Asp Ile Thr Arg Ala Asp Gln Ile
      20      25      30
Pro Val Leu Lys Glu Glu Thr Gln His Ala Thr Val Ser Glu Arg Val
      35      40      45
Thr Ser Arg Phe Thr Arg Ser His Tyr Arg Gln Phe Asp Leu Asp Gln
      50      55      60
Ala Phe Ser Ala Lys Ile Phe Asp Arg Tyr Leu Asn Leu Leu Asp Tyr
      65      70      75      80
Ser His Asn Val Leu Leu Ala Ser Asp Val Glu Gln Phe Ala Lys Lys
      85      90      95
Lys Thr Glu Leu Gly Asp Glu Leu Arg Ser Gly Lys Leu Asp Val Phe
      100      105      110
Tyr Asp Leu Tyr Asn Leu Ala Gln Lys Arg Arg Phe Glu Arg Tyr Gln
      115      120      125
Tyr Ala Leu Ser Val Leu Glu Lys Pro Met Asp Phe Thr Gly Asn Asp
      130      135      140
Thr Tyr Asn Leu Asp Arg Ser Lys Ala Pro Trp Pro Lys Asn Glu Ala
      145      150      155      160
Glu Leu Asn Ala Leu Trp Asp Ser Lys Val Lys Phe Asp Glu Leu Ser
      165      170      175
Leu Lys Leu Thr Gly Lys Thr Asp Lys Glu Ile Arg Glu Thr Leu Thr
      180      185      190
Arg Arg Tyr Lys Phe Ala Ile Arg Arg Leu Ala Gln Thr Asn Ser Glu
      195      200      205
Asp Val Phe Ser Leu Ala Met Thr Ala Phe Ala Arg Glu Ile Asp Pro
      210      215      220
His Thr Asn Tyr Leu Ser Pro Arg Asn Thr Glu Gln Phe Asn Thr Glu
      225      230      235      240
Met Ser Leu Ser Leu Glu Gly Ile Gly Ala Val Leu Gln Met Asp Asp
      245      250      255
Asp Tyr Thr Val Ile Asn Ser Met Val Ala Gly Gly Pro Ala Ala Lys
      260      265      270
Ser Lys Ala Ile Ser Val Gly Asp Lys Ile Val Gly Val Gly Gln Thr
      275      280      285

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20080423_F_59071_PCT_sequence_listing.txt

Gly Lys Pro Met Val Asp Val Ile Gly Trp Arg Leu Asp Asp Val Val
290 295 300

Ala Leu Ile Lys Gly Pro Lys Gly Ser Lys Val Arg Leu Glu Ile Leu
305 310 315 320

Pro Ala Gly Lys Gly Thr Lys Thr Arg Thr Val Thr Leu Thr Arg Glu
325 330 335

Arg Ile Arg Leu Glu Asp Arg Ala Val Lys Met Ser Val Lys Thr Val
340 345 350

Gly Lys Glu Lys Val Gly Val Leu Asp Ile Pro Gly Phe Tyr Val Gly
355 360 365

Leu Thr Asp Asp Val Lys Val Gln Leu Gln Lys Leu Glu Lys Gln Asn
370 375 380

Val Ser Ser Val Ile Ile Asp Leu Arg Ser Asn Gly Gly Gly Ala Leu
385 390 395 400

Thr Glu Ala Val Ser Leu Ser Gly Leu Phe Ile Pro Ala Gly Pro Ile
405 410 415

Val Gln Val Arg Asp Asn Asn Gly Lys Val Arg Glu Asp Ser Asp Thr
420 425 430

Asp Gly Gln Val Phe Tyr Lys Gly Pro Leu Val Val Leu Val Asp Arg
435 440 445

Phe Ser Ala Ser Ala Ser Glu Ile Phe Ala Ala Ala Met Gln Asp Tyr
450 455 460

Gly Arg Ala Leu Val Val Gly Glu Pro Thr Phe Gly Lys Gly Thr Val
465 470 475 480

Gln Gln Tyr Arg Ser Leu Asn Arg Ile Tyr Asp Gln Met Leu Arg Pro
485 490 495

Glu Trp Pro Ala Leu Gly Ser Val Gln Tyr Thr Ile Gln Lys Phe Tyr
500 505 510

Arg Val Asn Gly Gly Ser Thr Gln Arg Lys Gly Val Thr Pro Asp Ile
515 520 525

Ile Met Pro Thr Gly Asn Glu Glu Thr Glu Thr Gly Glu Lys Phe Glu
530 535 540

Asp Asn Ala Leu Pro Trp Asp Ser Ile Asp Ala Ala Thr Tyr Val Lys
545 550 555 560

20080423_F_59071_PCT_sequence_listing.txt

Ser Gly Asp Leu Thr Ala Phe Glu Pro Glu Leu Leu Lys Glu His Asn
565 570 575

Ala Arg Ile Ala Lys Asp Pro Glu Phe Gln Asn Ile Met Lys Asp Ile
580 585 590

Ala Arg Phe Asn Ala Met Lys Asp Lys Arg Asn Ile Val Ser Leu Asn
595 600 605

Tyr Ala Val Arg Glu Lys Glu Asn Asn Glu Asp Asp Ala Thr Arg Leu
610 615 620

Ala Arg Leu Asn Glu Arg Phe Lys Arg Glu Gly Lys Pro Glu Leu Lys
625 630 635 640

Lys Leu Asp Asp Leu Pro Lys Asp Tyr Gln Glu Pro Asp Pro Tyr Leu
645 650 655

Asp Glu Thr Val Asn Ile Ala Leu Asp Leu Ala Lys Leu Glu Lys Ala
660 665 670

Arg Pro Ala Glu Gln Pro Ala Pro Val Lys
675 680

<210> 261
<211> 240
<212> PRT
<213> Escherichia coli

<400> 261

Met Gly His Lys Pro Leu Tyr Arg Gln Ile Ala Asp Arg Ile Arg Glu
1 5 10 15

Gln Ile Ala Arg Gly Glu Leu Lys Pro Gly Asp Ala Leu Pro Thr Glu
20 25 30

Ser Ala Leu Gln Thr Glu Phe Gly Val Ser Arg Val Thr Val Arg Gln
35 40 45

Ala Leu Arg Gln Leu Val Glu Gln Gln Ile Leu Glu Ser Ile Gln Gly
50 55 60

Ser Gly Thr Tyr Val Lys Glu Glu Arg Val Asn Tyr Asp Ile Phe Gln
65 70 75 80

Leu Thr Ser Phe Asp Glu Lys Leu Ser Asp Arg His Val Asp Thr His
85 90 95

Ser Glu Val Leu Ile Phe Glu Val Ile Pro Ala Asp Asp Phe Leu Gln
100 105 110

Gln Gln Leu Gln Ile Thr Pro Gln Asp Arg Val Trp His Val Lys Arg
Seite 393

115

120

125

Val Arg Tyr Arg Lys Gln Lys Pro Met Ala Leu Glu Glu Thr Trp Met
 130 135 140

Pro Leu Ala Leu Phe Pro Asp Leu Thr Trp Gln Val Met Glu Asn Ser
 145 150 155 160

Lys Tyr His Phe Ile Glu Glu Val Lys Lys Met Val Ile Asp Arg Ser
 165 170 175

Glu Gln Glu Ile Ile Pro Leu Met Pro Thr Glu Glu Met Ser Arg Leu
 180 185 190

Leu Asn Ile Ser Gln Thr Lys Pro Ile Leu Glu Lys Val Ser Arg Gly
 195 200 205

Tyr Leu Val Asp Gly Arg Val Phe Glu Tyr Ser Arg Asn Ala Phe Asn
 210 215 220

Thr Asp Asp Tyr Lys Phe Thr Leu Ile Ala Gln Arg Lys Ser Ser Arg
 225 230 235 240

<210> 262

<211> 478

<212> PRT

<213> Brassica napus

<400> 262

Met Ala Asn Thr Thr Ser Leu Val Ser Asp Phe Leu Ser Phe Leu Asn
 1 5 10 15

Ala Ser Pro Thr Ala Phe His Ala Val Asp Glu Ser Lys Arg Arg Leu
 20 25 30

Arg His Ala Gly Tyr Glu Gln Ile Ser Glu Arg Asp Asp Trp Lys Leu
 35 40 45

Glu Ala Gly Lys Lys Tyr Phe Phe Thr Arg Asn Tyr Ser Thr Ile Val
 50 55 60

Ala Phe Ala Val Gly Lys Lys Tyr Glu Ala Gly Asn Gly Phe His Ile
 65 70 75 80

Ile Gly Ala His Thr Asp Ser Pro Cys Leu Lys Leu Lys Pro Val Ser
 85 90 95

Lys Val Thr Lys Gly Gly Cys Leu Glu Val Gly Val Gln Thr Tyr Gly
 100 105 110

Gly Gly Leu Trp Tyr Thr Trp Phe Asp Arg Asp Leu Thr Val Ala Gly
 115 120 125

20080423_F_59071_PCT_sequence_listing.txt

Arg Val Ile Val Lys Glu Asp Lys Ala Gly Ser Val Ser Tyr Ser His
130 135 140

Arg Leu Val Arg Ile Glu Asp Pro Ile Met Arg Ile Pro Thr Leu Ala
145 150 155 160

Ile His Leu Asp Arg Asn Val Asn Ser Glu Gly Phe Lys Pro Asn Thr
165 170 175

Gln Thr His Leu Val Pro Ile Leu Ala Thr Ala Ile Lys Ala Glu Leu
180 185 190

Asn Lys Val Pro Ala Glu Gly Gly Glu Glu Asp Gly Glu Lys Lys Cys
195 200 205

Thr Glu Ser Ser Ser Lys Ser Lys His His Pro Leu Leu Met Glu Ile
210 215 220

Ile Ala Asn Ala Leu Gly Cys Asn Pro Asp Glu Ile Cys Glu Phe Glu
225 230 235 240

Leu Gln Val Cys Asp Thr Gln Pro Ser Ile Leu Gly Gly Ala Ala Lys
245 250 255

Glu Phe Ile Phe Ser Gly Arg Leu Asp Asn Leu Cys Met Ser Phe Cys
260 265 270

Ser Leu Lys Ala Leu Ile Asp Ala Thr Ser Ser Gly Ser Asp Leu Glu
275 280 285

Glu Glu Ser Gly Val Arg Met Val Ala Leu Phe Asp His Glu Glu Val
290 295 300

Gly Ser Asn Ser Ala Gln Gly Ala Gly Ser Pro Val Met Ile Asp Ala
305 310 315 320

Met Ser His Ile Thr Ser Cys Phe Ser Ser Asp Ala Lys Val Leu Lys
325 330 335

Lys Ala Ile Gln Lys Ser Leu Leu Val Ser Ala Asp Met Ala His Ala
340 345 350

Leu His Pro Asn Phe Met Asp Lys His Glu Glu Asn His Gln Pro Lys
355 360 365

Met His Gly Gly Leu Val Ile Lys His Asn Ala Asn Gln Arg Tyr Ala
370 375 380

Thr Asn Ala Val Thr Ser Phe Val Phe Arg Glu Ile Ala Glu Lys His
385 390 395 400

20080423_F_59071_PCT_sequence_listing.txt

Asn Leu Pro Val Gln Asp Phe Val Val Arg Asn Asp Met Gly Cys Gly
405 410 415

Ser Thr Ile Gly Pro Ile Leu Ala Ser Ser Val Gly Ile Arg Thr Val
420 425 430

Asp Val Gly Ala Pro Gln Leu Ser Met His Ser Ile Arg Glu Met Cys
435 440 445

Ala Ala Asp Asp Val Lys His Ser Tyr Glu His Phe Lys Ala Phe Phe
450 455 460

Gln Glu Phe Thr His Leu Asp Ala Lys Leu Thr Val Asp Val
465 470 475

<210> 263
<211> 514
<212> PRT
<213> Saccharomyces cerevisiae

<400> 263

Met Glu Glu Gln Arg Glu Ile Leu Glu Gln Leu Lys Lys Thr Leu Gln
1 5 10 15

Met Leu Thr Val Glu Pro Ser Lys Asn Asn Gln Ile Ala Asn Glu Glu
20 25 30

Lys Glu Lys Lys Glu Asn Glu Asn Ser Trp Cys Ile Leu Glu His Asn
35 40 45

Tyr Glu Asp Ile Ala Gln Glu Phe Ile Asp Phe Ile Tyr Lys Asn Pro
50 55 60

Thr Thr Tyr His Val Val Ser Phe Phe Ala Glu Leu Leu Asp Lys His
65 70 75 80

Asn Phe Lys Tyr Leu Ser Glu Lys Ser Asn Trp Gln Asp Ser Ile Gly
85 90 95

Glu Asp Gly Gly Lys Phe Tyr Thr Ile Arg Asn Gly Thr Asn Leu Ser
100 105 110

Ala Phe Ile Leu Gly Lys Asn Trp Arg Ala Glu Lys Gly Val Gly Val
115 120 125

Ile Gly Ser His Val Asp Ala Leu Thr Val Lys Leu Lys Pro Val Ser
130 135 140

Phe Lys Asp Thr Ala Glu Gly Tyr Gly Arg Ile Ala Val Ala Pro Tyr
145 150 155 160

Gly Gly Thr Leu Asn Glu Leu Trp Leu Asp Arg Asp Leu Gly Ile Gly
165 170 175

20080423_F_59071_PCT_sequence_listing.txt

Gly Arg Leu Leu Tyr Lys Lys Lys Gly Thr Asn Glu Ile Lys Ser Ala
180 185 190

Leu Val Asp Ser Thr Pro Leu Pro Val Cys Arg Ile Pro Ser Leu Ala
195 200 205

Pro His Phe Gly Lys Pro Ala Glu Gly Pro Phe Asp Lys Glu Asp Gln
210 215 220

Thr Ile Pro Val Ile Gly Phe Pro Thr Pro Asp Glu Glu Gly Asn Glu
225 230 235 240

Pro Pro Thr Asp Asp Glu Lys Lys Ser Pro Leu Phe Gly Lys His Cys
245 250 255

Ile His Leu Leu Arg Tyr Val Ala Lys Leu Ala Gly Val Glu Val Ser
260 265 270

Glu Leu Ile Gln Met Asp Leu Asp Leu Phe Asp Val Gln Lys Gly Thr
275 280 285

Ile Gly Gly Ile Gly Lys His Phe Leu Phe Ala Pro Arg Leu Asp Asp
290 295 300

Arg Leu Cys Ser Phe Ala Ala Met Ile Ala Leu Ile Cys Tyr Ala Lys
305 310 315 320

Asp Val Asn Thr Glu Glu Ser Asp Leu Phe Ser Thr Val Thr Leu Tyr
325 330 335

Asp Asn Glu Glu Ile Gly Ser Leu Thr Arg Gln Gly Ala Lys Gly Gly
340 345 350

Leu Leu Glu Ser Val Val Glu Arg Ser Ser Ser Ala Phe Thr Lys Lys
355 360 365

Pro Val Asp Leu His Thr Val Trp Ala Asn Ser Ile Ile Leu Ser Ala
370 375 380

Asp Val Asn His Leu Tyr Asn Pro Asn Phe Pro Glu Val Tyr Leu Lys
385 390 395 400

Asn His Phe Pro Val Pro Asn Val Gly Ile Thr Leu Ser Leu Asp Pro
405 410 415

Asn Gly His Met Ala Thr Asp Val Val Gly Thr Ala Leu Val Glu Glu
420 425 430

Leu Ala Arg Arg Asn Gly Asp Lys Val Gln Tyr Phe Gln Ile Lys Asn
435 440 445

20080423_F_59071_PCT_sequence_listing.txt

Asn Ser Arg Ser Gly Gly Thr Ile Gly Pro Ser Leu Ala Ser Gln Thr
450 455 460

Gly Ala Arg Thr Ile Asp Leu Gly Ile Ala Gln Leu Ser Met His Ser
465 470 475 480

Ile Arg Ala Ala Thr Gly Ser Lys Asp Val Gly Leu Gly Val Lys Phe
485 490 495

Phe Asn Gly Phe Phe Lys His Trp Arg Ser Val Tyr Asp Glu Phe Gly
500 505 510

Glu Leu

<210> 264
<211> 192
<212> PRT
<213> Saccharomyces cerevisiae

<400> 264

Met Ser Glu Lys Ala Val Arg Arg Lys Leu Val Ile Ile Gly Asp Gly
1 5 10 15

Ala Cys Gly Lys Thr Ser Leu Leu Tyr Val Phe Thr Leu Gly Lys Phe
20 25 30

Pro Glu Gln Tyr His Pro Thr Val Phe Glu Asn Tyr Val Thr Asp Cys
35 40 45

Arg Val Asp Gly Ile Lys Val Ser Leu Thr Leu Trp Asp Thr Ala Gly
50 55 60

Gln Glu Glu Tyr Glu Arg Leu Arg Pro Phe Ser Tyr Ser Lys Ala Asp
65 70 75 80

Ile Ile Leu Ile Gly Phe Ala Val Asp Asn Phe Glu Ser Leu Ile Asn
85 90 95

Ala Arg Thr Lys Trp Ala Asp Glu Ala Leu Arg Tyr Cys Pro Asp Ala
100 105 110

Pro Ile Val Leu Val Gly Leu Lys Lys Asp Leu Arg Gln Glu Ala His
115 120 125

Phe Lys Glu Asn Ala Thr Asp Glu Met Val Pro Ile Glu Asp Ala Lys
130 135 140

Gln Val Ala Arg Ala Ile Gly Ala Lys Lys Tyr Met Glu Cys Ser Ala
145 150 155 160

Leu Thr Gly Glu Gly Val Asp Asp Val Phe Glu Val Ala Thr Arg Thr
Seite 398

Ser Leu Leu Met Lys Lys Glu Pro Gly Ala Asn Cys Cys Ile Ile Leu
180 185 190

<210> 265
<211> 198
<212> PRT
<213> Brassica napus

<400> 265

Met Ser Ala Ser Arg Phe Ile Lys Cys Val Thr Val Gly Asp Gly Ala
1 5 10 15

Val Gly Lys Thr Cys Leu Leu Ile Ser Tyr Thr Ser Asn Thr Phe Pro
20 25 30

Thr Asp Tyr Val Pro Thr Val Phe Asp Asn Phe Ser Ala Asn Val Ile
35 40 45

Val Asp Gly Asn Thr Ile Asn Leu Gly Leu Trp Asp Thr Ala Gly Gln
50 55 60

Glu Asp Tyr Asn Arg Leu Arg Pro Leu Ser Tyr Arg Gly Ala Asp Val
65 70 75 80

Phe Leu Leu Ala Phe Ser Leu Val Ser Lys Ala Ser Tyr Glu Asn Val
85 90 95

Ser Lys Lys Trp Val Pro Glu Leu Arg His Tyr Ala Pro Gly Val Pro
100 105 110

Ile Ile Leu Val Gly Thr Lys Leu Asp Leu Arg Asp Asp Lys Gln Phe
115 120 125

Phe Val Glu His Pro Gly Ala Val Pro Ile Ser Thr Ala Gln Gly Glu
130 135 140

Glu Leu Lys Lys Val Ile Gly Ala Pro Ala Tyr Ile Glu Cys Ser Ala
145 150 155 160

Lys Thr Gln Gln Asn Val Lys Ala Val Phe Asp Ala Ala Ile Lys Val
165 170 175

Val Leu Gln Pro Pro Lys Asn Lys Lys Arg Lys Lys Arg Lys Ser Gln
180 185 190

Lys Ala Cys Ser Ile Leu
195

<210> 266
<211> 731
<212> PRT

<213> Escherichia coli

<400> 266

Met Gly Gln Gly Phe Pro Pro Cys Pro Val Phe Leu Leu Pro Arg Asn
 1 5 10 15

Gly Phe Ala Leu Met Lys Ser Met Asn Ile Ala Ala Ser Ser Glu Leu
 20 25 30

Val Ser Arg Leu Ser Ser His Arg Arg Val Val Ala Leu Gly Asp Thr
 35 40 45

Asp Phe Thr Asp Val Ala Ala Val Val Ile Thr Ala Ala Asp Ser Arg
 50 55 60

Ser Gly Ile Leu Ala Leu Leu Lys Arg Thr Gly Phe His Leu Pro Val
 65 70 75 80

Phe Leu Tyr Ser Glu His Ala Val Glu Leu Pro Ala Gly Val Thr Ala
 85 90 95

Val Ile Asn Gly Asn Glu Gln Gln Trp Leu Glu Leu Glu Ser Ala Ala
 100 105 110

Cys Gln Tyr Glu Glu Asn Leu Leu Pro Pro Phe Tyr Asp Thr Leu Thr
 115 120 125

Gln Tyr Val Glu Met Gly Asn Ser Thr Phe Ala Cys Pro Gly His Gln
 130 135 140

His Gly Ala Phe Phe Lys Lys His Pro Ala Gly Arg His Phe Tyr Asp
 145 150 155 160

Phe Phe Gly Glu Asn Val Phe Arg Ala Asp Met Cys Asn Ala Asp Val
 165 170 175

Lys Leu Gly Asp Leu Leu Ile His Glu Gly Ser Ala Lys Asp Ala Gln
 180 185 190

Lys Phe Ala Ala Lys Val Phe His Ala Asp Lys Thr Tyr Phe Val Leu
 195 200 205

Asn Gly Thr Ser Ala Ala Asn Lys Val Val Thr Asn Ala Leu Leu Thr
 210 215 220

Arg Gly Asp Leu Val Leu Phe Asp Arg Asn Asn His Lys Ser Asn His
 225 230 235 240

His Gly Ala Leu Ile Gln Ala Gly Ala Thr Pro Val Tyr Leu Glu Ala
 245 250 255

Ser Arg Asn Pro Phe Gly Phe Ile Gly Gly Ile Asp Ala His Cys Phe
 Seite 400

260

265

270

Asn Glu Glu Tyr Leu Arg Gln Gln Ile Arg Asp Val Ala Pro Glu Lys
 275 280 285

Ala Asp Leu Pro Arg Pro Tyr Arg Leu Ala Ile Ile Gln Leu Gly Thr
 290 295 300

Tyr Asp Gly Thr Val Tyr Asn Ala Arg Gln Val Ile Asp Thr Val Gly
 305 310 315 320

His Leu Cys Asp Tyr Ile Leu Phe Asp Ser Ala Trp Val Gly Tyr Glu
 325 330 335

Gln Phe Ile Pro Met Met Ala Asp Ser Ser Pro Leu Leu Leu Glu Leu
 340 345 350

Asn Glu Asn Asp Pro Gly Ile Phe Val Thr Gln Ser Val His Lys Gln
 355 360 365

Gln Ala Gly Phe Ser Gln Thr Ser Gln Ile His Lys Lys Asp Asn His
 370 375 380

Ile Arg Gly Gln Ala Arg Phe Cys Pro His Lys Arg Leu Asn Asn Ala
 385 390 395 400

Phe Met Leu His Ala Ser Thr Ser Pro Phe Tyr Pro Leu Phe Ala Ala
 405 410 415

Leu Asp Val Asn Ala Lys Ile His Glu Gly Glu Ser Gly Arg Arg Leu
 420 425 430

Trp Ala Glu Cys Val Glu Ile Gly Ile Glu Ala Arg Lys Ala Ile Leu
 435 440 445

Ala Arg Cys Lys Leu Phe Arg Pro Phe Ile Pro Pro Val Val Asp Gly
 450 455 460

Lys Leu Trp Gln Asp Tyr Pro Thr Ser Val Leu Ala Ser Asp Arg Arg
 465 470 475 480

Phe Phe Ser Phe Glu Pro Gly Ala Lys Trp His Gly Phe Glu Gly Tyr
 485 490 495

Ala Ala Asp Gln Tyr Phe Val Asp Pro Cys Lys Leu Leu Leu Thr Thr
 500 505 510

Pro Gly Ile Asp Ala Glu Thr Gly Glu Tyr Ser Asp Phe Gly Val Pro
 515 520 525

Ala Thr Ile Leu Ala His Tyr Leu Arg Glu Asn Gly Ile Val Pro Glu
 530 535 540

20080423_F_59071_PCT_sequence_listing.txt

Lys Cys Asp Leu Asn Ser Ile Leu Phe Leu Leu Thr Pro Ala Glu Ser
545 550 555 560

His Glu Lys Leu Ala Gln Leu Val Ala Met Leu Ala Gln Phe Glu Gln
565 570 575

His Ile Glu Asp Asp Ser Pro Leu Val Glu Val Leu Pro Ser Val Tyr
580 585 590

Asn Lys Tyr Pro Val Arg Tyr Arg Asp Tyr Thr Leu Arg Gln Leu Cys
595 600 605

Gln Glu Met His Asp Leu Tyr Val Ser Phe Asp Val Lys Asp Leu Gln
610 615 620

Lys Ala Met Phe Arg Gln Gln Ser Phe Pro Ser Val Val Met Asn Pro
625 630 635 640

Gln Asp Ala His Ser Ala Tyr Ile Arg Gly Asp Val Glu Leu Val Arg
645 650 655

Ile Arg Asp Ala Glu Gly Arg Ile Ala Ala Glu Gly Ala Leu Pro Tyr
660 665 670

Pro Pro Gly Val Leu Cys Val Val Pro Gly Glu Val Trp Gly Gly Ala
675 680 685

Val Gln Arg Tyr Phe Leu Ala Leu Glu Glu Gly Val Asn Leu Leu Pro
690 695 700

Gly Phe Ser Pro Glu Leu Gln Gly Val Tyr Ser Glu Thr Asp Ala Asp
705 710 715 720

Gly Val Lys Arg Leu Tyr Gly Tyr Val Leu Lys
725 730

<210> 267

<211> 353

<212> PRT

<213> Escherichia coli

<400> 267

Met Ala Ile Asp Glu Asn Lys Gln Lys Ala Leu Ala Ala Ala Leu Gly
1 5 10 15

Gln Ile Glu Lys Gln Phe Gly Lys Gly Ser Ile Met Arg Leu Gly Glu
20 25 30

Asp Arg Ser Met Asp Val Glu Thr Ile Ser Thr Gly Ser Leu Ser Leu
35 40 45

20080423_F_59071_PCT_sequence_listing.txt

Asp Ile Ala Leu Gly Ala Gly Gly Leu Pro Met Gly Arg Ile Val Glu
50 55 60

Ile Tyr Gly Pro Glu Ser Ser Gly Lys Thr Thr Leu Thr Leu Gln Val
65 70 75 80

Ile Ala Ala Ala Gln Arg Glu Gly Lys Thr Cys Ala Phe Ile Asp Ala
85 90 95

Glu His Ala Leu Asp Pro Ile Tyr Ala Arg Lys Leu Gly Val Asp Ile
100 105 110

Asp Asn Leu Leu Cys Ser Gln Pro Asp Thr Gly Glu Gln Ala Leu Glu
115 120 125

Ile Cys Asp Ala Leu Ala Arg Ser Gly Ala Val Asp Val Ile Val Val
130 135 140

Asp Ser Val Ala Ala Leu Thr Pro Lys Ala Glu Ile Glu Gly Glu Ile
145 150 155 160

Gly Asp Ser His Met Gly Leu Ala Ala Arg Met Met Ser Gln Ala Met
165 170 175

Arg Lys Leu Ala Gly Asn Leu Lys Gln Ser Asn Thr Leu Leu Ile Phe
180 185 190

Ile Asn Gln Ile Arg Met Lys Ile Gly Val Met Phe Gly Asn Pro Glu
195 200 205

Thr Thr Thr Gly Gly Asn Ala Leu Lys Phe Tyr Ala Ser Val Arg Leu
210 215 220

Asp Ile Arg Arg Ile Gly Ala Val Lys Glu Gly Glu Asn Val Val Gly
225 230 235 240

Ser Glu Thr Arg Val Lys Val Val Lys Asn Lys Ile Ala Ala Pro Phe
245 250 255

Lys Gln Ala Glu Phe Gln Ile Leu Tyr Gly Glu Gly Ile Asn Phe Tyr
260 265 270

Gly Glu Leu Val Asp Leu Gly Val Lys Glu Lys Leu Ile Glu Lys Ala
275 280 285

Gly Ala Trp Tyr Ser Tyr Lys Gly Glu Lys Ile Gly Gln Gly Lys Ala
290 295 300

Asn Ala Thr Ala Trp Leu Lys Asp Asn Pro Glu Thr Ala Lys Glu Ile
305 310 315 320

Glu Lys Lys Val Arg Glu Leu Leu Leu Ser Asn Pro Asn Ser Thr Pro
Seite 403

Asp Phe Ser Val Asp Asp Ser Glu Gly Val Ala Glu Thr Asn Glu Asp
340 345 350

Phe

<210> 268
<211> 475
<212> PRT
<213> Arabidopsis thaliana

<400> 268

Met Thr Ser Lys Met Glu Pro Val Ser Ser Trp Gly Asn Thr Ser Leu
1 5 10 15

Val Ser Val Asp Pro Glu Ile His Asp Leu Ile Glu Lys Glu Lys Arg
20 25 30

Arg Gln Cys Arg Gly Ile Glu Leu Ile Ala Ser Glu Asn Phe Thr Ser
35 40 45

Phe Ala Val Ile Glu Ala Leu Gly Ser Ala Leu Thr Asn Lys Tyr Ser
50 55 60

Glu Gly Ile Pro Gly Asn Arg Tyr Tyr Gly Gly Asn Glu Phe Ile Asp
65 70 75 80

Glu Ile Glu Asn Leu Cys Arg Ser Arg Ala Leu Glu Ala Phe His Cys
85 90 95

Asp Pro Ala Ala Trp Gly Val Asn Val Gln Pro Tyr Ser Gly Ser Pro
100 105 110

Ala Asn Phe Ala Ala Tyr Thr Ala Leu Leu Gln Pro His Asp Arg Ile
115 120 125

Met Gly Leu Asp Leu Pro Ser Gly Gly His Leu Thr His Gly Tyr Tyr
130 135 140

Thr Ser Gly Gly Lys Lys Ile Ser Ala Thr Ser Ile Tyr Phe Gly Ser
145 150 155 160

Leu Pro Tyr Lys Val Asn Phe Thr Thr Gly Tyr Ile Asp Tyr Asp Lys
165 170 175

Leu Glu Glu Lys Ala Leu Asp Phe Arg Pro Lys Leu Leu Ile Cys Gly
180 185 190

Gly Ser Ala Tyr Pro Arg Asp Trp Asp Tyr Ala Arg Phe Arg Ala Ile
195 200 205

20080423_F_59071_PCT_sequence_listing.txt

Ala Asp Lys Val Gly Ala Leu Leu Leu Cys Asp Met Ala His Ile Ser
210 215 220

Gly Leu Val Ala Ala Gln Glu Ala Ala Asn Pro Phe Glu Tyr Cys Asp
225 230 235 240

Val Val Thr Thr Thr His Lys Ser Leu Arg Gly Pro Arg Ala Gly
245 250 255

Met Ile Phe Tyr Arg Lys Gly Pro Lys Pro Pro Lys Lys Gly Gln Pro
260 265 270

Glu Gly Ala Val Tyr Asp Phe Glu Asp Lys Ile Asn Phe Ala Val Phe
275 280 285

Pro Ala Leu Gln Gly Gly Pro His Asn His Gln Ile Gly Ala Leu Ala
290 295 300

Val Ala Leu Lys Gln Ala Asn Thr Pro Gly Phe Lys Val Tyr Ala Lys
305 310 315 320

Gln Val Lys Ala Asn Ala Val Ala Leu Gly Asn Tyr Leu Met Ser Lys
325 330 335

Gly Tyr Gln Ile Val Thr Asn Gly Thr Glu Asn His Leu Val Leu Trp
340 345 350

Asp Leu Arg Pro Leu Gly Leu Thr Gly Asn Lys Val Glu Lys Leu Cys
355 360 365

Asp Leu Cys Ser Ile Thr Leu Asn Lys Asn Ala Val Phe Gly Asp Ser
370 375 380

Ser Ala Leu Ala Pro Gly Gly Val Arg Ile Gly Ala Pro Ala Met Thr
385 390 395 400

Ser Arg Gly Leu Val Glu Lys Asp Phe Glu Gln Ile Gly Glu Phe Leu
405 410 415

Ser Arg Ala Val Thr Leu Thr Leu Asp Ile Gln Lys Thr Tyr Gly Lys
420 425 430

Leu Leu Lys Asp Phe Asn Lys Gly Leu Val Asn Asn Lys Asp Leu Asp
435 440 445

Gln Leu Lys Ala Asp Val Glu Lys Phe Ser Ala Ser Tyr Glu Met Pro
450 455 460

Gly Phe Leu Met Ser Glu Met Lys Tyr Gln Asp
465 470 475

20080423_F_59071_PCT_sequence_listing.txt

<210> 269

<211> 403

<212> PRT

<213> Arabidopsis thaliana

<400> 269

Met Thr Val Val Arg Glu Tyr Asp Pro Thr Arg Asp Leu Val Gly Val
1 5 10 15

Glu Asp Val Glu Arg Arg Cys Glu Val Gly Pro Ser Gly Lys Leu Ser
20 25 30

Leu Phe Thr Asp Leu Leu Gly Asp Pro Ile Cys Arg Ile Arg His Ser
35 40 45

Pro Ser Tyr Leu Met Leu Val Ala Glu Met Gly Thr Glu Lys Lys Glu
50 55 60

Ile Val Gly Met Ile Arg Gly Cys Ile Lys Thr Val Thr Cys Gly Gln
65 70 75 80

Lys Leu Asp Leu Asn His Lys Ser Gln Asn Asp Val Val Lys Pro Leu
85 90 95

Tyr Thr Lys Leu Ala Tyr Val Leu Gly Leu Arg Val Ser Pro Phe His
100 105 110

Arg Arg Gln Gly Ile Gly Phe Lys Leu Val Lys Met Met Glu Glu Trp
115 120 125

Phe Arg Gln Asn Gly Ala Glu Tyr Ser Tyr Ile Ala Thr Glu Asn Asp
130 135 140

Asn Gln Ala Ser Val Asn Leu Phe Thr Gly Lys Cys Gly Tyr Ser Glu
145 150 155 160

Phe Arg Thr Pro Ser Ile Leu Val Asn Pro Val Tyr Ala His Arg Val
165 170 175

Asn Val Ser Arg Arg Val Thr Val Ile Lys Leu Glu Pro Val Asp Ala
180 185 190

Glu Thr Leu Tyr Arg Ile Arg Phe Ser Thr Thr Glu Phe Phe Pro Arg
195 200 205

Asp Ile Asp Ser Val Leu Asn Asn Lys Leu Ser Leu Gly Thr Phe Val
210 215 220

Ala Val Pro Arg Gly Ser Cys Tyr Gly Ser Gly Ser Gly Ser Trp Pro
225 230 235 240

Gly Ser Ala Lys Phe Leu Glu Tyr Pro Pro Glu Ser Trp Ala Val Leu
245 250 255

20080423_F_59071_PCT_sequence_listing.txt

Ser Val Trp Asn Cys Lys Asp Ser Phe Leu Leu Glu Val Arg Gly Ala
260 265 270

Ser Arg Leu Arg Arg Val Val Ala Lys Thr Thr Arg Val Val Asp Lys
275 280 285

Thr Leu Pro Phe Leu Lys Leu Pro Ser Ile Pro Ser Val Phe Glu Pro
290 295 300

Phe Gly Leu His Phe Met Tyr Gly Ile Gly Gly Glu Gly Pro Arg Ala
305 310 315 320

Val Lys Met Val Lys Ser Leu Cys Ala His Ala His Asn Leu Ala Lys
325 330 335

Ala Gly Gly Cys Gly Val Val Ala Ala Glu Val Ala Gly Glu Asp Pro
340 345 350

Leu Arg Arg Gly Ile Pro His Trp Lys Val Leu Ser Cys Asp Glu Asp
355 360 365

Leu Trp Cys Ile Lys Arg Leu Gly Asp Asp Tyr Ser Asp Gly Val Val
370 375 380

Gly Asp Trp Thr Lys Ser Pro Pro Gly Val Ser Ile Phe Val Asp Pro
385 390 395 400

Arg Glu Phe

<210> 270
<211> 647
<212> PRT
<213> Arabidopsis thaliana

<400> 270

Met Ile Thr Gly Lys Asp Met Tyr Asp Val Leu Ala Ala Met Val Pro
1 5 10 15

Leu Tyr Val Ala Met Ile Leu Ala Tyr Gly Ser Val Arg Trp Trp Gly
20 25 30

Ile Phe Thr Pro Asp Gln Cys Ser Gly Ile Asn Arg Phe Val Ala Val
35 40 45

Phe Ala Val Pro Leu Leu Ser Phe His Phe Ile Ser Ser Asn Asp Pro
50 55 60

Tyr Ala Met Asn Tyr His Phe Leu Ala Ala Asp Ser Leu Gln Lys Val
65 70 75 80

20080423_F_59071_PCT_sequence_listing.txt

Val Ile Leu Ala Ala Leu Phe Leu Trp Gln Ala Phe Ser Arg Arg Gly
85 90 95

Ser Leu Glu Trp Met Ile Thr Leu Phe Ser Leu Ser Thr Leu Pro Asn
100 105 110

Thr Leu Val Met Gly Ile Pro Leu Leu Arg Ala Met Tyr Gly Asp Phe
115 120 125

Ser Gly Asn Leu Met Val Gln Ile Val Val Leu Gln Ser Ile Ile Trp
130 135 140

Tyr Thr Leu Met Leu Phe Leu Phe Glu Phe Arg Gly Ala Lys Leu Leu
145 150 155 160

Ile Ser Glu Gln Phe Pro Glu Thr Ala Gly Ser Ile Thr Ser Phe Arg
165 170 175

Val Asp Ser Asp Val Ile Ser Leu Asn Gly Arg Glu Pro Leu Gln Thr
180 185 190

Asp Ala Glu Ile Gly Asp Asp Gly Lys Leu His Val Val Val Arg Arg
195 200 205

Ser Ser Ala Ala Ser Ser Met Ile Ser Ser Phe Asn Lys Ser His Gly
210 215 220

Gly Gly Leu Asn Ser Ser Met Ile Thr Pro Arg Ala Ser Asn Leu Thr
225 230 235 240

Gly Val Glu Ile Tyr Ser Val Gln Ser Ser Arg Glu Pro Thr Pro Arg
245 250 255

Ala Ser Ser Phe Asn Gln Thr Asp Phe Tyr Ala Met Phe Asn Ala Ser
260 265 270

Lys Ala Pro Ser Pro Arg His Gly Tyr Thr Asn Ser Tyr Gly Gly Ala
275 280 285

Gly Ala Gly Pro Gly Gly Asp Val Tyr Ser Leu Gln Ser Ser Lys Gly
290 295 300

Val Thr Pro Arg Thr Ser Asn Phe Asp Glu Glu Val Met Lys Thr Ala
305 310 315 320

Lys Lys Ala Gly Arg Gly Gly Arg Ser Met Ser Gly Glu Leu Tyr Asn
325 330 335

Asn Asn Ser Val Pro Ser Tyr Pro Pro Pro Asn Pro Met Phe Thr Gly
340 345 350

Ser Thr Ser Gly Ala Ser Gly Val Lys Lys Lys Glu Ser Gly Gly Gly
Seite 408

20080423_F_59071_PCT_sequence_listing.txt

355

360

365

Gly Ser Gly Gly Gly Val Gly Val Gly Gly Gln Asn Lys Glu Met Asn
 370 375 380

Met Phe Val Trp Ser Ser Ser Ala Ser Pro Val Ser Glu Ala Asn Ala
 385 390 395 400

Lys Asn Ala Met Thr Arg Gly Ser Ser Thr Asp Val Ser Thr Asp Pro
 405 410 415

Lys Val Ser Ile Pro Pro His Asp Asn Leu Ala Thr Lys Ala Met Gln
 420 425 430

Asn Leu Ile Glu Asn Met Ser Pro Gly Arg Lys Gly His Val Glu Met
 435 440 445

Asp Gln Asp Gly Asn Asn Gly Gly Lys Ser Pro Tyr Met Gly Lys Lys
 450 455 460

Gly Ser Asp Val Glu Asp Gly Gly Pro Gly Pro Arg Lys Gln Gln Met
 465 470 475 480

Pro Pro Ala Ser Val Met Thr Arg Leu Ile Leu Ile Met Val Trp Arg
 485 490 495

Lys Leu Ile Arg Asn Pro Asn Thr Tyr Ser Ser Leu Phe Gly Leu Ala
 500 505 510

Trp Ser Leu Val Ser Phe Lys Trp Asn Ile Lys Met Pro Thr Ile Met
 515 520 525

Ser Gly Ser Ile Ser Ile Leu Ser Asp Ala Gly Leu Gly Met Ala Met
 530 535 540

Phe Ser Leu Gly Leu Phe Met Ala Leu Gln Pro Lys Ile Ile Ala Cys
 545 550 555 560

Gly Lys Ser Val Ala Gly Phe Ala Met Ala Val Arg Phe Leu Thr Gly
 565 570 575

Pro Ala Val Ile Ala Ala Thr Ser Ile Ala Ile Gly Ile Arg Gly Asp
 580 585 590

Leu Leu His Ile Ala Ile Val Gln Ala Ala Leu Pro Gln Gly Ile Val
 595 600 605

Pro Phe Val Phe Ala Lys Glu Tyr Asn Val His Pro Asp Ile Leu Ser
 610 615 620

Thr Ala Val Ile Phe Gly Met Leu Val Ala Leu Pro Val Thr Val Leu
 625 630 635 640

Tyr Tyr Val Leu Leu Gly Leu
645

<210> 271

<211> 219

<212> PRT

<213> Physcomitrella patens subsp. patens

<400> 271

Met Ala Val His Leu Leu Leu Ser Leu Ala Leu Thr Thr Lys Phe Trp
1 5 10 15
Arg Ser Ile His Pro Gly Gly Arg Gly Cys Asn Trp Gly Lys Pro Lys
20 25 30
Thr Lys Lys Trp Asp Pro Cys Gly Gly Lys Val Lys Glu Gln Ala Leu
35 40 45
Gln Leu Thr Thr Lys Ile Glu Ser Pro Lys Val Lys Lys Glu Val Glu
50 55 60
Glu Ser Lys Ser Glu Ser Ser Leu Glu Glu Glu Ser Lys Gly Met Arg
65 70 75 80
Leu Ala Ala Lys Asp Thr Ser Gly Arg Asn Ala Phe Lys Phe Arg Asn
85 90 95
Ile Asp Leu Asn Lys Ala Pro Ser Ala Trp Asp Thr Glu Glu Val Ser
100 105 110
Ala Ser Asn Thr Gly Asp Thr Thr Ser Phe Arg Gly Val Arg His Arg
115 120 125
Pro Glu Leu Asn Lys Trp Val Thr Glu Ile Arg Pro Thr Ser Gln Lys
130 135 140
Arg Lys Ile Trp Leu Gly Thr Tyr Glu Thr Pro Glu Glu Ala Ala Arg
145 150 155 160
Ala Tyr Asp Val Gly Ile Phe Tyr Thr Lys Lys Lys Ile Pro Tyr Asn
165 170 175
Phe Glu Asp Ser Pro Gln Gln Leu Gln Leu Tyr Pro Ile Pro Pro Glu
180 185 190
Leu Pro Trp Glu Ser Phe Ala Ala Leu Val Lys Gln Arg Ala Thr Ser
195 200 205
Ala Ala Lys Arg Ala Arg Val Pro Ser Ser Ser
210 215

<210> 272

<211> 277

<212> PRT

<213> Physcomitrella patens subsp. patens

<400> 272

Met Gly Ser Ile Arg Ser Cys Trp Gly Val Gly Gly Ala Thr Arg Ser
1 5 10 15
Ser Leu Leu Ala Ser Lys Leu Asn Arg Ala Pro Ile Gly Leu Met Ala
20 25 30
Trp Trp Ser Leu Val Val Cys Phe Arg Ile Trp Val Trp Phe Lys Ala
35 40 45
Phe Lys Gly Leu Ile Ala Asn Val Val Ala Arg Ala Leu Gly Trp Ser
50 55 60
Trp Trp Ala Ser Ser Ser Ile Arg Ala Arg Thr Leu Glu Val Ser Ala
65 70 75 80
Ser Ser Gly Arg Leu Gly Arg Pro Lys Ser Lys Asn Trp Trp Asp Pro
85 90 95
Cys Gly Gly Gly Lys Ala Arg Glu Gln Gly Leu Gln Leu Pro Ser Lys
100 105 110
Ile Asp Ser Ala Arg Val Lys Asn Glu Val Asp Glu Ser Lys Ser Glu
115 120 125
Ser Ser Gln Glu Glu Glu Arg Lys Gly Met Arg Leu Ala Ala Arg Asp
130 135 140

20080423_F_59071_PCT_sequence_listing.txt

Asp Ser Gly Gln Asn Ala Leu Lys Phe Arg Asn Ile Asp Leu Asn Lys
 145 150 155 160
 Val Pro Ser Ala Trp Asp Ser Asp Asp Val Ser Val Gly Thr Gly Asp
 165 170 175
 Thr Thr Ile Phe Arg Gly Val Arg His Arg Pro Glu Leu Asn Lys Trp
 180 185 190
 Val Thr Glu Ile Arg Pro Thr Ser Gln Lys Arg Lys Ile Trp Leu Gly
 195 200 205
 Thr Tyr Glu Thr Pro Glu Glu Ala Ala Arg Ala Tyr Asp Val Gly Ile
 210 215 220
 Phe Tyr Thr Lys Lys Lys Ile Pro Tyr Asn Phe Glu Asp Ser Pro Gln
 225 230 235 240
 Gln Leu Gln Leu Tyr Pro Ile Pro Pro Glu Leu Pro Trp Glu Ser Phe
 245 250 255
 Ala Ala Leu Val Lys Gln Arg Ala Thr Ser Ala Ala Lys Arg Ala Arg
 260 265 270
 Val Pro Ser Ser Gly
 275

<210> 273
 <211> 221
 <212> PRT
 <213> Physcomitrella patens subsp. patens

<400> 273
 Met Glu Lys Pro Ser Leu Ser Lys Leu Ala Val His Val Val Asn Leu
 1 5 10 15
 Leu Ser Gly Ala Phe Phe Leu Arg Glu Arg Ala Leu Gly Lys Pro Lys
 20 25 30
 Ala Lys Asn Cys Trp Asp Pro Cys Gly Gly Gly Lys Ile Arg Glu Gln
 35 40 45
 Gly Leu Gln Leu Ser Ser Ser Ile Gly Thr Ser Arg Val Lys Ile Glu
 50 55 60
 Leu Glu Gly Ser Lys Ser Asp Ser Ser Val Glu Glu Glu Ser Lys Gly
 65 70 75 80
 Met Arg Leu Ala Ala Lys Asp Thr Ser Gly Arg Asn Ala Tyr Lys Tyr
 85 90 95
 Arg Asn Ile Asp Leu Asn Lys Ala Pro Ser Thr Trp Asp Ala Asp Glu
 100 105 110
 Val Thr Val Ser Ser Thr Asn Asp Thr Thr Asn Phe Arg Gly Val Arg
 115 120 125
 His Arg Pro Glu Leu Asn Lys Trp Val Thr Glu Ile Arg Pro Thr Ser
 130 135 140
 Gln Lys Arg Lys Ile Trp Leu Gly Thr Tyr Glu Thr Pro Glu Glu Ala
 145 150 155 160
 Ala Arg Ala Tyr Asp Val Gly Ile Phe Tyr Thr Lys Lys Lys Ile Pro
 165 170 175
 Tyr Asn Phe Glu Asp Ser Pro Lys Lys Leu Gln Gln Leu Pro Ile Pro
 180 185 190
 Pro Glu Leu Pro Trp Glu Ser Phe Ala Ala Val Val Lys Gln Arg Ala
 195 200 205
 Thr Ser Ala Ala Lys Arg Ala Arg Val Pro Ser Ser
 210 215 220

<210> 274
 <211> 140
 <212> PRT
 <213> Artificial sequence

<220>
 <223> consensus sequence

20080423_F_59071_PCT_sequence_listing.txt

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<220>
<221> Variant
<222> (6)..(6)
<223> Xaa in position 6 is any amino acid

<220>
<221> Variant
<222> (8)..(8)
<223> Xaa in position 8 is any amino acid

<220>
<221> Variant
<222> (11)..(11)
<223> Xaa in position 11 is any amino acid

<220>
<221> Variant
<222> (14)..(14)
<223> Xaa in position 14 is any amino acid

<220>
<221> Variant
<222> (16)..(16)
<223> Xaa in position 16 is any amino acid

<220>
<221> Variant
<222> (24)..(24)
<223> Xaa in position 24 is any amino acid

<220>
<221> Variant
<222> (27)..(27)
<223> Xaa in position 27 is any amino acid

<220>
<221> Variant
<222> (30)..(32)
<223> Xaa in position 30 to 32 is any amino acid

<220>
<221> Variant
<222> (34)..(36)
<223> Xaa in position 34 to 36 is any amino acid

<220>
<221> Variant
<222> (37)..(37)
<223> Xaa in position 37 is any or no amino acid

<220>
<221> Variant
<222> (39)..(39)
<223> Xaa in position 39 is any amino acid

<220>
<221> Variant
<222> (43)..(43)
<223> Xaa in position 43 is any amino acid

<220>
<221> Variant
<222> (104)..(105)
<223> Xaa in position 104 to 105 is any amino acid

<220>
<221> Variant
<222> (108)..(109)
<223> Xaa in position 108 to 109 is any amino acid

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20080423_F_59071_PCT_sequence_listing.txt

<220>
 <221> Variant
 <222> (123)..(123)
 <223> Xaa in position 123 is any amino acid

<400> 274
 Met Arg Leu Ala Ala Xaa Asp Xaa Ser Gly Xaa Asn Ala Xaa Lys Xaa
 1 5 10 15
 Arg Asn Ile Asp Leu Asn Lys Xaa Pro Ser Xaa Trp Asp Xaa Xaa Xaa
 20 25 30
 Val Xaa Xaa Xaa Xaa Thr Xaa Asp Thr Thr Xaa Phe Arg Gly Val Arg
 35 40 45
 His Arg Pro Glu Leu Asn Lys Trp Val Thr Glu Ile Arg Pro Thr Ser
 50 55 60
 Gln Lys Arg Lys Ile Trp Leu Gly Thr Tyr Glu Thr Pro Glu Glu Ala
 65 70 75 80
 Ala Arg Ala Tyr Asp Val Gly Ile Phe Tyr Thr Lys Lys Lys Ile Pro
 85 90 95
 Tyr Asn Phe Glu Asp Ser Pro Xaa Xaa Leu Gln Xaa Xaa Pro Ile Pro
 100 105 110
 Pro Glu Leu Pro Trp Glu Ser Phe Ala Ala Xaa Val Lys Gln Arg Ala
 115 120 125
 Thr Ser Ala Ala Lys Arg Ala Arg Val Pro Ser Ser
 130 135 140

<210> 275
 <211> 60
 <212> PRT
 <213> Artificial sequence

<220>
 <223> protein pattern

<400> 275
 Phe Arg Gly Val Arg His Arg Pro Glu Leu Asn Lys Trp Val Thr Glu
 1 5 10 15
 Ile Arg Pro Thr Ser Gln Lys Arg Lys Ile Trp Leu Gly Thr Tyr Glu
 20 25 30
 Thr Pro Glu Glu Ala Ala Arg Ala Tyr Asp Val Gly Ile Phe Tyr Thr
 35 40 45
 Lys Lys Lys Ile Pro Tyr Asn Phe Glu Asp Ser Pro
 50 55 60

<210> 276
 <211> 38
 <212> PRT
 <213> Artificial sequence

<220>
 <223> protein pattern

<220>
 <221> Variant
 <222> (3)..(3)
 <223> Xaa in position 3 is Lys or Arg

<220>
 <221> Variant
 <222> (5)..(5)
 <223> Xaa in position 5 is Asp or Thr

20080423_F_59071_PCT_sequence_listing.txt

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<220>
<221> Variant
<222> (8)..(8)
<223> Xaa in position 8 is Gln or Arg

<220>
<221> Variant
<222> (11)..(11)
<223> Xaa in position 11 is any amino acid

<220>
<221> Variant
<222> (13)..(13)
<223> Xaa in position 13 is Phe or Tyr

<220>
<221> Variant
<222> (21)..(21)
<223> Xaa in position 21 is Ala or Val

<220>
<221> Variant
<222> (24)..(24)
<223> Xaa in position 24 is Ala or Thr

<220>
<221> Variant
<222> (27)..(27)
<223> Xaa in position 27 is Ala, Ser or Thr

<220>
<221> Variant
<222> (28)..(29)
<223> Xaa in position 28 to 29 is Asp or Glu

<220>
<221> Variant
<222> (31)..(32)
<223> Xaa in position 31 to 32 is any or no amino acid

<220>
<221> Variant
<222> (34)..(34)
<223> Xaa in position 34 is Ala, Asn, Ser or Val

<220>
<221> Variant
<222> (35)..(35)
<223> Xaa in position 35 is Gly, Ser or Thr

<220>
<221> Variant
<222> (36)..(36)
<223> Xaa in position 36 is Gly, Asn or Thr

<220>
<221> Variant
<222> (37)..(38)
<223> Xaa in position 37 to 38 is Asp, Gly or Thr

<400> 276
Ala Ala Xaa Asp Xaa Ser Gly Xaa Asn Ala Xaa Lys Xaa Arg Asn Ile
1      5      10     15
Asp Leu Asn Lys Xaa Pro Ser Xaa Trp Asp Xaa Xaa Xaa Val Xaa Xaa
20     25     30
Ser Xaa Xaa Xaa Xaa Xaa
35

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20080423_F_59071_PCT_sequence_listing.txt

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<210> 277
<211> 27
<212> PRT
<213> Artificial sequence

<220>
<223> protein pattern

<220>
<221> Variant
<222> (3)..(4)
<223> Xaa in position 3 to 4 is any amino acid

<220>
<221> Variant
<222> (18)..(18)
<223> Xaa in position 18 is Leu or Val

<400> 277
Leu Gln Xaa Xaa Pro Ile Pro Pro Glu Leu Pro Trp Glu Ser Phe Ala
1      5      10      15
Ala Xaa Val Lys Gln Arg Ala Thr Ser Ala Ala
      20      25

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