

PhoenixTemp14994.tmp.txt
SEQUENCE LISTING

<110> BASF Plant Science GmbH
Wiig, Aaron
<120> USE OF TREHALASE GENES TO CONFER NEMATODE RESISTANCE TO PLANTS
<130> PF 58857
<160> 15
<170> PatentIn version 3.4
<210> 1
<211> 557
<212> PRT
<213> Glycine max
<400> 1

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35 40 45

Leu Thr Ile Thr Glu Asp Ala Phe Gln Lys Leu Pro Arg Asn Ala Asn
50 55 60

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

Glu Gly Ala Gly Asp Asp Leu Val Tyr Arg Asp Pro Gln Asp Phe Val
85 90 95

Pro Glu Pro Glu Gly Phe Leu Pro Lys Val Asn His Pro Gln Val Arg
100 105 110

Ala Trp Ala Leu Gln Val His Ser Leu Trp Lys Asn Leu Ser Arg Lys
115 120 125

Ile Ser Gly Ala Val Lys Ala Gln Pro Asp Leu His Thr Leu Leu Pro
130 135 140

Leu Pro Gly Ser Val Val Ile Pro Gly Ser Arg Phe Arg Glu Val Tyr
145 150 155 160

Tyr Trp Asp Ser Tyr Trp Val Ile Arg Gly Leu Leu Ala Ser Gln Met
165 170 175

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

Lys Tyr Gly Phe Val Leu Asn Gly Ala Arg Ala Tyr Tyr Thr Asn Arg
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195

200

205

Ser Gln Pro Pro Leu Leu Ser Ala Met Ile Tyr Glu Ile Tyr Asn Ser
 210 215 220

Thr Gly Asp Val Glu Leu Val Lys Arg Ser Leu Pro Ala Leu Leu Lys
 225 230 235 240

Glu Tyr Glu Phe Trp Asn Ser Asp Ile His Lys Leu Thr Ile Leu Asp
 245 250 255

Ala Gln Gly Cys Thr His Thr Leu Asn Arg Tyr Tyr Ala Lys Trp Asp
 260 265 270

Lys Pro Arg Pro Glu Ser Ser Ile Met Asp Lys Ala Ser Ala Ser Asn
 275 280 285

Phe Ser Ser Val Ser Glu Lys Gln Gln Phe Tyr Arg Glu Leu Ala Ser
 290 295 300

Ala Ala Glu Ser Gly Trp Asp Phe Ser Thr Arg Trp Met Arg Asn Pro
 305 310 315 320

Pro Asn Phe Thr Thr Leu Ala Thr Thr Ser Val Ile Pro Val Asp Leu
 325 330 335

Asn Ala Phe Leu Leu Gly Met Glu Leu Asn Ile Ala Leu Phe Ala Lys
 340 345 350

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

Leu Arg Lys Lys Ala Met Asp Ser Ile Phe Trp Asn Ala Asn Lys Lys
 370 375 380

Gln Trp Leu Asp Tyr Trp Leu Ser Ser Thr Cys Glu Glu Val His Val
 385 390 395 400

Trp Lys Asn Glu His Gln Asn Gln Asn Val Phe Ala Ser Asn Phe Val
 405 410 415

Pro Leu Trp Met Lys Pro Phe Tyr Ser Asp Thr Ser Leu Val Ser Ser
 420 425 430

Val Val Glu Ser Leu Lys Thr Ser Gly Leu Leu Arg Asp Ala Gly Val
 435 440 445

Ala Thr Ser Leu Thr Asp Ser Gly Gln Gln Trp Asp Phe Pro Asn Gly
 450 455 460

Trp Ala Pro Leu Gln His Met Leu Val Glu Gly Leu Leu Lys Ser Gly
 465 470 475 480

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Leu Lys Glu Ala Arg Leu Leu Ala Glu Glu Ile Ala Ile Arg Trp Val
485 490 495

Thr Thr Asn Tyr Ile Val Tyr Lys Lys Thr Gly Val Met His Glu Lys
500 505 510

Phe Asp Val Glu His Cys Gly Glu Phe Gly Gly Gly Gly Glu Tyr Val
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<213> Vitis vinifera

<400> 2

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20 25 30

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

Leu Lys Phe Asn Leu Ser Asp Thr Glu Glu Ala Phe Lys Lys Leu Pro
50 55 60

Arg Ser Glu Asn Gly Ser Val Ser Val Glu Ile Leu Glu Gly Phe Met
65 70 75 80

Gly Glu Tyr Met Arg Gly Ala Gly Glu Asp Leu Val Glu Val Val Pro
85 90 95

Glu Asp Tyr Val Pro Glu Pro Thr Gly Phe Leu Pro Lys Val Glu Ser
100 105 110

Pro Glu Val Arg Ala Trp Ala Leu Glu Val His Ser Leu Trp Lys Asn
115 120 125

Leu Ser Arg Lys Val Ser Asn Gly Val Arg Asp Arg Pro Asp Leu His
130 135 140

Thr Leu Leu Pro Leu Pro Asn Pro Val Val Ile Pro Gly Ser Arg Phe
145 150 155 160

Arg Glu Val Tyr Tyr Trp Asp Ser Tyr Trp Val Ile Arg Gly Leu Leu
 165 170 175

Ala Ser Lys Met His Glu Thr Ala Lys Ala Ile Val Ala Asn Leu Ile
 180 185 190

Ser Leu Ile Asp Glu Tyr Gly Tyr Val Leu Asn Gly Ala Arg Ala Tyr
 195 200 205

Tyr Ser Asn Arg Ser Gln Pro Pro Leu Leu Ser Ser Met Ile Tyr Glu
 210 215 220

Ile Tyr Lys Arg Thr Gly Asp Lys Glu Met Val Arg Lys Ser Leu Pro
 225 230 235 240

Ala Leu Leu Lys Glu His Gln Phe Trp Asn Ser Gly Lys His Lys Met
 245 250 255

Thr Ile Gln Asp Asp Gln Ala Cys Asn His Thr Leu Ser Arg Tyr Tyr
 260 265 270

Ala Met Trp Asp Lys Pro Arg Pro Glu Ser Ser Thr Asn Asp Lys Glu
 275 280 285

Ser Ala Ser Lys Ile Leu Asp Ala Ser Glu Lys Gln Gln Phe Tyr Arg
 290 295 300

Glu Leu Ala Ser Thr Ala Glu Ser Gly Trp Asp Phe Ser Thr Arg Trp
 305 310 315 320

Met Arg Asn Ser Ser Asp Phe Thr Thr Leu Ala Thr Thr Ser Ile Leu
 325 330 335

Pro Val Asp Leu Asn Ala Phe Ile Leu Lys Met Glu Leu Asp Ile Ala
 340 345 350

Ser Leu Ala Lys Val Ile Gly Glu Asn Thr Ile Ser Glu Arg Phe Val
 355 360 365

Glu Ala Ser Gln Gly Arg Lys Lys Ala Met Asp Ser Val Phe Trp Asn
 370 375 380

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

Ser Cys Lys Glu Val His Lys Leu Glu Ala Ser Asn Gln Asn Glu Asn
 405 410 415

Val Phe Ala Ser Asn Phe Val Pro Leu Trp Ile Glu Leu Phe Asn Ser
 420 425 430

Asp Ala Ser Val Val Glu Lys Val Met Glu Ser Phe Gln Ser Ser Gly
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435 PhoenixTemp14994.tmp.txt
440 445

Leu Leu Cys Ser Ala Gly Ile Ala Thr Ser Leu Thr Asn Ser Gly Gln
450 455 460

Gln Trp Asp Phe Pro Asn Gly Trp Ala Pro Ile Gln His Met Ile Val
465 470 475 480

Glu Gly Leu Val Arg Ser Gly Leu Lys Glu Ala Arg Leu Met Ala Glu
485 490 495

Asp Ile Ala Met Arg Trp Ile Arg Thr Asn Tyr Ala Ala Tyr Lys Asn
500 505 510

Thr Ser Thr Met Leu Glu Lys Tyr Asp Val Glu Glu Cys Gly Lys Ile
515 520 525

Gly Gly Gly Gly Glu Tyr Ile Pro Gln Thr Gly Phe Gly Trp Thr Asn
530 535 540

Gly Val Val Leu Ala Phe Leu Glu Glu Phe Gly Trp Thr Lys Asp Gln
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Lys Leu Asp Cys Gln
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<213> Arabidopsis thaliana
<400> 3

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20 25 30

Ser Phe Pro Ser Phe Ile Tyr Leu Lys Gln Gln Arg Ser Leu Phe Phe
35 40 45

Phe Phe Phe Phe Phe Leu Cys Phe Ser Phe Thr Thr Ser Met Leu Asp
50 55 60

Ser Asp Thr Asp Thr Asp Ser Gly Pro Val Val Ala Thr Thr Lys Leu
65 70 75 80

Val Thr Phe Leu Gln Arg Val Gln His Thr Ala Leu Arg Ser Tyr Pro
85 90 95

Lys Lys Gln Thr Pro Asp Pro Lys Ser Tyr Ile Asp Leu Ser Leu Lys
100 105 110

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Arg Pro Tyr Ser Leu Ser Thr Ile Glu Ser Ala Phe Asp Asp Leu Thr
115 120 125

Ser Glu Ser His Asp Gln Pro Val Pro Val Glu Thr Leu Glu Lys Phe
130 135 140

Val Lys Glu Tyr Phe Asp Gly Ala Gly Glu Asp Leu Leu His His Glu
145 150 155 160

Pro Val Asp Phe Val Ser Asp Pro Ser Gly Phe Leu Ser Asn Val Glu
165 170 175

Asn Glu Glu Val Arg Glu Trp Ala Arg Glu Val His Gly Leu Trp Arg
180 185 190

Asn Leu Ser Cys Arg Val Ser Asp Ser Val Arg Glu Ser Ala Asp Arg
195 200 205

His Thr Leu Leu Pro Leu Pro Glu Pro Val Ile Ile Pro Gly Ser Arg
210 215 220

Phe Arg Glu Val Tyr Tyr Trp Asp Ser Tyr Trp Val Ile Lys Gly Leu
225 230 235 240

Met Thr Ser Gln Met Phe Thr Thr Ala Lys Gly Leu Val Thr Asn Leu
245 250 255

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

Tyr Tyr Thr Asn Arg Ser Gln Pro Pro Leu Leu Ser Ser Met Val Tyr
275 280 285

Glu Ile Tyr Asn Val Thr Lys Asp Glu Glu Leu Val Arg Lys Ala Ile
290 295 300

Pro Leu Leu Leu Lys Glu Tyr Glu Phe Trp Asn Ser Gly Lys His Lys
305 310 315 320

Val Val Ile Arg Asp Ala Asn Gly Tyr Asp His Val Leu Ser Arg Tyr
325 330 335

Tyr Ala Met Trp Asn Lys Pro Arg Pro Glu Ser Ser Val Phe Asp Glu
340 345 350

Glu Ser Ala Ser Gly Phe Ser Thr Met Leu Glu Lys Gln Arg Phe His
355 360 365

Arg Asp Ile Ala Thr Ala Ala Glu Ser Gly Cys Asp Phe Ser Thr Arg
370 375 380

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Trp Met Arg Asp Pro Pro Asn Phe Thr Thr Met Ala Thr Thr Ser Val
385 390 395 400

Val Pro Val Asp Leu Asn Val Phe Leu Leu Lys Met Glu Leu Asp Ile
405 410 415

Ala Phe Met Met Lys Val Ser Gly Asp Gln Asn Gly Ser Asp Arg Phe
420 425 430

Val Lys Ala Ser Lys Ala Arg Glu Lys Ala Phe Gln Thr Val Phe Trp
435 440 445

Asn Glu Lys Ala Gly Gln Trp Leu Asp Tyr Trp Leu Ser Ser Ser Gly
450 455 460

Glu Glu Ser Glu Thr Trp Lys Ala Glu Asn Gln Asn Thr Asn Val Phe
465 470 475 480

Ala Ser Asn Phe Ala Pro Ile Trp Ile Asn Ser Ile Asn Ser Asp Glu
485 490 495

Asn Leu Val Lys Lys Val Val Thr Ala Leu Lys Asn Ser Gly Leu Ile
500 505 510

Ala Pro Ala Gly Ile Leu Thr Ser Leu Thr Asn Ser Gly Gln Gln Trp
515 520 525

Asp Ser Pro Asn Gly Trp Ala Pro Gln Gln Glu Met Ile Val Thr Gly
530 535 540

Leu Gly Arg Ser Ser Val Lys Glu Ala Lys Glu Met Ala Glu Asp Ile
545 550 555 560

Ala Arg Arg Trp Ile Lys Ser Asn Tyr Leu Val Tyr Lys Lys Ser Gly
565 570 575

Thr Ile His Glu Lys Leu Lys Val Thr Glu Leu Gly Glu Tyr Gly Gly
580 585 590

Gly Gly Glu Tyr Met Pro Gln Thr Gly Phe Gly Trp Ser Asn Gly Val
595 600 605

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Glu Ala
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<210> 4
<211> 566
<212> PRT
<213> Arabidopsis thaliana

<400> 4

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

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Ser Arg Tyr Tyr Ala Met Trp Asn Lys Pro Arg Pro Glu Ser Ser Val
275 280 285

Phe Asp Glu Glu Ser Ala Ser Gly Phe Ser Thr Met Leu Glu Lys Gln
290 295 300

Arg Phe His Arg Asp Ile Ala Thr Ala Ala Glu Ser Gly Cys Asp Phe
305 310 315 320

Ser Thr Arg Trp Met Arg Asp Pro Pro Asn Phe Thr Thr Met Ala Thr
325 330 335

Thr Ser Val Val Pro Val Asp Leu Asn Val Phe Leu Leu Lys Met Glu
340 345 350

Leu Asp Ile Ala Phe Met Met Lys Val Ser Gly Asp Gln Asn Gly Ser
355 360 365

Asp Arg Phe Val Lys Ala Ser Lys Ala Arg Glu Lys Ala Phe Gln Thr
370 375 380

Val Phe Trp Asn Glu Lys Ala Gly Gln Trp Leu Asp Tyr Trp Leu Ser
385 390 395 400

Ser Ser Gly Glu Glu Ser Glu Thr Trp Lys Ala Glu Asn Gln Asn Thr
405 410 415

Asn Val Phe Ala Ser Asn Phe Ala Pro Ile Trp Ile Asn Ser Ile Asn
420 425 430

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

Ser Gly Leu Ile Ala Pro Ala Gly Ile Leu Thr Ser Leu Ala Asn Ser
450 455 460

Gly Gln Gln Trp Asp Ser Pro Asn Gly Trp Ala Pro Gln Gln Glu Met
465 470 475 480

Ile Val Thr Gly Leu Gly Arg Ser Ser Val Lys Glu Ala Lys Glu Met
485 490 495

Ala Glu Asp Ile Ala Arg Arg Trp Ile Lys Ser Asn Tyr Leu Val Tyr
500 505 510

Lys Lys Ser Gly Thr Ile His Glu Lys Leu Lys Val Thr Glu Leu Gly
515 520 525

Glu Tyr Gly Gly Gly Gly Glu Tyr Met Pro Gln Thr Gly Phe Gly Trp
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His Leu Ser Ile Glu Ala
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<210> 5
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 <212> PRT
 <213> Arabidopsis thaliana
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Ser Tyr Pro Lys Lys Gln Thr Pro Asp Pro Lys Ser Tyr Ile Asp Leu
 35 40 45

Ser Leu Lys Arg Pro Tyr Ser Leu Ser Thr Ile Glu Ser Ala Phe Asp
 50 55 60

Asp Leu Thr Ser Glu Ser His Asp Gln Pro Val Pro Val Glu Thr Leu
 65 70 75 80

Glu Lys Phe Val Lys Glu Tyr Phe Asp Gly Ala Gly Glu Asp Leu Leu
 85 90 95

His His Glu Pro Val Asp Phe Val Ser Asp Pro Ser Gly Phe Leu Ser
 100 105 110

Asn Val Glu Asn Glu Glu Val Arg Glu Trp Ala Arg Glu Val His Gly
 115 120 125

Leu Trp Arg Asn Leu Ser Cys Arg Val Ser Asp Ser Val Arg Glu Ser
 130 135 140

Ala Asp Arg His Thr Leu Leu Pro Leu Pro Glu Pro Val Ile Ile Pro
 145 150 155 160

Gly Ser Arg Phe Arg Glu Val Tyr Tyr Trp Asp Ser Tyr Trp Val Ile
 165 170 175

Lys Gly Leu Met Thr Ser Gln Met Phe Thr Thr Ala Lys Gly Leu Val
 180 185 190

Thr Asn Leu Met Ser Leu Val Glu Thr Tyr Gly Tyr Ala Leu Asn Gly
 195 200 205

Ala Arg Ala Tyr Tyr Thr Asn Arg Ser Gln Pro Pro Leu Leu Ser Ser
 210 215 220

PhoenixTemp14994.tmp.txt

Met Val Tyr Glu Ile Tyr Asn Val Thr Lys Asp Glu Glu Leu Val Arg
225 230 235 240

Lys Ala Ile Pro Leu Leu Leu Lys Glu Tyr Glu Phe Trp Asn Ser Gly
245 250 255

Lys His Lys Val Val Ile Arg Asp Ala Asn Gly Tyr Asp His Val Leu
260 265 270

Ser Arg Tyr Tyr Ala Met Trp Asn Lys Pro Arg Pro Glu Ser Ser Val
275 280 285

Phe Asp Glu Glu Ser Ala Ser Gly Phe Ser Thr Met Leu Glu Lys Gln
290 295 300

Arg Phe His Arg Asp Ile Ala Thr Ala Ala Glu Ser Gly Cys Asp Phe
305 310 315 320

Ser Thr Arg Trp Met Arg Asp Pro Pro Asn Phe Thr Thr Met Ala Thr
325 330 335

Thr Ser Val Val Pro Val Asp Leu Asn Val Phe Leu Leu Lys Met Glu
340 345 350

Leu Asp Ile Ala Phe Met Met Lys Val Ser Gly Asp Gln Asn Gly Ser
355 360 365

Asp Arg Phe Val Lys Ala Ser Lys Ala Arg Glu Lys Ala Phe Gln Thr
370 375 380

Val Phe Trp Asn Glu Lys Ala Gly Gln Trp Leu Asp Tyr Trp Leu Ser
385 390 395 400

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

Pro Ile Trp Ile Asn Ser Ile Asn Ser Asp Glu Asn Leu Val Lys Lys
420 425 430

Val Val Thr Ala Leu Lys Asn Ser Gly Leu Ile Ala Pro Ala Gly Ile
435 440 445

Leu Thr Ser Leu Thr Asn Ser Gly Gln Gln Trp Asp Ser Pro Asn Gly
450 455 460

Trp Ala Pro Gln Gln Glu Met Ile Val Thr Gly Leu Gly Arg Ser Ser
465 470 475 480

Val Lys Glu Ala Lys Glu Met Ala Glu Asp Ile Ala Arg Arg Trp Ile
485 490 495

PhoenixTemp14994.tmp.txt

Lys Ser Asn Tyr Leu Val Tyr Lys Lys Ser Gly Thr Ile His Glu Lys
500 505 510

Leu Lys Val Thr Glu Leu Gly Glu Tyr Gly Gly Gly Gly Glu Tyr Met
515 520 525

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<212> PRT
<213> Oryza sativa (japonica cultivar-group)

<400> 6

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Gly Pro Asn Asp Phe Asp Pro Lys Leu Tyr Val Asp Leu Pro Leu Ala
35 40 45

Ala Asp Ala Ser Ala Ala Ala Ala Leu Ala Ser Leu Pro Arg Ala Ala
50 55 60

Pro Ser Arg Gly Glu Met Glu Ala Tyr Ile Ser Arg Tyr Phe Ala Leu
65 70 75 80

Ala Gly Ser Asp Leu Val Ala Ala Ala Asp Pro Pro Asp Phe Glu Arg
85 90 95

Asp Pro Pro Gly Phe Leu Pro Arg Val Glu Arg Ala Glu Ala Arg Ala
100 105 110

Trp Ala Leu Glu Val His Ala Leu Trp Lys Asp Leu Thr Arg Arg Val
115 120 125

Ala Pro Ala Val Ala Ala Arg Pro Asp Arg His Thr Leu Leu Pro Leu
130 135 140

Pro Gly Arg Val Val Val Pro Gly Ser Arg Phe Arg Glu Val Tyr Tyr
145 150 155 160

Trp Asp Ser Tyr Trp Val Val Arg Gly Leu Leu Val Ser Lys Met Tyr
165 170 175

Glu Thr Ala Lys Asp Ile Val Leu Asn Leu Val Tyr Leu Val Glu Lys

180

185

190

Tyr Gly Phe Val Leu Asn Gly Ala Arg Ser Tyr Tyr Thr Asn Arg Ser
 195 200 205

Gln Pro Pro Leu Leu Ser Ser Met Val Leu Asp Ile Tyr Met Ala Thr
 210 215 220

Gly Asp Met Ala Phe Val Arg Arg Val Phe Pro Ser Leu Leu Lys Glu
 225 230 235 240

His Ser Phe Trp Met Ser Glu Val His Asn Val Ala Val Met Asp Asn
 245 250 255

His Gly Arg Val His Asn Leu Ser Arg Tyr Gln Ala Met Trp Asn Lys
 260 265 270

Pro Arg Pro Glu Ser Ala Thr Ile Asp Glu Glu Phe Ala Ser Lys Leu
 275 280 285

Ser Thr Ala Ala Lys Glu Lys Phe Tyr His Gln Val Ala Ser Thr Ala
 290 295 300

Glu Thr Gly Trp Asp Phe Ser Ser Arg Trp Met Arg Asp Ser Thr Asp
 305 310 315 320

Met Thr Thr Leu Thr Thr Ser Cys Ile Ile Pro Val Asp Leu Asn Thr
 325 330 335

Phe Ile Leu Lys Met Glu Gln Asp Ile Ala Phe Phe Ala Lys Leu Ile
 340 345 350

Gly Glu Ser Thr Thr Ser Glu Ile Phe Ser Glu Ala Ser Lys Ala Arg
 355 360 365

His Asn Ala Ile Asp Ser Val Leu Trp Asn Ala Asp Met Glu Gln Trp
 370 375 380

Leu Asp Tyr Trp Leu Pro Thr Asp Gly Asn Cys Gln Gly Val Tyr Gln
 385 390 400

Trp Lys Ser Ile Ser Gln Asn Arg Ala Ile Phe Ala Ser Asn Phe Val
 405 410 415

Pro Leu Trp Leu Asn Ala Gln His Ser Gly Leu Glu Gln Phe Val Asp
 420 425 430

Glu Ala Lys Ser Val Arg Val Met Arg Ser Leu Gln Lys Ser Gly Leu
 435 440 445

Leu Gln Pro Ala Gly Ile Ala Thr Ser Leu Ser Asn Thr Gly Gln Gln
 450 455 460

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Trp Asp Phe Pro Asn Gly Trp Ala Pro Leu Gln His Leu Ile Val Glu
465 470 475 480

Gly Leu Leu Arg Ser Gly Ser Gly Glu Ala Arg Glu Leu Ala Glu Asp
485 490 495

Ile Ala Thr Arg Trp Val Arg Thr Asn Tyr Asp Ala Tyr Lys Ala Thr
500 505 510

Gly Ala Met His Glu Lys Tyr Asp Val Val Thr Cys Gly Lys Ser Gly
515 520 525

Gly Gly Gly Glu Tyr Lys Pro Gln Thr Gly Phe Gly Trp Ser Asn Gly
530 535 540

Val Ile Leu Ser Phe Leu Asp Glu Phe Gly Trp Pro Gln Asp Lys Lys
545 550 555 560

Ile Asp Cys

<210> 7
<211> 545
<212> PRT
<213> Oryza sativa (japonica cultivar-group)
<400> 7

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Leu Leu Gly Leu Leu Gln Arg Val Gln Ser Glu Ala Leu Arg Ala Phe
20 25 30

Gly Pro Asn Asp Phe Asp Pro Lys Leu Tyr Val Asp Leu Pro Leu Ala
35 40 45

Ala Asp Ala Ser Ala Ala Ala Ala Leu Ala Ser Leu Pro Arg Ala Ala
50 55 60

Pro Ser Arg Gly Glu Met Glu Ala Tyr Ile Ser Arg Tyr Phe Ala Leu
65 70 75 80

Ala Gly Ser Asp Leu Val Ala Ala Ala Asp Pro Pro Asp Phe Glu Arg
85 90 95

Asp Pro Pro Gly Phe Leu Pro Arg Val Glu Arg Ala Glu Ala Arg Ala
100 105 110

Trp Ala Leu Glu Val His Ala Leu Trp Lys Asp Leu Thr Arg Arg Val
115 120 125

Ala Pro Ala Val Ala Ala Arg Pro Asp Arg His Thr Leu Leu Pro Leu
 130 135 140

Pro Gly Arg Val Val Val Pro Gly Ser Arg Phe Arg Glu Val Tyr Tyr
 145 150 155 160

Trp Asp Ser Tyr Trp Val Val Arg Gly Leu Leu Val Ser Lys Met Tyr
 165 170 175

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

Tyr Gly Phe Val Leu Asn Gly Ala Arg Ser Tyr Tyr Thr Asn Arg Ser
 195 200 205

Gln Pro Pro Leu Leu Ser Ser Met Val Leu Asp Ile Tyr Met Ala Thr
 210 215 220

Gly Asp Met Ala Phe Val Arg Arg Val Phe Pro Ser Leu Leu Lys Glu
 225 230 235 240

His Ser Phe Trp Met Ser Glu Val His Asn Val Ala Val Met Asp Asn
 245 250 255

His Gly Arg Val His Asn Leu Ser Arg Tyr Gln Ala Met Trp Asn Lys
 260 265 270

Pro Arg Pro Glu Ser Ala Thr Ile Asp Glu Glu Phe Ala Ser Lys Leu
 275 280 285

Ser Thr Ala Ala Lys Glu Lys Phe Tyr His Gln Val Ala Ser Thr Ala
 290 295 300

Glu Thr Gly Trp Asp Phe Ser Ser Arg Trp Met Arg Asp Ser Thr Asp
 305 310 315 320

Met Thr Thr Leu Thr Thr Ser Cys Ile Ile Pro Val Asp Leu Asn Thr
 325 330 335

Phe Ile Leu Lys Met Glu Gln Asp Ile Ala Phe Phe Ala Lys Leu Ile
 340 345 350

Gly Glu Ser Thr Thr Ser Glu Ile Phe Ser Glu Ala Ser Lys Ala Arg
 355 360 365

His Asn Ala Ile Asp Ser Val Leu Trp Asn Ala Asp Met Glu Gln Trp
 370 375 380

Leu Asp Tyr Trp Leu Pro Thr Asp Gly Asn Cys Gln Gly Val Tyr Gln
 385 390 395 400

Trp Lys Ser Ile Ser Gln Asn Arg Ala Ile Phe Ala Ser Asn Phe Val
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405

410

415

Pro Leu Trp Leu Asn Ala Gln His Ser Gly Leu Glu Gln Phe Val Asp
 420 425 430

Glu Ala Lys Ser Val Arg Val Met Arg Ser Leu Gln Lys Ser Gly Leu
 435 440 445

Leu Gln Pro Ala Gly Ile Ala Thr Ser Leu Ser Asn Thr Gly Gln Gln
 450 455 460

Trp Asp Phe Pro Asn Gly Trp Ala Pro Leu Gln His Leu Ile Val Glu
 465 470 475 480

Gly Leu Leu Arg Ser Gly Ser Gly Glu Ala Arg Glu Leu Ala Glu Asp
 485 490 495

Ile Ala Thr Arg Trp Val Arg Thr Asn Tyr Asp Ala Tyr Lys Ala Thr
 500 505 510

Gly Ala Met His Glu Lys Tyr Asp Val Val Thr Cys Gly Lys Ser Gly
 515 520 525

Gly Gly Gly Glu Tyr Lys Pro Gln Val Trp Leu Phe Ser Ser Lys Phe
 530 535 540

Lys
 545

<210> 8

<211> 571

<212> PRT

<213> Physcomitrella patens subsp. patens

<400> 8

Met Val Glu Glu Phe Gly Glu Asp Gly Gly Tyr Gly Glu Gly Val Tyr
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Asp Asp Gly Ala Gly Glu Leu Leu Cys Phe Leu Met Asp Leu Gln Ser
 20 25 30

Thr Ala Met Asp Ser Phe Gly Gly Asp Ala Glu Phe Asp Pro Lys Leu
 35 40 45

Tyr Val Asp Leu Pro Leu Lys Ser Thr Leu Lys Glu Thr Val Glu Ala
 50 55 60

Phe Arg Ser Leu Pro Arg Ala Pro Ile Thr Gly Ser Val Asp Arg Asp
 65 70 75 80

Thr Leu Lys Thr Phe Leu Lys Asp Tyr Phe Gly Glu Thr Gly Ser Asp
 85 90 95

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Leu Val Pro Tyr Thr Pro Glu Asp His Leu Ala Asn Pro Pro Asp Phe
 100 105 110
 Leu Pro Arg Val Gln Asn Thr Asp Ala Arg Lys Trp Gly Leu Lys Val
 115 120 125
 His Ser Leu Trp Pro Ser Leu Thr Arg Leu Val Cys Pro Thr Val Glu
 130 135 140
 Arg Glu Pro Asp Arg His Thr Leu Leu Pro Leu Lys His Pro Phe Ile
 145 150 155 160
 Val Pro Gly Glu Arg Phe Arg Glu Val Tyr Tyr Trp Asp Ser Tyr Trp
 165 170 175
 Val Ile Arg Gly Leu Leu Ala Ser Lys Met Lys Lys Thr Ala Ala Gly
 180 185 190
 Met Ile Asp Asn Phe Leu Ala Val Val Gln Ala Tyr Gly Phe Leu Pro
 195 200 205
 Asn Gly Ala Arg Thr Tyr Tyr Glu Asn Arg Ser Gln Pro Pro Phe Leu
 210 215 220
 Ser Arg Met Val Arg Ala Ile Phe Ser Ala Thr Asp Asp Leu Lys Leu
 225 230 235 240
 Ala Thr Arg Ala Leu Pro Leu Leu Leu Val Glu His Asp Phe Trp Val
 245 250 255
 Thr Gly Ser His Val Val Thr Ile Arg Asp Ser Gln Gly Arg Asp His
 260 265 270
 Arg Leu Ser Arg Tyr Ser Ala His Trp Asp Gln Pro Arg Pro Glu Cys
 275 280 285
 Ser Thr Ile Asp Lys Cys Ile Ala Gly Gly Phe Ser Lys Leu Lys Gln
 290 295 300
 Gln Gln Leu Tyr His Asp Ile Ala Thr Ala Ala Glu Ser Gly Trp Asp
 305 310 315 320
 Phe Ser Ser Arg Trp Met Glu Asp Gln Glu Gln Leu Ser Ser Met Lys
 325 330 335
 Thr Ser Ser Ile Ile Pro Val Asp Leu Asn Ala Phe Leu Leu Gln Met
 340 345 350
 Glu Leu Asp Ile Ala Tyr Leu Ala Lys Ala Leu Asn Asn Thr Ser Val
 355 360 365

Ala Lys Arg Phe Thr Arg Ala Val Asp Ala Arg Lys Arg Ala Phe Glu
 370 375 380

Ala Ile Leu Trp Asn Glu Asn Lys Ser Gln Trp Leu Asp Tyr Trp Leu
 385 390 395 400

Pro Leu Gln Lys Pro Lys Ile Tyr Met Trp Asp Ser Asp Arg Ala Asn
 405 410 415

Gln Asn Val Tyr Ala Ser Asn Phe Val Pro Leu Trp Cys Gly Leu Leu
 420 425 430

Ser Ala Ala Gly Asp Ala Lys Ile Asp Lys Val Val Glu Ala Leu Ser
 435 440 445

Ser Ser Gly Leu Ile Leu Pro Gly Gly Ile Ala Thr Ser Leu Ile Lys
 450 455 460

Thr Gly Gln Gln Trp Asp Phe Pro Asn Ala Trp Ala Pro Leu Gln His
 465 470 475 480

Met Leu Ile Glu Gly Leu Ile Leu Ser Gly Ser Pro Lys Ala Arg Glu
 485 490 495

Leu Ala Glu Ser Ile Thr Arg Ser Trp Leu Arg Ser Asn Tyr Leu Ala
 500 505 510

Phe Gln Arg Phe Gly His Met Val Glu Lys Tyr Asp Ala Arg Tyr Cys
 515 520 525

Gly Glu Val Gly Gly Gly Gly Glu Tyr Ile Thr Gln Thr Gly Phe Gly
 530 535 540

Trp Thr Asn Gly Val Val Leu Thr Leu Leu Asn Asp Tyr Gly Trp Pro
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Glu Asp Leu Pro Leu Asp Phe Asp Tyr Lys Ser
 565 570

<210> 9

<211> 544

<212> PRT

<213> Physcomitrella patens subsp. patens

<400> 9

Met Gly Ser Phe Gly Gly Gly Pro Glu Phe Asp Pro Lys Leu Tyr Val
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Asp Leu Pro Leu Thr Thr Ser Leu Glu Glu Thr Glu Ala Ala Phe Gly
 20 25 30

Ser Leu Pro Arg Cys Pro Thr Ser Gly Ser Val Glu Lys Asp Thr Leu
 35 40 45

PhoenixTemp14994.tmp.txt

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

PhoenixTemp14994.tmp.txt

Asp Ile Ala Phe Leu Ala Lys Thr Leu Asn Glu Thr Gln Asp Ala Lys
325 330 335

Arg Phe Thr Arg Ala Ala Asp Ala Arg Arg Arg Ala Phe Glu Ala Ile
340 345 350

Leu Trp Asn Glu Asn Arg Cys Gln Trp Leu Asp Tyr Trp Leu Pro Ser
355 360 365

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

Arg Ser Asn Arg Asn Thr Tyr Ala Ser Asn Phe Val Pro Leu Trp Cys
385 390 395 400

Gly Val Leu Pro Pro Gly Asp Ala Lys Ile Asp Gln Val Val Glu Ala
405 410 415

Leu Ser Gly Ser Gly Leu Val Met Pro Gly Gly Ile Ala Thr Ser Leu
420 425 430

Val Glu Thr Gly Gln Gln Trp Asp Phe Pro Asn Ala Trp Ala Pro Leu
435 440 445

Gln His Met Ile Ile Glu Gly Leu Val Leu Ser Ala Ser Pro Lys Ala
450 455 460

Lys Ala Met Ala Glu Ser Ile Thr Arg Ser Trp Leu Arg Ser Asn Tyr
465 470 475 480

Val Ala Tyr Gln Arg Val Gly His Met Val Glu Lys Tyr Asp Ala Arg
485 490 495

Tyr Cys Gly Glu Val Gly Gly Gly Gly Glu Tyr Ile Thr Gln Thr Gly
500 505 510

Phe Gly Trp Thr Asn Gly Val Val Leu Thr Leu Leu Asn Asp Tyr Gly
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Trp Pro Glu Asp Val Pro Leu Asp Cys Asp Cys Glu Ser Leu Gln Leu
530 535 540

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<211> 515
<212> PRT
<213> Oryza sativa (indica cultivar-group)
<400> 10

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

Leu Leu Gly Leu Leu Gln Arg Val Gln Ser Glu Ala Leu Arg Ala Phe
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20

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30

Gly Pro Asn Asp Phe Asp Pro Lys Leu Tyr Val Asp Leu Pro Leu Ala
35 40 45

Ala Asp Ala Ser Ala Ala Ala Ala Leu Ala Ser Leu Pro Arg Ala Ala
50 55 60

Pro Ser Arg Gly Glu Met Glu Ala Tyr Ile Ser Arg Tyr Phe Ala Leu
65 70 75 80

Ala Gly Ser Asp Leu Val Ala Ala Ala Asp Pro Pro Asp Phe Glu Arg
85 90 95

Asp Pro Pro Gly Phe Leu Pro Arg Val Glu Arg Ala Glu Ala Arg Ala
100 105 110

Trp Ala Leu Glu Val His Ala Leu Trp Lys Asp Leu Thr Arg Arg Val
115 120 125

Ala Pro Ala Val Ala Ala Arg Pro Asp Arg His Thr Leu Leu Pro Leu
130 135 140

Pro Gly Arg Val Val Val Pro Gly Ser Arg Phe Arg Glu Val Tyr Tyr
145 150 155 160

Trp Asp Ser Tyr Trp Val Val Arg Gly Leu Leu Val Ser Lys Met Tyr
165 170 175

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

Tyr Gly Phe Val Leu Asn Gly Ala Arg Ser Tyr Tyr Thr Asn Arg Ser
195 200 205

Gln Pro Pro Leu Leu Ser Ser Met Val Leu Asp Ile Tyr Met Ala Thr
210 215 220

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

Ser Thr Ala Ala Lys Glu Lys Phe Tyr His Gln Val Ala Ser Thr Ala
245 250 255

Glu Thr Gly Trp Asp Phe Ser Ser Arg Trp Met Arg Asp Ser Thr Asp
260 265 270

Met Thr Thr Leu Thr Thr Ser Cys Ile Ile Pro Val Asp Leu Asn Thr
275 280 285

Phe Ile Leu Lys Met Glu Gln Asp Ile Ala Phe Phe Ala Lys Leu Ile
290 295 300

PhoenixTemp14994.tmp.txt

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

His Asn Ala Ile Asp Ser Val Leu Trp Asn Ala Asp Met Glu Gln Trp
325 330 335

Leu Asp Tyr Trp Leu Pro Thr Asp Gly Asn Cys Gln Gly Val Tyr Gln
340 345 350

Trp Lys Ser Ile Ser Gln Asn Arg Ala Ile Phe Ala Ser Asn Phe Val
355 360 365

Pro Leu Trp Leu Asn Ala Gln His Ser Gly Leu Glu Gln Phe Val Asp
370 375 380

Glu Ala Lys Ser Val Arg Val Met Arg Ser Leu Gln Lys Ser Gly Leu
385 390 395 400

Leu Gln Pro Ala Gly Ile Ala Thr Ser Leu Ser Asn Thr Gly Gln Gln
405 410 415

Trp Asp Phe Pro Asn Gly Trp Ala Pro Leu Gln His Leu Ile Val Glu
420 425 430

Gly Leu Leu Arg Ser Gly Ser Gly Glu Ala Arg Glu Leu Ala Glu Asp
435 440 445

Ile Ala Thr Arg Trp Val Arg Thr Asn Tyr Asp Ala Tyr Lys Ala Thr
450 455 460

Gly Ala Met His Glu Lys Tyr Asp Val Val Thr Cys Gly Lys Ser Gly
465 470 475 480

Gly Gly Gly Glu Tyr Lys Pro Gln Thr Gly Phe Gly Trp Ser Asn Gly
485 490 495

Val Ile Leu Ser Phe Leu Asp Glu Phe Gly Trp Pro Gln Asp Lys Lys
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Ile Asp Cys
515

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<212> DNA
<213> Glycine max

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actgtgtaat ggccgtgacg cctcaaccc ctcttctctc cttcctcgaa cgcctccaag 180

PhoenixTemp14994.tmp.txt

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acgggtccgt	gccggttgag	gatttgaagc	gtttcataga	ggcctacttt	gaaggtgcag	360
gggatgatct	ggtgtaccgg	gaccacaggg	atttcgttcc	cgagccggag	ggtttcttgc	420
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 <211> 557
 <212> PRT

<213> Glycine max

<400> 12

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Ser Phe Leu Glu Arg Leu Gln Glu Thr Ala Phe Glu Thr Phe Ala His
20 25 30

Ser Asn Phe Asp Pro Lys Thr Tyr Val Asp Met Pro Leu Lys Ser Ala
35 40 45

Leu Thr Val Thr Glu Asp Ala Phe Gln Lys Leu Pro Arg Asn Ala Asn
50 55 60

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

Glu Gly Ala Gly Asp Asp Leu Val Tyr Arg Asp Pro Gln Asp Phe Val
85 90 95

Pro Glu Pro Glu Gly Phe Leu Pro Lys Val Asn His Pro Gln Val Arg
100 105 110

Ala Trp Ala Leu Gln Val His Ser Leu Trp Lys Asn Leu Ser Arg Lys
115 120 125

Ile Ser Gly Ala Val Lys Ala Gln Pro Asp Leu His Thr Leu Leu Pro
130 135 140

Leu Pro Gly Ser Val Val Ile Pro Gly Ser Arg Phe Arg Glu Val Tyr
145 150 155 160

Tyr Trp Asp Ser Tyr Trp Val Ile Arg Gly Leu Leu Ala Ser Gln Met
165 170 175

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

Lys Tyr Gly Phe Val Leu Asn Gly Ala Arg Ala Tyr Tyr Thr Asn Arg
195 200 205

Ser Gln Pro Pro Leu Leu Ser Ala Met Ile Tyr Glu Ile Tyr Asn Ser
210 215 220

Thr Gly Asp Val Glu Leu Val Lys Arg Ser Leu Pro Ala Leu Leu Lys
225 230 235 240

Glu Tyr Glu Phe Trp Asn Ser Asp Ile His Lys Leu Thr Ile Leu Asp
245 250 255

Ala Gln Gly Cys Thr His Thr Leu Asn Arg Tyr Tyr Ala Lys Trp Asp
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265

270

Lys Pro Arg Pro Glu Ser Ser Ile Met Asp Lys Ala Ser Ala Ser Asn
 275 280 285

Phe Ser Ser Val Ser Glu Lys Gln Gln Phe Tyr Arg Glu Leu Ala Ser
 290 295 300

Ala Ala Glu Ser Gly Trp Asp Phe Ser Thr Arg Trp Met Arg Asn Pro
 305 310 315 320

Pro Asn Phe Thr Thr Leu Ala Thr Thr Ser Val Ile Pro Val Asp Leu
 325 330 335

Asn Ala Phe Leu Leu Gly Met Glu Leu Asn Ile Ala Leu Phe Ala Lys
 340 345 350

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

Leu Arg Lys Lys Ala Met Asp Ser Ile Phe Trp Asn Ala Asn Lys Lys
 370 375 380

Gln Trp Leu Asp Tyr Trp Leu Ser Ser Thr Cys Glu Glu Val His Val
 385 390 395 400

Trp Lys Asn Glu His Gln Asn Gln Asn Val Phe Ala Ser Asn Phe Val
 405 410 415

Pro Leu Trp Met Lys Pro Phe Tyr Ser Asp Thr Ser Leu Val Ser Ser
 420 425 430

Val Val Glu Ser Leu Lys Thr Ser Gly Leu Leu Arg Asp Ala Gly Val
 435 440 445

Ala Thr Ser Leu Thr Asp Ser Gly Gln Gln Trp Asp Phe Pro Asn Gly
 450 455 460

Trp Ala Pro Leu Gln His Met Leu Val Glu Gly Leu Leu Lys Ser Gly
 465 470 475 480

Leu Lys Glu Ala Arg Leu Leu Ala Glu Glu Ile Ala Ile Arg Trp Val
 485 490 495

Thr Thr Asn Tyr Ile Val Tyr Lys Lys Thr Gly Val Met His Glu Lys
 500 505 510

Phe Asp Val Glu His Cys Gly Glu Phe Gly Gly Gly Gly Glu Tyr Val
 515 520 525

Pro Gln Thr Gly Phe Gly Trp Ser Asn Gly Val Val Leu Ala Phe Leu
 530 535 540

PhoenixTemp14994.tmp.txt

Glu Glu Phe Gly Trp Pro Glu Asp Arg Asn Ile Glu Cys
545 550 555

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<211> 609
<212> DNA
<213> Glycine max

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ggtatattag gccataatat tataggtaac atgaaatatac aaatgacacg caagagtttt 180
gtcaaaaatg aaaccatcac acatcagaga ttatggcaaa taatgttttg tgtgtctctt 240
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gaactaacc 609

<210> 14
<211> 32
<212> DNA
<213> Glycine max

<400> 14
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<210> 15
<211> 27
<212> DNA
<213> Glycine max

<400> 15
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