

eolf-seql.txt  
SEQUENCE LISTING

<110> Novozymes A/S  
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Li, Ming  
Jørgensen, Christian I  
Borch, Kim  
Nielsen, Tom A. B.  
Vind, Jesper

<120> Isolated peptides having phospholipase inhibitory activitiy

<130> 11210.204-WO

<150> EP08155438  
<151> 2008-04-30

<160> 18

<170> PatentIn version 3.3

<210> 1  
<211> 316  
<212> PRT  
<213> Fusarium oxysporum

<400> 1

Ala Val Gly Val Thr Thr Thr Asp Phe Ser Asn Phe Lys Phe Tyr Ile  
1 5 10 15

Gln His Gly Ala Ala Ala Tyr Cys Asn Ser Glu Ala Ala Ala Gly Ser  
20 25 30

Lys Ile Thr Cys Ser Asn Asn Gly Cys Pro Thr Val Gln Gly Asn Gly  
35 40 45

Ala Thr Ile Val Thr Ser Phe Val Gly Ser Lys Thr Gly Ile Gly Gly  
50 55 60

Tyr Val Ala Thr Asp Ser Ala Arg Lys Glu Ile Val Val Ser Phe Arg  
65 70 75 80

Gly Ser Ile Asn Ile Arg Asn Trp Leu Thr Asn Leu Asp Phe Gly Gln  
85 90 95

Glu Asp Cys Ser Leu Val Ser Gly Cys Gly Val His Ser Gly Phe Gln  
100 105 110

Arg Ala Trp Asn Glu Ile Ser Ser Gln Ala Thr Ala Ala Val Ala Ser  
115 120 125

Ala Arg Lys Ala Asn Pro Ser Phe Asn Val Ile Ser Thr Gly His Ser  
130 135 140

Leu Gly Gly Ala Val Ala Val Leu Ala Ala Ala Asn Leu Arg Val Gly  
145 150 155 160

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Gly Thr Pro Val Asp Ile Tyr Thr Tyr Gly Ser Pro Arg Val Gly Asn  
165 170 175

Ala Gln Leu Ser Ala Phe Val Ser Asn Gln Ala Gly Gly Glu Tyr Arg  
180 185 190

Val Thr His Ala Asp Asp Pro Val Pro Arg Leu Pro Pro Leu Ile Phe  
195 200 205

Gly Tyr Arg His Thr Thr Pro Glu Phe Trp Leu Ser Gly Gly Gly Gly  
210 215 220

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

Ala Asn Leu Gly Cys Asn Gly Gly Thr Leu Gly Leu Asp Ile Ala Ala  
245 250 255

His Leu His Tyr Phe Gln Ala Thr Asp Ala Cys Asn Ala Gly Gly Phe  
260 265 270

Ser Trp Arg Arg Tyr Arg Ser Ala Glu Ser Val Asp Lys Arg Ala Thr  
275 280 285

Met Thr Asp Ala Glu Leu Glu Lys Lys Leu Asn Ser Tyr Val Gln Met  
290 295 300

Asp Lys Glu Tyr Val Lys Asn Asn Gln Ala Arg Ser  
305 310 315

<210> 2  
<211> 351  
<212> PRT  
<213> Fusarium graminearium

<400> 2

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

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

Ser Val Ser Thr Thr Asp Phe Gly Asn Phe Lys Phe Tyr Ile Gln His  
35 40 45

Gly Ala Ala Ala Tyr Cys Asn Ser Glu Ala Pro Ala Gly Ala Lys Val  
50 55 60

Thr Cys Ser Gly Asn Gly Cys Pro Thr Val Gln Ser Asn Gly Ala Thr  
65 70 75 80

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Ile Val Ala Ser Phe Thr Gly Ser Lys Thr Gly Ile Gly Gly Tyr Val  
85 90 95

Ala Thr Asp Pro Thr Arg Lys Glu Ile Val Val Ser Phe Arg Gly Ser  
100 105 110

Ile Asn Ile Arg Asn Trp Leu Thr Asn Leu Asp Phe Asp Gln Asp Asp  
115 120 125

Cys Ser Leu Thr Ser Gly Cys Gly Val His Ser Gly Phe Gln Asn Ala  
130 135 140

Trp Asn Glu Ile Ser Ala Ala Ala Thr Ala Ala Val Ala Lys Ala Arg  
145 150 155 160

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

Gly Ala Val Ala Thr Leu Ala Gly Ala Asn Leu Arg Val Gly Gly Thr  
180 185 190

Pro Leu Asp Ile Tyr Thr Tyr Gly Ser Pro Arg Val Gly Asn Thr Gln  
195 200 205

Leu Ala Ala Phe Val Ser Asn Gln Ala Gly Gly Glu Phe Arg Val Thr  
210 215 220

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

Arg His Thr Ser Pro Glu Tyr Trp Leu Ser Gly Ser Gly Gly Asp Lys  
245 250 255

Ile Asp Tyr Thr Ile Asn Asp Val Lys Val Cys Glu Gly Ala Ala Asn  
260 265 270

Leu Gln Cys Asn Gly Gly Thr Leu Gly Leu Asp Ile Asp Ala His Leu  
275 280 285

His Tyr Phe Gln Ala Thr Asp Ala Cys Ser Ala Gly Gly Ile Ser Trp  
290 295 300

Arg Arg Tyr Arg Ser Ala Lys Arg Glu Ser Ile Ser Glu Arg Ala Thr  
305 310 315 320

Met Thr Asp Ala Glu Leu Glu Lys Lys Leu Asn Ser Tyr Val Glu Met  
325 330 335

Asp Lys Glu Tyr Ile Lys Thr His Ala Arg Pro Leu Ile Ile Val  
340 345 350

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<210> 3  
 <211> 343  
 <212> PRT  
 <213> Nectria sp.

<400> 3

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

Ser Ile Lys Ser Tyr Leu His Ala Phe Glu Glu Arg Ala Val Thr Val  
 20 25 30

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

Ala Ala Tyr Cys Asn Tyr Asp Arg Ala Ala Gly Ala Leu Ile Ser Cys  
 50 55 60

Ser Ser Asn Cys Pro Ser Ile Glu Ser Asn Ala Ala Lys Ile Val Gly  
 65 70 75 80

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

Ala Thr Arg Lys Glu Ile Val Val Ser Ile Arg Gly Ser Ile Asn Val  
 100 105 110

Arg Asn Trp Ile Thr Asn Leu Asp Phe Val Trp Ser Ser Cys Ser Asp  
 115 120 125

Leu Ser Ser Asn Cys Lys Ala His Ala Gly Phe Lys Asp Ala Trp Asp  
 130 135 140

Glu Ile Ser Thr Ala Ala Lys Ala Ala Val Val Ser Ala Lys Lys Ala  
 145 150 155 160

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

Val Ala Thr Leu Ala Ala Ala Tyr Ile Arg Ala Ala Gly Tyr Ser Val  
 180 185 190

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

Asn Phe Val Thr Ser Gln Ala Gly Ala Glu Tyr Arg Val Thr His Leu  
 210 215 220

Asp Asp Pro Val Pro Arg Leu Pro Pro Ile Leu Phe Gly Tyr Arg His  
 225 230 235 240

Thr Ser Pro Glu Tyr Trp Leu Ser Asn Gly Gly Ala Thr Thr Thr Thr

245

250

255

Tyr Ser Leu Ser Asp Ile Val Val Cys Glu Gly Ile Ala Asn Thr Asp  
                   260                  265                  270

Cys Asn Ala Gly Thr Leu Gly Leu Asp Ile Ile Ala His Leu Ile Tyr  
           275                  280                  285

Phe Gln Asp Thr Ser Ala Cys Asn Thr Gly Phe Thr Trp Lys Arg Asp  
           290                  295                  300

Thr Leu Ser Asp Ala Glu Leu Glu Glu Met Val Asn Lys Trp Ala Glu  
   305                  310                  315                  320

Gln Asp Val Glu Tyr Val Ala Asn Leu Thr Thr Thr Ala Ser Lys Arg  
                   325                  330                  335

Trp Lys Gly Ala Val Ala Asn  
                   340

<210> 4  
 <211> 348  
 <212> PRT  
 <213> Nectria sp.

<400> 4

Met Leu Leu Leu Pro Leu Leu Ser Ala Ile Thr Leu Ala Val Ala Ser  
   1                  5                  10                  15

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

Gly Val Ser Thr Thr Asp Phe Gly Asn Phe Lys Phe Tyr Ile Gln His  
           35                  40                  45

Gly Ala Ala Ala Tyr Cys Asn Ser Asp Ala Ser Ala Gly Ser Lys Ile  
   50                  55                  60

Thr Cys Ser Asn Asn Gly Cys Pro Thr Ile Gln Ser Asn Gly Val Thr  
   65                  70                  75                  80

Val Val Ser Ser Phe Ile Gly Ser Lys Thr Gly Ile Gly Gly Tyr Val  
           85                  90                  95

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

Ser Asn Ile Arg Asn Trp Leu Thr Asn Leu Asp Phe Gly Gln Ser Asp  
           115                  120                  125

Cys Ser Leu Val Ser Gly Cys Gly Val His Thr Gly Phe Gln Asn Ala  
   130                  135                  140

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Trp Asn Glu Ile Ala Asn Gln Val Thr Ala Ala Val Ala Lys Ala Gln  
145 150 155 160

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

Gly Ala Val Ala Val Leu Ala Gly Ala Asn Leu Arg Val Gly Gly Thr  
180 185 190

Pro Val Asp Ile Tyr Thr Tyr Gly Ala Pro Arg Val Gly Asn Ala Gln  
195 200 205

Leu Ser Ala Phe Ile Ser Asn Gln Ala Gly Gly Glu Tyr Arg Ile Thr  
210 215 220

His Ala Ala Asp Pro Val Pro Arg Leu Pro Pro Leu Ile Phe Gly Tyr  
225 230 235 240

Arg His Thr Ser Pro Glu Phe Trp Leu Ser Gly Gly Ser Gly Ser Thr  
245 250 255

Ile Asp Tyr Thr Ile Asp Ser Val Lys Val Cys Glu Gly Ala Ala Asn  
260 265 270

Leu Gly Cys Asn Gly Gly Thr Leu Gly Leu Asp Ile Ile Ala His Leu  
275 280 285

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

Arg Arg Tyr Arg Ser Ala Ser Val Glu Gly Val Asp Lys Arg Ala Thr  
305 310 315 320

Met Thr Asp Ala Glu Leu Glu Lys Lys Leu Asn Ser Tyr Val Glu Leu  
325 330 335

Asp Lys Glu Tyr Val Lys Asn His Gln Asn Arg Ser  
340 345

<210> 5  
<211> 318  
<212> PRT  
<213> Fusarium heterosporum

<400> 5

Ala Val Gly Val Thr Ser Thr Asp Phe Thr Asn Phe Lys Phe Tyr Ile  
1 5 10 15

Gln His Gly Ala Ala Ala Tyr Cys Asn Ser Gly Thr Ala Ala Gly Ala  
20 25 30

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

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Ala Met Asp Gln Glu Tyr Val Lys Thr His Gln Asn Arg Thr  
305 310 315

<210> 6  
<211> 352  
<212> PRT  
<213> Fusarium semitectum

<400> 6

Met Arg Val Leu Ser Leu Leu Ser Val Ala Thr Phe Ala Val Ala Ser  
1 5 10 15

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

Ala Val Ser Asn Gly Asp Phe Gly Asn Phe Lys Phe Tyr Ile Gln His  
35 40 45

Gly Ala Ala Ser Tyr Cys Asn Ser Asn Ala Ala Ala Gly Ala Lys Ile  
50 55 60

Thr Cys Gly Asn Asn Gly Cys Pro Thr Val Gln Ser Asn Gly Ala Thr  
65 70 75 80

Ile Val Ala Ser Phe Thr Gly Ser Lys Thr Gly Ile Gly Gly Tyr Val  
85 90 95

Ser Thr Asp Ser Ser Arg Lys Glu Ile Val Leu Ser Val Arg Gly Ser  
100 105 110

Ile Asn Ile Arg Asn Trp Leu Thr Asn Leu Asp Phe Gly Gln Glu Asp  
115 120 125

Cys Ser Leu Thr Ser Gly Cys Gly Val His Ser Gly Phe Gln Asn Ala  
130 135 140

Trp Lys Glu Ile Ser Ala Ala Ala Thr Ala Val Ala Lys Ala Arg  
145 150 155 160

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

Gly Ala Val Ala Thr Leu Ala Gly Ala Asn Leu Arg Val Gly Gly Thr  
180 185 190

Pro Val Asp Ile Tyr Thr Tyr Gly Ser Pro Arg Val Gly Asn Ser Gln  
195 200 205

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



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Asn Ala Lys Asp Pro Val Pro Arg Leu Pro Pro Leu Val Phe Gly Tyr  
225 230 235 240

Arg His Thr Ser Pro Glu Tyr Trp Leu Ser Gly Ala Gly Gly Asp Lys  
245 250 255

Val Asp Tyr Thr Ile Asn Asp Ile Lys Val Cys Glu Gly Ala Ala Asn  
260 265 270

Leu Lys Cys Asn Gly Gly Thr Leu Gly Leu Asp Ile Asp Ala His Leu  
275 280 285

His Tyr Phe Gln Glu Thr Asp Ala Cys Ser Gly Gly Gly Ile Ser Trp  
290 295 300

Arg Ser Arg Arg Tyr Arg Ser Ala Lys Arg Glu Asp Ile Ser Glu Arg  
305 310 315 320

Ala Ala Pro Met Thr Asp Ala Glu Leu Glu Lys Lys Leu Asn Asn Tyr  
325 330 335

Val Glu Met Asp Lys Glu Tyr Val Lys Asn Asn Ala Ala Arg Thr Ser  
340 345 350

<210> 7  
<211> 333  
<212> PRT  
<213> Fusarium solani

<400> 7

Met His Leu Ile Leu Ser Ile Leu Ser Ile Ile Ala Phe Thr Ala Ala  
1 5 10 15

Gly Pro Val Pro Ser Val Asp Glu Asn Thr Arg Val Leu Glu His Arg  
20 25 30

Ala Leu Thr Val Thr Thr Gln Asp Leu Ser Asn Phe Arg Phe Tyr Leu  
35 40 45

Gln His Ala Asp Ala Ala Tyr Cys Asn Phe Asn Thr Ala Val Gly Lys  
50 55 60

Pro Val His Cys Ser Ala Gly Asn Cys Pro Asp Ile Glu Lys Asp Ala  
65 70 75 80

Ala Ile Val Val Gly Ser Val Val Gly Thr Lys Thr Gly Ile Gly Ala  
85 90 95

Tyr Val Ala Thr Asp Asn Ala Arg Lys Glu Ile Val Val Ser Val Arg  
100 105 110

Gly Ser Ile Asn Val Arg Asn Trp Ile Thr Asn Phe Asn Phe Gly Gln

## eolf-seql.txt

115

120

125

Lys Thr Cys Glu Leu Val Ala Gly Cys Gly Val His Thr Gly Phe Leu  
 130 135 140

Asp Ala Trp Glu Glu Val Ala Ala Asn Val Lys Ala Ala Val Ser Ala  
 145 150 155 160

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

Leu Gly Gly Ala Val Ala Thr Ile Ala Ala Ala Tyr Leu Arg Lys Asp  
 180 185 190

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

Asp Phe Phe Ala Asn Phe Val Thr Gln Gln Thr Gly Ala Glu Tyr Arg  
 210 215 220

Val Thr His Gly Asp Asp Pro Val Pro Arg Leu Pro Pro Ile Val Phe  
 225 230 235 240

Gly Tyr Arg His Thr Ser Pro Glu Tyr Trp Leu Asp Gly Gly Pro Leu  
 245 250 255

Asp Lys Asp Tyr Thr Val Thr Glu Ile Lys Val Cys Glu Gly Met Ala  
 260 265 270

Asn Val Met Cys Asn Gly Gly Thr Ile Gly Leu Asp Ile Leu Ala His  
 275 280 285

Ile Thr Tyr Phe Gln Ser Met Ala Thr Cys Ala Pro Ile Ala Ile Pro  
 290 295 300

Trp Lys Arg Asp Met Ser Asp Glu Glu Leu Glu Lys Lys Leu Thr Gln  
 305 310 315 320

Tyr Ser Glu Met Asp Gln Glu Phe Val Lys Gln Met Thr  
 325 330

<210> 8

<211> 333

<212> PRT

<213> Fusarium solani

<400> 8

Met His Leu Ile Leu Ser Ile Leu Ser Ile Ile Ala Phe Thr Thr Ala  
 1 5 10 15

Gly Pro Val Pro Ser Val Asp Glu Asn Thr Arg Val Leu Glu His Arg  
 20 25 30

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Ala Val Thr Val Thr Thr Gln Asp Leu Ser Asn Phe Arg Phe Tyr Leu  
35 40 45

Gln His Ala Asp Ala Ala Tyr Cys Asn Phe Asp Thr Ala Val Gly Lys  
50 55 60

Pro Val His Cys Ser Ala Gly Asn Cys Pro Asp Val Glu Gln Asp Ala  
65 70 75 80

Ala Ile Val Val Gly Ser Val Val Gly Thr Lys Thr Gly Ile Gly Ala  
85 90 95

Tyr Val Ala Thr Asp Asn Ala Arg Lys Glu Ile Val Val Ser Val Arg  
100 105 110

Gly Ser Ile Asn Val Arg Asn Trp Ile Thr Asn Phe Asn Phe Gly Gln  
115 120 125

Lys Thr Cys Asp Leu Val Ala Gly Cys Gly Val His Thr Gly Phe Leu  
130 135 140

Asp Ala Trp Glu Glu Val Ala Ala Asn Ile Lys Ala Ala Val Ser Ala  
145 150 155 160

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

Leu Gly Gly Ala Val Ala Thr Ile Ala Ala Ala Tyr Leu Arg Lys Asp  
180 185 190

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

Asp Phe Phe Thr Asn Phe Val Thr Gln Gln Thr Gly Ala Glu Tyr Arg  
210 215 220

Val Thr His Gly Asp Asp Pro Val Pro Arg Leu Pro Pro Ile Val Phe  
225 230 235 240

Gly Tyr Arg His Thr Ser Pro Glu Tyr Trp Leu Asp Gly Gly Pro Leu  
245 250 255

Asp Lys Asp Tyr Thr Val Ser Glu Ile Lys Val Cys Glu Gly Met Ala  
260 265 270

Asn Val Met Cys Asn Gly Gly Thr Ile Gly Leu Asp Ile Leu Ala His  
275 280 285

Ile Thr Tyr Phe Gln Ser Met Ala Thr Cys Ala Pro Ile Ala Ile Pro  
290 295 300

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Trp Lys Arg Asp Met Ser Asp Glu Glu Leu Glu Lys Lys Leu Thr Gln  
305 310 315 320

Tyr Ser Glu Met Asp Gln Glu Phe Val Lys Gln Met Thr  
325 330

<210> 9

<211> 269

<212> PRT

<213> Thermomyces lanuginosus

<400> 9

Glu Val Ser Gln Asp Leu Phe Asn Gln Phe Asn Leu Phe Ala Gln Tyr  
1 5 10 15

Ser Ala Ala Ala Tyr Cys Gly Lys Asn Asn Asp Ala Pro Ala Gly Thr  
20 25 30

Asn Ile Thr Cys Thr Gly Asn Ala Cys Pro Glu Val Glu Lys Ala Asp  
35 40 45

Ala Thr Phe Leu Tyr Ser Phe Glu Asp Ser Gly Val Gly Asp Val Thr  
50 55 60

Gly Phe Leu Ala Leu Asp Asn Thr Asn Lys Leu Ile Val Leu Ser Phe  
65 70 75 80

Arg Gly Ser Arg Ser Ile Glu Asn Trp Ile Gly Asn Leu Asn Phe Asp  
85 90 95

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

Phe Thr Ser Ser Trp Arg Ser Val Ala Asp Thr Leu Arg Gln Lys Val  
115 120 125

Glu Asp Ala Val Arg Glu His Pro Asp Tyr Arg Val Val Phe Thr Gly  
130 135 140

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

Gly Asn Gly Tyr Asp Ile Asp Val Phe Ser Tyr Gly Ala Pro Arg Val  
165 170 175

Gly Asn Arg Ala Phe Ala Glu Phe Leu Thr Val Gln Thr Gly Gly Thr  
180 185 190

Leu Tyr Arg Ile Thr His Thr Asn Asp Ile Val Pro Arg Leu Pro Pro  
195 200 205

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Arg Glu Phe Gly Tyr Ser His Ser Ser Pro Glu Tyr Trp Ile Lys Ser  
210 215 220

Gly Thr Leu Val Pro Val Thr Arg Asn Asp Ile Val Lys Ile Glu Gly  
225 230 235 240

Ile Asp Ala Thr Gly Gly Asn Asn Gln Pro Asn Ile Pro Asp Ile Pro  
245 250 255

Ala His Leu Trp Tyr Phe Gly Leu Ile Gly Thr Cys Leu  
260 265

<210> 10  
<211> 183  
<212> PRT  
<213> Fusarium venenatum  
  
<400> 10

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

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

Thr Val Thr Asp Gln Leu Leu Phe Ser Val Thr Leu Pro Gln Phe Thr  
35 40 45

Ala Arg Arg Asn Ala Arg Asp Pro Pro Thr Val Asp Trp Thr Ser Asp  
50 55 60

Gly Cys Thr Ser Ser Pro Asp Asn Pro Phe Gly Phe Pro Phe Ile Pro  
65 70 75 80

Ala Cys Asn Arg His Asp Phe Gly Tyr His Asn Tyr Arg Ala Gln Ser  
85 90 95

Arg Phe Thr Val Ser Ala Lys Ser Arg Ile Asp Asn Asn Phe Lys Thr  
100 105 110

Asp Leu Tyr Phe Gln Cys Gln Ser Ser Ser Val Ser Gly Val Cys Arg  
115 120 125

Ala Leu Ala Asp Val Tyr Phe Ala Ala Val Arg Ala Phe Gly Gly Asp  
130 135 140

Asp Ala Thr Pro Gly Lys Arg Asp Glu Ala Leu Val Lys Glu Tyr Glu  
145 150 155 160

Lys Lys Val Glu Val Tyr Asn Lys Leu Val Glu Glu Ala Gln Lys Lys  
165 170 175

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Gly Asp Leu Pro Arg Leu Asp  
180

<210> 11  
<211> 95  
<212> PRT  
<213> Unknown

<220>  
<223> Plectasin

<400> 11

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

Leu Asn Thr Gly Ala Phe Ala Ala Pro Gln Pro Val Pro Glu Ala Tyr  
20 25 30

Ala Val Ser Asp Pro Glu Ala His Pro Asp Asp Phe Ala Gly Met Asp  
35 40 45

Ala Asn Gln Leu Gln Lys Arg Gly Phe Gly Cys Asn Gly Pro Trp Asp  
50 55 60

Glu Asp Asp Met Gln Cys His Asn His Cys Lys Ser Ile Lys Gly Tyr  
65 70 75 80

Lys Gly Gly Tyr Cys Ala Lys Gly Gly Phe Val Cys Lys Cys Tyr  
85 90 95

<210> 12  
<211> 96  
<212> PRT  
<213> Unknown

<220>  
<223> Monellin

<400> 12

Gly Glu Trp Glu Ile Ile Asp Ile Gly Pro Phe Thr Gln Asn Leu Gly  
1 5 10 15

Lys Phe Ala Val Asp Glu Glu Asn Lys Ile Gly Gln Tyr Gly Arg Leu  
20 25 30

Thr Phe Asn Lys Val Ile Arg Pro Cys Met Lys Lys Thr Ile Tyr Glu  
35 40 45

Asn Glu Gly Phe Arg Glu Ile Lys Gly Tyr Glu Tyr Gln Leu Tyr Val  
50 55 60

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

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Thr Arg Gly Arg Lys Leu Leu Arg Phe Asn Gly Pro Val Pro Pro Pro  
85 90 95

<210> 13  
<211> 85  
<212> PRT  
<213> Unknown

<220>  
<223> Protegrin

<400> 13

Ala Leu Ser Tyr Arg Glu Ala Val Leu Arg Ala Val Asp Arg Leu Asn  
1 5 10 15

Glu Gln Ser Ser Glu Ala Asn Leu Tyr Arg Leu Leu Glu Leu Asp Gly  
20 25 30

Thr Pro Lys Pro Val Ser Phe Thr Val Lys Glu Thr Val Cys Pro Arg  
35 40 45

Pro Thr Arg Gln Pro Pro Glu Leu Cys Asp Phe Lys Glu Asn Gly Arg  
50 55 60

Val Lys Gln Cys Val Gly Thr Val Thr Leu Asp Pro Leu Asp Ile Thr  
65 70 75 80

Cys Asn Glu Val Gln  
85

<210> 14  
<211> 110  
<212> PRT  
<213> Unknown

<220>  
<223> Barnase

<400> 14

Ala Gln Val Ile Asn Thr Phe Asp Gly Val Ala Asp Tyr Leu Gln Thr  
1 5 10 15

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

Leu Gly Trp Val Ala Ser Lys Gly Asn Leu Ala Asp Val Ala Pro Gly  
35 40 45

Lys Ser Ile Gly Gly Asp Ile Phe Ser Asn Arg Glu Gly Lys Leu Pro  
50 55 60

Gly Lys Ser Gly Arg Thr Trp Arg Glu Ala Asp Ile Asn Tyr Thr Ser  
65 70 75 80

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Gly Phe Arg Asn Ser Asp Arg Ile Leu Tyr Ser Ser Asp Trp Leu Ile  
85 90 95

Tyr Lys Thr Thr Asp His Tyr Gln Thr Phe Thr Lys Ile Arg  
100 105 110

<210> 15  
<211> 122  
<212> PRT  
<213> Unknown

<220>  
<223> Cystatin

<400> 15

Gly Ser Ala Ser Ala Gln Ser Arg Thr Leu Ala Gly Gly Ile His Ala  
1 5 10 15

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

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

Leu Gln Val Met Ala Ala Tyr Gln Gln Ile Val Gly Gly Val Asn Tyr  
50 55 60

Tyr Phe Asn Val Lys Phe Gly Arg Thr Thr Cys Thr Lys Ser Gln Pro  
65 70 75 80

Asn Leu Asp Asn Cys Pro Phe Asn Asp Gln Pro Lys Leu Lys Glu Glu  
85 90 95

Glu Phe Cys Ser Phe Gln Ile Asn Glu Val Pro Trp Glu Asp Lys Ile  
100 105 110

Ser Ile Leu Asn Tyr Lys Cys Arg Lys Val  
115 120

<210> 16  
<211> 139  
<212> PRT  
<213> Unknown

<220>  
<223> Apolipoprotein E

<400> 16

Gln Arg Trp Glu Leu Ala Leu Gly Arg Phe Trp Asp Tyr Leu Arg Trp  
1 5 10 15

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



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

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

Glu Thr Arg Ala Arg Leu Ser Lys Glu Leu Gln Ala Ala Gln Ala Arg  
65 70 75 80

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

Gly Glu Val Gln Ala Met Leu Gly Gln Ser Thr Glu Glu Leu Arg Val  
100 105 110

Arg Leu Ala Ser His Leu Arg Lys Leu Arg Lys Arg Leu Leu Arg Asp  
115 120 125

Ala Asp Asp Leu Gln Lys Arg Leu Ala Val Tyr  
130 135

<210> 17  
<211> 95  
<212> PRT  
<213> Unknown

<220>  
<223> MON1 is a variant of Monellin

<400> 17

Gly Glu Trp Glu Ile Ile Asp Ile Gly Pro Glu Thr Lys Leu Val Gly  
1 5 10 15

Tyr Val Ala Val Asp Glu Glu Tyr Val Ile Gly Gln Tyr Gly Arg Leu  
20 25 30

Thr Phe Asn Lys Val Ile Arg Pro Cys Met Lys Lys Thr Ile Tyr Glu  
35 40 45

Glu Asn Phe Arg Glu Ile Lys Gly Tyr Glu Tyr Gln Leu Tyr Val Tyr  
50 55 60

Ala Ser Asp Lys Leu Phe Arg Ala Asp Ala Ser Arg Asp Tyr Lys Thr  
65 70 75 80

Gly Gly Gly Lys Leu Leu Arg Phe Asn Gly Pro Val Pro Pro Pro  
85 90 95

<210> 18  
<211> 95  
<212> PRT  
<213> Unknown

<220>

<223> MON2 is a variant of Monellin

<400> 18

Gly Glu Trp Glu Ile Ile Asp Ile Gly Pro Tyr Thr Asn Leu Leu Gly  
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Ala Leu Ala Val Asp Glu Glu Asn His Ile Gly Gln Tyr Gly Arg Leu  
20 25 30

Thr Val Asn Lys Val Ile Arg Pro Cys Met Lys Lys Thr Ile Tyr Glu  
35 40 45

Glu Asn Phe Arg Glu Ile Lys Gly Tyr Glu Tyr Gln Leu Tyr Val Tyr  
50 55 60

Ala Ser Asp Lys Leu Phe Arg Ala Asp Ile Ser Glu Asp Tyr Lys Thr  
65 70 75 80

Gly Gly Gly Lys Leu Leu Arg Phe Asn Gly Pro Val Pro Pro Pro  
85 90 95