

SEQUENCE LISTING

<110> Accelerate Technologies

<120> METHODS FOR TERPENE SYNTHASES DISCOVERY AND APPLICATION IN
TERPENOID PRODUCTION

<130> 9869SG4986

<160> 180

<170> PatentIn version 3.5

<210> 1

<211> 384

<212> PRT

<213> *Agrocybe aegerita*

<400> 1

Met His Ser Ser Thr Gln Leu Phe Thr His Ser Pro Thr Lys Met Gln
1 5 10 15

Ile Ile Leu Pro Asp Leu Leu Cys Ser Trp Gly Tyr Lys Gly Phe Leu
20 25 30

Asn Pro His Tyr Glu Gly Ala Lys Ala Glu Ser Asn Thr Trp Ile Arg
35 40 45

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

Lys Asp Tyr Thr Gly Leu Leu Ala Ser Met Thr Tyr Pro His His Asn
65 70 75 80

Lys Glu Phe Leu Cys Val Ala Cys Asp Met Met Asn Leu Phe Phe Val
85 90 95

Tyr Asp Glu Tyr Thr Asp Ile Thr Pro Pro Glu Thr Ala Gln Arg Leu
100 105 110

Ala Lys Ile Val Val Asn Ala Met Arg Asn Pro Asp Glu Ile Ala Ala
115 120 125

Leu Gly Glu Asp Ser Ile Gly Thr Met Thr Lys Gln Phe Trp Arg Arg
130 135 140

Ala Met Thr Leu Leu Pro Pro Asn Gly Cys Asn Ser Glu Ser Cys Ile
145 150 155 160

Gln His Phe Ile Asp Tyr Thr Glu Glu Tyr Leu Thr Ala Val Thr Arg
 165 170 175

Glu Ala Cys Asp Arg Ser Ser Gly Ser Val His Ala Val Lys Asp Tyr
 180 185 190

Leu Ala Met Arg Arg Ala Thr Ser Gly Ala Gly Leu Met Val Gly Leu
 195 200 205

Leu Glu Phe Gly Leu Asp Leu Pro Glu Glu Val Met Lys His Glu Val
 210 215 220

Ile Gln Glu Leu Ser Thr Gly Ala Ile Asp Met Tyr Cys Leu Leu Asn
225 230 235 240

Asp Met His Ser Tyr Ala Ser Glu Leu Ser Ser Gly Gln Ala Ser His
 245 250 255

Asn Val Ile Thr Val Val Met His Glu Arg Asn Leu Ser Leu Gln Glu
 260 265 270

Ala Phe Asp Trp Leu Ala Ser Tyr Ala Ala Gly Val Val Lys Gly Phe
 275 280 285

Lys Thr Asn Leu Asn Arg Val Pro Ser Phe Ser Glu Leu Glu Asp His
 290 295 300

Ser Leu His Gly Glu Gly Met Leu Arg Asp Arg Ile Gln Arg Tyr Ile
305 310 315 320

Asp Gly Leu Gly Gln Ala Val Arg Ala Glu Asp Asp Trp Ala Phe Glu
 325 330 335

Thr Thr Arg Tyr His Gly Gln Asn Gly Pro Gln Ile Lys Leu Thr Arg
 340 345 350

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

Pro Arg Val Glu Ala Pro Glu Arg Pro Met Leu Leu Glu Val Arg Ser
370 375 380

<210> 2

<211> 343

<212> PRT

<213> Agrocybe pediades

<400> 2

Met Ser Gln Phe Ile Ile Pro Asp Leu Leu Ser Thr Trp Pro Trp Gln
1 5 10 15

Arg Val Ser Asn Pro Met Trp Arg Glu Ile Asp Glu Glu Ala Asn Ala
20 25 30

Trp Val Gln Ser Phe Asp Leu Phe Glu Pro Ser Gln Phe Glu Lys Phe
35 40 45

Lys Met Cys Asp Phe Asn Leu Leu Gly Ser Met Ile Gly Thr Val Glu
50 55 60

Thr Lys Asp His Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr Phe
65 70 75 80

Ala Phe Asp Glu Tyr Thr Asp Met Ala Ser Lys Asp Glu Ala Arg Lys
85 90 95

Ile Ala Arg Asp Val Met Asp Ala Phe Arg Asn Thr Glu Lys Pro Ala
100 105 110

His Asn Gln Ile Thr Glu Met Ala Arg Gln Phe Phe Lys Arg Thr Ile
115 120 125

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

Phe Asp Ala Tyr Thr His Ser Val Ile Gln Glu Ala Asp Asp Arg Ala
145 150 155 160

Thr Gly His Ile Arg Ser Val Asn Asp Tyr Phe Thr Leu Arg Arg Asp
165 170 175

Thr Cys Gly Ala Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu Asn
180 185 190

Ile Pro Asp Glu Val Phe His His Pro Val Val Ile Ser Met Ile Glu
195 200 205

Gly Ala Thr Asp Leu Ile Ala Val Thr Asn Asp Met His Ser Tyr Asn
210 215 220

Leu Glu His Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala Ile
225 230 235 240

Met His Glu Tyr Gln Leu Asp Leu Gln Gly Ala Leu Tyr Trp Leu Ser
245 250 255

Gly Tyr Ala Thr His Thr Ile Ala Asn Phe Leu Ser Asn Arg Arg Asn
260 265 270

Leu Pro Ser Trp Gly Pro Ala Val Asp Lys Ala Val Glu Glu Phe Phe
275 280 285

Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr Glu
290 295 300

Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Gln Val Gln Lys Thr Arg
305 310 315 320

Arg Ile Thr Leu Arg Pro Arg Asp Ala Ser Tyr Ile Thr Lys Glu Gln
325 330 335

Leu Gln Val Ser Ile Lys Ala
340

<210> 3

<211> 344

<212> PRT

<213> Agroclybe pediades

<400> 3

Met Ser Ser Gln Ile Tyr Ile Pro Asp Leu Leu Ile Thr Trp Pro Trp
1 5 10 15

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

Glu Trp Val Lys Ser Phe Val Leu Phe Glu Pro Glu Gln Phe Glu Lys
35 40 45

Phe Lys Ala Cys Asp Phe Asn Leu Leu Gly Ala Leu Val Gly Pro Leu
50 55 60

Gly Thr Lys Glu Glu Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr
65 70 75 80

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

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

Ser His Asn Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Glu Arg Thr
115 120 125

Ile Asn Thr Val Gly Asn Asp Pro Thr Gly Ile Glu Gln Phe Ile Ala
130 135 140

Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile Gln Glu Ala Asp Asp Arg
145 150 155 160

Ala Ser Gly His Ile Arg Ser Val Glu Asp Tyr Phe Ile Leu Arg Arg
165 170 175

Asp Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu
180 185 190

Asn Ile Pro Lys Glu Val Phe Ala His Pro Met Phe Ile Ser Met Thr
195 200 205

Glu Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp Met His Ser Tyr
210 215 220

Asn Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala

225 230 235 240

Ile Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala Leu Tyr Trp Leu
 245 250 255

Ser Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile Ser Asp Arg Lys
 260 265 270

Asn Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala Val Glu Gln Tyr
 275 280 285

Phe Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr
 290 295 300

Glu Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Glu Ile Gln Lys Thr
305 310 315 320

Arg Gln Ile Thr Leu Arg Pro Leu Asp Pro Ala Tyr Val Thr Lys Glu
 325 330 335

Gln Leu Gln Val Ser Met Lys Ala
 340

<210> 4

<211> 343

<212> PRT

<213> *Galerina marginata*

<400> 4

Met Pro Ser Gln Phe Thr Ile Pro Asp Leu Leu Ile Thr Trp Pro Trp
1 5 10 15

Gln Glu Ile Thr Asn Pro Met Leu His Glu Val Asp Ala Glu Ala Asn
 20 25 30

Glu Trp Val Gln Ser Leu Asn Leu Phe Glu Pro Lys Gln Phe Glu Lys
 35 40 45

Phe Lys Ala Cys Asn Phe Asn Leu Leu Gly Ser Leu Val Gly Pro Leu
 50 55 60

Pro Ser Arg Asp His Leu Arg Val Ser Cys Asp Leu Met Asn Phe Tyr

65 70 75 80

Phe Ala Phe Asp Glu Tyr Thr Asp Met Ala Asn Lys Asp Glu Ala Met
 85 90 95

Arg Ile Ala Arg Asp Val Met Gln Ala Phe Arg Asn Thr Asp Thr Pro
 100 105 110

Ser Asn Ser Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Lys Arg Thr
 115 120 125

Ile Glu Val Val Gly Glu Asp Leu Pro Gly Ile Glu Arg Phe Ile Ala
 130 135 140

Asp Phe Asp Ala Tyr Thr Arg Ser Val Ile Gln Glu Ala Asp Asp Arg
145 150 155 160

Val Ala Gly His Ile Arg Asn Val Glu Asp Tyr Phe Ile Leu Arg Arg
 165 170 175

Asp Thr Cys Gly Ala Lys Pro Ser Phe Ser Phe Tyr Gly Leu Gly Leu
 180 185 190

Asn Ile Pro Thr Glu Val Phe Glu His Pro Leu Leu Ile Ser Met Val
 195 200 205

Glu Ser Ala Thr Asp Leu Ile Ala Val Thr Asn Asp Met His Ser Tyr
 210 215 220

Gly Leu Glu His Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala
225 230 235 240

Ile Met His Glu Tyr Gln Leu Asp Leu Gln Gly Ala Leu Tyr Trp Leu
 245 250 255

Ser Gly Tyr Ala Thr Lys Thr Ile Ser Lys Phe Leu Thr Asp Arg Lys
 260 265 270

Asn Leu Pro Ser Trp Gly Pro Thr Ile Asp Lys Ala Leu Glu Ile Tyr
 275 280 285

Leu Asp Arg Leu Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr
290 295 300

Ser Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Lys Val Gln Lys Thr
305 310 315 320

Arg Arg Ile Thr Leu Lys Pro Arg Asp Ala Ala Tyr Ile Thr Lys Asp
325 330 335

Gln Leu Gln Val Ser Ile Ala
340

<210> 5

<211> 344

<212> PRT

<213> Hypholoma sublateritium

<400> 5

Met Ser Ala Gln Tyr Thr Ile Pro Asp Leu Leu Ala Asn Trp Pro Trp
1 5 10 15

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

Glu Trp Val Met Ser Leu Gly Leu Phe Glu Pro Ala Gln Phe Lys Lys
35 40 45

Phe Lys Ala Cys Asp Phe Asn Leu Leu Ala Ser Phe Ile Gly Pro Leu
50 55 60

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

Phe Ala Phe Asp Glu Tyr Thr Asp Val Ala Asn Arg Glu Glu Ala Lys
85 90 95

Lys Ile Ser Gln Gly Val Met His Ala Phe Lys Thr Arg Ser Ala Glu
100 105 110

Pro Ser Ser Ser Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Arg Arg
115 120 125

Thr Val Asp Val Val Gly Glu Asp Ser Pro Ala Ile Asn Gln Phe Ile
130 135 140

Thr Asp Phe Asp Thr Tyr Thr Thr Ala Val Ile Gln Glu Ala Asp Asp
145 150 155 160

Arg Thr Glu Gly Thr Ile Arg Asn Val Glu Asp Tyr Phe Thr Leu Arg
165 170 175

Arg Asp Thr Cys Gly Ala Lys Pro Ser Phe Ser Phe Phe Ala Leu Gly
180 185 190

Leu Asn Met Pro Thr Glu Val Phe Glu His Pro Leu Ile Met Ser Leu
195 200 205

Val Glu Arg Ala Thr Asp Leu Ile Ala Ile Val Asn Asp Met His Ser
210 215 220

Tyr Gly Leu Glu Arg Ala Arg Gly Leu Asp Gly His Asn Val Val Thr
225 230 235 240

Ser Ile Met Tyr Glu His Gln Leu Asp Leu Gln Gly Ala Leu His Trp
245 250 255

Leu Ala Gly Tyr Ala Glu Asp Thr Ile Ala Lys Phe Leu Ser Glu Lys
260 265 270

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

Phe Val Asp Arg Leu Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser
290 295 300

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

Thr Arg Gln Ile Thr Leu Pro Ser Asn Asp Ser Gly Tyr Ile Thr Arg
325 330 335

Lys Gln Met Gly Val Ser Ile Ala
340

<210> 6

<211> 620

<212> PRT

<213> Escherichia coli

<400> 6

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

Thr Gln Glu Leu Arg Leu Leu Pro Lys Glu Ser Leu Pro Lys Leu Cys
20 25 30

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

His Phe Ala Ser Gly Leu Gly Thr Val Glu Leu Thr Val Ala Leu His
50 55 60

Tyr Val Tyr Asn Thr Pro Phe Asp Gln Leu Ile Trp Asp Val Gly His
65 70 75 80

Gln Ala Tyr Pro His Lys Ile Leu Thr Gly Arg Arg Asp Lys Ile Gly
85 90 95

Thr Ile Arg Gln Lys Gly Gly Leu His Pro Phe Pro Trp Arg Gly Glu
100 105 110

Ser Glu Tyr Asp Val Leu Ser Val Gly His Ser Ser Thr Ser Ile Ser
115 120 125

Ala Gly Ile Gly Ile Ala Val Ala Ala Glu Lys Glu Gly Lys Asn Arg
130 135 140

Arg Thr Val Cys Val Ile Gly Asp Gly Ala Ile Thr Ala Gly Met Ala
145 150 155 160

Phe Glu Ala Met Asn His Ala Gly Asp Ile Arg Pro Asp Met Leu Val
165 170 175

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

Asn Asn His Leu Ala Gln Leu Leu Ser Gly Lys Leu Tyr Ser Ser Leu
195 200 205

Arg Glu Gly Gly Lys Lys Val Phe Ser Gly Val Pro Pro Ile Lys Glu
210 215 220

Leu Leu Lys Arg Thr Glu Glu His Ile Lys Gly Met Val Val Pro Gly
225 230 235 240

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

His Asp Val Leu Gly Leu Ile Thr Thr Leu Lys Asn Met Arg Asp Leu
260 265 270

Lys Gly Pro Gln Phe Leu His Ile Met Thr Lys Lys Gly Arg Gly Tyr
275 280 285

Glu Pro Ala Glu Lys Asp Pro Ile Thr Phe His Ala Val Pro Lys Phe
290 295 300

Asp Pro Ser Ser Gly Cys Leu Pro Lys Ser Ser Gly Gly Leu Pro Ser
305 310 315 320

Tyr Ser Lys Ile Phe Gly Asp Trp Leu Cys Glu Thr Ala Ala Lys Asp
325 330 335

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

Val Glu Phe Ser Arg Lys Phe Pro Asp Arg Tyr Phe Asp Val Ala Ile
355 360 365

Ala Glu Gln His Ala Val Thr Phe Ala Ala Gly Leu Ala Ile Gly Gly
370 375 380

Tyr Lys Pro Ile Val Ala Ile Tyr Ser Thr Phe Leu Gln Arg Ala Tyr
385 390 395 400

Asp Gln Val Leu His Asp Val Ala Ile Gln Lys Leu Pro Val Leu Phe
405 410 415

Ala Ile Asp Arg Ala Gly Ile Val Gly Ala Asp Gly Gln Thr His Gln
420 425 430

Gly Ala Phe Asp Leu Ser Tyr Leu Arg Cys Ile Pro Glu Met Val Ile
435 440 445

Met Thr Pro Ser Asp Glu Asn Glu Cys Arg Gln Met Leu Tyr Thr Gly
450 455 460

Tyr His Tyr Asn Asp Gly Pro Ser Ala Val Arg Tyr Pro Arg Gly Asn
465 470 475 480

Ala Val Gly Val Glu Leu Thr Pro Leu Glu Lys Leu Pro Ile Gly Lys
485 490 495

Gly Ile Val Lys Arg Arg Gly Glu Lys Leu Ala Ile Leu Asn Phe Gly
500 505 510

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

Leu Val Asp Met Arg Phe Val Lys Pro Leu Asp Glu Ala Leu Ile Leu
530 535 540

Glu Met Ala Ala Ser His Glu Ala Leu Val Thr Val Glu Glu Asn Ala
545 550 555 560

Ile Met Gly Gly Ala Gly Ser Gly Val Asn Glu Val Leu Met Ala His
565 570 575

Arg Lys Pro Val Pro Val Leu Asn Ile Gly Leu Pro Asp Phe Phe Ile
580 585 590

Pro Gln Gly Thr Gln Glu Glu Met Arg Ala Glu Leu Gly Leu Asp Ala
595 600 605

Ala Gly Met Glu Ala Lys Ile Lys Ala Trp Leu Ala
610 615 620

<210> 7

<211> 336
<212> PRT
<213> Artificial Sequence

<220>
<223> Agrped1_689675_mut1

<400> 7

Met Ser Ser Gln Ile Tyr Ile Pro Asp Leu Leu Ile Thr Trp Pro Trp
1 5 10 15

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

Glu Trp Val Lys Ser Phe Val Leu Phe Glu Pro Glu Gln Phe Glu Lys
35 40 45

Phe Lys Ala Cys Asp Phe Asn Leu Leu Gly Ala Leu Val Gly Pro Leu
50 55 60

Gly Thr Lys Glu Glu Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr
65 70 75 80

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

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

Ser His Asn Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Glu Arg Thr
115 120 125

Ile Asn Thr Val Gly Asn Asp Pro Thr Gly Ile Glu Gln Phe Ile Ala
130 135 140

Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile Gln Glu Ala Asp Asp Arg
145 150 155 160

Ala Ser Gly His Ile Arg Ser Val Glu Asp Tyr Phe Ile Leu Arg Arg
165 170 175

Asp Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu
180 185 190

Asn Ile Pro Lys Glu Val Phe Ala His Pro Met Phe Ile Ser Met Thr
195 200 205

Glu Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp Met His Ser Tyr
210 215 220

Asn Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala
225 230 235 240

Ile Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala Leu Tyr Trp Leu
245 250 255

Ser Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile Ser Asp Arg Lys
260 265 270

Asn Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala Val Glu Gln Tyr
275 280 285

Phe Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr
290 295 300

Glu Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Glu Ile Gln Lys Thr
305 310 315 320

Arg Gln Ile Thr Leu Arg Pro Leu Asp Pro Ala Tyr Val Thr Lys Glu
325 330 335

<210> 8

<211> 325

<212> PRT

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut2

<400> 8

Met Ser Ser Gln Ile Tyr Ile Pro Asp Leu Leu Ile Thr Trp Pro Trp
1 5 10 15

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

Glu Trp Val Lys Ser Phe Val Leu Phe Glu Pro Glu Gln Phe Glu Lys
35 40 45

Phe Lys Ala Cys Asp Phe Asn Leu Leu Gly Ala Leu Val Gly Pro Leu
50 55 60

Gly Thr Lys Glu Glu Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr
65 70 75 80

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

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

Ser His Asn Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Glu Arg Thr
115 120 125

Ile Asn Thr Val Gly Asn Asp Pro Thr Gly Ile Glu Gln Phe Ile Ala
130 135 140

Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile Gln Glu Ala Asp Asp Arg
145 150 155 160

Ala Ser Gly His Ile Arg Ser Val Glu Asp Tyr Phe Ile Leu Arg Arg
165 170 175

Asp Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu
180 185 190

Asn Ile Pro Lys Glu Val Phe Ala His Pro Met Phe Ile Ser Met Thr
195 200 205

Glu Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp Met His Ser Tyr
210 215 220

Asn Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala
225 230 235 240

Ile Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala Leu Tyr Trp Leu
245 250 255

Ser Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile Ser Asp Arg Lys
260 265 270

Asn Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala Val Glu Gln Tyr
275 280 285

Phe Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr
290 295 300

Glu Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Glu Ile Gln Lys Thr
305 310 315 320

Arg Gln Ile Thr Leu
325

<210> 9

<211> 303

<212> PRT

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut3

<400> 9

Met Ser Ser Gln Ile Tyr Ile Pro Asp Leu Leu Ile Thr Trp Pro Trp
1 5 10 15

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

Glu Trp Val Lys Ser Phe Val Leu Phe Glu Pro Glu Gln Phe Glu Lys
35 40 45

Phe Lys Ala Cys Asp Phe Asn Leu Leu Gly Ala Leu Val Gly Pro Leu
50 55 60

Gly Thr Lys Glu Glu Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr
65 70 75 80

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

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

Ser His Asn Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Glu Arg Thr
115 120 125

Ile Asn Thr Val Gly Asn Asp Pro Thr Gly Ile Glu Gln Phe Ile Ala
130 135 140

Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile Gln Glu Ala Asp Asp Arg
145 150 155 160

Ala Ser Gly His Ile Arg Ser Val Glu Asp Tyr Phe Ile Leu Arg Arg
165 170 175

Asp Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu
180 185 190

Asn Ile Pro Lys Glu Val Phe Ala His Pro Met Phe Ile Ser Met Thr
195 200 205

Glu Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp Met His Ser Tyr
210 215 220

Asn Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala
225 230 235 240

Ile Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala Leu Tyr Trp Leu
245 250 255

Ser Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile Ser Asp Arg Lys
260 265 270

Asn Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala Val Glu Gln Tyr
275 280 285

Phe Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser
290 295 300

<210> 10
<211> 332

<212> PRT

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut4

<400> 10

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

Asp Glu Ala Asn Glu Trp Val Lys Ser Phe Val Leu Phe Glu Pro Glu
20 25 30

Gln Phe Glu Lys Phe Lys Ala Cys Asp Phe Asn Leu Leu Gly Ala Leu
35 40 45

Val Gly Pro Leu Gly Thr Lys Glu Glu Leu Arg Ile Ser Cys Asp Leu
50 55 60

Met Asn Phe Tyr Phe Ala Phe Asp Glu Tyr Thr Asp Leu Ala Ser Ala
65 70 75 80

Asp Glu Ala Lys Val Ile Ala Arg Asp Val Met Glu Ser Phe Arg His
85 90 95

Thr Asp Lys Pro Ser His Asn Lys Ile Thr Glu Met Ala Arg Gln Phe
100 105 110

Phe Glu Arg Thr Ile Asn Thr Val Gly Asn Asp Pro Thr Gly Ile Glu
115 120 125

Gln Phe Ile Ala Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile Gln Glu
130 135 140

Ala Asp Asp Arg Ala Ser Gly His Ile Arg Ser Val Glu Asp Tyr Phe
145 150 155 160

Ile Leu Arg Arg Asp Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe
165 170 175

Gly Leu Gly Leu Asn Ile Pro Lys Glu Val Phe Ala His Pro Met Phe
180 185 190

Ile Ser Met Thr Glu Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp
195 200 205

Met His Ser Tyr Asn Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn
210 215 220

Val Ile Thr Ala Ile Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala
225 230 235 240

Leu Tyr Trp Leu Ser Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile
245 250 255

Ser Asp Arg Lys Asn Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala
260 265 270

Val Glu Gln Tyr Phe Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp
275 280 285

Ala Trp Ser Tyr Glu Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Glu
290 295 300

Ile Gln Lys Thr Arg Gln Ile Thr Leu Arg Pro Leu Asp Pro Ala Tyr
305 310 315 320

Val Thr Lys Glu Gln Leu Gln Val Ser Met Lys Ala
325 330

<210> 11

<211> 316

<212> PRT

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut5

<400> 11

Met Glu Ala Asn Glu Trp Val Lys Ser Phe Val Leu Phe Glu Pro Glu
1 5 10 15

Gln Phe Glu Lys Phe Lys Ala Cys Asp Phe Asn Leu Leu Gly Ala Leu
20 25 30

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

Met Asn Phe Tyr Phe Ala Phe Asp Glu Tyr Thr Asp Leu Ala Ser Ala
50 55 60

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

Thr Asp Lys Pro Ser His Asn Lys Ile Thr Glu Met Ala Arg Gln Phe
85 90 95

Phe Glu Arg Thr Ile Asn Thr Val Gly Asn Asp Pro Thr Gly Ile Glu
100 105 110

Gln Phe Ile Ala Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile Gln Glu
115 120 125

Ala Asp Asp Arg Ala Ser Gly His Ile Arg Ser Val Glu Asp Tyr Phe
130 135 140

Ile Leu Arg Arg Asp Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe
145 150 155 160

Gly Leu Gly Leu Asn Ile Pro Lys Glu Val Phe Ala His Pro Met Phe
165 170 175

Ile Ser Met Thr Glu Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp
180 185 190

Met His Ser Tyr Asn Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn
195 200 205

Val Ile Thr Ala Ile Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala
210 215 220

Leu Tyr Trp Leu Ser Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile
225 230 235 240

Ser Asp Arg Lys Asn Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala
245 250 255

Val Glu Gln Tyr Phe Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp
260 265 270

Ala Trp Ser Tyr Glu Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Glu
275 280 285

Ile Gln Lys Thr Arg Gln Ile Thr Leu Arg Pro Leu Asp Pro Ala Tyr
290 295 300

Val Thr Lys Glu Gln Leu Gln Val Ser Met Lys Ala
305 310 315

<210> 12

<211> 344

<212> PRT

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut6

<400> 12

Met Ser Ser Gln Ile Tyr Ile Pro Asp Leu Leu Ile Thr Trp Pro Trp
1 5 10 15

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

Glu Trp Val Lys Ser Phe Val Leu Phe Glu Pro Glu Gln Phe Glu Lys
35 40 45

Phe Lys Ala Cys Asp Phe Asn Leu Leu Gly Ala Leu Val Gly Pro Leu
50 55 60

Gly Thr Lys Glu Glu Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr
65 70 75 80

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

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

Ser His Asn Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Glu Arg Thr
115 120 125

Ile Asn Thr Val Gly Asn Asp Pro Thr Gly Ile Glu Gln Phe Ile Ala
130 135 140

Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile Gln Glu Ala Asp Asp Arg
145 150 155 160

Ala Ser Gly His Ile Arg Ser Val Glu Asp Tyr Phe Ile Leu Arg Arg
165 170 175

Asp Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu
180 185 190

Asn Ile Pro Lys Glu Val Phe Ala His Pro Met Gly Ile Ser Met Thr
195 200 205

Glu Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp Met His Ser Tyr
210 215 220

Asn Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala
225 230 235 240

Ile Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala Leu Tyr Trp Leu
245 250 255

Ser Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile Ser Asp Arg Lys
260 265 270

Asn Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala Val Glu Gln Tyr
275 280 285

Phe Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr
290 295 300

Glu Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Glu Ile Gln Lys Thr
305 310 315 320

Arg Gln Ile Thr Leu Arg Pro Leu Asp Pro Ala Tyr Val Thr Lys Glu
325 330 335

Gln Leu Gln Val Ser Met Lys Ala
340

<210> 13

<211> 344

<212> PRT

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut7

<400> 13

Met Ser Ser Gln Ile Tyr Ile Pro Asp Leu Leu Ile Thr Trp Pro Trp
1 5 10 15

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

Glu Trp Val Lys Ser Phe Val Leu Phe Glu Pro Glu Gln Phe Glu Lys
35 40 45

Phe Lys Ala Cys Asp Phe Asn Leu Leu Gly Ala Leu Val Gly Pro Leu
50 55 60

Gly Thr Lys Glu Glu Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr
65 70 75 80

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

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

Ser His Asn Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Glu Arg Thr
115 120 125

Ile Asn Thr Val Gly Asn Asp Pro Thr Gly Ile Glu Gln Phe Ile Ala
130 135 140

Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile Gln Glu Ala Asp Asp Arg
145 150 155 160

Ala Ser Gly His Ile Arg Ser Val Glu Asp Tyr Phe Ile Leu Arg Arg
165 170 175

Asp Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu
180 185 190

Asn Ile Pro Lys Glu Val Phe Ala His Pro Met Val Ile Ser Met Thr
195 200 205

Glu Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp Met His Ser Tyr
210 215 220

Asn Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala
225 230 235 240

Ile Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala Leu Tyr Trp Leu
245 250 255

Ser Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile Ser Asp Arg Lys
260 265 270

Asn Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala Val Glu Gln Tyr
275 280 285

Phe Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr
290 295 300

Glu Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Glu Ile Gln Lys Thr
305 310 315 320

Arg Gln Ile Thr Leu Arg Pro Leu Asp Pro Ala Tyr Val Thr Lys Glu
325 330 335

Gln Leu Gln Val Ser Met Lys Ala
340

<210> 14

<211> 344

<212> PRT

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut8

<400> 14

Met Ser Ser Gln Ile Tyr Ile Pro Asp Leu Leu Ile Thr Trp Pro Trp
1 5 10 15

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

Glu Trp Val Lys Ser Phe Val Leu Phe Glu Pro Glu Gln Phe Glu Lys
35 40 45

Phe Lys Ala Cys Asp Phe Asn Leu Leu Gly Ala Leu Val Gly Pro Leu
50 55 60

Gly Thr Lys Glu Glu Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr
65 70 75 80

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

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

Ser His Asn Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Glu Arg Thr
115 120 125

Ile Asn Thr Val Gly Asn Asp Pro Thr Gly Ile Glu Gln Phe Ile Ala
130 135 140

Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile Gln Glu Ala Asp Asp Arg
145 150 155 160

Ala Ser Gly His Ile Arg Ser Val Glu Asp Tyr Phe Ile Leu Arg Arg
165 170 175

Asp Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu
180 185 190

Asn Ile Pro Lys Glu Val Phe Ala His Pro Met Ile Ile Ser Met Thr
195 200 205

Glu Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp Met His Ser Tyr
210 215 220

Asn Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala
225 230 235 240

Ile Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala Leu Tyr Trp Leu
245 250 255

Ser Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile Ser Asp Arg Lys
260 265 270

Asn Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala Val Glu Gln Tyr
275 280 285

Phe Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr
290 295 300

Glu Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Glu Ile Gln Lys Thr
305 310 315 320

Arg Gln Ile Thr Leu Arg Pro Leu Asp Pro Ala Tyr Val Thr Lys Glu
325 330 335

Gln Leu Gln Val Ser Met Lys Ala
340

<210> 15

<211> 344

<212> PRT

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut9

<400> 15

Met Ser Ser Gln Ile Tyr Ile Pro Asp Leu Leu Ile Thr Trp Pro Trp
1 5 10 15

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

Glu Trp Val Lys Ser Phe Val Leu Phe Glu Pro Glu Gln Phe Glu Lys

35

40

45

Phe Lys Ala Cys Asp Phe Asn Leu Leu Gly Ala Leu Val Gly Pro Leu
50 55 60

Gly Thr Lys Glu Glu Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr
65 70 75 80

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

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

Ser His Asn Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Glu Arg Thr
115 120 125

Ile Asn Thr Val Gly Asn Asp Pro Thr Gly Ile Glu Gln Phe Ile Ala
130 135 140

Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile Gln Glu Ala Asp Asp Arg
145 150 155 160

Ala Ser Gly His Ile Arg Ser Val Glu Asp Tyr Phe Ile Leu Arg Arg
165 170 175

Asp Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu
180 185 190

Asn Ile Pro Lys Glu Val Phe Ala His Pro Met Asp Ile Ser Met Thr
195 200 205

Glu Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp Met His Ser Tyr
210 215 220

Asn Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala
225 230 235 240

Ile Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala Leu Tyr Trp Leu
245 250 255

Ser Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile Ser Asp Arg Lys
260 265 270

Asn Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala Val Glu Gln Tyr
275 280 285

Phe Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr
290 295 300

Glu Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Glu Ile Gln Lys Thr
305 310 315 320

Arg Gln Ile Thr Leu Arg Pro Leu Asp Pro Ala Tyr Val Thr Lys Glu
325 330 335

Gln Leu Gln Val Ser Met Lys Ala
340

<210> 16

<211> 344

<212> PRT

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut10

<400> 16

Met Ser Ser Gln Ile Tyr Ile Pro Asp Leu Leu Ile Thr Trp Pro Trp
1 5 10 15

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

Glu Trp Val Lys Ser Phe Val Leu Phe Glu Pro Glu Gln Phe Glu Lys
35 40 45

Phe Lys Ala Cys Asp Phe Asn Leu Leu Gly Ala Leu Val Gly Pro Leu
50 55 60

Gly Thr Lys Glu Glu Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr
65 70 75 80

Phe Ala Phe Asp Glu Tyr Thr Asp Leu Ala Ser Ala Asp Glu Ala Lys

85

90

95

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

Ser His Asn Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Glu Arg Thr
115 120 125

Ile Asn Thr Val Gly Asn Asp Pro Thr Gly Ile Glu Gln Phe Ile Ala
130 135 140

Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile Gln Glu Ala Asp Asp Arg
145 150 155 160

Ala Ser Gly His Ile Arg Ser Val Glu Asp Tyr Phe Ile Leu Arg Arg
165 170 175

Asp Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu
180 185 190

Asn Ile Pro Lys Glu Val Phe Ala His Pro Met Leu Ile Ser Met Thr
195 200 205

Glu Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp Met His Ser Tyr
210 215 220

Asn Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala
225 230 235 240

Ile Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala Leu Tyr Trp Leu
245 250 255

Ser Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile Ser Asp Arg Lys
260 265 270

Asn Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala Val Glu Gln Tyr
275 280 285

Phe Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr
290 295 300

Glu Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Glu Ile Gln Lys Thr
305 310 315 320

Arg Gln Ile Thr Leu Arg Pro Leu Asp Pro Ala Tyr Val Thr Lys Glu
325 330 335

Gln Leu Gln Val Ser Met Lys Ala
340

<210> 17

<211> 344

<212> PRT

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut11

<400> 17

Met Ser Ser Gln Ile Tyr Ile Pro Asp Leu Leu Ile Thr Trp Pro Trp
1 5 10 15

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

Glu Trp Val Lys Ser Phe Val Leu Phe Glu Pro Glu Gln Phe Glu Lys
35 40 45

Phe Lys Ala Cys Asp Phe Asn Leu Leu Gly Ala Leu Val Gly Pro Leu
50 55 60

Gly Thr Lys Glu Glu Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr
65 70 75 80

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

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

Ser His Asn Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Glu Arg Thr
115 120 125

Ile Asn Thr Val Gly Asn Asp Pro Thr Gly Ile Glu Gln Phe Ile Ala

130 135 140

Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile Gln Glu Ala Asp Asp Arg
145 150 155 160

Ala Ser Gly His Ile Arg Ser Val Glu Asp Tyr Phe Ile Leu Arg Arg
165 170 175

Asp Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu
180 185 190

Asn Ile Pro Lys Glu Val Phe Ala His Pro Met Arg Ile Ser Met Thr
195 200 205

Glu Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp Met His Ser Tyr
210 215 220

Asn Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala
225 230 235 240

Ile Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala Leu Tyr Trp Leu
245 250 255

Ser Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile Ser Asp Arg Lys
260 265 270

Asn Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala Val Glu Gln Tyr
275 280 285

Phe Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr
290 295 300

Glu Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Glu Ile Gln Lys Thr
305 310 315 320

Arg Gln Ile Thr Leu Arg Pro Leu Asp Pro Ala Tyr Val Thr Lys Glu
325 330 335

Gln Leu Gln Val Ser Met Lys Ala
340

<210> 18
<211> 331
<212> PRT
<213> Artificial Sequence

<220>
<223> Agrped1_689675_mut12

<400> 18

Met His His His His His His Ser Ser Gln Ile Tyr Ile Pro Asp Leu
1 5 10 15

Leu Ile Thr Trp Pro Trp Gln Lys Val Arg Asn Pro Leu Leu Gln Glu
20 25 30

Val Gln Asp Glu Ala Asn Glu Trp Val Lys Ser Phe Val Leu Phe Glu
35 40 45

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

Ala Leu Val Gly Pro Leu Gly Thr Lys Glu Glu Leu Arg Ile Ser Cys
65 70 75 80

Asp Leu Met Asn Phe Tyr Phe Ala Phe Asp Glu Tyr Thr Asp Leu Ala
85 90 95

Ser Ala Asp Glu Ala Lys Val Ile Ala Arg Asp Val Met Glu Ser Phe
100 105 110

Arg His Thr Asp Lys Pro Ser His Asn Lys Ile Thr Glu Met Ala Arg
115 120 125

Gln Phe Phe Glu Arg Thr Ile Asn Thr Val Gly Asn Asp Pro Thr Gly
130 135 140

Ile Glu Gln Phe Ile Ala Asp Phe Asp Ala Tyr Thr Thr Ser Ile Ile
145 150 155 160

Gln Glu Ala Asp Asp Arg Ala Ser Gly His Ile Arg Ser Val Glu Asp
165 170 175

Tyr Phe Thr Leu Arg Arg Asp Thr Cys Gly Ala Lys Pro Ser Phe Ser

180 185 190

Phe Phe Gly Leu Gly Leu Asn Ile Pro Asp Glu Val Phe His His Pro
195 200 205

Val Val Ile Ser Met Ile Glu Gly Ala Thr Asp Leu Ile Ala Val Thr
210 215 220

Asn Asp Met His Ser Tyr Asn Leu Glu His Ser Arg Gly Leu Asp Gly
225 230 235 240

His Asn Val Ile Thr Ala Ile Met His Glu Tyr Gln Leu Asp Leu Gln
245 250 255

Gly Ala Leu Tyr Trp Leu Ser Gly Tyr Ala Thr His Thr Ile Ala Asn
260 265 270

Phe Leu Ser Asn Arg Arg Asn Leu Pro Ser Trp Gly Pro Ala Val Asp
275 280 285

Lys Ala Val Glu Glu Phe Phe Asp Arg Val Gly Arg Cys Val Arg Gly
290 295 300

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

Leu Gln Val Gln Lys Thr Arg Arg Ile Thr Leu
325 330

<210> 19

<211> 343

<212> PRT

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut13

<400> 19

Met Ser Gln Phe Ile Ile Pro Asp Leu Leu Ser Thr Trp Pro Trp Gln
1 5 10 15

Arg Val Ser Asn Pro Met Trp Arg Glu Ile Asp Glu Glu Ala Asn Ala
20 25 30

Trp Val Gln Ser Phe Asp Leu Phe Glu Pro Ser Gln Phe Glu Lys Phe
35 40 45

Lys Met Cys Asp Phe Asn Leu Leu Gly Ser Met Ile Gly Thr Val Glu
50 55 60

Thr Lys Asp His Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr Phe
65 70 75 80

Ala Phe Asp Glu Tyr Thr Asp Met Ala Ser Lys Asp Glu Ala Arg Lys
85 90 95

Ile Ala Arg Asp Val Met Asp Ala Phe Arg Asn Thr Glu Lys Pro Ala
100 105 110

His Asn Gln Ile Thr Glu Met Ala Arg Gln Phe Phe Lys Arg Thr Ile
115 120 125

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

Phe Asp Ala Tyr Thr His Ser Val Ile Gln Glu Ala Asp Asp Arg Ala
145 150 155 160

Thr Gly His Ile Arg Ser Val Asn Asp Tyr Phe Ile Leu Arg Arg Asp
165 170 175

Thr Cys Gly Gly Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu Asn
180 185 190

Ile Pro Lys Glu Val Phe Ala His Pro Met Phe Ile Ser Met Thr Glu
195 200 205

Ser Ala Thr Asp Leu Ile Ala Ile Thr Asn Asp Met His Ser Tyr Asn
210 215 220

Leu Glu Gln Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala Ile
225 230 235 240

Met His Glu Tyr Lys Ile Asn Leu Gln Gly Ala Leu Tyr Trp Leu Ser

245 250 255

Gly Tyr Ala Thr Lys Thr Ile Ala Lys Phe Ile Ser Asp Arg Lys Asn
260 265 270

Leu Pro Ser Trp Gly Pro Val Val Asp Arg Ala Val Glu Gln Tyr Phe
275 280 285

Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr Glu
290 295 300

Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Glu Ile Gln Lys Thr Arg
305 310 315 320

Gln Ile Thr Leu Arg Pro Leu Asp Pro Ala Tyr Val Thr Lys Glu Gln
325 330 335

Leu Gln Val Ser Met Lys Ala
340

<210> 20

<211> 356

<212> PRT

<213> Artificial Sequence

<220>

<223> AAE3_109435_mut1

<400> 20

Met His Ser Ser Thr Gln Leu Phe Thr His Ser Pro Thr Lys Met Gln
1 5 10 15

Ile Ile Leu Pro Asp Leu Leu Cys Ser Trp Gly Tyr Lys Gly Phe Leu
20 25 30

Asn Pro His Tyr Glu Gly Ala Lys Ala Glu Ser Asn Thr Trp Ile Arg
35 40 45

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

Lys Asp Tyr Thr Gly Leu Leu Ala Ser Met Thr Tyr Pro His His Asn
65 70 75 80

Lys Glu Phe Leu Cys Val Ala Cys Asp Met Met Asn Leu Phe Phe Val
85 90 95

Tyr Asp Glu Tyr Thr Asp Ile Thr Pro Pro Glu Thr Ala Gln Arg Leu
100 105 110

Ala Lys Ile Val Val Asn Ala Met Arg Asn Pro Asp Glu Ile Ala Ala
115 120 125

Leu Gly Glu Asp Ser Ile Gly Thr Met Thr Lys Gln Phe Trp Arg Arg
130 135 140

Ala Met Thr Leu Leu Pro Pro Asn Gly Cys Asn Ser Glu Ser Cys Ile
145 150 155 160

Gln His Phe Ile Asp Tyr Thr Glu Glu Tyr Leu Thr Ala Val Thr Arg
165 170 175

Glu Ala Cys Asp Arg Ser Ser Gly Ser Val His Ala Val Lys Asp Tyr
180 185 190

Leu Ala Met Arg Arg Ala Thr Ser Gly Ala Gly Leu Met Val Gly Leu
195 200 205

Leu Glu Phe Gly Leu Asp Leu Pro Glu Glu Val Met Lys His Glu Val
210 215 220

Ile Gln Glu Leu Ser Thr Gly Ala Ile Asp Met Tyr Cys Leu Leu Asn
225 230 235 240

Asp Met His Ser Tyr Ala Ser Glu Leu Ser Ser Gly Gln Ala Ser His
245 250 255

Asn Val Ile Thr Val Val Met His Glu Arg Asn Leu Ser Leu Gln Glu
260 265 270

Ala Phe Asp Trp Leu Ala Ser Tyr Ala Ala Gly Val Val Lys Gly Phe
275 280 285

Lys Thr Asn Leu Asn Arg Val Pro Ser Phe Ser Glu Leu Glu Asp His

290 295 300

Ser Leu His Gly Glu Gly Met Leu Arg Asp Arg Ile Gln Arg Tyr Ile
305 310 315 320

Asp Gly Leu Gly Gln Ala Val Arg Ala Glu Asp Asp Trp Ala Phe Glu
325 330 335

Thr Thr Arg Tyr His Gly Gln Asn Gly Pro Gln Ile Lys Leu Thr Arg
340 345 350

Met Leu Thr Ile
355

<210> 21
<211> 324
<212> PRT
<213> Artificial Sequence

<220>
<223> Agrped1_689671_mut1

<400> 21

Met Ser Gln Phe Ile Ile Pro Asp Leu Leu Ser Thr Trp Pro Trp Gln
1 5 10 15

Arg Val Ser Asn Pro Met Trp Arg Glu Ile Asp Glu Glu Ala Asn Ala
20 25 30

Trp Val Gln Ser Phe Asp Leu Phe Glu Pro Ser Gln Phe Glu Lys Phe
35 40 45

Lys Met Cys Asp Phe Asn Leu Leu Gly Ser Met Ile Gly Thr Val Glu
50 55 60

Thr Lys Asp His Leu Arg Ile Ser Cys Asp Leu Met Asn Phe Tyr Phe
65 70 75 80

Ala Phe Asp Glu Tyr Thr Asp Met Ala Ser Lys Asp Glu Ala Arg Lys
85 90 95

Ile Ala Arg Asp Val Met Asp Ala Phe Arg Asn Thr Glu Lys Pro Ala
100 105 110

His Asn Gln Ile Thr Glu Met Ala Arg Gln Phe Phe Lys Arg Thr Ile
115 120 125

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

Phe Asp Ala Tyr Thr His Ser Val Ile Gln Glu Ala Asp Asp Arg Ala
145 150 155 160

Thr Gly His Ile Arg Ser Val Asn Asp Tyr Phe Thr Leu Arg Arg Asp
165 170 175

Thr Cys Gly Ala Lys Pro Ser Phe Ser Phe Phe Gly Leu Gly Leu Asn
180 185 190

Ile Pro Asp Glu Val Phe His His Pro Val Val Ile Ser Met Ile Glu
195 200 205

Gly Ala Thr Asp Leu Ile Ala Val Thr Asn Asp Met His Ser Tyr Asn
210 215 220

Leu Glu His Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala Ile
225 230 235 240

Met His Glu Tyr Gln Leu Asp Leu Gln Gly Ala Leu Tyr Trp Leu Ser
245 250 255

Gly Tyr Ala Thr His Thr Ile Ala Asn Phe Leu Ser Asn Arg Arg Asn
260 265 270

Leu Pro Ser Trp Gly Pro Ala Val Asp Lys Ala Val Glu Glu Phe Phe
275 280 285

Asp Arg Val Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr Glu
290 295 300

Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Gln Val Gln Lys Thr Arg
305 310 315 320

Arg Ile Thr Leu

<210> 22
<211> 325
<212> PRT
<213> Artificial Sequence

<220>
<223> Galma_223690_mut1

<400> 22

Met Pro Ser Gln Phe Thr Ile Pro Asp Leu Leu Ile Thr Trp Pro Trp
1 5 10 15

Gln Glu Ile Thr Asn Pro Met Leu His Glu Val Asp Ala Glu Ala Asn
20 25 30

Glu Trp Val Gln Ser Leu Asn Leu Phe Glu Pro Lys Gln Phe Glu Lys
35 40 45

Phe Lys Ala Cys Asn Phe Asn Leu Leu Gly Ser Leu Val Gly Pro Leu
50 55 60

Pro Ser Arg Asp His Leu Arg Val Ser Cys Asp Leu Met Asn Phe Tyr
65 70 75 80

Phe Ala Phe Asp Glu Tyr Thr Asp Met Ala Asn Lys Asp Glu Ala Met
85 90 95

Arg Ile Ala Arg Asp Val Met Gln Ala Phe Arg Asn Thr Asp Thr Pro
100 105 110

Ser Asn Ser Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Lys Arg Thr
115 120 125

Ile Glu Val Val Gly Glu Asp Leu Pro Gly Ile Glu Arg Phe Ile Ala
130 135 140

Asp Phe Asp Ala Tyr Thr Arg Ser Val Ile Gln Glu Ala Asp Asp Arg
145 150 155 160

Val Ala Gly His Ile Arg Asn Val Glu Asp Tyr Phe Ile Leu Arg Arg
165 170 175

Asp Thr Cys Gly Ala Lys Pro Ser Phe Ser Phe Tyr Gly Leu Gly Leu
180 185 190

Asn Ile Pro Thr Glu Val Phe Glu His Pro Leu Leu Ile Ser Met Val
195 200 205

Glu Ser Ala Thr Asp Leu Ile Ala Val Thr Asn Asp Met His Ser Tyr
210 215 220

Gly Leu Glu His Ser Arg Gly Leu Asp Gly His Asn Val Ile Thr Ala
225 230 235 240

Ile Met His Glu Tyr Gln Leu Asp Leu Gln Gly Ala Leu Tyr Trp Leu
245 250 255

Ser Gly Tyr Ala Thr Lys Thr Ile Ser Lys Phe Leu Thr Asp Arg Lys
260 265 270

Asn Leu Pro Ser Trp Gly Pro Thr Ile Asp Lys Ala Leu Glu Ile Tyr
275 280 285

Leu Asp Arg Leu Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser Tyr
290 295 300

Ser Thr Lys Arg Tyr Tyr Gly Lys Asn Gly Leu Lys Val Gln Lys Thr
305 310 315 320

Arg Arg Ile Thr Leu
325

<210> 23

<211> 326

<212> PRT

<213> Artificial Sequence

<220>

<223> Hypsu_148385_mut1

<400> 23

Met Ser Ala Gln Tyr Thr Ile Pro Asp Leu Leu Ala Asn Trp Pro Trp
1 5 10 15

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

Glu Trp Val Met Ser Leu Gly Leu Phe Glu Pro Ala Gln Phe Lys Lys
35 40 45

Phe Lys Ala Cys Asp Phe Asn Leu Leu Ala Ser Phe Ile Gly Pro Leu
50 55 60

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

Phe Ala Phe Asp Glu Tyr Thr Asp Val Ala Asn Arg Glu Glu Ala Lys
85 90 95

Lys Ile Ser Gln Gly Val Met His Ala Phe Lys Thr Arg Ser Ala Glu
100 105 110

Pro Ser Ser Ser Lys Ile Thr Glu Met Ala Arg Gln Phe Phe Arg Arg
115 120 125

Thr Val Asp Val Val Gly Glu Asp Ser Pro Ala Ile Asn Gln Phe Ile
130 135 140

Thr Asp Phe Asp Thr Tyr Thr Thr Ala Val Ile Gln Glu Ala Asp Asp
145 150 155 160

Arg Thr Glu Gly Thr Ile Arg Asn Val Glu Asp Tyr Phe Thr Leu Arg
165 170 175

Arg Asp Thr Cys Gly Ala Lys Pro Ser Phe Ser Phe Phe Ala Leu Gly
180 185 190

Leu Asn Met Pro Thr Glu Val Phe Glu His Pro Leu Ile Met Ser Leu
195 200 205

Val Glu Arg Ala Thr Asp Leu Ile Ala Ile Val Asn Asp Met His Ser
210 215 220

Tyr Gly Leu Glu Arg Ala Arg Gly Leu Asp Gly His Asn Val Val Thr
225 230 235 240

Ser Ile Met Tyr Glu His Gln Leu Asp Leu Gln Gly Ala Leu His Trp
245 250 255

Leu Ala Gly Tyr Ala Glu Asp Thr Ile Ala Lys Phe Leu Ser Glu Lys
260 265 270

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

Phe Val Asp Arg Leu Gly Arg Cys Val Arg Gly Tyr Asp Ala Trp Ser
290 295 300

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

Thr Arg Gln Ile Thr Leu
325

<210> 24

<211> 620

<212> PRT

<213> Artificial Sequence

<220>

<223> Ec.dxs_SL3

<400> 24

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

Thr Gln Glu Leu Arg Leu Leu Pro Lys Glu Ser Leu Pro Lys Leu Cys
20 25 30

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

His Phe Ala Ser Gly Leu Gly Thr Val Glu Leu Thr Val Ala Leu His
50 55 60

Tyr Val Tyr Asn Thr Pro Phe Asp Gln Leu Ile Trp Asp Val Gly His
65 70 75 80

Gln Ala Tyr Pro His Lys Ile Leu Thr Gly Arg Arg Asp Lys Ile Gly
85 90 95

Thr Ile Arg Gln Lys Gly Gly Leu Thr Pro Phe Pro Trp Arg Gly Glu
100 105 110

Ser Glu Tyr Asp Val Leu Ser Val Gly His Ser Ser Thr Ser Ile Ser
115 120 125

Ala Gly Ile Gly Ile Ala Val Ala Ala Glu Lys Glu Gly Lys Asn Arg
130 135 140

Arg Thr Val Cys Val Ile Gly Asp Gly Ala Ile Thr Ala Gly Met Ala
145 150 155 160

Phe Glu Ala Met Asn His Ala Gly Asp Ile Arg Pro Asp Met Leu Val
165 170 175

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

Asn Asn His Leu Ala Gln Leu Leu Ser Gly Lys Leu Tyr Ser Ser Leu
195 200 205

Arg Glu Gly Gly Lys Lys Val Phe Ser Gly Val Pro Pro Ile Lys Glu
210 215 220

Leu Leu Lys Arg Thr Glu Glu His Ile Lys Gly Met Val Val Pro Gly
225 230 235 240

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

His Asp Val Leu Gly Leu Ile Thr Thr Leu Lys Asn Met Arg Asp Leu
260 265 270

Lys Gly Pro Gln Phe Leu His Ile Met Thr Lys Lys Gly Arg Gly Tyr
275 280 285

Glu Pro Ala Glu Lys Asp Pro Ile Thr Phe His Ala Val Pro Lys Phe
290 295 300

Asp Pro Ser Ser Gly Cys Leu Pro Lys Ser Ser Gly Gly Leu Pro Ser
305 310 315 320

Tyr Ser Lys Ile Phe Gly Asp Trp Leu Cys Glu Thr Ala Ala Lys Asp
325 330 335

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

Val Glu Phe Ser Arg Lys Phe Pro Asp Arg Tyr Phe Asp Val Ala Ile
355 360 365

Ala Glu Gln His Ala Val Thr Phe Ala Ala Gly Leu Ala Ile Gly Gly
370 375 380

Tyr Lys Pro Ile Val Ala Ile Tyr Ser Thr Phe Leu Gln Arg Ala Tyr
385 390 395 400

Asp Gln Val Leu His Asp Val Ala Ile Gln Lys Leu Pro Val Leu Phe
405 410 415

Ala Ile Asp Arg Ala Gly Ile Val Gly Ala Asp Gly Gln Thr His Gln
420 425 430

Gly Ala Phe Asp Leu Ser Tyr Leu Arg Cys Ile Pro Glu Met Val Ile
435 440 445

Met Thr Pro Ser Asp Glu Asn Glu Cys Arg Gln Met Leu Tyr Thr Gly
450 455 460

Tyr His Tyr Asn Asp Gly Pro Ser Ala Val Arg Tyr Pro Arg Gly Asn
465 470 475 480

Ala Val Gly Val Glu Leu Thr Pro Leu Glu Lys Leu Pro Ile Gly Lys
485 490 495

Gly Ile Val Lys Arg Arg Gly Glu Lys Leu Ala Ile Leu Asn Phe Gly
500 505 510

Thr Leu Met Pro Glu Ala Ala Lys Val Ala Glu Ser Leu Asn Ala Thr

515 520 525

Leu Val Asp Met Arg Phe Val Lys Pro Leu Asp Glu Ala Leu Ile Leu
530 535 540

Glu Met Ala Ala Ser His Glu Ala Leu Val Thr Val Glu Glu Asn Ala
545 550 555 560

Ile Met Gly Gly Ala Gly Ser Gly Val Asn Glu Val Leu Met Ala His
565 570 575

Arg Lys Pro Val Pro Val Leu Asn Ile Gly Leu Pro Asp Phe Phe Ile
580 585 590

Pro Gln Gly Thr Gln Glu Glu Met Arg Ala Glu Leu Gly Leu Asp Ala
595 600 605

Ala Gly Met Glu Ala Lys Ile Lys Ala Trp Leu Ala
610 615 620

<210> 25

<211> 620

<212> PRT

<213> Artificial Sequence

<220>

<223> Ec.dxs_SL5

<400> 25

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

Thr Gln Glu Leu Arg Leu Leu Pro Lys Glu Ser Leu Pro Lys Leu Cys
20 25 30

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

His Phe Ala Ser Gly Leu Gly Thr Val Glu Leu Thr Val Ala Leu His
50 55 60

Tyr Val Tyr Asn Thr Pro Phe Asp Gln Leu Ile Trp Asp Val Gly His
65 70 75 80

Gln Ala Tyr Pro His Lys Ile Leu Thr Gly Arg Arg Asp Lys Ile Gly
85 90 95

Thr Ile Arg Gln Lys Gly Gly Leu Phe Pro Phe Pro Trp Arg Gly Glu
100 105 110

Ser Glu Tyr Asp Val Leu Ser Val Gly His Ser Ser Thr Ser Ile Ser
115 120 125

Ala Gly Ile Gly Ile Ala Val Ala Ala Glu Lys Glu Gly Lys Asn Arg
130 135 140

Arg Thr Val Cys Val Ile Gly Asp Gly Ala Ile Thr Ala Gly Met Ala
145 150 155 160

Phe Glu Ala Met Asn His Ala Gly Asp Ile Arg Pro Asp Met Leu Val
165 170 175

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

Asn Asn His Leu Ala Gln Leu Leu Ser Gly Lys Leu Tyr Ser Ser Leu
195 200 205

Arg Asp Gly Gly Lys Lys Val Phe Ser Gly Val Pro Pro Ile Lys Glu
210 215 220

Leu Leu Lys Arg Thr Glu Glu His Ile Lys Gly Met Val Val Pro Gly
225 230 235 240

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

His Asp Val Leu Gly Leu Ile Thr Thr Leu Lys Asn Met Arg Asp Leu
260 265 270

Lys Gly Pro Gln Phe Leu His Ile Met Thr Lys Lys Gly Arg Gly Tyr
275 280 285

Glu Pro Ala Glu Lys Asp Pro Ile Thr Phe His Ala Val Pro Lys Phe

290 295 300

Asp Pro Ser Ser Gly Cys Leu Pro Lys Ser Ser Gly Gly Leu Pro Ser
305 310 315 320

Tyr Ser Lys Ile Phe Gly Asp Trp Leu Cys Glu Thr Ala Ala Lys Asp
325 330 335

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

Val Glu Phe Ser Arg Lys Phe Pro Asp Arg Tyr Phe Asp Val Ala Ile
355 360 365

Ala Glu Gln His Ala Val Thr Phe Ala Ala Gly Leu Ala Ile Gly Gly
370 375 380

Tyr Lys Pro Ile Val Ala Ile Tyr Ser Thr Phe Leu Gln Arg Ala Tyr
385 390 395 400

Asp Gln Val Leu His Asp Val Ala Ile Gln Lys Leu Pro Val Thr Phe
405 410 415

Ala Ile Asp Arg Ala Gly Ile Val Gly Ala Asp Gly Gln Thr His Gln
420 425 430

Gly Ala Phe Asp Leu Ser Tyr Leu Arg Cys Ile Pro Glu Met Val Ile
435 440 445

Met Thr Pro Ser Asp Glu Asn Glu Cys Arg Leu Met Leu Tyr Thr Gly
450 455 460

Tyr His Tyr Asn Asp Gly Pro Ser Ala Val Arg Tyr Pro Arg Gly Asn
465 470 475 480

Ala Val Gly Val Glu Leu Thr Pro Leu Glu Lys Leu Pro Ile Gly Lys
485 490 495

Gly Ile Val Lys Arg Arg Gly Glu Lys Leu Ala Ile Leu Asn Phe Gly
500 505 510

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

Leu Val Asp Met Arg Phe Val Lys Pro Leu Asp Glu Ala Leu Ile Leu
530 535 540

Glu Met Ala Ala Ser His Glu Ala Leu Val Thr Val Glu Glu Asn Ala
545 550 555 560

Ile Met Gly Gly Ala Gly Ser Gly Val Asn Glu Val Leu Met Ala His
565 570 575

Arg Lys Pro Val Pro Val Leu Asn Ile Gly Leu Pro Asp Phe Phe Ile
580 585 590

Pro Gln Gly Thr Gln Glu Glu Met Arg Ala Glu Leu Gly Leu Asp Ala
595 600 605

Ala Gly Met Glu Ala Lys Ile Lys Ala Trp Leu Ala
610 615 620

<210> 26

<211> 659

<212> PRT

<213> *Agrocybe aegerita*

<400> 26

Met Pro Gly Ser Ala Asn Trp Thr Ala Asp Arg Phe Tyr Ile Pro Asp
1 5 10 15

Thr Leu Ala Asn Trp Pro Trp Pro Arg Ala Ile Asn Pro Ala Tyr Glu
20 25 30

Glu Cys Lys Ala Ala Ser Ala Ala Trp Cys Glu Lys Tyr Gly Ala Phe
35 40 45

Ser Ala Arg Ala Gln Lys Ala Phe Asn Leu Cys Asp Phe Asn Leu Leu
50 55 60

Ala Ser Leu Ala Tyr Ala Gly Leu Pro Ala Asp Val Asn Arg Val Gly
65 70 75 80

Cys Asp Leu Met Asn Leu Phe Phe Val Val Asp Glu His Thr Asp Ala
85 90 95

Met Asp Ala Arg Ser Val Gln Asp Trp Val Asp Ile Val Val Asp Ala
100 105 110

Leu His His Pro Arg Thr Pro Arg Pro Ala Gly Glu Pro Lys Val Gly
115 120 125

Glu Ile Ala Arg Thr Phe Trp Glu Asn Gly Ile Lys Cys Met Gly Pro
130 135 140

Thr Ala Gln Arg Arg Phe Val Glu Thr Phe Thr Thr Tyr Leu Gln Ser
145 150 155 160

Val Val Thr Gln Ala Gln Asp Arg Asp Lys His Leu Phe Arg Asp Val
165 170 175

Asp Ser Tyr Met Glu Val Arg Arg Asp Thr Ile Gly Ala Lys Pro Ser
180 185 190

Phe Ala Leu Leu Glu His Asp Met Glu Leu Pro Asp Asp Val Phe Tyr
195 200 205

His Pro Leu Leu Glu Lys Leu Arg Glu Trp Ala Ile Asp Met Leu Ile
210 215 220

Leu Gly Asn Asp Leu Cys Ser Tyr Asn Val Glu Gln Ser Arg Gly Asp
225 230 235 240

Asp Gly His Asn Ile Ile Arg Leu Ala Met Leu Gln Glu Asn Thr Asn
245 250 255

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

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

Ile Asp Ala Trp Val Thr Arg Tyr Ile Asp Gly Leu Gly Asn Trp Val
290 295 300

Arg Ala Asn Asp Ser Trp Ser Phe Glu Ser Trp Arg Tyr Phe Lys Gly
305 310 315 320

Asp Val Leu Arg Val Gln Ala Glu Arg Trp Val Glu Leu Leu Pro Pro
325 330 335

Ala Pro Lys Asp Glu Leu Thr Ser Ser Ile Pro Pro Glu Ser Arg Trp
340 345 350

Ile Lys Pro Ala Val Glu Pro Ser Arg Ala Arg Pro Asn Asn Val Gly
355 360 365

Ile Val Ala Leu Asp Thr Tyr Thr Pro Thr Ser Glu Asp Asp Phe Gln
370 375 380

Thr Leu Ala Val Lys Thr Val Ser Ser Leu Leu Ser Lys Tyr Asn Ile
385 390 395 400

Asn Pro Val Ser Val Gly Arg Leu Asp Ile Cys Ile Glu Arg Ala Ala
405 410 415

Asp Pro Tyr Ile Ile Tyr Ala Leu Arg Asp Ala Phe Ala Ser Ala Gly
420 425 430

Asn Thr Asp Val Glu Ala Ile Val Ser Ser Ser Lys Ser Val Val Gly
435 440 445

Leu Phe Asn Ala Ile Asn Trp Val Glu Ser Ser Ser Trp Asp Gly Arg
450 455 460

Tyr Ala Ile Val Phe Ala Gly Asp Leu Ser Ser Gly Val Ser Ala Ala
465 470 475 480

Leu Val Gly Pro Asp Ala Pro Ile Val Val Glu Pro Thr Arg Gly Thr
485 490 495

Tyr Leu Gly Asp Pro Ile Ala Ser Thr Asp Glu Ala Gln Gly Ser Tyr
500 505 510

Ile Asp Ser Leu Phe Gln Ser Tyr Ser His Tyr Arg Lys Lys His Pro
515 520 525

Gln Phe Ser Lys Thr Ser Gly Ala Pro Asn Gly Ala His Thr Pro Thr
530 535 540

Thr Thr Asn Gly Ser Ile Lys Ser Asn Gly Phe Val Ser Gly Asp Thr
545 550 555 560

Asn Gly His Ala Asn Gly Asn Gly His Val Gln Thr Arg Ser Ser Thr
565 570 575

Pro Ser Ser Ser Ser Ser Ser Thr Ser Ser Pro Ser Phe Asp Tyr Met
580 585 590

Ile Leu His Asp Arg His Gly Lys Ile Pro Thr Gly Ala Gly Ser Ile
595 600 605

Tyr Leu Gly Leu Ala Ser Leu Ile Thr Asp Ile Ala Pro Glu Thr Leu
610 615 620

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

Phe Phe Gly Ile Arg Val Ala Gly Asp Cys Ser Val Ile Cys Lys Gln
645 650 655

Leu Gln Ala

<210> 27

<211> 353

<212> PRT

<213> *Agrocybe aegerita*

<400> 27

Met Ser Glu Gln Gln Tyr Thr Leu Pro Asp Leu Leu Gln Asn Trp Pro
1 5 10 15

Trp Asn Arg His Leu Ser Pro Tyr Tyr Glu Glu Ala Lys Arg Glu Ser
20 25 30

Ser Ala Trp Val Glu Ser Phe Lys Pro Phe Asp Gln Asp Gly Gln Arg
35 40 45

Ala Phe Asp Ala Tyr Leu Leu Ala Ser Leu Thr Tyr Ser His Gly Ser
50 55 60

Arg Glu Phe Val Arg Leu Gly Cys Asp Leu Met Asn Phe Tyr Phe Val
65 70 75 80

Tyr Asp Glu Tyr Thr Asp Val Ser Asp Ser Ala Val Ala Asp Arg Leu
85 90 95

Ala Asn Ile Val Ile Asp Ala Met Arg Asn Pro Glu Asn Ser Ser Gln
100 105 110

Ser Gly Asp His Leu Leu Gly Lys Met Thr Lys His Phe Trp Thr Arg
115 120 125

Ala Leu Ala Met Ala Pro Ala Gly Ser Pro Cys Phe Glu His Phe Ile
130 135 140

Thr Thr Ser Glu Thr Tyr Leu Arg Ala Val Thr Gln Glu Ala Glu Asp
145 150 155 160

Arg Ala Asn Lys Arg Val Arg Lys Val Asp Asp Tyr Leu Arg Leu Arg
165 170 175

Arg Asp Thr Cys Gly Ala Arg Pro Thr Leu Ala Leu Ile Glu Phe Gly
180 185 190

Leu Asn Leu Pro Asn Glu Val Val Arg His Pro Ser Leu Val Ala Leu
195 200 205

Thr Glu Ala Ala Val Asp Leu Ile Ile Leu Val Asn Asp Met His Ser
210 215 220

Tyr Val Arg Glu Leu Ser Cys Gly His Glu Asn His Asn Leu Ile Thr
225 230 235 240

Ala Ile Met Leu Glu His Arg Leu Asn Gln Gln Asp Ala Phe His Trp
245 250 255

Leu Gly Ser His Cys Ser Arg Val Val Asp Gln Phe Leu Ser Asp Leu

260 265 270

Asp Glu Leu Pro Ser Trp Gly Glu Pro Thr Asp Ser Gly Val Arg Asp
275 280 285

Tyr Ile Asn Gly Leu Gly Gln Trp Val Arg Gly Asn Asp Asp Trp Ser
290 295 300

Thr Glu Ser Lys Arg Tyr Tyr Gly Glu Asp Gly Glu Thr Ile Arg Gln
305 310 315 320

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

Gly Gln Val Gly Val Gln Asp Ser Val Arg Ile Gln Pro Ile Glu Ala
340 345 350

Asn

<210> 28

<211> 346

<212> PRT

<213> *Agroclybe aegerita*

<400> 28

Met Cys Ala Ser Ala Thr Arg Pro Gln Pro Ser Ala Ser Asn Asn Val
1 5 10 15

Lys Lys Ile Ile Leu Pro Asp Leu Val Ser His Cys Thr Phe Lys Leu
20 25 30

Arg His Asn Arg His Arg Lys Gln Val Thr Thr Glu Thr Lys Lys Trp
35 40 45

Leu Phe Lys Asp Gly Asn Leu Leu Gly Gln Lys Glu Arg Ala Tyr His
50 55 60

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

Tyr Pro Gln Leu Arg Val Val Asn Asp Phe Leu Thr Tyr Leu Phe His

85

90

95

Leu Asp Asn Leu Ser Asp Glu Met Asp Asn Arg Gly Thr Thr Thr Thr
100 105 110

Ala Asp Glu Val Leu Asn Ser Leu Tyr His Pro His Thr Trp Arg Ser
115 120 125

Ser Ala Arg Val Gly Lys Met Thr Arg Asp Phe Tyr Lys Arg Leu Val
130 135 140

Leu Thr Ala Ser Pro Gly Ala Gln Gln Arg Phe Ile Glu Thr Phe Asp
145 150 155 160

Phe Phe Phe Gln Ser Val Thr Gln Gln Ala Leu Asp Arg Ala Ser Gly
165 170 175

Val Ile Pro Asp Leu Glu Ser Tyr Ile Ser Leu Arg Arg Asp Thr Ser
180 185 190

Gly Cys Lys Pro Cys Trp Ala Met Ile Glu Tyr Ala Asn Asn Leu Asp
195 200 205

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

Ala Thr Asn Asp Leu Val Thr Trp Ser Asn Asp Ile Phe Ser Tyr Ser
225 230 235 240

Val Glu Gln Ser Lys Gly His Thr His Asn Met Ile Pro Val Val Met
245 250 255

Tyr Gln Glu Gly Leu Asp Leu Gln Ala Ala Val Asp Phe Val Gly Asp
260 265 270

Met Cys Arg Gln Ser Ile Asn Arg Phe Val Glu Glu Lys Ala Arg Leu
275 280 285

Pro Ser Trp Gly Pro Lys Ile Asp Gln Asp Val Ala Ile Tyr Val Gln
290 295 300

Gly Leu Ala Asp Trp Ile Val Gly Ser Leu His Trp Ser Phe Glu Thr
305 310 315 320

Glu Arg Tyr Phe Gly Lys Ser Gly Arg Gln Val Lys Ala Ser Arg Ile
325 330 335

Val Asp Leu Leu Pro Arg Gln Arg Leu Pro
340 345

<210> 29

<211> 372

<212> PRT

<213> *Agroclybe aegerita*

<400> 29

Met Thr Ala Ala Pro Leu Thr Phe Thr Leu Pro Asp Leu Leu Ala Asn
1 5 10 15

Phe Pro Trp Lys Arg Asn Leu Ser Glu Tyr Tyr Pro Glu Cys Lys Thr
20 25 30

Glu Ser Ser Ala Trp Thr Glu Ser Phe His Pro Phe Asp Asp Glu Gly
35 40 45

Leu Lys Gly Phe Asn Leu Cys Asp Phe Asn Leu Leu Ala Ser Leu Ala
50 55 60

Tyr Ser Pro Arg Glu Arg Glu Ile Ile Arg Leu Gly Cys Asp Leu Met
65 70 75 80

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

Gly Ala Asp Lys Ile Arg Asp Ile Ile Met Asp Ala Phe Arg Asn Pro
100 105 110

His Lys Pro Arg Pro Glu Gly Glu Leu Leu Val Gly Glu Met Ala Arg
115 120 125

Asp Phe Trp Ile Arg Ala Ser Gly Tyr Val Ser Pro Asp Ala His Cys
130 135 140

Leu Thr His Phe Leu Arg Asp Phe Asp Thr Tyr Thr Ala Ala Val Val
145 150 155 160

Arg Glu Ala Asp Asp Arg Ala Lys Arg Val Tyr Arg Thr Phe Glu Asp
165 170 175

Tyr Leu Ser Ile Arg Arg Asp Ser Ser Gly Cys Leu Pro Ser Phe Ala
180 185 190

Leu Cys Glu Phe Gly Leu Asp Leu Pro Glu Glu Ala Tyr His His Pro
195 200 205

Arg Met Ala Ala Leu Arg Glu Gln Ser Thr Asp Leu Ile Ala Ile Gly
210 215 220

Asn Asp Ile Asp Ser Tyr Ala Met Glu Lys Ala Arg Gly Leu Glu Leu
225 230 235 240

His Asn Ser Val Glu Leu Ile Ile Asn Glu His Gly Leu Asp Val Gln
245 250 255

Gly Ala Ile Asn Trp Leu Glu Arg Tyr Ala Ala Gly Val His Ala Ser
260 265 270

Phe Leu Asp Asn Val Ala Asn Met Pro Ser Trp Gly Glu Asp Val Asp
275 280 285

Arg Arg Val Lys Met Tyr Ile Asp Gly Leu Ala Gln Trp Val Arg Gly
290 295 300

Asn Asp Asp Trp Thr Phe Glu Ser Gly Arg Tyr Phe Gly Asp Lys Gly
305 310 315 320

Leu Glu Val Gln Lys Thr Arg Val Met Ser Leu Leu Pro Ala Ser Lys
325 330 335

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

Leu Leu Arg Tyr Phe Arg Tyr Ser Thr Met Tyr Phe Phe Gly Phe His
355 360 365

Val Leu Ala Lys
370

<210> 30

<211> 342

<212> PRT

<213> *Agrocybe aegerita*

<400> 30

Met Ser Ala Leu Pro Ser Gln Phe Lys Leu Pro Asp Leu Leu Ser Thr
1 5 10 15

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

Glu Ser Arg Ala Trp Ile Gly Ser Tyr Asn Met Phe Ala Asp Arg Lys
35 40 45

Arg Ala Phe Phe Ile Gln Gly Gln Asn Glu Leu Leu Cys Ser His Val
50 55 60

Tyr Cys Tyr Ala Gly Tyr Glu Gln Leu Arg Thr Thr Cys Asp Phe Val
65 70 75 80

Asn Leu Leu Phe Val Val Asp Glu Val Ser Asp Glu Gln Ser Gly Glu
85 90 95

Asp Ala Arg Ala Thr Gly Gln Val Phe Val Asn Ala Met Lys Tyr Ala
100 105 110

Asp Trp His Asp Gly Ser Lys Leu Ala Lys Leu Thr Lys Asp Phe Arg
115 120 125

Val Arg Phe Leu Arg Leu Ala Gly Pro Lys Asn Val Ala Arg Phe Val
130 135 140

Ala Leu Cys Glu Ser Tyr Thr Ala Cys Val Gly Lys Glu Ala Glu Leu
145 150 155 160

Arg Glu Ser Gly Gln Val Leu Gly Val Lys Glu Phe Ile Pro Leu Arg
165 170 175

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

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

Asn Ala Tyr Trp Ala Ala Cys Asp His Val Cys Trp Ala Asn Asp Val
210 215 220

Tyr Ser Tyr Asp Met Glu Gln Ser Lys Gly Leu Ser Asn Asn Asn Ile
225 230 235 240

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

Asp Tyr Ile Gly Glu Lys Cys Ala Glu Phe Val Gln Ile Tyr Leu Thr
260 265 270

Ser Lys Lys Arg Leu Ser Pro Ser Leu Gly Pro Asp Ala Ala Leu Phe
275 280 285

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

Glu Thr Ser Arg Tyr Phe Gly Ser Arg His Leu Glu Val Lys Glu Thr
305 310 315 320

Gly Ile Val Ile Leu Arg Pro Arg Glu Leu Pro Glu Asp Gly Ser Ser
325 330 335

Ser Asp Ser Asp Glu Glu
340

<210> 31

<211> 387

<212> PRT

<213> *Agroclybe aegerita*

<400> 31

Met Ser Phe Phe Lys Ser Ser Gln Pro Thr Ile Tyr Ile Pro Asp Thr
1 5 10 15

Leu Arg Asn Trp Pro Trp Pro Arg Glu Ile Asn Pro His Tyr Glu Glu
20 25 30

Cys Lys Arg Glu Ser Ala Ala Trp Val Glu Lys Phe Gly Ala Phe Ser
35 40 45

Ala Lys Ala Gln Lys Ala Phe Asn Lys Cys Asp Phe Asn Leu Leu Ala
50 55 60

Ser Leu Ala Trp Ser Arg Val Asn Arg Asp Gly Cys Arg Ile Gly Cys
65 70 75 80

Asp Leu Met Asn Leu Phe Phe Val Phe Asp Glu Trp Ser Asp Val Ser
85 90 95

Asp Ala Glu Glu Thr Arg Arg Met Ala Asp Ile Ile Met Asp Ala Leu
100 105 110

Tyr Asp Pro His Lys Pro Arg Pro Thr Gly Glu Trp Val Gly Gly Glu
115 120 125

Val Thr Arg Gln Tyr Trp Leu Asn Ala Ile Arg Thr Ala Thr Pro Ser
130 135 140

Ala Gln Lys Arg Phe Ile Lys Ala Phe Lys Leu Tyr Thr Asp Ser Val
145 150 155 160

Val Gln Gln Ser Ala Asp Arg Asp Lys His Leu Ile Arg Asp Ile Asp
165 170 175

Ser Tyr Phe Glu Val Arg Arg Asp Thr Ile Gly Ala Lys Pro Ser Phe
180 185 190

Ala Ile Asn Glu Val His Met Asn Leu Pro Asp Tyr Val Met Glu His
195 200 205

Pro Val Ile Lys Asn Leu Thr Ala Tyr Cys Ile Asp Met Leu Cys Ile
210 215 220

Gly Asn Asp Leu Cys Ser Tyr Asn Val Glu Gln Ser Arg Gly Asp Asp
225 230 235 240

Gly His Asn Leu Val Thr Ile Val Met His Gln Leu Asn Leu Asp Val
245 250 255

Gln Gly Ala Phe Asp Trp Ile Gly Lys Leu His Asp Glu Leu Val Asp
260 265 270

Lys Phe Leu Glu Glu Tyr Lys Asn Val Pro Thr Phe Lys Asp Lys Gln
275 280 285

Val Thr Lys Glu Cys Ala Glu Tyr Ala Phe Gly Leu Gly Asn Trp Val
290 295 300

Arg Gly Asn Asp Gln Trp Ser Phe Glu Ser Glu Arg Tyr Phe Gly Lys
305 310 315 320

Asp Gly Met Arg Val Leu Thr Glu Arg Thr Val Val Leu Leu Pro Lys
325 330 335

Lys Arg Glu Pro Pro Pro Lys Pro Leu Asp Glu Asp Pro Ile Tyr Ser
340 345 350

Ala Leu Pro Trp Trp Gly Trp Thr Ala Leu Phe Gly Phe Leu Ala Thr
355 360 365

Ala Phe Thr Phe Ser Ala Arg Gln Leu Ser Thr Arg Ile Ser Ala Asn
370 375 380

Leu Ile Ala
385

<210> 32

<211> 430

<212> PRT

<213> *Agroclybe aegerita*

<400> 32

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

Ile Leu Leu Ala Ser Val Ser Leu Ser Arg Lys Lys Arg Pro Ala Ala
20 25 30

Pro Glu Pro Gln Gly Leu Ser Val Leu Gly Asn Leu Phe Asp Ile Pro
35 40 45

Lys Arg Ala Ser Ser Ile Ile Tyr Leu Ala Leu Gly Lys Pro Tyr Asn
50 55 60

Thr Leu Thr Lys Arg Ala Val Ser Gln Leu Gln Gly Tyr Thr Pro Gly
65 70 75 80

Ser His Ile Asp Ala Thr Ser His Ser Pro Arg Val Phe Arg Leu Pro
85 90 95

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

Asn Tyr Thr Ser Ala Arg Thr Asp Ser Arg Ala Trp Ile Asn Gln Tyr
115 120 125

Thr Lys Val Val Cys Gly Pro Lys Met Val Ala Phe Met Asn Asn Cys
130 135 140

Glu Phe Glu Leu Ser Asn Ser His Cys Tyr Pro Tyr Ala Gly Tyr Lys
145 150 155 160

Gly Leu Lys Ala Thr Met Asp Leu Thr Asn Ile Leu Trp Leu Tyr Asp
165 170 175

Glu Tyr Thr Asp Thr Gly Ser Gly Ala Glu Ala Val Lys Ala Ala Gly
180 185 190

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

Val Cys Arg Met Met Lys Ser Phe Lys Gln Asn His Ile Asp Lys Ala
210 215 220

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

Glu Val Val Gly Arg Glu Ala Glu Leu Arg Glu Lys Asn Glu Val Leu

245 250 255

Asp Ile Pro Asn Tyr Val Thr Phe Arg Arg Glu Thr Ser Ala Val Arg
260 265 270

Thr Cys Phe Asp Leu Val Glu Tyr Cys Leu Asp Leu Asp Leu Pro Gln
275 280 285

Tyr Val His Asp Asp Pro Val Phe Ile Ser Gly Tyr Asn Ala Gly Met
290 295 300

Asp Leu Val Phe Trp Ala Asn Asp Leu Val Ser Tyr Asn Met Glu Gln
305 310 315 320

Ser Lys Gly His Ser Gly Ala Asn Val Val Thr Val Ile Met Lys Ser
325 330 335

Lys Gly Val Asp Leu Gln Thr Ala Val Asp Phe Leu Gly Gly Tyr Cys
340 345 350

Glu Ala Leu Thr Ala Gln Leu Leu Glu Ala Lys Arg Ile Leu Gln Ala
355 360 365

Arg Ser Asp Ala Ala Tyr Ser Arg Asp Val Val Arg Leu Met Asp Ala
370 375 380

Phe Gly Asp Trp Val Arg Gly Asn Val Ala Trp Ser Phe Glu Thr Glu
385 390 395 400

Arg Tyr Phe Gly Lys Glu Asn Lys Arg Val Lys Glu Thr Leu Leu Val
405 410 415

Glu Leu Lys Glu Pro Phe Val Gly Ala Leu Ala Leu Lys Glu
420 425 430

<210> 33

<211> 358

<212> PRT

<213> *Agrocybe aegerita*

<400> 33

Met Asn Ala Ser Pro Phe Leu Asn Glu Ser Ser Pro Thr Arg Pro Thr

1 5 10 15

Ser Phe Val Leu Pro Asp Leu Val Ser His Cys Lys Phe Pro Leu Ser
20 25 30

Tyr His Pro Asn Gly Asp Glu Ile Ala Gln Glu Ser Val Asp Trp Leu
35 40 45

Asp Ser Ser Cys Pro Asp Leu Thr Ala Lys Gln Arg Arg Ala Leu Arg
50 55 60

Val Leu Gln Ser Gly Glu Leu Thr Ala Tyr Cys Tyr Asn Gln Ala Thr
65 70 75 80

Ser Pro Glu Arg Leu Arg Val Val Ser Asp Phe Leu Thr Tyr Leu Phe
85 90 95

His Leu Asp Asn Ile Ser Asp Gly Met Met Thr Arg Glu Thr Asp Val
100 105 110

Leu Ala Asp Val Val Met Asn Ala Phe Trp Phe Thr Asp Lys Tyr Met
115 120 125

Pro Thr Arg Gly Pro Gly Lys Glu Gln Leu Asp Glu Glu Leu Asn Pro
130 135 140

Gly Lys Leu Ala Arg Asp Phe Trp Ser Arg Ala Ile Ala Asp Cys Gly
145 150 155 160

Val Gly Val Gln Ala Arg Phe Lys Glu Thr Met Gly Leu Phe Phe Glu
165 170 175

Ala Val Asn Ile Gln Ala Arg Met Arg Asp Glu Asp Thr Ile Pro Asp
180 185 190

Leu Glu Ser Tyr Ile Asp Val Arg Arg Asp Thr Ser Gly Cys Lys Pro
195 200 205

Ser Trp Val Leu Ile Glu Tyr Ala Leu Gly Ile Asp Leu Pro Asp His
210 215 220

Val Val Asp His Pro Ile Met Gln Ala Leu Asn Gln Gly Thr Asn Asp
225 230 235 240

Leu Val Thr Trp Ser Asn Asp Ile Phe Ser Tyr Asn Val Glu Gln Ser
 245 250 255

Arg Gly Asp Thr His Asn Met Ile Val Ile Leu Met Glu Tyr His Gly
 260 265 270

His Thr Leu Gln Ser Ala Val Asp Tyr Val Gly Glu Leu Cys Ala Gln
 275 280 285

Thr Ile Asp Thr Phe Cys Glu Asn Lys Glu Arg Leu Pro Ser Trp Gly
 290 295 300

Pro Glu Ile Asp Asp Met Val Ala Arg Tyr Val Lys Gly Leu Gln Asp
305 310 315 320

Trp Ile Val Gly Ser Leu His Trp Ser Phe Gln Thr Gln Arg Tyr Phe
 325 330 335

Gly Lys Asp Gly Leu Asp Ile Lys Lys His Arg Phe Val Lys Leu Leu
 340 345 350

Pro Leu Glu Ala Ala Lys
 355

<210> 34

<211> 389

<212> PRT

<213> *Agrocybe aegerita*

<400> 34

Met Val Trp Asp Phe Val Leu Ser Leu Phe His Ser Leu Leu Ala Ala
1 5 10 15

Phe Gln Thr Leu Thr Ser Trp Leu Thr Gly Ser Phe Leu Phe Asn Asn
 20 25 30

Lys Met Ala Pro Ala Pro Asn Pro Ala Pro Val Thr Phe Ile Leu Pro
 35 40 45

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

His His Asp Val Ala Cys Ala Glu Ser Arg Glu Trp Phe Ala Lys Tyr
65 70 75 80

Asn Lys Lys Val Leu Gly Ala Gln Met Gln Glu Phe Phe Arg Arg Cys
85 90 95

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

Gly Leu Arg Ala Thr Met Asp Trp His Asn Ile Leu Trp Phe Phe Asp
115 120 125

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

Ile Thr Ile Arg Thr Leu Arg Glu Pro Asp Phe Asp Asp Gly Ser Ser
145 150 155 160

Leu Cys Arg Met Val Arg Asp Phe Arg Leu Ser His Leu Ser Arg Ala
165 170 175

Gly Pro Glu Cys Thr Arg Arg Phe Leu Glu His Cys Asp Val Ala Phe
180 185 190

His Ala Gly Ala Val Glu Ala Glu Leu Arg Glu Lys Gly Glu Val Leu
195 200 205

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

Thr Cys Phe Asp Met Ala Glu Tyr Leu Met Asp Ile Asp Leu Pro Gln
225 230 235 240

Asp Met Tyr Asp Asp Pro Val Phe Gln Lys Gly Tyr Ile Ala Ala Leu
245 250 255

Asp Leu Ile Phe Leu Ala Asn Asp Leu Tyr Ser Tyr Asn Met Glu Gln
260 265 270

Ala Lys Gly His Asn Gly Ala Asn Val Leu Thr Val Val Met Lys Glu
275 280 285

Thr Lys Leu Asn Leu Gln Ser Ala Ala Asp Tyr Val Gly Val Leu Cys
290 295 300

Glu Lys Leu Ile Lys Gln Phe Gln Glu Ala Lys Ser Thr Leu Glu Asn
305 310 315 320

Arg Leu Ala Lys Glu Lys Asn Pro Ala Lys Ala Ala Ala Leu Lys Asp
325 330 335

Ala Ile Arg Ser Leu Val Gly Tyr Gly His Trp Val Arg Gly Asn Val
340 345 350

Glu Trp Ser Phe Glu Thr Glu Arg Tyr Phe Gly Lys Lys Asn Lys Glu
355 360 365

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

Arg Ala Leu Lys Ala
385

<210> 35

<211> 1173

<212> DNA

<213> *Agrocybe aegerita*

<400> 35

atgcatcacc atcaccatca ccacagctcg acccagctgt tcaactcactc tccgaccaa 60

atgcagatca tctgcccga tctgtgtgc tctggggat ataaagggtt tctcaaccct 120

cactatgagg gcgctaaggc ggaatccaac acctggattc gcccgctcgt agtgaaactt 180

ttcgacgaac gtggccagaa agcggtcgcc aaagattaca ccggtctgct ggcgtctatg 240

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accatccgtc cgcagggtta ggacaactac gctaaacagg ctccgcgcgt cgaggctcct 1140
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<210> 36

<211> 1050

<212> DNA

<213> Agrocye pediades

<400> 36

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 gttcgtggct acgacgcttg gagctacgaa accaaacgct attacgggaa aaacggcctg 960
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<210> 37
 <211> 1053
 <212> DNA
 <213> Agrocybe pediades

<400> 37
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<210> 38
<211> 1050
<212> DNA
<213> *Galerina marginata*

<400> 38
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ccatggcagg aaatcaccaa cccgatgctg cacgaagtag acgctgaagc caatgaatgg 120
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gctatgcgta tcgcccgtga cgtaatgcaa gcattccgta aactgacac gcctagcaac 360
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<210> 39
<211> 1053
<212> DNA
<213> *Hypholoma sublateritium*

<400> 39
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gtgatgtccc tgggcctgtt tgagccggct cagtttaaaa aattcaaagc atgcgacttc 180

aaccttctgg caagctttat tggccgctg gaaagtaaag aacaccttcg tgttgcttgc 240
 gatctgatga atttctattt cgcttcgat gagtacctg acgttgctaa ccgtgaagag 300
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 agctccaaaa ttacggaaat ggcgctcag ttcttctgc gtaccgtga cgtcgtcgg 420
 gaagattccc cgccatcaa ccagttcatt accgacttcg acacctacac cacggctgtg 480
 atccaggaag cagacgatcg caccgaaggt accatccgta atgttgagga ctatttcacc 540
 ctccgtcgcg acacctgcgg cgccaaacct tcttttctg tcttcgccct gggcctgaac 600
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 ggtctacaga ttctcagac tcgtcaaac accctgcat ccaacgactc tggctacatc 1020
 actcgcaagc agatgggcgt ttctatcgct taa 1053

<210> 40
 <211> 1980
 <212> DNA
 <213> *Agrocybe aegerita*

<400> 40
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 tgcattgggac ccaccgcca acgccgattt gttgaaacat tcaccaccta cttcagagt 480
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 ccggagacgc tggcgggcaa gagcatcgt gtattgggt ttgcgaacag caccagacc 1920
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<210> 41

<211> 1062

<212> DNA

<213> *Agrocye aegerita*

<400> 41

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ccatttgatc aggatgggca gagggccttc gacgcttata tctcgccag cctgacctat 180
tcacatggga gcaggggaatt tgtgctctc ggatgcgac tcatgaactt ctactcgtc 240
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gctattatgc ttgagcatcg tctcaatcgg caagacgct tccattggct gggatcacac 780
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cctaccgatt ctggagtggag ggattacatc aacggcctgg gacaatgggt tcgtggaaac 900
gacgattgga gtaccgagag caaaagatat tacggagaag atggggaaac aatacgacag 960
gagcgttgg tcacaactcg ctccggggag tcgaattaca tcaaattcgg gcaagtggc 1020
gtacaagact cggtcgcat ccaaccaatc gaagccaact ga 1062

<210> 42

<211> 1041

<212> DNA

<213> *Agrocybe aegerita*

<400> 42

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gttaccaccg agacgaagaa gtggctgttc aaggacggca atctcctagg ccagaaggaa 180
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taccaccctc acacttggcg ttcgtcggcg agagttggga agatgacgcg ggatttctat 420
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 gaacgctact ttggcaaate aggccgccag gtgaaggcct cacggatagt tgacctcctt 1020
 ccagacaac ggttacctta a 1041

<210> 43

<211> 1119

<212> DNA

<213> Agrocye aegerita

<400> 43

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 ctggaagtcc agaagacgag agtcatgtcc ctctgcccg ctgcaaggt ttcgttaaga 1020
 agtcggccta aagccgtcgg acacgtaccc aagaaactct taagatattt ccgatactct 1080
 acgatgtatt ttttggtt tcatgtacta gcgaaatga 1119

<210> 44
 <211> 1029
 <212> DNA
 <213> *Agrocybe aegerita*

<400> 44
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 gcgtggagtt tcgagacttc ccgtacttc ggttctcgtc acctcgaggt gaaagagaca 960
 ggaatcgtca ttctcgccc acgagaactt ccagaagacg gcagttctc tgactcgat 1020

<210> 45

<211> 1164

<212> DNA

<213> *Agrocybe aegerita*

<400> 45

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gctctctttg gatttttggc cacagccttc acgttctcc cccgtcaact ctcaactcgt 1140
atttcggcga acctcattgc ttaa 1164

<210> 46

<211> 1170

<212> DNA

<213> *Agrocybe aegerita*

<400> 46

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ggactcaacc cacatcacga cgtcgttgc gcagagtcgc gtgaatggtt cgcaaaatac    240
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<211> 1077

<212> DNA

<213> *Agrocybe aegerita*

<400> 47

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<210> 48

<211> 1341

<212> DNA

<213> *Agrocybe aegerita*

<400> 48

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<210> 49

<211> 1155

<212> DNA

<213> *Agroclype aegerita*

<400> 49

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<210> 50
 <211> 1887
 <212> DNA
 <213> Escherichia coli

<400> 50
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<210> 51

<211> 1881

<212> DNA

<213> Artificial Sequence

<220>

<223> Ec.dxs_SL3

<400> 51

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<212> DNA
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<220>
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<210> 53

<211> 1173

<212> DNA

<213> *Agrocybe aegerita*

<400> 53

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<210> 54
 <211> 1050
 <212> DNA
 <213> Agrocye pediades

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<210> 55
 <211> 1053

<212> DNA

<213> *Agrocybe pediades*

<400> 55

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ccgagctggg gccagtggt tgaccgcgcc gttgaacaat actttgaccg tgttggtcgt    900
tgcgttcgtg gctacgatgc ctggtcttac gaaaccaaac gttattacgg taaaaatggc    960
ctggaaatcc agaaaactcg tcagatcacc ctgcgcccgc tggacccggc gtacgtgacc   1020
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<210> 56

<211> 1050

<212> DNA

<213> *Galerina marginata*

<400> 56

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gttcagtcac tgaacctgtt cgaaccgaaa cagttcgaaa agttcaaagc ctgtaacttc    180
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gacctgatga acttctactt cgcttcgat gactacacgg acatggcaaa caaagatgaa 300
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<210> 57

<211> 1053

<212> DNA

<213> Hypholoma sublateritium

<400> 57

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 gtgatgtccc tgggcctgtt tgagccggct cagtttaaaa aattcaaagc atgcgacttc 180
 aaccttctgg caagctttat tggccgctg gaaagtaaag aacaccttcg tttgcttgc 240
 gatctgatga atttctattt cgcttcgat gactacactg acgttgctaa ccgtgaagag 300
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 gaagattccc cggccatcaa ccagttcatt accgacttcg acacctacac cacggctgtg 480
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<210> 58
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 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Agrped1_689675_mut1

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 aacctgctgg gtgcactggg tggccgctg ggtaccaagg aagaactgcg cattagctgt 240
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 aacaaaatta ctgaaatggc ccgtcaattc ttcgaacgta ctatcaacac ggttggtaac 420
 gatccgactg gcattgaaca atttattgcg gatttcgacg catacaccac ctctatcatc 480
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 aaagaataa 1029

<210> 59
 <211> 996
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Agrped1_689675_mut2

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 gtgaaatctt tcgtgctgtt cgaaccggaa cagtttgaga aatttaaggc atgtgatttc 180
 aacctgctgg gtgcactggt tggtcgctg ggtaccaagg aagaactcgc cattagctgt 240
 gacctgatga acttctactt cgccttcgat ggtacaccg acctggctag cgctgacgaa 300
 gccaaagtaa tcgcgcgcga tgtgatggaa agcttccgtc acacagataa gccaagccac 360
 aacaaaatta ctgaaatggc ccgtcaattc ttcgaacgta ctatcaacac ggttggtaac 420
 gatccgactg gcattgaaca atttattgcg gatttcgacg catacaccac ctctatcatc 480
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 cgccgtgaca cctgtggtgg gaaaccgtcg ttctcgttct tcggtctggg cctgaacatc 600
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<210> 60
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 <212> DNA

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut3

<400> 60

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gtgaaatctt tcgtgctgt cgaaccggaa cagtttgaga aatttaaggc atgtgatttc    180
aacctgctgg gtgcactggg tggccgctg ggtaccaagg aagaactgcg cattagctgt    240
gacctgatga acttctactt cgccttcgat ggtacaccg acctggctag cgctgacgaa    300
gccaaagtaa tcgcgcgcga tgtgatggaa agcttccgct acacagataa gccaagccac    360
aacaaaatta ctgaaatggc ccgtcaattc ttcgaacgta ctatcaacac ggttggtaac    420
gatccgactg gcattgaaca atttattgcg gatttcgacg catacaccac ctctatcatc    480
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cgccgtgaca cctgtggtgg gaaaccgtcg ttctcgttct tcggctctggg cctgaacatc    600
ccgaaagaag tcttcgcaca cccgatgttc atctccatga ccgaatccgc gactgatctg    660
atcgcaatta ccaacgatat gcactcttat aacctggagc aatcccgcgg cttggatggt    720
cacaatgtaa ttaccgcgat catgcacgaa tacaaaatta atctccaggg tgcgctgtac    780
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<210> 61

<211> 993

<212> DNA

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut4

<400> 61

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aaggaagaac tgcgcattag ctgtgacctg atgaacttct acttcgcctt cgtgagtac    240
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 cgtactatca acacgggttg taacgatccg actggcattg aacaatttat tgcggatttc 420
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 ttatctctg accgtaaaaa ttgccgagc tggggcccag tggttgaccg cgccgttgaa 840
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<210> 62

<211> 946

<212> DNA

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut5

<400> 62

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 ccgctgggta ccaaggaaga actgcgcatt agctgtgacc tgatgaactt ctacttcgcc 180
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 caattcttcg aacgtactat caacacgggt ggtaacgac cgactggcat tgaacaattt 360
 attgcggatt tcgacgata caccacctct atcatccaag aagctgatga tcgtgcgtct 420
 ggtcacattc gtacggtga ggattacttc attctgcgcc gtgacacctg tgggtgggaaa 480
 ccgtcgttct cgttcttcgg tctgggcctg aacatcccga aagaagtctt cgcacaccg 540

atgttcatct ccatgaccga atccgcgact gatctgatcg caattaccaa cgatatgcac 600
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 cacgaataca aaattaatct ccagggtgcg ctgtactggc tgtcgggta cgctactaaa 720
 actattgcga aatttatctc tgaccgtaaa aattgccga gctggggccc agtgggtgac 780
 cgcgccgttg aacaatactt tgaccgtgtt ggtcgttgcg ttcgtggcta cgatgcctgg 840
 tcttacgaaa ccaaactgta ttacggtaaa aatggcctgg aaatccagaa aactcgtag 900
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<210> 63

<211> 1053

<212> DNA

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut6

<400> 63

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 aacctgctgg gtgcactggg tggccgctg ggtaccaagg aagaactgcg cattagctgt 240
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 gccaaagtaa tcgcgcgca tgtgatggaa agcttccgtc acacagataa gccaaagccac 360
 aacaaaatta ctgaaatggc ccgtcaattc ttcgaacgta ctatcaacac ggttggtaac 420
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<210> 64

<211> 1053

<212> DNA

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut7

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gacctgatga acttctactt cgccttcgat gactacaccg acctggctag cgctgacgaa 300

gccaaagtaa tcgcgcgca tgatgatgaa agcttccgct acacagataa gccaaagccac 360

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<210> 65

<211> 1053

<212> DNA

<213> Artificial Sequence

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<223> Agrped1_689675_mut8

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<223> Agrped1_689675_mut9

<400> 66

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<210> 67

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<212> DNA

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut10

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<210> 68

<211> 1053

<212> DNA

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut11

<400> 68

atgcatcacc atcaccatca ctctctcag atctatatcc cggacctctc gatcacctgg 60
ccgtggcaaa aggtgcgcaa cccactgctg caagaagtgc aggatgaggc gaacgaatgg 120
gtgaaatctt tcgtgctgtt cgaaccggaa cagtttgaga aatttaaggc atgtgatttc 180
aacctgctgg gtgcactggt tggccgctg ggtaccaagg aagaactgcg cattagctgt 240
gacctgatga acttctactt cgcttcgat gactacaccg acctggctag cgctgacgaa 300
gccaaagtaa tcgcgcgca tgatgatgaa agcttcgctc acacagataa gccaagccac 360
aacaaaatta ctgaaatggc ccgtaattc ttcgaacgta ctatcaacac ggttggtaac 420
gatccgactg gcattgaaca atttattgcg gatttcgacg catacaccac ctctatcatc 480
caagaagctg atgatcgtgc gtctgggtcac attcgtagcg ttgaggatta cttcattctg 540
cgccgtgaca cctgtggtgg gaaaccgtcg ttctcgttct tcggtctggg cctgaacatc 600
ccgaaagaag tcttcgcaca cccgatgctc atctccatga ccgaatccgc gactgatctg 660

atcgcaatta ccaacgatat gcactcttat aacctggagc aatcccgagg ctggatggt 720
 cacaatgtaa ttaccgcat catgcacgaa tacaaaatta atctccaggg tgcgctgtac 780
 tggctgtcgg gttacgtac taaaactatt gcgaaattta tctctgaccg taaaaattg 840
 ccgagctggg gccagtggt tgaccgccc gttgaacaat actttgaccg tgttggtcgt 900
 tgcgttcgtg gctacgatgc ctggtcttac gaaaccaaac gttattacgg taaaaatggc 960
 ctggaaatcc agaaaactcg tcagatcacc ctgcgcccgc tggacccggc gtacgtgacc 1020
 aaagaacagc tgcaggtatc catgaaggca taa 1053

<210> 69
 <211> 996
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Agrped1_689675_mut12

<400> 69
 atgcatcacc atcaccatca ctctctcag atctatatcc cggacctct gatcacctgg 60
 ccgtggcaaa aggtgcgcaa ccactgctg caagaagtgc aggatgaggc gaacgaatgg 120
 gtgaaatctt tcgtgctgtt cgaaccggaa cagtttgaga aatttaaggc atgtgatttc 180
 aacctgctgg gtgcactggt tggccgctg ggtaccaagg aagaactgcg cattagctgt 240
 gacctgatga acttctactt cgcttcgat gactacaccg acctggctag cgctgacgaa 300
 gccaaagtaa tcgcgcgca tgatgatgaa agcttccgac acacagataa gccaaagccac 360
 aaaaaatta ctgaaatggc ccgtcaattc ttcgaacgta ctatcaacac ggttggtaac 420
 gatccgactg gcattgaaca atttattgcg gatttcgacg catacaccac ctctatcatc 480
 caagaagctg atgatcgtgc gtctgggtcac attcgtagcg ttgaggatta tttcacgtta 540
 cgccgagaca ctgcccgcg gaaaccaagc ttcagcttct ttggcctggg tctgaacatt 600
 ccgatgagg tttccacca tctgtggtt atttccatga tcgaaggcgc caccgatctg 660
 attgctgtta cgaatgacat gcactcatat aacctgaac actcccgagg tctggatgga 720
 cacaacgtaa tcaactgtat catgcacgaa taccagctgg acctgcaggc gcactgtac 780
 tggctatccg gttacgtac ccatacgatt gctaacttcc tgcgaaccg ccgtaacctg 840
 ccgtctggg gcccggtgt cgataaagcg gtagaagaat tttcgaccg tgttggtcgt 900

tgtgttcgtg gctacgacgc ttggagctac gaaaccaaac gctattacgg gaaaaacggc 960

ctgcaggtgc agaagacccg tcgtatcacc ctgtaa 996

<210> 70

<211> 1050

<212> DNA

<213> Artificial Sequence

<220>

<223> Agrped1_689675_mut13

<400> 70

atgcatcacc atcaccatca ctcccaattt attatcccgg atctgttate cacttggcct 60

tggcagcgcg tgtctaaccg gatgtggcgt gagattgatg aagaagcaaa cgctggggtg 120

cagtctttcg acctgtttga accgtcccag ttcgagaaat tcaagatgtg tgatttcaac 180

ctgctgggct cgatgattgg taccgtggaa accaaagatc atctgcgcac cagttgcgac 240

ctgatgaact tctatttcgc attcgacgaa tacacggaca tggcatccaa agacgaagcg 300

cgtaagatcg cccgtgacgt gatggatgca ttctgcaaca ccgaaaaacc agctcacaac 360

caaatcaccg aaatggcccg ccagtttttt aaacgtacga tcgacactgt aggtaaagac 420

ttgccgggcg tggaaacgtt tctcgtgac ttcgatgctt atacgcattc cgtgatccag 480

gaggccgacg accgtgctac tggccacatc cgcagcgtca acgactactt cattctgcgc 540

cgtgacacct gtggtgggaa accgtcgttc tcgttcttcg gtctgggcct gaacatcccg 600

aaagaagtct tcgcacaccc gatgttcate tccatgaccg aatccgcgac tgatctgac 660

gcaattacca acgatatgca ctcttataac ctggagcaat cccgcggctt ggatggtcac 720

aatgtaatta ccgcgatcat gcacgaatac aaaattaatc tccagggtgc gctgtactgg 780

ctgtcgggtt acgctactaa aactattgcg aaatttatct ctgaccgtaa aaatttgccg 840

agctggggcc cagtgggtga ccgcgccgtt gaacaatact ttgaccgtgt tggctgttgc 900

gttcgtggct acgatgcctg gtcttacgaa accaaacgtt attacggtaa aaatggcctg 960

gaaatccaga aaactcgtca gatcacctcg cgcccgtgg acccggcgta cgtgacaaaa 1020

gaacagctgc aggtatccat gaaggcataa 1050

<210> 71

<211> 1089

<212> DNA

<213> Artificial Sequence

<220>

<223> AAE3_109435_mut1

<400> 71

atgcatcacc atcaccatca ccacagctcg acccagctgt tcaactactc tccgaccaa 60
atgcagatca tctgccgga tctgctgtgc tctggggat ataaaggggt tctcaaccct 120
cactatgagg gcgctaaggc ggaatccaac acctggattc gcccgtcgt agtgaaactt 180
ttcgacgaac gtggccagaa agcgttcgcc aaagattaca ccggtctgct ggctctatg 240
acttaccgc accacaacaa agaattcttg tgtgtggctt gcgatatgat gaacctgttc 300
ttgtttatg acgagtatac cgatattacc ccgccgaaa ccgcgcagcg tctggctaaa 360
atcgtttaa atgctatgcg caatccggat gagatgccg ctctgggtga agacagcatc 420
ggctactatga ccaagcagtt ctggcgccgc gctatgactc tgctgccacc gaacggttgt 480
aactctgaat ctgtatcca gcacttcatt gactacaccg aagaatatct gactgcagt 540
acgcgtgaag ctgtgatcg tagcagcggc tctgtccacg ctgtaaaaga ctatctggcg 600
atgcgtcgtg caacctctgg cgcgggtctg atggttggtt tactggaatt tggcctcgat 660
ctgccggaag aagtcataaa acatgaagtg atccaggaac tgtctactgg cgcatcgac 720
atgtactgtc tgctgaacga catgcatagc tacgcatctg aactgtcgtc tggtcaggcc 780
tctcacaacg ttattaccgt cgtgatgcac gaacgtaacc tgtccctgca agaagctttt 840
gattggctgg cctcttacgc ggcaggcgta gtgaaggggt tcaaaaccaa cctgaaccgc 900
gttccttctt ttagcgaact ggaggaccac tctctgcacg gcgaaggcat gctccgtgat 960
cgcatcagc gttacatga cggcctgggt caggcgggtc gcgcggaaga tgattgggct 1020
ttgaaacta cccgctatca cggtcagaac ggccgcgaga taaactgac ccgtatgctg 1080
accatctaa 1089

<210> 72

<211> 993

<212> DNA

<213> Artificial Sequence

<220>

<223> Agrped1_689671_mut1

<400> 72

atgcatcacc atcaccatca ctcccaattt attatccgg atctgttatc cacttggcct 60

tggcagcgcg tgtctaacc gatgtggcgt gagattgatg aagaagcaaa cgctgggtg 120
 cagtctttcg acctgttga accgtcccag ttcagaaaat tcaagatgtg tgatttcaac 180
 ctgctgggct cgatgattgg taccgtggaa accaaagatc atctgcgcat cagttgcgac 240
 ctgatgaact tctatttcgc attcgacgaa tacacggaca tggcatcaa agacgaagcg 300
 cgtaagatcg cccgtgacgt gatggatgca ttgcgaaca ccgaaaaacc agctcacaac 360
 caaatcaccg aaatggcccc ccagttttt aaacgtacga tcgacactgt aggtaaagac 420
 ttgccgggcg tggaaagttt tatcgtgac ttcgatgctt atacgcattc cgtgatccag 480
 gaggccgacg accgtgctac tggccacatc cgcagcgtca acgactattt cacgttacgc 540
 cgcgacactt gggcgcgaa accaagcttc agcttcttg gcctgggtct gaacattccg 600
 gatgaggttt tccaccatcc tgtggttatt tccatgatcg aaggcgccac cgatctgatt 660
 gctgttacga atgacatgca ctcatataac ctcgaacact cccgtggtct ggatggacac 720
 aacgtaatca ctgctatcat gcacgaatac cagctggacc tgcagggcgc actgtactgg 780
 ctatccggtt acgctacca tacgattgct aacttctgt cgaaccgccg taacctgccg 840
 tcctggggcc cggctgtcga taaagcggtga gaagaatttt tcgaccgtgt tggctgttgt 900
 gttcgtggct acgacgcttg gagctacgaa accaaacgct attacgggaa aaacggcctg 960
 caggtgcaga agaccgctcg tatcacctg taa 993

<210> 73

<211> 996

<212> DNA

<213> Artificial Sequence

<220>

<223> Galma_223690_mut1

<400> 73

atgcatcacc atcaccatca cccgagccag ttcaccatcc ctgacctgct gatcacttgg 60

ccatggcagg aaatcaccaa cccgatgctg cacgaagtag acgctgaagc caatgaatgg 120

gttcagtcac tgaacctgtt cgaaccgaaa cagttcgaaa agttcaaagc ctgtaacttc 180

aacctgctgg gctccctggg tggaccgctg ccaagccgtg accaccttcg tgtgtcctgc 240

gacctgatga acttctactt cgcttcgat gagtacacgg acatggcaaa caaagatgaa 300

gctatgcgta tcgccgtga cgtaatgcaa gcattccgta aactgacac gcctagcaac 360

tctaaaatca ctgaaatggc acgtcaattc ttcaaacgta ccatcgaggt ttaggcgaa 420

gacctgccgg gcacgaacg ttcatcgcc gatttcgatg catacactcg ttccgtgatt 480
 caggaagcag atgatcgtgt tgcaggcac attcgtaacg tggaggacta cttcattctg 540
 cgccgtgata cgtgcggtgc taaaccgagc ttctctttct acggtctggg tctgaacatc 600
 ccgaccgagg tctttgaaca cccgctgctg atttctatgg ttgaaagcgc aactgacctg 660
 attgctgtca ccaatgacat gcactcttac ggtctggagc attctcgtgg cctggacggt 720
 cacaatgtta tcaccgcat tatgcacgaa tatcagctgg acctacaggg tgcctgtac 780
 tggctgtccg gctacgcaac taaaaccatc tccaaattcc tgactgatcg taaaaacctg 840
 ccgtcctggg gcccaacct tgacaaagct ctgaaatct acctggaccg ttaggtcgt 900
 tgcgtgcgtg gctacgatgc ttggtctac agcactaagc gttactatgg taaaaacggt 960
 ctgaagggtc aaaaaacccg ccgtatcact ttgtaa 996

<210> 74

<211> 999

<212> DNA

<213> Artificial Sequence

<220>

<223> Hypsu_148385_mut1

<400> 74

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 ccgtggcagc gcgtgaccaa cagcatgctg gacgaggtgc gcgacgaagc aaacgagtgg 120
 gtgatgtccc tgggcctgtt tgagccggt cagtttaaaa aattcaaagc atgcgacttc 180
 aaccttctgg caagctttat tggccgctg gaaagtaaag aacaccttcg tgttgcttgc 240
 gatctgatga atttctattt cgcttcgat gactacactg acgttgctaa ccgtgaagag 300
 gctaaaaaaaa tctctcaggg cgttatgcac gcgtttaaaa ctggttctgc agagccgtcc 360
 agtccaaaaa ttacggaaat ggcgcgctcag ttcttcgtc gtaccgttga cgtcgtcggt 420
 gaagattccc cggccatcaa ccagttcatt accgacttcg acacctacac cacggctgtg 480
 atccaggaag cagacgatcg caccgaaggt accatccgta atgttgagga ctatttcacc 540
 ctccgtcgcg acacctgcgg cgccaaacct tcttttcgt tcttcgcct gggcctgaac 600
 atgccgaccg aagtcttca acacctctg atcatgtctc tggtagagcg tgcaaccgac 660
 ctgatcgca ttgtgaacga catgcactcc tacggtctgg aacgtgctcg tggcctggat 720

ggtcataacg tagtaacgtc catcatgtac gagcatcagc tggacctgca ggggtgcgctg 780
 cactggctgg ccggttatgc cgaagacaca atcgccaagt tcctgtcgga aaaagaacgt 840
 ctcccgctct ggggtccggc ggtagatgta tccgtgcagg aatttgtga ccgtctgggc 900
 cgttgcgtgc gtggttacga cgcttgggcc tatgaaacga accgctatta cggcagccac 960
 ggtctacaga ttcgtcagac tcgtcaaac accctgtaa 999

<210> 75
 <211> 555
 <212> PRT
 <213> Solanum lycopersicum
 <400> 75

Met Ala Pro Ala Ala Ala Leu Met Ser Lys Cys Gln Glu Glu Glu Glu
 1 5 10 15

Ile Val Arg Pro Val Ala Asp Phe Ser Pro Ser Leu Trp Gly Asp Arg
 20 25 30

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

Glu Ile Glu Thr Leu Lys Glu Gln Thr Arg Ser Met Leu Met Ser Gly
 50 55 60

Lys Thr Leu Ala Glu Lys Leu Asn Leu Ile Asp Ile Val Glu Arg Leu
 65 70 75 80

Gly Ile Ala Tyr His Phe Glu Lys Gln Ile Asp Asp Met Leu Asn His
 85 90 95

Ile Phe Asn Ile Asp Pro Asn Phe Glu Ala His Glu Tyr Asn Asp Leu
 100 105 110

Cys Thr Leu Ser Leu Gln Phe Arg Ile Leu Arg Gln His Gly Tyr Tyr
 115 120 125

Ile Ser Pro Lys Ile Phe Ser Arg Phe Gln Asp Ala Asn Gly Lys Phe
 130 135 140

Lys Glu Ser Leu Cys Asp Asp Ile Arg Gly Ile Leu Asn Leu Tyr Glu

145 150 155 160

Ala Ser His Val Arg Thr His Gly Glu Asp Thr Leu Glu Glu Ala Leu
 165 170 175

Ala Phe Ser Thr Ala His Leu Glu Ser Ala Ala Pro His Leu Lys Ser
 180 185 190

Pro Leu Ser Lys Gln Val Thr His Ala Leu Glu Gln Ser Leu His Lys
 195 200 205

Ser Ile Pro Arg Val Glu Thr Arg Tyr Phe Ile Ser Ile Tyr Glu Glu
 210 215 220

Glu Glu Leu Lys Asn Asp Val Phe Leu Arg Phe Ala Lys Leu Asp Phe
225 230 235 240

Asn Leu Leu Gln Met Leu His Lys Gln Glu Leu Ser Glu Val Ser Arg
 245 250 255

Trp Trp Lys Asp Leu Asp Phe Val Thr Thr Leu Pro Tyr Ala Arg Asp
 260 265 270

Arg Ala Val Glu Cys Tyr Phe Trp Thr Met Gly Val Tyr Ala Glu Pro
 275 280 285

Gln Tyr Ser Gln Ala Arg Val Met Leu Ala Lys Thr Ile Ala Met Ile
 290 295 300

Ser Ile Val Asp Asp Thr Phe Asp Ala Tyr Gly Ile Val Lys Glu Leu
305 310 315 320

Glu Val Tyr Thr Asp Ala Ile Gln Arg Trp Asp Val Ser Gln Ile Asp
 325 330 335

Arg Leu Pro Glu Tyr Met Lys Ile Ser Tyr Lys Ala Leu Leu Asp Leu
 340 345 350

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

Val Gln Tyr Ala Lys Glu Arg Met Lys Glu Ile Val Arg Asn Tyr Phe
370 375 380

Val Glu Ala Lys Trp Phe Ile Glu Gly Tyr Met Pro Pro Val Ser Glu
385 390 395 400

Tyr Leu Ser Asn Ala Leu Ala Thr Ser Thr Tyr Tyr Leu Leu Thr Thr
405 410 415

Thr Ser Tyr Leu Gly Met Lys Ser Ala Thr Lys Lys Asp Phe Glu Trp
420 425 430

Leu Ala Lys Asn Pro Lys Ile Leu Glu Ala Asn Val Thr Leu Cys Arg
435 440 445

Val Ile Asp Asp Ile Ala Thr Tyr Glu Val Glu Lys Gly Arg Gly Gln
450 455 460

Ile Ala Thr Gly Ile Glu Cys Tyr Met Arg Asp Tyr Gly Val Ser Thr
465 470 475 480

Gln Val Ala Met Asp Lys Phe Gln Glu Met Ala Glu Thr Ala Trp Lys
485 490 495

Asp Val Asn Glu Gly Ile Leu Arg Pro Thr Pro Val Ser Ala Lys Ile
500 505 510

Leu Thr Arg Ile Leu Asn Leu Ala Arg Ile Ile Asp Val Thr Tyr Lys
515 520 525

His Asn Gln Asp Gly Tyr Thr His Pro Glu Lys Val Leu Lys Pro His
530 535 540

Ile Ile Ala Leu Leu Val Asp Ser Ile Glu Ile
545 550 555

<210> 76

<211> 567

<212> PRT

<213> Melaleuca quinquenervia

<400> 76

Met Ser Gln Val Ser Ala Ile Pro Thr Thr Ser Pro Asn Lys Gly Thr
1 5 10 15

Gly Asp Val Ile Glu Arg Arg Ser Ala Gly Tyr His Pro Ser Val Trp
20 25 30

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

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

Val Arg Lys Met Leu Ala Gly Ala Val Asp Lys Pro Trp Gln Met Leu
65 70 75 80

His Leu Ile Asp Gln Ile Gln Arg Leu Gly Ile Glu Tyr His Phe Glu
85 90 95

Arg Glu Leu Asp Glu His Leu Glu Arg Ile His Lys Ser Phe Ser Gln
100 105 110

Leu Thr His Gly Tyr Phe Lys Gly Asp Asp Leu Arg Met Ile Ser Leu
115 120 125

Leu Phe Arg Leu Leu Arg Gln Gln Gly Tyr Asn Ile Ser Ser Glu Val
130 135 140

Phe Asn Lys Phe Lys Asp Ser Glu Gly Asn Phe Gly Glu Ser Leu Ala
145 150 155 160

Thr Asp Leu Arg Gly Leu Leu Ser Leu Tyr Glu Ala Cys His Leu Arg
165 170 175

Cys His Gly Asp Ile Ile Leu Asp Glu Ala Leu Pro Phe Ala Ile Ser
180 185 190

His Leu Glu Ser Ile Asp Glu Ser Lys Ala Gly Ala Asn Leu Ala Lys
195 200 205

Gln Val Asn His Ala Leu Lys Gln Pro Leu Arg Arg Gly Leu Pro Arg
210 215 220

Leu Glu Ala Arg Arg Tyr Ile Pro Leu Tyr Glu Glu Glu Pro Ser His
225 230 235 240

Asp Lys Val Leu Leu Ala Leu Ala Lys Leu Asp Phe Asn Leu Leu Gln
245 250 255

Glu Gln His Gln Lys Glu Leu Gly Asn Val Ser Arg Trp Trp Lys Asp
260 265 270

Ile Asp Val Pro Arg Lys Phe Pro Phe Ala Arg Asp Arg Ile Ala Glu
275 280 285

Leu Phe Phe Trp Ala Cys Gly Val Tyr Phe Glu Pro Glu Phe Ser Val
290 295 300

Ala Arg Val Ile Gln Ala Lys Ala Phe Ala Met Thr Ser Ile Leu Asp
305 310 315 320

Asp Ile Tyr Asp Val Tyr Gly Thr Leu Glu Glu Leu Val Leu Leu Thr
325 330 335

Glu Ala Ile Glu Lys Trp Asp Val Asp Ala Met Asp Gly Leu Pro Glu
340 345 350

Tyr Met Gln Ala Phe Tyr Lys Glu Leu Leu His Phe Tyr Glu Glu Val
355 360 365

Gly Asn Glu Val Ala Ala Lys Gly Arg Ser Tyr Arg Leu Val Tyr Ala
370 375 380

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

Trp Phe His Thr Asn Tyr Thr Pro Thr Leu Glu Glu Tyr Met Pro Leu
405 410 415

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

Gly Met Asp Asp Val Val Pro Lys His Val Phe Glu Trp Ser Ile Gly
435 440 445

Asp Cys Lys Ile Val Lys Ala Ala Gln Thr Ile Cys Arg Leu Met Asp
450 455 460

Asp Ile Ser Ser His Glu Phe Glu Gln Lys Arg Gly His Leu Val Ser
465 470 475 480

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

Gly Glu Glu Leu Gln Lys Gly Val Ile Asp Ala Trp Lys Asp Thr Asn
500 505 510

Glu Glu Phe Leu Arg Pro Thr Ala Val Pro Met Lys Ile Leu Thr Arg
515 520 525

Val Leu Asn Leu Ser Arg Ala Met Asp Val Leu Tyr Ser Asp Gly Asp
530 535 540

Asn Tyr Thr His Ser Gly Thr Lys Leu Lys Asp Phe Val Thr Ser Leu
545 550 555 560

Phe Val Ser Pro Leu Pro Val
565

<210> 77
<211> 354
<212> PRT
<213> *Galerina marginata*

<400> 77

Met Ser Glu Gln Gln Tyr Arg Leu Pro Asp Leu Leu Cys Asp Trp Pro
1 5 10 15

Trp Thr Arg Tyr Ser Ser Pro His Tyr Pro Lys Ala Lys Lys Glu Ser
20 25 30

Ser Asp Trp Val Asn Ser Phe His Pro Phe Ser Ala Arg Gly Gln Lys
35 40 45

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

Arg Arg Asn Glu Glu Phe Val Arg Ala Gly Cys Asp Leu Met Asn Phe
65 70 75 80

Tyr Phe Val Tyr Asp Glu Tyr Thr Asp Val Ser Asp Pro Val Ser Ala
 85 90 95

Ala Asn Leu Ala Asn Ile Val Ile Asp Ala Met Lys Asn Pro Asp Ala
 100 105 110

Phe Pro Ser Asn Gly Ser His Leu Leu Gly Glu Met Thr Arg Gln Phe
 115 120 125

Trp Arg Arg Ala Ser Thr Leu Ala Lys Pro Gly Ser Pro Cys Phe Glu
 130 135 140

His Phe Ile Ala Thr Ser Glu Thr Tyr Leu His Ala Val Thr Gln Glu
145 150 155 160

Ala Glu Asp Arg Ala Ser Glu Arg Ile Arg Ser Val Asp Asp Tyr Leu
 165 170 175

Asp Leu Arg Arg Asp Thr Cys Gly Ala Arg Pro Thr Leu Ala Phe Ile
 180 185 190

Glu Phe Gly Leu Glu Leu Pro Ala Glu Val Thr Ser His Pro Val Ile
 195 200 205

Val Ser Leu Thr Glu Ala Ala Val Asp Leu Ile Ile Leu Val Asn Asp
 210 215 220

Met His Ser Tyr Thr Arg Glu Ile Ser Cys Gly Leu Ala Asn His Asn
225 230 235 240

Ile Ile Thr Ala Ile Met His Glu Tyr Asn Leu Asp Leu Gln Ser Ala
 245 250 255

Phe Asp Cys Leu Asp Ala Tyr Ala Asn Glu Val Val Thr Arg Phe Leu
 260 265 270

Ser Asp Leu Asp Arg Val Pro Cys Trp Gly Asp Asp Val Asp Glu Arg

275 280 285

Val Trp Met Tyr Val Asp Gly Leu Gly Gln Trp Val Arg Gly Asn Asp
290 295 300

Asp Trp Ser Cys Glu Gly Lys Arg Tyr Tyr Gly Asp Asp Gly Leu Arg
305 310 315 320

Ile Met Glu Thr Arg Leu Val Ser Leu Lys Leu Pro Lys Val Arg Arg
325 330 335

Arg Met Ala Arg Lys Trp Gly Trp Tyr Gly Lys Val Arg Gln Lys Phe
340 345 350

Ser Ala

<210> 78

<211> 372

<212> PRT

<213> Hypoxylon sp

<400> 78

Met Arg Pro Ile Thr Cys Ser Phe Asp Pro Val Gly Ile Ser Phe Gln
1 5 10 15

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

Arg Ser Val Pro Gly Leu Glu Asn Cys Asn Val Phe Asp Pro Arg Ser
35 40 45

Leu Gly Val Pro Trp Pro Thr Ser Phe Pro Ala Ala Ala Gln Ser Lys
50 55 60

Tyr Trp Lys Asp Ala Glu Glu Ala Ala Ala Glu Leu Met Asp Gln Ile
65 70 75 80

Val Ala Ala Ala Pro Gly Glu Gln Gly Ser Leu Pro Ala Glu Leu Ala
85 90 95

Val Ser Asp Lys Lys Ala Ala Lys Arg Arg Glu Leu Leu Asp Thr Ser

100 105 110

Val Ser Ala Pro Met Asn Met Phe Pro Ala Ala Asn Ala Pro Arg Ala
115 120 125

Arg Ile Met Ala Lys Ala Asn Leu Leu Ile Phe Met His Asp Asp Val
130 135 140

Cys Glu Tyr Gln Ser Val Gln Ser Thr Ile Ile Asp Ser Ala Leu Ala
145 150 155 160

Asp Thr Ser Thr Pro Asn Gly Lys Gly Ala Asp Ile Leu Trp Gln Asn
165 170 175

Arg Ile Phe Lys Glu Phe Ser Glu Glu Thr Asn Arg Glu Asp Pro Val
180 185 190

Val Gly Pro Gln Phe Leu Gln Gly Ile Leu Asn Trp Val Glu His Thr
195 200 205

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

Ile Asp Tyr Arg Ile Gly Asp Phe Ala Val Asp Phe Cys Asp Ala Ala
225 230 235 240

Ile Leu Leu Thr Cys Glu Ile Phe Leu Thr Pro Ala Asp Met Glu Pro
245 250 255

Leu Arg Lys Leu His Arg Leu Tyr Met Thr His Phe Ser Leu Thr Asn
260 265 270

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

Ser Ala Val Ile Asn Ala Val Arg Val Leu Glu Gln Leu Val Asp Thr
290 295 300

Ser Thr Arg Ser Ala Lys Val Leu Leu Arg Ala Phe Leu Trp Asp Leu
305 310 315 320

Glu Leu Gln Ile His Asp Glu Leu Thr Arg Leu Lys Gly Thr Asp Leu
325 330 335

Thr Pro Ser Gln Trp Arg Phe Ala Arg Gly Met Val Glu Val Cys Ala
340 345 350

Gly Asn Ile Phe Tyr Ser Ala Thr Cys Leu Arg Tyr Ala Lys Pro Gly
355 360 365

Leu Arg Gly Ile
370

<210> 79
<211> 412
<212> PRT
<213> Hypoxylon sp

<400> 79

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

Arg Ala Arg Ser Arg Leu Leu Ser Ile Leu Ser Pro His Ser Val Pro
20 25 30

Ala Ala Gln Glu Val Gln Arg Thr Ser Glu Lys Pro Ser Ala Gln Gln
35 40 45

Gly Leu Cys Gly Glu Ala Leu Val Leu Ala Ser Gln Leu Asp Gly Lys
50 55 60

Thr Phe His Val Pro Asp Leu Trp Lys Val Phe Ser Asp Trp Pro Leu
65 70 75 80

Ala Ala Asn Pro His Ala Gln Arg Leu Asp Ala Leu Val Asp Ser Leu
85 90 95

Leu Glu Arg Ile Ile Thr Asn Glu Lys Lys Leu Lys Ala Leu Lys Gln
100 105 110

Ala Asn Phe Gly Arg Leu Ile Ser Leu Trp Tyr Pro Asp Ala Glu Trp
115 120 125

Ser Glu Leu Glu Ile Ala Ala Ala Tyr Ser Val Trp Ile Phe Val Trp
130 135 140

Asp Asp Glu Val Asp Ala Asn Asp Thr Asp Val Ser Asn Asp Glu Glu
145 150 155 160

Leu Ser Arg Ala Tyr Tyr Gln Lys Ser Leu Arg Thr Ile His Asn Leu
165 170 175

Leu Gly Leu Asp Pro Val Glu Asp Gly Gln Glu Pro Val Phe Glu Asp
180 185 190

Asp Gln Ser Leu His Pro Asn Met Ala Leu Phe Ala Asp Val Gly Arg
195 200 205

Gly Met Arg Ala Thr Thr Asp Lys Ile Gln Arg Glu Arg Phe Tyr Arg
210 215 220

Glu Leu Glu Asn Phe Met Val Gln Val Gly Val Glu His Val His Arg
225 230 235 240

Met Arg Gly Ser Ile Pro Ser Val Glu Lys Tyr Ile Glu Ile Arg Ser
245 250 255

Gly Ser Val Gly Cys Ala Pro Gln Ile Ala Ile Thr Asp Ala Met Leu
260 265 270

Arg Ile Arg Leu Pro Glu Ser Ile Met Glu Cys Ala Ala Met Lys Ala
275 280 285

Leu Trp Arg Glu Thr Val Val Ile Cys Phe Ile Leu Asn Asp Val Tyr
290 295 300

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

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

Thr Arg Asp Ile Glu Val Leu Leu Gln Asp Thr Val Arg Lys Phe Glu
340 345 350

Glu Ala Ala Lys Ser Leu Ser Glu Met Thr Ser Asn Asp Ala Gln Val
355 360 365

Ser Lys Asp Val Gln Ala Phe Ile Lys Trp Cys Arg Tyr Phe Ile Thr
370 375 380

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

Cys Val Asn Glu Asp Gly Ser Leu Ser Ile Val Leu
405 410

<210> 80
<211> 376
<212> PRT
<213> Hypoxylon sp

<400> 80

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

Leu Leu Pro Phe Ser Val Asn Thr Arg Glu Gln Leu Leu Thr Asp Thr
20 25 30

Arg Gly Ser Arg Val Met Ile Pro Asp Leu Gln Ser Met Ile Ser His
35 40 45

Trp Pro Gln Arg Thr Asn Thr Asp Val Glu Arg Leu Asp Glu Tyr Val
50 55 60

Glu Lys Ala Leu Thr Cys Phe Ser Ser Leu Ser Asn Asn Glu Ala Arg
65 70 75 80

Val Arg Arg Leu Lys Ala Thr Asn Val Ala Phe Ile Ala Ala Thr Trp
85 90 95

Trp Pro Tyr Ala Ser Tyr Lys Ala Leu Glu Val Leu Thr Ser Leu Leu
100 105 110

Leu Trp Leu Phe Ala Trp Asp Asp Glu Thr Asp Ser Pro Glu Phe Ser
115 120 125

Ala Val Ile Asn Asp Trp Asp Lys Ala Ser Thr Phe Arg Gln Arg Thr
130 135 140

Thr Asn Tyr Leu Gln Gln Ser Leu Leu Lys Asn Ser Lys Ser Asn Leu
145 150 155 160

Ala Asn Met Ser Thr Asp Pro Ile Asn Ala Leu Phe Gly Pro Val Ala
165 170 175

Glu Ala Ile Ser Glu Ser Cys Asp Asp Arg Gln Val Gly Thr Phe Leu
180 185 190

Asp Glu Leu Leu Phe Tyr Val Lys Met Cys Gly Glu Glu Gln Lys Leu
195 200 205

Gln Val Ala His Arg Leu Pro Thr Val Glu Glu Tyr Val Arg Leu Arg
210 215 220

Leu Gly Ser Gly Ala Val Arg Val Cys Phe Ala Thr Ile Glu Tyr Ala
225 230 235 240

Tyr Gly Ile Thr Leu Ser Gln Lys Ile Met Asp Asp Glu Ala Met Gln
245 250 255

Arg Ile Trp His Glu Ala Asn Ile Ile Ile His Thr Thr Asn Asp Ile
260 265 270

Leu Ser Val Lys Lys Glu Val Ala Gln Ser Gln Val Asp Ser Leu Val
275 280 285

Pro Leu Leu Ala Leu Glu Leu Gly Ser Met Gln Ala Ala Met Asn His
290 295 300

Ala Val Asp Ile Val Arg Ser Ser Ile Gln Arg Phe Asp Thr Ala Ala
305 310 315 320

Ile Glu Ile Leu Glu Arg Tyr Ala Thr Thr Pro Lys Val Gln Glu Asp
325 330 335

Ile Arg Lys Ser Ile Asp Ala Cys Arg Tyr Ala Cys Thr Ser Asn Leu
340 345 350

Asn Trp Ser Leu Val Ser Gly Arg Tyr Lys Leu Asn Cys Gln Ser Met
355 360 365

Glu Gly Gly Leu Tyr Ile Thr Leu
370 375

<210> 81
<211> 367
<212> PRT
<213> *Omphalotus olearius*

<400> 81

Met Ala Ile Glu Asn Thr Ile Ala Ser Ala Pro Ala Ser Thr Pro Ala
1 5 10 15

Lys Gln Leu Asp Thr Pro Asp His Phe Ile Leu Pro Asp Leu Val Ser
20 25 30

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

Ala Gln Ser Val Lys Trp Leu Asp Thr Asn Cys Pro Asp Leu Asn Asp
50 55 60

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

Tyr Cys Tyr Asn Thr Ala Pro Asp Gln Arg Leu Arg Val Val Ser Asp
85 90 95

Phe Met Asn Tyr Leu Phe His Leu Asp Asn Ile Ser Asp Gly Met Met
100 105 110

Thr Lys Asp Thr Asp Ala Leu Ser Asp Ala Val Met Asn Ala Leu Trp
115 120 125

Phe Thr Glu Trp Tyr Arg Pro Thr Lys Lys Ser Asp Tyr Val Gln Pro
130 135 140

Asp Glu Glu Leu Asn Ala Gly Lys Leu Ala Arg Asp Phe Trp His Arg
145 150 155 160

Cys Ile Gln Asp Ala Gly Pro Gly Cys Gln Ala Arg Phe Lys Glu Thr
165 170 175

Leu Glu Leu Phe Phe Glu Ala Val Asn Ile Gln Ala Lys Ala Arg Asp
180 185 190

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

Thr Ser Gly Cys Lys Pro Cys Trp Ala Leu Ile Glu Tyr Gly Leu Gly
210 215 220

Ile Asp Leu Pro Asp Tyr Val Ala Glu Asp Pro Ile Ile Lys Ser Leu
225 230 235 240

Asn Gln Ser Thr Asn Asp Leu Val Thr Trp Ser Asn Asp Ile Phe Ser
245 250 255

Tyr Asn Val Glu Gln Ser Arg Gly Asp Thr His Asn Met Ile Val Ile
260 265 270

Leu Met Leu Tyr His Gly His Asn Leu Gln Ser Ala Ile Asp Tyr Val
275 280 285

Gly Asp Leu Cys Arg Gln Thr Ile Asp Asp Phe Lys Glu Asn Arg Lys
290 295 300

Lys Ile Pro Ser Trp Gly Pro Glu Val Asp Asp Ile Val Lys Gln Tyr
305 310 315 320

Val Gln Gly Leu Gln Asp Trp Ile Val Gly Ser Leu His Trp Ser Phe
325 330 335

Met Thr Thr Arg Tyr Phe Gly Lys Gln Gly Gln Glu Val Lys Lys Asn
340 345 350

Arg Tyr Val Lys Leu Leu Pro Val Gly Glu Glu Ala Asn Lys Trp
355 360 365

<210> 82

<211> 425

<212> PRT

<213> Coprinopsis cinerea

<400> 82

Met Ser Thr Pro Ser Ser Ser Leu Thr Thr Asp Glu Ser Pro Ala Ser
1 5 10 15

Phe Ile Leu Pro Asp Leu Val Ser His Cys Pro Phe Pro Leu Arg Tyr
20 25 30

His Pro Lys Gly Asp Glu Val Ala Lys Gln Thr Val His Trp Leu Asp
35 40 45

Ser Asn Cys Pro Asp Leu Thr Ala Lys Glu Arg Lys Ala Met Tyr Gly
50 55 60

Leu Gln Ala Gly Glu Leu Thr Gly Tyr Cys Tyr Pro Tyr Thr Thr Pro
65 70 75 80

Glu Arg Leu Arg Val Val Ala Asp Phe Leu Asn Tyr Leu Phe His Leu
85 90 95

Asp Asn Ile Ser Asp Gly Met Met Thr Arg Glu Thr Ala Val Leu Ala
100 105 110

Asp Val Val Met Asn Ala Leu Trp Phe Pro Glu Asp Tyr Arg Pro Thr
115 120 125

Lys Gly Gln Ala Ala Glu Glu Leu Asn Pro Gly Lys Leu Ala Arg Asp
130 135 140

Phe Trp Ser Arg Cys Ile Pro Asp Cys Gly Pro Gly Thr Gln Ala Arg
145 150 155 160

Phe Lys Glu Thr Phe Gly Ser Phe Phe Glu Ala Val Asn Ile Gln Ala
165 170 175

Arg Ala Arg Asp Glu Gly Val Ile Pro Asp Leu Glu Ser Tyr Ile Asp
180 185 190

Val Arg Arg Asp Thr Ser Gly Cys Lys Pro Cys Trp Val Leu Ile Glu

195 200 205

Tyr Ala Leu Gly Ile Asp Leu Pro Asp Phe Val Val Glu His Pro Val
210 215 220

Ile Ala Ala Leu Asn Gln Gly Thr Asn Asp Leu Val Thr Trp Ser Asn
225 230 235 240

Asp Ile Phe Ser Tyr Asn Val Glu Gln Ser Lys Gly Asp Thr His Asn
245 250 255

Met Ile Ile Ile Leu Met Glu His His Gly His Thr Leu Gln Ser Ala
260 265 270

Val Asp Tyr Val Gly Ser Leu Cys Gln Gln Thr Ile Asn Thr Phe Cys
275 280 285

Glu Asn Lys Gln Gln Leu Pro Ser Trp Gly Pro Glu Ile Asp Asp Met
290 295 300

Val Ala Lys Tyr Val Gln Gly Leu Glu Asp Trp Ile Val Gly Ser Leu
305 310 315 320

His Trp Ser Phe Gln Thr Arg Arg Tyr Phe Gly Asp Glu Gly Gln Glu
325 330 335

Ile Lys Gln His Arg Leu Val Lys Leu Leu Thr Val Ala Pro Pro Pro
340 345 350

Pro Pro Pro Pro Pro Thr Pro Pro Pro Gln Ser Ser Asp Ala Asp Thr
355 360 365

Lys Lys Gln Lys Val Lys Ala Gln Asp Gly Lys Gly Pro Val Ser Asp
370 375 380

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

Leu Glu Ser Leu Phe Gly Phe Leu Thr Thr Ser Leu Ser Arg Ile Phe
405 410 415

Phe Gly Tyr Phe Phe Ala Tyr Ser His
420 425

<210> 83

<211> 345

<212> PRT

<213> Coprinopsis cinerea

<400> 83

Met Ser Ser Leu Asp Ala Thr Ile His Pro Val Leu Asn Phe Glu Asp
1 5 10 15

Lys Lys Ile Val Leu Pro Asp Leu Val Ser His Cys Asn Phe Lys Leu
20 25 30

Arg Val Ser Arg His Arg Lys Arg Ile Thr Gly Glu Thr Lys Arg Trp
35 40 45

Leu Phe Lys Gly Asp Asn Leu Val Gly Pro Ala Arg Asn Lys Tyr His
50 55 60

Gly Leu Lys Ala Gly Leu Leu Thr Ala Met Thr Tyr Pro Asp Ala Ala
65 70 75 80

Tyr Pro Gln Leu Arg Leu Cys Asn Asp Phe Leu Thr Tyr Leu Phe His
85 90 95

Ile Asp Asn Leu Ser Asp Asp Met Asp Asn Arg Gly Thr Trp Ser Thr
100 105 110

Ala Asn Glu Val Leu Asn Ser Leu Tyr His Pro Tyr Thr Tyr His Gly
115 120 125

Gln Ala Arg Val Gly Arg Met Thr Arg Asp Tyr Trp Arg Arg Met Ile
130 135 140

Leu Thr Ala Ser Pro Gly Ser Gln Gln Arg Phe Ile Glu Thr Phe Asp
145 150 155 160

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

Glu Ile Pro Asp Leu Glu Ser Tyr Ile Ala Leu Arg Arg Asp Thr Ser
180 185 190

Gly Cys Lys Pro Cys Trp Ala Leu Ile Glu Tyr Ala Asn Asn Leu Asp
195 200 205

Leu Pro Asp Glu Val Met Asp His Pro Val Val Arg Ser Leu Gly Glu
210 215 220

Ala Ala Asn Asp Leu Val Thr Trp Ser Asn Asp Ile Phe Ser Phe Asn
225 230 235 240

Val Glu Gln Ser Lys Gly Asp Thr His Asn Met Ile Pro Val Val Met
245 250 255

His Gln Glu Gly Leu Asp Leu Gln Ser Ala Val Asp Phe Val Gly Glu
260 265 270

Met Cys Lys Ser Ala Ile Asp Arg Phe Ile Glu Asp Gln Asn Tyr Leu
275 280 285

Pro Ser Trp Gly Pro Lys Ile Asp Arg Asp Leu Ala Val Tyr Ile Asn
290 295 300

Gly Leu Ala Asp Trp Ile Val Gly Ser Leu His Trp Ser Phe Glu Thr
305 310 315 320

Glu Arg Tyr Phe Gly Lys Asn Gly Arg Gln Val Lys Ser Ser Arg Val
325 330 335

Ile Asp Leu Leu Pro Arg Arg Ser Gln
340 345

<210> 84

<211> 332

<212> PRT

<213> *Omphalotus olearius*

<400> 84

Met Lys Tyr Thr Ser Phe Ala Leu Pro Asp Leu Ala Ser Ser Cys Asp
1 5 10 15

Tyr Asn Leu Arg Phe Asn Lys Tyr His Arg Ser Val Ser Pro Glu Thr
20 25 30

Lys Lys Trp Phe Phe Arg Leu Ser Pro Ala Ser Gln Ala Asp Leu Thr
35 40 45

Thr Tyr Asp Ala Gln Arg Phe Thr Leu Leu Ala Ala Val Cys Tyr Pro
50 55 60

Asp Ala Gly Tyr Pro Gln Leu Arg Val Cys Ser Asp Phe Leu Ala Tyr
65 70 75 80

Leu Phe Tyr Leu Asp Asn Leu Thr Asp Asp Met Asp Asp Lys Ser Thr
85 90 95

Arg Ser Val Ala Asp Leu Val Leu Asn Ser Leu Asn Glu Pro Glu Thr
100 105 110

Phe Gln Thr Gln Tyr Arg Ile Gly Lys Met Thr Ser Asp Tyr Phe Lys
115 120 125

Arg Ile Ile Gln Thr Ser Asn Asp Gly Thr Lys Lys Arg Phe Ile Asp
130 135 140

Thr Met Asp Ser Phe Phe Lys Ser Val Asp Asp Gln Ala Arg Asp Arg
145 150 155 160

Leu Ala Gly His Ile Pro Asp Leu Glu Ser Tyr Ile Ala Leu Arg Arg
165 170 175

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

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

Met Glu Thr Ala Ala Asn Asp Val Val Ser Phe Ala Asn Asp Ile Tyr
210 215 220

Ser Phe Asn Ile Glu Gln Ser Lys Gly Asp Thr His Asn Met Ile Pro
225 230 235 240

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

Phe Val Arg Asp Leu Thr Ile Lys Ala Met Asp Arg Phe Asn Glu Leu
260 265 270

Arg Ala Thr Leu Pro Ser Trp Gly Leu Asp Ile Asp Lys Asp Met Lys
275 280 285

Val Tyr Val Asn Gly Leu Glu Asn Trp Met Val Gly Ile Leu Phe Trp
290 295 300

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

Ala Thr Lys Thr Val Asn Leu Leu Pro Ser Arg Ala
325 330

<210> 85

<211> 333

<212> PRT

<213> Omphalotus olearius

<400> 85

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

His Cys Ser Phe Asp Leu His His Asn Arg His Arg Lys Gln Ile Thr
20 25 30

Thr Glu Thr Lys Lys Trp Leu Phe Lys Gly Asp Asn Leu Thr Gly Arg
35 40 45

Lys Arg Asp Gln Tyr His Gly Leu Lys Cys Gly Leu Leu Ser Ala Met
50 55 60

Cys Tyr Pro Asn Ala Ala Tyr Pro Gln Leu Arg Val Cys Asn Asp Phe
65 70 75 80

Leu Thr Tyr Leu Phe His Leu Asp Asn Leu Ser Asp Asp Met Asp Asn
85 90 95

Arg Gly Thr Thr Thr Thr Ala Asp Val Val Leu Asn Ser Leu Tyr His
100 105 110

Pro Gly Tyr Phe Gln Ser Ala Arg Val Gly Lys Met Thr Arg Asp Tyr
115 120 125

Trp Lys Arg Leu Ile Ser Thr Ala Ser Pro Gly Thr Gln Gln Arg Phe
130 135 140

Ile Glu Thr Phe Asp Phe Phe Phe Gln Ser Val Thr Glu Gln Ala His
145 150 155 160

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

Arg Arg Asp Thr Ser Gly Cys Lys Thr Ser Phe Val Leu Ile Glu Tyr
180 185 190

Ala Asn Asn Leu Asp Ile Pro Asp Gly Val Met Asp His Pro Leu Ile
195 200 205

Arg Ser Leu Gly Glu Ala Ala Asn Asp Leu Val Thr Trp Ser Asn Asp
210 215 220

Ile Phe Ser Tyr Asn Val Glu Gln Ala Lys Gly Asp Thr His Asn Met
225 230 235 240

Ile Pro Val Ile Met Asn Glu His Gly Leu Asp Leu Gln Ser Ala Val
245 250 255

Asp Tyr Val Gly Arg Leu Cys Gln Gln Ser Ile Asp Arg Phe Ile Ser
260 265 270

Asp Arg Ala Gln Leu Pro Ser Trp Gly Pro Glu Ile Asp Arg Gln Val
275 280 285

Ala Ile Tyr Val Asp Gly Leu Thr Asp Trp Ile Val Gly Ser Leu His
290 295 300

Trp Ser Phe Glu Ser Glu Arg Tyr Phe Gly Lys Ser Gly Arg Gln Ile
305 310 315 320

Lys Lys Ser Arg Val Ile Asn Leu Leu Pro Arg Arg Ala
325 330

<210> 86

<211> 348

<212> PRT

<213> Coprinopsis cinerea

<400> 86

Met Pro Ser Pro Ala Gly Ala Leu Pro Lys Ser Phe Ile Leu Pro Asp
1 5 10 15

Leu Val Asn Asp Cys Pro Phe Pro Leu Arg Val Asn Pro Leu Cys Asp
20 25 30

Glu Val Gly Arg Leu Ser Glu Gln Trp Phe Leu Arg His Ala Asn Tyr
35 40 45

Ser Pro Pro Arg Ala Val Ala Phe Met Ala Leu Lys Ala Gly Glu Leu
50 55 60

Thr Ala Ala Cys Tyr Pro Asp Ala Asp Ala Phe His Leu Arg Val Ser
65 70 75 80

Asp Asp Phe Met Asn Phe Leu Phe Asn Ala Asp Asp Trp Leu Asp Asp
85 90 95

Phe Asp Ile Glu Asp Thr Tyr Gly Leu Ala Asn Cys Thr Val Arg Ala
100 105 110

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

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

Thr Glu Arg Phe Ile Gln Thr Leu Ala Leu Tyr Phe Glu Ser Val Val
145 150 155 160

Thr Gln Lys Gln Ala Arg Asn Asn Gly Thr Leu Pro Asp Leu Glu Ser
165 170 175

Tyr Ile Thr Ile Arg Arg Asn Asn Ser Gly Cys Lys Pro Cys Tyr Ala
180 185 190

Leu Ile Glu Phe Cys Ala Gly Ile Asp Leu Pro Asp Glu Val Ile Asn
195 200 205

His Pro Ile Ile Gln Ser Leu Glu Asp Ala Ser Asn Asp Leu Ile Ala
210 215 220

Trp Ser Asn Asp Ile Phe Ser Phe Asn Arg Glu Gln Ser Arg His Asp
225 230 235 240

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

Gln Glu Ala Val Asn Phe Val Gly Glu Leu Cys Lys Lys Ala Met Glu
260 265 270

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

Asp Gly Glu Val Ala Met Tyr Val Asp Gly Leu Gln Asn Trp Ile Val
290 295 300

Gly Ser Leu Asn Trp Ser Ile Asp Gly Thr Glu Arg Tyr Phe Gly Lys
305 310 315 320

Asp Gly Pro Gly Ile Lys Lys His Arg Lys Val Lys Leu Phe Pro Lys
325 330 335

Arg Pro Leu Lys Thr Pro Ala Val Arg Val Leu Ala
340 345

<210> 87

<211> 345

<212> PRT

<213> Coprinopsis cinerea

<400> 87

Met Arg Pro Thr Ala Arg Gln Phe Thr Leu Pro Asp Leu Phe Ser Ile
1 5 10 15

Cys Pro Leu Gln Asp Ala Thr Asn Pro Trp Tyr Lys Gln Ala Ala Ala
20 25 30

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

Arg Ala Phe Phe Ile Gln Gly Ser Asn Glu Leu Leu Cys Ser His Val
50 55 60

Tyr Ala Tyr Ala Gly Tyr Glu Gln Phe Arg Thr Cys Cys Asp Phe Val
65 70 75 80

Asn Leu Leu Phe Val Val Asp Glu Ile Ser Asp Asp Gln Asn Gly Gln
85 90 95

Asp Ala Arg Ala Thr Gly Arg Ile Phe Val Asn Ala Met Arg Asp Ala
100 105 110

His Trp Asp Asp Gly Ser Ile Leu Ala Lys Ile Thr His Glu Phe Arg
115 120 125

Glu Arg Phe Val Arg Leu Ala Gly Pro Lys Thr Val Arg Arg Phe Ala
130 135 140

Asp Leu Cys Glu Ser Tyr Thr Asp Cys Val Ala Arg Glu Ala Glu Leu
145 150 155 160

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

Arg Gln Asn Ser Ala Val Leu Leu Cys Tyr Ser Leu Val Glu Tyr Ile
180 185 190

Leu Gly Ile Asp Leu Asp Asp Glu Val Tyr Glu Asp Pro Thr Phe Ala
195 200 205

Lys Ala Tyr Trp Ala Ala Cys Asp Phe Val Cys Trp Ala Asn Asp Val
210 215 220

Tyr Ser Tyr Asp Met Glu Gln Ala Lys Gly His Thr Gly Asn Asn Val

225 230 235 240

Val Thr Val Leu Met Lys Glu Lys Asp Leu Ser Leu Gln Glu Ala Ser
 245 250 255

Asp Tyr Ile Gly Arg Glu Cys Glu Lys Gln Met Arg Asp Tyr Leu Glu
 260 265 270

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

Arg Tyr Ile Glu Ala Leu Gly Tyr Trp Met Val Gly Asn Leu Val Trp
 290 295 300

Ser Phe Glu Ser Gln Arg Tyr Phe Gly Ala Gln His Glu Arg Val Lys
305 310 315 320

Ala Thr His Val Val His Leu Arg Pro Ser Ser Val Leu Glu Ala Ser
 325 330 335

Cys Asp Ser Asp Ser Asp Ser Asp Cys
 340 345

<210> 88

<211> 346

<212> PRT

<213> Stereum hirsutum

<400> 88

Met Ala Thr Ser Asn Pro Pro Ser Thr Pro His His Glu Ser Leu Ile
1 5 10 15

Leu Pro Asp Leu Leu Ser Leu Ser Thr Pro Phe Asn Gly Ser Thr Asn
 20 25 30

Pro His Trp Ala Met Ala Ala Pro Glu Ser Ser Ala Trp Val Ser Ser
 35 40 45

Tyr Asn Leu Phe Ser Asp Arg Lys Arg Thr Asp Phe Ile Thr Gly Ser
 50 55 60

Asn Glu Leu Leu Val Ser His Thr Tyr Pro His Ala Asp Tyr Asp Ala

65 70 75 80

Phe Arg Thr Cys Cys Asp Phe Val Asn Leu Leu Phe Val Ile Asp Glu
85 90 95

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

Tyr Leu Asn Ala Met Arg Asp Pro Glu Trp Thr Asp Gly Ser Asp Leu
115 120 125

Ala Lys Met Thr Gln Gln Phe Arg Ala Arg Phe Leu Arg Ser Val Gly
130 135 140

Pro Gln Ser Phe Arg Arg Phe Leu Arg His Ser Glu Asp Tyr Ile Asp
145 150 155 160

Cys Val Ala Lys Glu Ala Glu Tyr Arg Glu Arg Gly Gln Val Leu Asp
165 170 175

Met Asp Ser Phe Lys Ser Leu Arg Arg Glu Asn Ser Ala Ile Arg Leu
180 185 190

Cys Phe Gly Leu Phe Glu Phe Thr Leu Gly Ile Asp Leu Pro Asp Ser
195 200 205

Val Phe Glu Asp Glu Thr Phe Met Lys Met Tyr Trp Ala Ser Ala Asp
210 215 220

Met Val Cys Trp Ala Asn Asp Val Tyr Ser Tyr Asn Val Glu Gln Ala
225 230 235 240

Lys Gly His Ser Gly Asn Asn Ile Val Thr Val Leu Met Ala Ala Arg
245 250 255

Asp Ile Asp Met Gln Ala Ala Ser Asp Tyr Val Gly Glu Tyr Tyr Ala
260 265 270

Glu Leu Met Glu Glu Tyr Met Thr Ala Lys Ala Glu Leu Ala Ser Lys
275 280 285

Ser Phe Gly Ser Arg Asp Leu Asp Glu Asp Val Trp Lys Tyr Val Asn
290 295 300

Ala Met Glu Asn Trp Pro Ile Gly Asn Leu Glu Trp Ser Phe Lys Thr
305 310 315 320

Asn Arg Tyr Phe Gly Thr Leu His Asp Glu Val Lys Arg Thr Arg Leu
325 330 335

Val Val Ile Lys Pro Arg Lys Val Val Val
340 345

<210> 89

<211> 344

<212> PRT

<213> Omphalotus olearius

<400> 89

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

Cys Pro Leu Lys Gly Ser Val Asn Pro Tyr Tyr Lys Glu Ala Gly Ala
20 25 30

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

Arg Ala Phe Phe Val Gln Gly Cys Asn Glu Leu Leu Val Ala His Thr
50 55 60

Tyr Pro Tyr Ala Gly Tyr Glu Glu Phe Arg Thr Cys Cys Asp Phe Ile
65 70 75 80

Asn Val Leu Phe Val Leu Asp Glu Val Ser Asp Glu Gln Ser Gly Ser
85 90 95

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

Glu Asn Asp Asp Thr Ser Lys Leu Ser Lys Ile Ser Lys Glu Phe Arg
115 120 125

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

Gln His Cys Gln Asp Tyr Ile Asp Cys Val Thr Arg Glu Ala Glu Leu
145 150 155 160

Arg Glu Arg Gly Glu Val Leu Asp Leu Pro Ser Phe Thr Ala Leu Arg
165 170 175

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

Leu Gly Phe Asp Leu Pro Gln Glu Val Phe Asp Asp Pro Thr Phe Met
195 200 205

Glu Met Tyr Trp Ala Ala Ala Asp Leu Val Cys Trp Ala Asn Asp Val
210 215 220

Tyr Ser Tyr Asn Lys Glu Gln Ala Gln Gly His Gly Gly Asn Asn Ile
225 230 235 240

Val Thr Val Leu Met Lys Ala Lys Asp Leu Asp Leu Gln Ala Ala Cys
245 250 255

Asp Tyr Ile Gly Val Tyr Cys Glu Glu Leu Met Gly Arg Tyr Leu Ser
260 265 270

Ala Lys Ala Arg Leu Pro Ser Trp Gly Pro Glu Val Asp Ala Ala Val
275 280 285

Ala Gln Tyr Val Glu Ala Ser Gly His Trp Val Arg Gly Asn Leu Asp
290 295 300

Trp Ser Phe Glu Thr Gln Arg Tyr Phe Gly Ala Gln His Ala Glu Ile
305 310 315 320

Lys Glu Thr Arg Leu Val Thr Leu Thr Pro Ala Ile Pro Glu Asp Phe
325 330 335

Ser Asp Thr Gly Ser Glu Ser Glu
340

<210> 90
<211> 345
<212> PRT
<213> *Omphalotus olearius*

<400> 90

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

Cys Pro Phe Glu Ser Ser Thr Lys Asn Pro His Leu Lys Ala Ala Gly
20 25 30

Ala Glu Ser Ser Ala Trp Val Asn Ser His Val Val Phe Asn Asp Arg
35 40 45

Lys Arg Ala Ala Phe Met Gln Asp Ile Tyr Glu Leu Leu Val Ala Tyr
50 55 60

Ala Phe Pro Trp Ala Asp Tyr Glu Asp Phe Arg Thr Met Cys Asp Phe
65 70 75 80

Ile Asn Leu Leu Phe Val Leu Asp Glu Leu Ser Asp Asp Gln Asn Gly
85 90 95

Lys Asp Ala Gly Tyr Thr Gly Lys Leu Phe Met Asp Ala Met Arg Asn
100 105 110

Ile Asp Asn Gly Asp Thr Ser Glu Leu Thr Glu Leu Cys Arg Glu Phe
115 120 125

Lys Ala Arg Tyr Ser Lys Arg Val Ser Pro Gln Val Asn Glu Arg Phe
130 135 140

Leu Gln His Leu Gln Ser Tyr Thr Asp Cys Val Ala Gln Glu Ala Asp
145 150 155 160

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

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

Ile Ile Asp Phe Asp Ile Pro Gln Glu Val Ile Asp His Pro Val Phe
195 200 205

Ser Glu Met Tyr Trp Ala Ser Val Asp Leu Val Cys Trp Ser Asn Asp
210 215 220

Val Tyr Ser Tyr Asn Val Glu Gln Ala Lys Gly His Gly Gly Ser Asn
225 230 235 240

Val Val Thr Val Leu Met Lys Glu Lys Asn Leu Asp Leu Gln Ala Ala
245 250 255

Cys Asp Tyr Val Gly Val Tyr Tyr Glu Glu Leu Met Asp Arg Tyr Leu
260 265 270

Ser Ala Lys Ala Arg Leu Pro Ser Trp Gly Pro Glu Ile Asp Ala Ala
275 280 285

Val Gly Lys Tyr Ile Leu Ala Glu Ala Gln Phe Val Arg Gly Asn Leu
290 295 300

Asp Trp Ser Phe Asp Ser Pro Arg Tyr Phe Gly Pro Gln His Asp Gln
305 310 315 320

Val Lys Lys Thr Gly Ile Val Thr Leu Thr Pro Ala Pro Lys Lys Phe
325 330 335

Gly Ser Asp Ser Gly Ser Glu Ser Glu
340 345

<210> 91

<211> 345

<212> PRT

<213> *Omphalotus olearius*

<400> 91

Met Ser Pro Ala Pro Ser Arg Ile Val Leu Pro Asp Phe Phe Ala Ser
1 5 10 15

Cys Pro Phe Glu Ser Ser Thr Ile Asn Pro His Phe Lys Ala Ala Gly
20 25 30

Ala Glu Ser Ser Ala Trp Val Asn Ser His Val Val Phe Asn Asp Arg
35 40 45

Lys Arg Ala Ala Leu Met Gln Asn Ser Tyr Glu Leu Leu Val Ala Tyr
50 55 60

Ala Phe Pro Trp Ala Ser Tyr Glu Asp Phe Arg Thr Leu Cys Asp Phe
65 70 75 80

Ile Asn Leu Leu Phe Val Phe Asp Glu Val Ser Asp Asp Gln Asn Gly
85 90 95

Lys Asp Ala Gly Tyr Thr Ser Lys Ile Phe Met Asp Ala Met Arg Asn
100 105 110

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

Lys Ala Arg Phe Ser Arg Arg Leu Ser Pro Gln Val Asn Glu Arg Phe
130 135 140

Leu Gln His Leu Gln Ser Tyr Thr Asp Cys Val Ala Gln Glu Ala Asp
145 150 155 160

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

Arg Arg Glu Asn Ser Ala Val Arg Pro Cys Phe Asp Leu Val Glu Tyr
180 185 190

Ile Met Asp Phe Asp Ile Pro Gln Glu Val Leu Asp His Pro Val Phe
195 200 205

Ser Glu Met Tyr Trp Ala Ser Val Asp Leu Val Cys Trp Ser Asn Asp
210 215 220

Val Tyr Ser Tyr Asn Val Glu Gln Ala Lys Gly His Arg Gly Ser Asn
225 230 235 240

Val Val Thr Val Leu Met Asn Glu Lys Asn Leu Asp Leu Gln Ala Ala
245 250 255

Cys Asp Tyr Val Gly Val Tyr Tyr Gln Glu Leu Met Asp Arg Tyr Leu
260 265 270

Ser Ala Lys Ala Arg Leu Pro Ser Trp Gly Pro Glu Ile Asp Ala Ala
275 280 285

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

Asp Trp Ser Phe Asp Thr Pro Arg Tyr Phe Gly Pro Gln Arg Asp Gln
305 310 315 320

Ile Lys Lys Ser Arg Ile Val Thr Leu Thr Pro Ala Pro Lys Lys Phe
325 330 335

Gly Ser Asp Ser Gly Ser Glu Ser Glu
340 345

<210> 92

<211> 355

<212> PRT

<213> *Agroclybe aegerita*

<400> 92

Met Gln Ile Ile Leu Pro Asp Ile Leu Gln Thr Trp Ala Tyr Ala Arg
1 5 10 15

Leu Leu Asn Pro His Tyr Asp Gly Ala Lys Leu Glu Ser Ser Leu Trp
20 25 30

Ile His Pro Leu Val Ala Lys Leu Phe Asp Gln Lys Gly Gln Lys Ala
35 40 45

Phe Gln Asn Asp Tyr Thr Ser Leu Leu Ala Ser Leu Met Tyr Ser His
50 55 60

Gln Gly Lys Val Pro Ser Arg Arg Cys Asp Met Met Asn Leu Phe Phe
65 70 75 80

Val Tyr Asp Glu Tyr Thr Asp Val Val Ser Pro Glu Ile Ala His Arg
85 90 95

Leu Ser Lys Ile Val Val Asp Ala Met Lys Asn Ser Asp Glu Met Ser
100 105 110

Pro Cys Gly Glu His Pro Ile Gly Asp Lys Ala Lys Glu Phe Trp Arg
115 120 125

Leu Ala Thr Thr Leu Leu Pro Ala Thr Gly Ser Asn Ser Asp Val Cys
130 135 140

Lys Ser Arg Phe Ile Asn Leu Thr Glu Glu Tyr Leu Asn Ala Val Thr
145 150 155 160

Val Glu Ala Arg Asp Arg Asn Glu Gly Thr Ile His Ser Val Lys Glu
165 170 175

Tyr Leu Thr Met Arg Arg Ala Thr Ser Gly Ala Gly Leu Met Leu Ala
180 185 190

Leu Ile Glu Phe Glu Leu Asp Leu Pro Lys Ala Val Leu Glu His Lys
195 200 205

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

Gly Gln Ala Asn His Asn Leu Ile Thr Val Val Met His Glu Asn Pro
225 230 235 240

Gly Leu Ser Leu Gln Gly Ala Phe Asp Trp Leu Gly Ser Tyr Ala Ala
245 250 255

Gly Val Val Glu Cys Phe Gln Thr Asn Val Arg Asn Leu Pro Ser Phe
260 265 270

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

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

Glu Asp Asp Trp Ala Phe Glu Thr Thr Arg Tyr Tyr Gly Glu Asp Gly

305 310 315 320

Pro Lys Val Arg Glu Thr Arg Val Leu Val Ile Arg Pro Val Lys Arg
 325 330 335

Ile Thr Arg Arg His Leu Leu Gln Ser Leu Glu Ile Lys Tyr Ser Met
 340 345 350

Val Arg Gly
 355

<210> 93

<211> 307

<212> PRT

<213> *Agrocybe aegerita*

<400> 93

Met Ser Leu Asn Phe Phe Leu Arg Arg Tyr Thr Val Phe Pro Trp Ser
1 5 10 15

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

Trp Thr Glu Ser Phe His Pro Phe Asp Glu Asp Leu Ser Lys Ala Ala
 35 40 45

Leu Thr Phe Cys Ile Thr Ala Leu Leu Ala Ser Leu Ala Tyr Phe Leu
 50 55 60

Arg Gln Lys Glu Ile Val Arg Leu Gly Cys Asp Leu Met Asn Ile Phe
65 70 75 80

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

Gln Ile Arg Asp Val Val Met Asp Asp Leu His Arg Pro Glu Lys Thr
 100 105 110

Cys Pro Gly Gly Glu Ile Leu Pro Gly Glu Met Val Lys Tyr Val Leu
 115 120 125

Leu Leu Cys Pro Glu Ile Pro Glu Thr Tyr Tyr Asn Thr Lys Ser Phe

130 135 140

Gly Phe Ala Pro Gln Ser Ser Ser Pro Gln Pro His Ile Val Cys Ala
145 150 155 160

Thr Leu Ser Arg Ile Ser Met Pro Thr Gln Gln Gln Trp Phe Asn Val
165 170 175

Lys Arg Thr Ile Gly Pro Asn Val Phe Leu Ala Arg Ser Ala Thr Val
180 185 190

Leu Pro Tyr Ala Glu Thr His Thr Phe Tyr His Pro Arg Met Ile Ala
195 200 205

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

Val Arg Gly Leu Val Gln Gly Ser Ile Asn Trp Leu Glu Gly Tyr Ala
225 230 235 240

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

Cys Ala Lys Glu Val Glu Ser Arg Val Asn Ile Tyr Val Asn Glu Leu
260 265 270

Ala Gln Trp Ala Arg Gly Asn Asp Asp Trp Thr Phe Glu Ser Gly Arg
275 280 285

Tyr Phe Gly Asp Arg Gly Pro Glu Asn Gln Ser Asp Ile Pro Thr Ser
290 295 300

Ser Asn Arg
305

<210> 94

<211> 345

<212> PRT

<213> *Agrocybe aegerita*

<400> 94

Met Pro Gly Ser Ala Asn Trp Thr Ala Asp Arg Phe Tyr Ile Pro Asp

1 5 10 15

Thr Leu Ala Asn Trp Pro Trp Pro Arg Ala Ile Asn Pro Ala Tyr Glu
20 25 30

Glu Cys Lys Ala Ala Ser Ala Ala Trp Cys Glu Lys Tyr Gly Ala Phe
35 40 45

Ser Ala Arg Ala Gln Lys Ala Phe Asn Leu Cys Asp Phe Asn Leu Leu
50 55 60

Ala Ser Leu Ala Tyr Ala Gly Leu Pro Ala Asp Val Asn Arg Val Gly
65 70 75 80

Cys Asp Leu Met Asn Leu Phe Phe Val Val Asp Glu His Thr Asp Ala
85 90 95

Met Asp Ala Arg Ser Val Gln Asp Trp Val Asp Ile Val Val Asp Ala
100 105 110

Leu His His Pro His Thr Pro Arg Pro Ala Gly Glu Pro Lys Val Gly
115 120 125

Glu Ile Ala Arg Thr Phe Trp Glu Asn Gly Ile Lys Cys Met Gly Pro
130 135 140

Thr Ala Gln Arg Arg Phe Val Glu Thr Phe Thr Thr Tyr Leu Gln Ser
145 150 155 160

Val Val Thr Gln Ala Gln Asp Arg Asp Lys His Leu Phe Arg Asp Val
165 170 175

Asp Ser Tyr Met Glu Val Arg Arg Asp Thr Ile Gly Ala Lys Pro Ser
180 185 190

Phe Ala Leu Leu Glu His Asp Met Glu Leu Pro Asp Asp Val Phe Tyr
195 200 205

His Pro Leu Leu Glu Lys Leu Arg Glu Trp Ala Ile Asp Met Leu Ile
210 215 220

Leu Gly Asn Asp Leu Cys Ser Tyr Asn Val Glu Gln Ser Arg Gly Asp
225 230 235 240

Asp Gly His Asn Ile Ile Arg Leu Ala Met Leu Gln Glu Asn Thr Asn
245 250 255

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

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

Ile Asp Ala Trp Val Thr Arg Tyr Ile Asp Gly Leu Gly Asn Trp Val
290 295 300

Arg Ala Asn Asp Ser Trp Ser Phe Glu Ser Trp Arg Tyr Phe Lys Gly
305 310 315 320

Asp Val Leu Arg Val Gln Ala Glu Arg Trp Val Glu Leu Leu Pro Pro
325 330 335

Ala Pro Lys Asp Glu Leu Thr Pro Ala
340 345

<210> 95

<211> 357

<212> PRT

<213> *Omphalotus olearius*

<400> 95

Met Ile Ala Lys Asn Ser Glu Ile Asp Arg Phe Tyr Ile Pro Asp Thr
1 5 10 15

Leu Ala Asn Trp Pro Trp Pro Arg His Leu Asn Pro Ala Tyr Pro Glu
20 25 30

Ala Lys Lys Ala Ser Ala Ala Trp Leu Arg Ser Phe Asn Ala Phe Asn
35 40 45

Glu Arg Ser Gln Lys Ala Phe Asp Leu Cys Asp Phe Asn Leu Leu Ala
50 55 60

Ser Leu Ala Phe Pro Leu Ala Asp Leu Tyr Cys Leu Arg Ser Gly Cys
65 70 75 80

Asp Leu Met Asn Cys Phe Phe Ile Phe Asp Glu Tyr Ser Asp Val Ala
 85 90 95

Asp Pro Gln Thr Val Arg Gln Gln Ala Asp Ile Ile Met Asp Ala Ile
 100 105 110

Arg Asn Pro His Val Pro Arg Pro Arg Gly Glu Phe Ile Gly Gly Glu
 115 120 125

Ala His Arg Gln Phe Trp Glu Arg Ala Met Gln Gly Ala Thr Pro Thr
 130 135 140

Ala Gln Arg Arg Phe Ile Asp Thr Tyr Gln Gln Tyr Thr Asp Ala Val
145 150 155 160

Val Gln Gln Ala Thr Asp Arg Ala Asp Asn His Ile Arg Asp Val Glu
 165 170 175

Gly Tyr Phe Thr Val Arg Arg Asp Thr Ile Gly Ala Lys Pro Ser Phe
 180 185 190

Thr Leu Leu Glu Phe Thr Met Asp Ile Pro Asp Glu Val Met Gly His
 195 200 205

Pro Val Ile Lys Asp Leu Ser Leu Trp Cys Ile Asp Met Leu Ile Ile
 210 215 220

Gly Asn Asp Leu Cys Ser Tyr Asn Val Glu Gln Ala His Gly Asp Asp
225 230 235 240

Leu His Asn Leu Val Thr Ile Val Met Asn Gln Tyr Asn Leu Asp Leu
 245 250 255

Pro Gly Ala Met Glu Trp Ile Gly Lys Phe His Asp Asp Ile Ala Asp
 260 265 270

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

Asp Pro Gln Ile Arg Arg Tyr Val Asp Gly Leu Gly Asn Trp Val Arg
290 295 300

Gly Asn Asp Ser Trp Ser Phe Glu Ser Trp Arg Tyr Phe Arg Gly Lys
305 310 315 320

Gly Pro Glu Ile Glu Lys Thr Arg Trp Val Asp Leu Met Pro Thr Glu
325 330 335

Glu Ala Thr Ile Thr Pro Lys Tyr Glu Ser Asp Ser Asn Ala Ala Gln
340 345 350

Pro Ala Gln Ser Thr
355

<210> 96

<211> 351

<212> PRT

<213> Stereum hirsutum

<400> 96

Met Thr Val Val Asp Ser Pro Gln Arg Phe Tyr Ile Pro Asn Cys Leu
1 5 10 15

Glu Tyr Trp Pro Trp Pro Arg His Ile Asn Pro His Tyr Gln Glu Val
20 25 30

Lys Lys Ala Ser Ala Ala Trp Ala Glu Ser Phe Gly Ala Phe Asn Pro
35 40 45

Lys Ala Gln His Ala Tyr Asn Ala Cys Asp Phe Asn Leu Leu Ala Ser
50 55 60

Leu Ala Tyr Pro Leu Glu Ser Glu Glu Arg Leu Arg Thr Gly Cys Asp
65 70 75 80

Leu Met Asn Met Phe Phe Val Phe Asp Glu Tyr Ser Asp Val Ser Ser
85 90 95

Pro Lys Asp Val Ile Gln Gln Ala Ala Ile Ile Met Asp Ala Leu Arg
100 105 110

Asn Pro Tyr Ala Pro Arg Pro Asp Asp Glu Trp Val Gly Gly Glu Val
115 120 125

Thr Arg Gln Phe Trp Lys Arg Ala Ile Lys Thr Ala Thr Ala Gly Ala
130 135 140

Gln Arg Arg Phe Ile Asp Ala Phe Glu Ser Tyr Thr Gln Ser Val Val
145 150 155 160

Gln Gln Ala Lys Asp Arg His His Gly Phe Ile Arg Asp Val Asp Ser
165 170 175

Tyr Leu Glu Met Arg Arg Glu Thr Ile Gly Ala Lys Pro Ser Phe Val
180 185 190

Val Leu Gln Met Asp Met Thr Leu Pro Asp Glu Val Leu Ala His Pro
195 200 205

Val Ile Gln Gln Leu Ser Ala Leu Ser Thr Asp Met Ile Cys Leu Gly
210 215 220

Asn Asp Ile Cys Ser Tyr Asn Val Glu Gln Ala Arg Gly Asp Asp Leu
225 230 235 240

His Asn Ile Ile Thr Ile Ala Met Asn Gln Phe Asp Ile Asp Ile Ala
245 250 255

Gly Ala Met Asp Trp Val Val Lys Tyr His Ala Lys Leu Glu Arg Lys
260 265 270

Phe Leu Tyr Leu Tyr Asn Asn Gly Leu Pro Ser Trp Gly Lys Glu Leu
275 280 285

Asp Pro Gln Val Glu Arg Tyr Val Cys Gly Leu Gly Asn Trp Val Arg
290 295 300

Ala Ser Asp Gln Trp Gly Phe Glu Ser Glu Arg Tyr Phe Gly Lys Lys
305 310 315 320

Gly Lys Glu Ile Phe Lys Arg Arg Trp Val Asn Leu Met Gln Pro Glu
325 330 335

Arg Ala Gln Asp Ile Gly Pro Thr Leu Val Asp Gly Thr Arg Leu
340 345 350

<210> 97

<211> 345

<212> PRT

<213> *Omphalotus olearius*

<400> 97

Met Pro Glu Thr Phe Tyr Leu Pro Asp Cys Leu Ala Asn Trp Lys Trp
1 5 10 15

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

Glu Trp Leu Arg Ser Phe Lys Ala Phe Pro Pro Lys Ala Gln Glu Ala
35 40 45

Tyr Asp Arg Cys Asp Phe Asn Leu Leu Ala Ser Leu Ala Tyr Pro Leu
50 55 60

Ala Asp Lys Asp Gly Leu Arg Thr Gly Cys Asp Leu Met Asn Met Phe
65 70 75 80

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

Val Gln Ala Asp Ile Ile Met Asp Ala Leu Arg Asn Pro His Lys Pro
100 105 110

Arg Pro Val Gly Glu Trp Val Gly Gly Glu Val Thr Arg Gln Phe Trp
115 120 125

Glu Leu Ala Ile Lys Thr Ala Ser Pro Gln Ser Gln Lys Arg Phe Ile
130 135 140

Glu Thr Phe Asp Thr Tyr Thr Lys Ser Val Val Gln Gln Ala Ala Asp
145 150 155 160

Arg Thr Gln His Tyr Val Arg Thr Val Asp Glu Tyr Leu Glu Val Arg
165 170 175

Arg Asp Thr Ile Gly Ala Lys Pro Ser Phe Ala Ile Leu Glu Leu Thr
180 185 190

Met Asp Ile Pro Asp Glu Val Ile His His Pro Thr Ile Glu Arg Leu
195 200 205

Ala Ile Leu Ala Ile Asp Met Ile Leu Leu Gly Asn Asp Thr Ala Ser
210 215 220

Tyr Asn Tyr Glu Gln Ala Arg Gly Asp Asp Asn His Asn Met Val Thr
225 230 235 240

Ile Val Met His Gln Tyr Lys Thr Asp Ile Gln Gly Ala Leu Ser Trp
245 250 255

Ile Glu Lys Tyr His Lys Glu Leu Glu Glu Glu Phe Met Gln Leu Tyr
260 265 270

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

Tyr Val Asp Gly Leu Gly Asn Trp Val Arg Ala Ser Asp Gln Trp Gly
290 295 300

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

Thr Arg Trp Val Thr Leu Met Pro Lys Lys Arg Ala Glu Gly Val Gly
325 330 335

Pro Glu Ile Val Asp Ile Ser Glu Leu
340 345

<210> 98

<211> 346

<212> PRT

<213> Armillaria gallica

<400> 98

Met Ser Gln Arg Ile Phe Leu Pro Asp Thr Leu Ala Asn Trp Gln Trp
1 5 10 15

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

Ala Trp Ala Lys Ser Phe Arg Ala Phe Gln Thr Lys Ala Gln Glu Ala
35 40 45

Phe Asp Arg Cys Asp Phe Asn Leu Leu Ala Ser Phe Ala Tyr Pro Leu
50 55 60

Ala Asp Glu Ala Arg Leu Arg Ser Gly Cys Asp Leu Met Asn Leu Phe
65 70 75 80

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

Ala Gln Lys Asp Ile Val Met Asp Ala Ile Arg Asn Thr Glu Lys Pro
100 105 110

Arg Pro Ala Gly Glu Trp Ile Gly Gly Glu Val Ser Arg Gln Phe Trp
115 120 125

Asp Leu Ala Lys Lys Thr Ala Ser Thr Gln Ala Gln Lys Arg Phe Ile
130 135 140

Asp Thr Phe Asp Glu Tyr Leu Glu Ser Val Val Gln Gln Ala Ala Asp
145 150 155 160

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

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

Met Gln Leu Pro Asp Glu Ser His Gln Ser Ser Gly Tyr Gln Arg Asn
195 200 205

Leu Arg Lys Ser Cys Ile Asp Met Leu Cys Leu Gly Asn Asp Val Val
210 215 220

Ser Tyr Asn Leu Glu Gln Ala Arg Asp Asp Asp Gly His Asn Ile Val

225 230 235 240

Thr Ile Ala Met Asn Glu Leu Arg Thr Asp Val Ala Gly Ala Met Ile
 245 250 255

Trp Val Asp Glu Tyr His Lys Gln Leu Glu Ser Arg Phe Met Glu Asn
 260 265 270

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

Arg Tyr Cys Asp Gly Leu Gly Asn Trp Val Arg Ala Asn Asp Gln Trp
 290 295 300

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

Gln Arg Arg Trp Ile Thr Leu Met Pro Lys Met Val Ser Glu Glu Leu
 325 330 335

Gly Pro Gln Ile Val Asp Gly Phe His Leu
 340 345

<210> 99
<211> 369
<212> PRT
<213> Stereum hirsutum

<400> 99

Met Ala Val Ala Thr Ser Val Ala Thr Pro Val Pro Thr Pro Ala Tyr
1 5 10 15

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

Thr Leu Ala Glu Trp Pro Trp Pro Arg Ala Ile Asn Pro His Tyr Ala
 35 40 45

Glu Ala Lys Glu Glu Ser Gln Ala Trp Ala Ala Ser Phe Asn Ala Phe
 50 55 60

Ser Pro Lys Ala Gln His Ala Phe Asn Arg Cys Asp Phe Asn Leu Leu

65 70 75 80

Ala Ser Leu Ala Tyr Pro Leu Ala Thr Lys His Gly Cys Arg Ser Gly
 85 90 95

Cys Asp Leu Met Asn Leu Phe Phe Val Ile Asp Glu Tyr Ser Asp Ile
 100 105 110

Ala Pro Val Glu Glu Val Arg Gln Gln Lys Asp Ile Val Met Asp Ala
 115 120 125

Leu Arg Asn Pro His Lys Pro Arg Pro Glu Gly Glu Trp Val Gly Gly
 130 135 140

Glu Val Ala Arg Gln Phe Trp Ala Leu Thr Ile Thr Asn Ala Ser Ala
 145 150 155 160

Gln Ser Gln Lys His Phe Ile Glu Thr Phe Asp Glu Tyr Leu Asp Ser
 165 170 175

Val Val Gln Gln Ala Glu Asp Arg Ser Glu Ser Arg Ile Arg Asp Ile
 180 185 190

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

Phe Ala Leu Leu Glu Leu Asp Met Asp Leu Pro Asp Glu Val Leu Ala
 210 215 220

His Pro Thr Ile Gln Ser Leu Ser Leu Ala Thr Ile Asp Met Leu Cys
 225 230 235 240

Leu Gly Asn Asp Ile Val Ser Tyr Asn Leu Glu Gln Ala Arg Gly Asp
 245 250 255

Ala Ser His Asn Ile Ile Thr Ile Val Met Asn Glu Leu Asn Leu Asp
 260 265 270

Val Asn Gly Ala Met Arg Trp Val Gly Asp Phe His Lys Gln Leu Glu
 275 280 285

Lys Gln Phe Phe Glu Ala Phe Asn Asn Leu Pro Lys Trp Gly Asn Ala
290 295 300

Glu Leu Asp Ala Gln Ile Ala Val Tyr Cys Asp Gly Leu Gly Asn Trp
305 310 315 320

Val Arg Ala Asn Asp Gln Trp Ser Phe Glu Ser Glu Arg Tyr Phe Gly
325 330 335

Ala Arg Gly Leu Glu Ile Met Glu Thr Lys Thr Leu Ala Met Met Pro
340 345 350

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

Leu

<210> 100

<211> 350

<212> PRT

<213> Stereum hirsutum

<400> 100

Met Val Arg Ser Pro Val Ser Asp Lys Phe Cys Ile Pro Asp Thr Leu
1 5 10 15

Ala Ser Trp Pro Tyr Pro Arg Ile Leu Asn Pro His Tyr Ala Glu Glu
20 25 30

Lys Ala Ala Ser Ala Ala Trp Thr Lys Gly Phe Gly Ala Phe Gly Pro
35 40 45

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

Leu Ala Tyr Pro Ile Ala Thr Pro Glu Arg Cys Arg Ser Gly Cys Asp
65 70 75 80

Leu Met Asn Leu Phe Phe Val Ile Asp Glu His Ser Asp Thr His Gly
85 90 95

Glu Glu Thr Val Arg Lys Met Lys Asp Val Val Met Asp Ala Ile Arg
100 105 110

Asn Pro His Lys Pro Arg Pro Asn Asp Glu Trp Ile Gly Gly Glu Ile
115 120 125

Ala Arg Gln Phe Trp Glu Arg Ala Met Cys Tyr Ala Ser Glu Ile Ser
130 135 140

Gln Arg Arg Phe Ile Asp Thr Phe Asp Glu Tyr Leu Glu Ser Val Val
145 150 155 160

Asp Gln Ala Ala Asp Arg Asp Ser Ala Arg Ile Arg Asp Ile Glu Ser
165 170 175

Tyr Ile Asn Ile Arg Arg Asn Thr Ile Gly Ala Lys Pro Ser Phe Val
180 185 190

Ile Met Glu Gln Gly Met Asp Ile Pro Asp Asn Val Phe Glu Asn Glu
195 200 205

Val Phe Gln Arg Leu Arg Met Ala Thr Ile Asp Met Leu Cys Leu Gly
210 215 220

Asn Asp Ile Val Ser Tyr Asn Ile Glu Gln Ala Arg Gly Asp Asp Ser
225 230 235 240

His Asn Ile Val Arg Ile Val Met Asn Glu Leu Asp Thr Asp Val Pro
245 250 255

Arg Ala Met Asp Trp Val Ala Gln Arg His Thr Gln Leu Glu Arg Glu
260 265 270

Phe Phe Thr Ala Leu Ser Glu Leu Pro Thr Trp Gly Glu Pro Ile Asp
275 280 285

Gly Trp Val Lys Glu Tyr Val Tyr Gly Leu Gly Asn Trp Val Arg Ala
290 295 300

Asn Asp Gln Trp Ser Phe Glu Ser Gln Arg Tyr Phe Gly Thr Lys Gly
305 310 315 320

Met Glu Ile Met Lys Ser Arg Trp Leu Ser Val Leu Pro Lys Val Arg
325 330 335

Pro Ala Glu Val Gly Pro Gln Leu Val Asp Gln Ser Leu Leu
340 345 350

<210> 101

<211> 330

<212> PRT

<213> Coprinopsis cinerea

<400> 101

Met Val Gly Ser Tyr Thr Gly Lys Val Ile His Val Pro Ala Leu Leu
1 5 10 15

Glu Ser Trp Pro Trp Pro Ala Ala Ile Asn Pro Leu Tyr Glu Gln Val
20 25 30

Gln Glu Glu Ser Thr Ser Trp Phe Arg Lys Phe Asp Leu Tyr Arg Asp
35 40 45

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

Ala Ser Val Cys Pro Lys Ala Asp Tyr Ala Leu Leu Arg Leu Ala Thr
65 70 75 80

Asp Tyr Leu His Leu Gly Phe Trp Ile Asp Tyr Phe Phe Asp Thr Ser
85 90 95

Pro Ser Asp Val Ile Arg Gln Leu Thr Glu Ser Ile Ala His Leu Leu
100 105 110

Glu Ser Gly Asp Pro Arg Leu Asp Ser Ser Ser Pro Gln Ser His Ile
115 120 125

Ala Cys Met Glu Ile Leu Arg Asp Phe Arg Lys Arg Ile Glu Thr Phe
130 135 140

Asn Pro Ser Gln Glu Asp Leu Arg Arg Phe Val Lys Glu Tyr Arg Gly
145 150 155 160

Phe Leu Glu Ala Glu Leu Thr Gln Ala Ile Asp His Glu Asn Lys Val
165 170 175

Ile Arg Asp Ile Glu Ser Tyr Leu Ser Ile Arg Arg Ser Thr Ile Ala
180 185 190

Ile Arg Pro Gly Ile Ala Leu Leu Gly Leu Ala Leu Gly Ile Pro Gln
195 200 205

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

Asp Met Val Ile Ile Gln Asn Asp Ala Tyr Ser Trp Asn Val Glu Gln
225 230 235 240

Val Arg Lys Ala Asp Gly His Asn Ile Ile Thr Val Leu Met Lys Gln
245 250 255

Arg Asp Ile Asp Val Gln Glu Ala Tyr Glu His Ala Ala Gln Leu His
260 265 270

Arg Glu Thr Gln Glu His Phe Leu Glu Leu His Ala Lys Arg Pro Asp
275 280 285

Trp Gly Asn Glu Gly Ser Ile Gln Ala Phe Phe Asp Gly Leu Gly Glu
290 295 300

Phe Val Arg Gly Val Asp Glu Trp Ser Ser Met Cys Leu Gly Glu His
305 310 315 320

Ala Leu Ser Val Gly Ala Gly Phe Leu Lys
325 330

<210> 102

<211> 372

<212> PRT

<213> Stereum hirsutum

<400> 102

Met Glu Ser Val Arg Glu His Ile Pro Arg Leu Gln His Phe Leu Gly
1 5 10 15

Glu Ile Gly Tyr Arg His Thr Thr Pro Pro Ala Pro Thr Leu Asp Phe
20 25 30

Leu His Ala His His His Trp Ile His His Val Leu Gly Pro Met Thr
35 40 45

Ser Trp Thr Val Ala Lys Leu Asn Ala Leu Glu Asp Ser Ser Ser Thr
50 55 60

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

Leu Ala Lys Leu Thr Ala Ile Ala Ile Phe Leu Asp Asp Ser Leu Glu
85 90 95

Asp Glu Glu Thr Tyr Asp Asp Ile Gly Asn Phe Ala His Arg Val Tyr
100 105 110

Leu Gly Glu Ala Gln Pro Thr Gly Val Leu Thr Leu Tyr His Gln Gly
115 120 125

Ile Gln Glu Leu Ser Lys Met His Glu Gly Asp Ala Val Phe Arg Gly
130 135 140

Leu Ala Val Ala Pro Trp Ile Thr Phe Ile Asp Ala Cys Met Leu Glu
145 150 155 160

Lys Arg Leu Leu Thr Phe Asp Ser Lys Leu Arg Val Ser Pro Arg Asp
165 170 175

Leu Gly Tyr Gln Arg Leu Arg Asn Ser Thr Asp Phe Thr Ser Leu Arg
180 185 190

Ala Pro Lys Ala Thr Pro Ser Glu Val Glu Val Ser Phe Pro Ile Phe
195 200 205

Leu Arg His Lys Ser Gly Ile Gly Glu Ala Tyr Ala Ala Ala Ile Phe
210 215 220

Lys Ser Ser Arg Tyr Gln Glu Leu Pro Leu Ser Arg Phe Val Lys Ser
225 230 235 240

Met Pro Asp Met Ile Tyr Tyr Ile Glu Leu Val Asn Asp Leu Met Ser
245 250 255

Phe Tyr Lys Glu Gln Leu Ala Gly Glu Thr Ala Asn Leu Ile His Leu
260 265 270

Gln His Gln Ser Trp Lys Gly Gly Gln Gly Thr Gly Pro Tyr Gly Ser
275 280 285

Trp Thr Leu Leu Asp Thr Phe Ser Arg Leu Cys Asp Glu Thr Arg Asp
290 295 300

Ala Ala Phe Arg Val Asp Glu Leu Leu Arg Leu Asp Glu Cys Glu Lys
305 310 315 320

Ile Ala Asn Gly Glu Leu Arg Gly Glu Glu Val Gly Leu Ser Pro Met
325 330 335

Asp Val Thr Met Ala Ala Gln Trp Arg Glu Phe Arg Asp Gly Tyr Val
340 345 350

Ser Trp His Leu Glu Cys Gln Arg Tyr Lys Leu Asp Phe Ile Lys Leu
355 360 365

Ser Thr Phe Glu
370

<210> 103
<211> 325
<212> PRT
<213> Coprinopsis cinerea

<400> 103

Met Pro Ala Ala Leu Pro Tyr Asn Val Ser Arg Asp Asn Lys Trp Asp
1 5 10 15

Ile Lys Lys Ile Ile Gln Asp Phe Phe Lys Arg Cys Asp Val Pro Tyr
20 25 30

Gln Val Ile Pro Tyr Asp Thr Glu Leu Trp Asn Ala Cys Leu Lys Arg
35 40 45

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

Tyr Arg Ser Phe Lys Val Gly Val Val Ile Thr Arg Thr Ser Tyr Gly
65 70 75 80

His Ile Gln Asp Tyr Glu Ile Leu Ile Trp Val Ala Thr Phe Thr Ala
85 90 95

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

His Ser Phe Ala Arg Thr Phe Leu Gln Asn Glu Lys His Glu His Pro
115 120 125

Val Leu Glu Ala Phe Ala Gln Phe Leu Arg Glu Ser Ser Ile Arg Phe
130 135 140

Ser His Phe Val Ala Asn Thr Val Val Ser Ser Ala Leu Arg Phe Met
145 150 155 160

Met Ser Ile Ala Leu Glu Phe Glu Gly Gln Asn Val Ser Val Ser Thr
165 170 175

Glu Ala Arg Glu Tyr Pro Gly Tyr Ile Arg Ile Leu Ser Gly Leu Ser
180 185 190

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

Tyr Ile Gln Ala Phe Pro Glu Gln Ile Asp Tyr Ile Asn Gly Thr Asn
210 215 220

Asp Leu Leu Ser Phe Tyr Lys Glu Glu Leu Asp Cys Glu Thr Val Asn
225 230 235 240

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

Leu Arg Asn Ala Ala Glu Lys Ala Ala Tyr Ser Tyr Asp Val Val Val

260 265 270

Asn Val Leu Lys Pro Tyr Pro Glu Ala Leu Ala Ala Trp Lys Ser Phe
275 280 285

Ala Arg Gly Phe Cys Tyr Phe His Thr Ser Ser Pro Arg Tyr Arg Leu
290 295 300

Gly Glu Met Phe His Asp Phe Glu His Asp Leu Val Cys Lys Cys Ala
305 310 315 320

Ser Cys Thr Glu Ile
325

<210> 104
<211> 328
<212> PRT
<213> *Omphalotus olearius*

<400> 104

Met Thr Leu Pro Thr Glu Gln Val Glu Leu Ser Val Cys Pro Val Glu
1 5 10 15

Ser Ser Thr His Thr Thr Arg Asp Ile Met Arg Asn Phe Leu Ser Gln
20 25 30

Cys Gln Ile Pro Leu Gln Arg Gly Val Pro Leu Asp Pro Thr Phe His
35 40 45

Gln Glu Cys Ala Asn Val Leu Ile Glu Asp Tyr Leu Lys Pro Ser Ala
50 55 60

Ala Val Thr Leu Glu Asn Leu Pro Ser Leu Met Ser Ser Phe Asn Pro
65 70 75 80

Phe Leu Thr Leu Gly Val Arg Met Ala Ser Thr Gly Tyr Ala His Leu
85 90 95

Thr His Thr Pro Thr Arg Val Tyr Val Ala Leu Phe Thr Ala Leu Leu
100 105 110

Val Cys Leu Asp Asp Ile Phe Pro Glu Asn Val Glu Leu Met Cys Gly

115 120 125

Phe Asn Glu Arg Phe Ile Lys Asn Glu Thr Gln Gly Glu Pro Ile Leu
130 135 140

Asp Ala Val Ala Gly Leu Leu Arg Ser Thr Ser Lys Tyr Phe Ser Met
145 150 155 160

Leu Ser Ser Asn Leu Ile Val Thr Ser Ala Leu Asn Tyr Val Thr Ser
165 170 175

Leu Ser Leu Asp Gln Gly Leu His Ser Ile Lys Leu Ala Glu His Ser
180 185 190

Arg Asn Phe Ala Arg Leu Cys Arg Asn Met Ser Gly Ile Pro Glu Ala
195 200 205

Phe Ala Ala Phe Val Phe Pro Pro Glu Val Pro Phe Thr Ala Tyr Ile
210 215 220

Gln Cys Phe Pro Asp Leu Tyr Thr Tyr Ala Asn Tyr Val Asn Asp Val
225 230 235 240

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

Ser Ile Leu Ala Gln Thr Gln Pro Asn Ser Ser Arg Tyr Gln Val Leu
260 265 270

Gln Gln Leu Ala Asp Glu Ala Ala Ala Ala Asn Ala Asn Ile Arg Asp
275 280 285

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

Val Gly Phe Val Gln Phe His Ile Asp Ser Pro Arg Tyr Arg Leu Ala
305 310 315 320

Glu Leu Phe Pro Cys Ile Asp Gly
325

<210> 105

<211> 350

<212> PRT

<213> *Omphalotus olearius*

<400> 105

Met Ser Gln Ile Leu His Leu Leu Trp Ser Lys Phe Ser Thr Ser Leu
1 5 10 15

Pro Ser Thr Val Thr Ile Gly Ser Asp Pro Gln Thr Leu Gln Leu Val
20 25 30

His Ser Pro Ala Pro Asn Val Asn Ala Asn Ala Leu Glu Ile Tyr Lys
35 40 45

Ile Val Asp Asn Phe Leu Ser Arg Cys Gly Ile Arg Leu Glu Ser Thr
50 55 60

Pro Leu Asp Val Glu Phe Tyr Asn Glu Cys Lys Lys Thr Leu Leu Ser
65 70 75 80

His Tyr Ile Gly Ile His Asp Ser Asp Lys Val Ser Glu Ser Trp Phe
85 90 95

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

His Leu Asp Asn Lys Leu Thr Lys Ile Tyr Ile Ala Leu Tyr Thr Ala
115 120 125

Leu Ala Thr Cys Phe Asp Asp Val Phe Glu Lys Asn Val Asp His Met
130 135 140

Ser Gly Phe Asn Glu Arg Phe Met Lys Ala Leu Pro Gln Gly Asp Val
145 150 155 160

Phe Leu Asp Ala Phe Ala Lys Val Leu Leu Asp Ala Pro Lys Tyr Phe
165 170 175

Gly Arg Leu Ala Ser Asn Ile Ile Val Thr Ser Thr Leu Asp Phe Ile
180 185 190

Thr Ser Met Ser Val Asp Val Leu Thr Lys Gly Met Lys Phe Asn Gln
195 200 205

Asn Leu His Lys Phe Ala Met Ala Cys Arg Asn Met Ser Gly Ile Ala
210 215 220

Tyr Thr Tyr Ala Pro Phe Ile Phe Pro Lys Glu Val Pro Phe Ala Ile
225 230 235 240

Tyr Ala Gln Cys Leu Pro Asp Met Arg Ile Tyr Ile Asn His Val Asn
245 250 255

Asp Val Leu Ser Phe Tyr Lys Glu Asp Lys Ala Gly Glu Thr Glu Asn
260 265 270

Leu Ala Ser Ile Leu Gly Gln Val His Pro Ser Met Thr Lys Tyr Gln
275 280 285

Ile Val Gln Gly Leu Ala Asp Asp Ala Ala Glu Ala Asp Leu Arg Val
290 295 300

Arg Thr Val Leu Ser Gln Tyr Gln Pro Ala Leu Asp Ala Tyr Asn Cys
305 310 315 320

Phe Arg Gln Gly Tyr Val Ser Phe His Ala Ser Ser Gly Arg Tyr Arg
325 330 335

Leu Asp Glu Leu Phe Ser Phe Val Glu Pro Glu Pro Ile Val
340 345 350

<210> 106

<211> 347

<212> PRT

<213> *Omphalotus olearius*

<400> 106

Met Ser Gln Ile Leu His Leu Leu Trp Ser Lys Phe Ser Thr Ser Leu
1 5 10 15

Pro Ser Thr Val Thr Ile Gly Ser Asp Pro Gln Thr Leu Gln Leu Val
20 25 30

His Ser Pro Ala Pro Asn Val Asn Ala Asn Ala Leu Glu Ile Arg Arg
35 40 45

Ile Val Asn Asn Phe Leu Thr Arg Cys Ser Ile Arg Leu Glu Gly Thr
50 55 60

Pro Leu Asp Val Asp Phe Tyr Asn Glu Cys Lys Lys Thr Leu Leu Ser
65 70 75 80

His Tyr Ile Gly Ile His Asp Ser Asp Lys Val Ser Glu Ser Trp Phe
85 90 95

Arg Arg Tyr Leu Ser Val Gly Val Ile Ile Thr Thr Asn Ala Tyr Gly
100 105 110

His Ile Asp Asp Lys Pro Thr Arg Val Tyr Ile Cys Leu Tyr Thr Ala
115 120 125

Leu Leu Thr Ser Phe Asp Asp Val Phe Glu Ala Asn Val Glu Gln Phe
130 135 140

Gly Gly Phe Asn Glu Arg Phe Met Lys Gly Glu Pro Gln Glu Asp Leu
145 150 155 160

Phe Leu Asp Ala Leu Ala Arg Ile Leu Leu Asp Ala Pro Arg Tyr Tyr
165 170 175

Gly Arg Leu Ala Thr Asn Ile Ile Val Thr Ala Thr Leu Asp Phe Phe
180 185 190

Thr Gly Leu Phe Leu Glu Leu Gln Ala Arg Asp Met Thr Phe Asn Glu
195 200 205

Asp Leu His Asn Phe Ala Val Phe Cys Arg Asn Leu Thr Gly Ile Ala
210 215 220

His Ala Tyr Ala Val Phe Met Phe Pro Arg Asp Val Pro Phe Thr Val
225 230 235 240

Tyr Val Arg Ser Leu Pro Glu Leu Lys Thr Asp Ile Asn Tyr Val Asn
245 250 255

Asp Ile Met Ser Phe Tyr Lys Glu Asp Arg Ala Glu Glu Thr Asp Asn
260 265 270

Leu Ala Ser Ile Leu Arg Gln Val His Pro Ser Met Thr Lys His Gln
275 280 285

Val Leu Gln Lys Ile Val Asp Asp Ala Val Glu Ala Asp Val Arg Ala
290 295 300

Arg Lys Ile Leu Ala Asp Tyr Gln Pro Ala Leu Asp Ala Tyr Glu His
305 310 315 320

Phe Arg Lys Gly Tyr Ala Met Phe His Val Ser Ser Gly Arg Tyr Arg
325 330 335

Leu Asp Glu Leu Phe Ser Tyr Ile Arg Phe Glu
340 345

<210> 107
<211> 17
<212> PRT
<213> Hypoxylon sp

<400> 107

Met Ala Lys Ala Asn Leu Leu Ile Phe Met His Asp Asp Val Cys Glu
1 5 10 15

Tyr

<210> 108
<211> 21
<212> PRT
<213> Hypoxylon sp

<400> 108

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

Glu Gln Glu Thr Gly
20

<210> 109
<211> 16
<212> PRT
<213> Hypoxylon sp

<400> 109

Val Trp Asp Asp Glu Val Asp Ala Asn Asp Thr Asp Val Ser Asn Asp
1 5 10 15

<210> 110
<211> 21
<212> PRT
<213> Hypoxylon sp

<400> 110

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

Asp Ser Leu Leu Asn
20

<210> 111
<211> 17
<212> PRT
<213> Hypoxylon sp

<400> 111

Ala Trp Asp Asp Glu Thr Asp Ser Pro Glu Phe Ser Ala Val Ile Asn
1 5 10 15

Asp

<210> 112
<211> 21
<212> PRT
<213> Hypoxylon sp

<400> 112

Ile His Thr Thr Asn Asp Ile Leu Ser Val Lys Lys Glu Val Ala Gln
1 5 10 15

Ser Gln Val Asp Ser
20

<210> 113
<211> 10
<212> PRT
<213> *Omphalotus olearius*

<400> 113

His Leu Asp Asn Ile Ser Asp Gly Met Met
1 5 10

<210> 114
<211> 21
<212> PRT
<213> *Omphalotus olearius*

<400> 114

Val Thr Trp Ser Asn Asp Ile Phe Ser Tyr Asn Val Glu Gln Ser Arg
1 5 10 15

Gly Asp Thr His Asn
20

<210> 115
<211> 10
<212> PRT
<213> *Agrocybe aegerita*

<400> 115

His Leu Asp Asn Ile Ser Asp Gly Met Met
1 5 10

<210> 116
<211> 21
<212> PRT
<213> *Agrocybe aegerita*

<400> 116

Val Thr Trp Ser Asn Asp Ile Phe Ser Tyr Asn Val Glu Gln Ser Arg
1 5 10 15

Gly Asp Thr His Asn
20

<210> 117
<211> 10

<212> PRT
<213> Coprinopsis cinerea

<400> 117

His Leu Asp Asn Ile Ser Asp Gly Met Met
1 5 10

<210> 118
<211> 21
<212> PRT
<213> Coprinopsis cinerea

<400> 118

Val Thr Trp Ser Asn Asp Ile Phe Ser Tyr Asn Val Glu Gln Ser Lys
1 5 10 15

Gly Asp Thr His Asn
20

<210> 119
<211> 10
<212> PRT
<213> Agrocybe aegerita

<400> 119

His Leu Asp Asn Leu Ser Asp Glu Met Asp
1 5 10

<210> 120
<211> 21
<212> PRT
<213> Agrocybe aegerita

<400> 120

Val Thr Trp Ser Asn Asp Ile Phe Ser Tyr Ser Val Glu Gln Ser Lys
1 5 10 15

Gly His Thr His Asn
20

<210> 121
<211> 10
<212> PRT
<213> Coprinopsis cinerea

<400> 121

His Ile Asp Asn Leu Ser Asp Asp Met Asp
1 5 10

<210> 122

<211> 21

<212> PRT

<213> *Coprinopsis cinerea*

<400> 122

Val Thr Trp Ser Asn Asp Ile Phe Ser Phe Asn Val Glu Gln Ser Lys
1 5 10 15

Gly Asp Thr His Asn
20

<210> 123

<211> 10

<212> PRT

<213> *Omphalotus olearius*

<400> 123

Tyr Leu Asp Asn Leu Thr Asp Asp Met Asp
1 5 10

<210> 124

<211> 21

<212> PRT

<213> *Omphalotus olearius*

<400> 124

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

Gly Asp Thr His Asn
20

<210> 125

<211> 10

<212> PRT

<213> *Omphalotus olearius*

<400> 125

His Leu Asp Asn Leu Ser Asp Asp Met Asp

1 5 10

<210> 126

<211> 21

<212> PRT

<213> *Omphalotus olearius*

<400> 126

Val Thr Trp Ser Asn Asp Ile Phe Ser Tyr Asn Val Glu Gln Ala Lys
1 5 10 15

Gly Asp Thr His Asn
20

<210> 127

<211> 10

<212> PRT

<213> *Coprinopsis cinerea*

<400> 127

Asn Ala Asp Asp Trp Leu Asp Asp Phe Asp
1 5 10

<210> 128

<211> 21

<212> PRT

<213> *Coprinopsis cinerea*

<400> 128

Ile Ala Trp Ser Asn Asp Ile Phe Ser Phe Asn Arg Glu Gln Ser Arg
1 5 10 15

His Asp Ser Phe Asn
20

<210> 129

<211> 10

<212> PRT

<213> *Agrocybe aegerita*

<400> 129

Phe Phe Asp Glu Val Thr Asp Thr Glu Thr
1 5 10

<210> 130
<211> 21
<212> PRT
<213> *Agrocybe aegerita*

<400> 130

Ile Phe Leu Ala Asn Asp Leu Tyr Ser Tyr Asn Met Glu Gln Ala Lys
1 5 10 15

Gly His Asn Gly Ala
20

<210> 131
<211> 10
<212> PRT
<213> *Agrocybe aegerita*

<400> 131

Leu Tyr Asp Glu Tyr Thr Asp Thr Gly Ser
1 5 10

<210> 132
<211> 21
<212> PRT
<213> *Agrocybe aegerita*

<400> 132

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

Gly His Ser Gly Ala
20

<210> 133
<211> 10
<212> PRT
<213> *Agrocybe aegerita*

<400> 133

Val Val Asp Glu Val Ser Asp Glu Gln Ser
1 5 10

<210> 134
<211> 21
<212> PRT

<213> *Agrocybe aegerita*

<400> 134

Val Cys Trp Ala Asn Asp Val Tyr Ser Tyr Asp Met Glu Gln Ser Lys
1 5 10 15

Gly Leu Ser Asn Asn
20

<210> 135

<211> 10

<212> PRT

<213> *Coprinopsis cinerea*

<400> 135

Val Val Asp Glu Ile Ser Asp Asp Gln Asn
1 5 10

<210> 136

<211> 21

<212> PRT

<213> *Coprinopsis cinerea*

<400> 136

Val Cys Trp Ala Asn Asp Val Tyr Ser Tyr Asp Met Glu Gln Ala Lys
1 5 10 15

Gly His Thr Gly Asn
20

<210> 137

<211> 10

<212> PRT

<213> *Stereum hirsutum*

<400> 137

Val Ile Asp Glu Ile Ser Asp Asp Gln Ser
1 5 10

<210> 138

<211> 21

<212> PRT

<213> *Stereum hirsutum*

<400> 138

Val Cys Trp Ala Asn Asp Val Tyr Ser Tyr Asn Val Glu Gln Ala Lys
1 5 10 15

Gly His Ser Gly Asn
20

<210> 139
<211> 10
<212> PRT
<213> *Omphalotus olearius*

<400> 139

Val Leu Asp Glu Val Ser Asp Glu Gln Ser
1 5 10

<210> 140
<211> 21
<212> PRT
<213> *Omphalotus olearius*

<400> 140

Val Cys Trp Ala Asn Asp Val Tyr Ser Tyr Asn Lys Glu Gln Ala Gln
1 5 10 15

Gly His Gly Gly Asn
20

<210> 141
<211> 10
<212> PRT
<213> *Omphalotus olearius*

<400> 141

Val Leu Asp Glu Leu Ser Asp Asp Gln Asn
1 5 10

<210> 142
<211> 21
<212> PRT
<213> *Omphalotus olearius*

<400> 142

Val Cys Trp Ser Asn Asp Val Tyr Ser Tyr Asn Val Glu Gln Ala Lys
1 5 10 15

Gly His Gly Gly Ser
20

<210> 143
<211> 10
<212> PRT
<213> *Omphalotus olearius*

<400> 143

Val Phe Asp Glu Val Ser Asp Asp Gln Asn
1 5 10

<210> 144
<211> 21
<212> PRT
<213> *Omphalotus olearius*

<400> 144

Val Cys Trp Ser Asn Asp Val Tyr Ser Tyr Asn Val Glu Gln Ala Lys
1 5 10 15

Gly His Arg Gly Ser
20

<210> 145
<211> 10
<212> PRT
<213> *Agrocybe aegerita*

<400> 145

Val Tyr Asp Glu Tyr Thr Asp Val Ser Asp
1 5 10

<210> 146
<211> 21
<212> PRT
<213> *Agrocybe aegerita*

<400> 146

Ile Ile Leu Val Asn Asp Met His Ser Tyr Val Arg Glu Leu Ser Cys
1 5 10 15

Gly His Glu Asn His

<210> 147
 <211> 10
 <212> PRT
 <213> *Agrocybe aegerita*

<400> 147

Val Tyr Asp Glu Tyr Thr Asp Val Val Ser
 1 5 10

<210> 148
 <211> 10
 <212> PRT
 <213> *Agrocybe aegerita*

<400> 148

Thr Arg Val Ser Ser Gly Gln Ala Asn His
 1 5 10

<210> 149
 <211> 10
 <212> PRT
 <213> *Agrocybe aegerita*

<400> 149

Val Phe Asp Glu Tyr Thr Asp Ile Ala Asp
 1 5 10

<210> 150
 <211> 21
 <212> PRT
 <213> *Agrocybe aegerita*

<400> 150

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

Gly Leu Glu Leu His
 20

<210> 151
 <211> 10
 <212> PRT
 <213> *Agrocybe aegerita*

<400> 151

Val Phe Asp Glu Cys Ala Asp Ile Ala Asp
1 5 10

<210> 152

<211> 12

<212> PRT

<213> *Agrocybe aegerita*

<400> 152

Asp Ile Asn Ser Tyr Pro Met Lys Val Arg Gly Leu
1 5 10

<210> 153

<211> 10

<212> PRT

<213> *Agrocybe aegerita*

<400> 153

Val Phe Asp Glu Trp Ser Asp Val Ser Asp
1 5 10

<210> 154

<211> 21

<212> PRT

<213> *Agrocybe aegerita*

<400> 154

Leu Cys Ile Gly Asn Asp Leu Cys Ser Tyr Asn Val Glu Gln Ser Arg
1 5 10 15

Gly Asp Asp Gly His
20

<210> 155

<211> 10

<212> PRT

<213> *Agrocybe aegerita*

<400> 155

Val Val Asp Glu His Thr Asp Ala Met Asp
1 5 10

<210> 156

<211> 21

<212> PRT

<213> *Agrocybe aegerita*

<400> 156

Leu Ile Leu Gly Asn Asp Leu Cys Ser Tyr Asn Val Glu Gln Ser Arg
1 5 10 15

Gly Asp Asp Gly His
20

<210> 157

<211> 10

<212> PRT

<213> *Omphalotus olearius*

<400> 157

Ile Phe Asp Glu Tyr Ser Asp Val Ala Asp
1 5 10

<210> 158

<211> 21

<212> PRT

<213> *Omphalotus olearius*

<400> 158

Leu Ile Ile Gly Asn Asp Leu Cys Ser Tyr Asn Val Glu Gln Ala His
1 5 10 15

Gly Asp Asp Leu His
20

<210> 159

<211> 10

<212> PRT

<213> *Stereum hirsutum*

<400> 159

Val Phe Asp Glu Tyr Ser Asp Val Ser Ser
1 5 10

<210> 160

<211> 21

<212> PRT

<213> Stereum hirsutum

<400> 160

Ile Cys Leu Gly Asn Asp Ile Cys Ser Tyr Asn Val Glu Gln Ala Arg
1 5 10 15

Gly Asp Asp Leu His
20

<210> 161

<211> 10

<212> PRT

<213> Omphalotus olearius

<400> 161

Val Phe Asp Glu Tyr Ser Asp Val Ala His
1 5 10

<210> 162

<211> 21

<212> PRT

<213> Omphalotus olearius

<400> 162

Ile Leu Leu Gly Asn Asp Thr Ala Ser Tyr Asn Tyr Glu Gln Ala Arg
1 5 10 15

Gly Asp Asp Asn His
20

<210> 163

<211> 10

<212> PRT

<213> Armillaria gallica

<400> 163

Val Ile Asp Glu Tyr Ser Asp Val Ser Thr
1 5 10

<210> 164

<211> 21

<212> PRT

<213> Armillaria gallica

<400> 164

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

Asp Asp Asp Gly His
20

<210> 165
<211> 10
<212> PRT
<213> Stereum hirsutum

<400> 165

Val Ile Asp Glu Tyr Ser Asp Ile Ala Pro
1 5 10

<210> 166
<211> 21
<212> PRT
<213> Stereum hirsutum

<400> 166

Leu Cys Leu Gly Asn Asp Ile Val Ser Tyr Asn Leu Glu Gln Ala Arg
1 5 10 15

Gly Asp Ala Ser His
20

<210> 167
<211> 10
<212> PRT
<213> Stereum hirsutum

<400> 167

Val Ile Asp Glu His Ser Asp Thr His Gly
1 5 10

<210> 168
<211> 21
<212> PRT
<213> Stereum hirsutum

<400> 168

Leu Cys Leu Gly Asn Asp Ile Val Ser Tyr Asn Ile Glu Gln Ala Arg
1 5 10 15

Gly Asp Asp Ser His
20

<210> 169
<211> 10
<212> PRT
<213> Coprinopsis cinerea

<400> 169

Trp Ile Asp Tyr Phe Phe Asp Thr Ser Pro
1 5 10

<210> 170
<211> 21
<212> PRT
<213> Coprinopsis cinerea

<400> 170

Val Ile Ile Gln Asn Asp Ala Tyr Ser Trp Asn Val Glu Gln Val Arg
1 5 10 15

Lys Ala Asp Gly His
20

<210> 171
<211> 10
<212> PRT
<213> Stereum hirsutum

<400> 171

Leu Asp Asp Ser Leu Glu Asp Glu Glu Thr
1 5 10

<210> 172
<211> 21
<212> PRT
<213> Stereum hirsutum

<400> 172

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

Gly Glu Thr Ala Asn

20

<210> 173
<211> 10
<212> PRT
<213> *Coprinopsis cinerea*

<400> 173

Ala Phe Val Thr Tyr Ala Asp Asp Ala Phe
1 5 10

<210> 174
<211> 21
<212> PRT
<213> *Coprinopsis cinerea*

<400> 174

Ile Asn Gly Thr Asn Asp Leu Leu Ser Phe Tyr Lys Glu Glu Leu Asp
1 5 10 15

Cys Glu Thr Val Asn
20

<210> 175
<211> 10
<212> PRT
<213> *Omphalotus olearius*

<400> 175

Ala Leu Leu Val Cys Leu Asp Asp Ile Phe
1 5 10

<210> 176
<211> 21
<212> PRT
<213> *Omphalotus olearius*

<400> 176

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

Gly Glu Thr Glu Asn
20

<210> 177
<211> 10
<212> PRT
<213> *Omphalotus olearius*

<400> 177

Ala Leu Ala Thr Cys Phe Asp Asp Val Phe
1 5 10

<210> 178
<211> 21
<212> PRT
<213> *Omphalotus olearius*

<400> 178

Ile Asn His Val Asn Asp Val Leu Ser Phe Tyr Lys Glu Asp Lys Ala
1 5 10 15

Gly Glu Thr Glu Asn
20

<210> 179
<211> 10
<212> PRT
<213> *Omphalotus olearius*

<400> 179

Ala Leu Leu Thr Ser Phe Asp Asp Val Phe
1 5 10

<210> 180
<211> 21
<212> PRT
<213> *Omphalotus olearius*

<400> 180

Ile Asn Tyr Val Asn Asp Ile Met Ser Phe Tyr Lys Glu Asp Arg Ala
1 5 10 15

Glu Glu Thr Asp Asn
20