

P0101WOASequenceListing
SEQUENCE LISTING

<110> Karpinski, Stanislaw
Szechynska-Hebda, Magdalena
Slesak, Ireneusz
Wituszynska, Weronika

<120> PLANT TREATMENT METHODS AND MEANS THEREFOR

<130> POLTP0101WOA

<150> US 61/577,279
<151> 2011-12-19

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<170> PatentIn version 3.5

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Ser Gln Phe Tyr Gln Leu Leu Ala Glu Pro Leu Asp Ile Ala Asn Phe
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Tyr Lys Asn Arg Asp Ile Lys Thr Gly Gly His Tyr Leu Glu Gly Asn
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aaacttgttg tcataagtaa ccctgatgct gtgctgcaag tactgttcta ttcctcccag 900
ttgagcactg aagaagagaa ggtgacagtt gcccaacaa gcctaagaga tcatttgaac 960
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cgccaagaag cacttgcaag gtctttggaat gttgcaagcg ttgagcgtga gaaagttgat 1080
atggccttga atgacctagg cctgagtga agagccagac tgtctcttcg tgctgctgaa 1140
gcgttagaga agcagaagtt gaggaaccag gatacaattg atggaaagaa gaaagatatt 1200
gagaaatggt tagataagct acaagaatac caaagtaagt gtgctcataa agtcggctat 1260
tatgatgcct tcaagtgttc agaagaagag gaggatttcc atgctaattg agcgaggctt 1320
gagctagcag gtacatggga tgtaataata gaaatgttga aaaggatga actccctgat 1380
gagtttgagg gccagaagga atggataggt ctcggaacca ggtatcgccg cattgttgaa 1440
cccttgata tcgcaaatta ctaccgacac ctcaagaatg aagacacagg accctatatg 1500
ggaaagggca ggccaagacg gtataaatgc actcaaaaat ggcgtgagca tgctgagcag 1560
ttgccaaatg aaattccaga atcctgtttc tgggctgagg tagaggaact atgcattaaa 1620
gcaggttgcc agggaactat agaaagcatt ttgcacctaa agacgaaagt tgataagtgg 1680
attcaaatg aggaacttgg tggatgatgt ctgttgagga attccacctt tacgaaattg 1740
cagaaacaac atttcctgac caactga 1767

<210> 10
<211> 536
<212> PRT
<213> Populus Trichocarpa Phytoalexin Deficient 4
<400> 10

Arg Phe Glu Thr Ser Glu Met Leu Ala Asp Phe Leu Ala Ser Thr Pro
1 5 10 15

P0101WOASequenceListing

Leu Leu Ser Glu Ser Trp Arg Leu Cys Asn Leu Ala Thr Ala Asn Ser
 20 25 30
 Pro Gln Ser Phe Val Val Asp Gln Val Gly Ser Ile Gly Tyr Val Ala
 35 40 45
 Phe Ser Gly Thr Leu Phe Val Ser Gly Ser Asp Pro Ser Phe Lys Asn
 50 55 60
 Leu Val Arg Leu Pro Val His Asp Val Ala Gly Asn Asp Leu Phe Val
 65 70 75 80
 Pro Leu His Asp Gln Asn Glu Gly Glu Glu Pro Val Met Val Gln Gly
 85 90 95
 Ala Leu Leu Arg Ile Phe Glu Asn Ile Tyr Ser Asp Pro Ser Phe Gln
 100 105 110
 Asn Gln Val Ser Phe Leu Pro Cys Gln Ser Ile Ile Phe Thr Gly His
 115 120 125
 Ser Ile Gly Gly Thr Ala Ala Ser Leu Ala Ala Leu Trp Leu Leu Ser
 130 135 140
 Tyr Leu Gln Ser Asn Ser Pro Asn Leu Ser Val Leu Cys Ile Thr Phe
 145 150 155 160
 Gly Ser Pro Leu Leu Gly Asn Glu Thr Leu Ser Arg Ala Ile Leu Arg
 165 170 175
 Glu Arg Trp Gly Gly Lys Phe Cys His Val Val Ser Lys Leu Val Glu
 180 185 190
 Ala Gly Glu Glu Ala Val Thr Gly Val Phe Arg Pro Phe Gly Asn Tyr
 195 200 205
 Phe Phe Cys Ser Glu Asp Gly Ala Ile Cys Val Asp Asn Val Glu Ser
 210 215 220
 Val Ile Lys Met Met Tyr Leu Leu Leu Ala Thr Gly Ser Pro Ser Tyr
 225 230 235 240
 Ser Ile Glu Asp His Leu Lys Tyr Gly Asp Tyr Val Glu Arg Ile Ser
 245 250 255
 Ser Gln Phe Leu Glu Arg Lys Ser Ser Met Glu Gly Glu Leu Pro Glu
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P0101WOASequenceListing

260

265

270

Ser Ser Tyr Glu Ala Gly Val Val Leu Ala Leu Gln Ser Ser Gly Ile
 275 280 285

Ala Ser Gln Val Met Leu Ser Ile Arg Ile Thr Lys Asp Cys Leu Lys
 290 295 300

Ala Ala Arg Arg Met Gly Arg Thr Pro Asn Leu Asn Cys Ala Asn Leu
 305 310 315 320

Ala Ile Lys Leu Ser Arg Ile Asn Pro Tyr Arg Ala Glu Ile Glu Trp
 325 330 335

Tyr Lys Ala Leu Cys Asp Arg Ser Asp Asp Gln Met Gly Tyr Tyr Asp
 340 345 350

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

Asn Arg His Lys Leu Ala Gln Phe Trp Asp Asn Val Ile Asp Leu Met
 370 375 380

Glu Ser Asn Gln Leu Pro His Asp Phe His Lys His Gly Lys Trp Val
 385 390 400

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

Glu Tyr Tyr Arg Thr Gly Met His His Ser Lys Gly His Tyr Ile Asn
 420 425 430

His Gly Arg Glu Arg Arg Tyr Gln Ile Phe Asp Arg Trp Trp Lys Asn
 435 440 445

Val Arg Val Glu Glu Asn Lys Arg Ser Lys Phe Ala Ser Leu Thr Gln
 450 455 460

Asp Thr Cys Phe Trp Ala Lys Val Glu Glu Ala Arg Gly Leu Leu Asp
 465 470 475 480

Asp Val Gly Asn Thr Arg Asp Pro Ser His Ser Ala Phe Leu Trp Lys
 485 490 495

Asn Met Asp Gly Phe Ala Asn Tyr Ala Lys Ala Leu Val Glu Ala Lys
 500 505 510

P0101WOASequenceListing

Glu Val Ser Ile Asp Val Val Ala Lys Asn Ser Ser Tyr Ser Leu Trp
 515 520 525

Leu Lys Asp Tyr Asn Glu Leu Lys
 530 535

<210> 11
 <211> 174
 <212> PRT
 <213> Populus Trichocarpa Predicted Protein for Lesion Simulating Disease 1
 <400> 11

Met Gln Ser Gln Val Val Cys Arg Gly Cys Ala Ser Val Leu Leu Tyr
 1 5 10 15

Pro Ser Gly Ala Ser Asn Val Cys Cys Ala Leu Cys Ser Thr Val Thr
 20 25 30

Ser Ile Pro Ser Pro Gly Met Asp Met Ala Gln Leu Ile Cys Arg Gly
 35 40 45

Cys Arg Ser Leu Leu Met Tyr Pro His Gly Ala Thr Thr Val Arg Cys
 50 55 60

Ser Cys Cys His Val Val Asn Ile Ala Pro Gly Tyr Asn Gln Ala Ala
 65 70 75 80

His Val Asn Cys Gly Asn Cys Arg Thr Ala Leu Met Tyr Pro Asn Gly
 85 90 95

Ser Pro Ser Val Lys Cys Pro Val Cys His Tyr Val Thr Asn Val Ser
 100 105 110

Met Ala Asn Met Arg Ile Pro Leu Pro Ala Asn Arg Pro Asn Gly Ile
 115 120 125

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

Gln Thr Val Val Val Glu Asn Pro Met Ser Val Asp Glu Ser Gly Lys
 145 150 155 160

Leu Val Ser Asn Val Val Val Gly Val Thr Thr Glu Lys Lys
 165 170

<210> 12
 <211> 588
 <212> PRT
 <213> Populus Trichocarpa Enhanced Disease Susceptibility 1
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P0101WOASequenceListing

<400> 12

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

Ile Met Lys Ala Cys Ser Met Ala Met Lys Ala His Lys Ser Pro Glu
20 25 30

Lys Gln Tyr Leu Ser Glu Gly Ile His Ser Ser Ser Ser Glu Val Val
35 40 45

Phe Ser Phe Ala Gly Ser Leu Ser Val Asn Asp Trp Phe Ala Gly Ser
50 55 60

Ala Phe Gly Glu Met Lys Val Asp Leu Gln Phe Phe Pro Ser Leu Lys
65 70 75 80

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

Arg Phe Glu Ala Val Leu Ala Asn Pro Arg Phe Lys Val Glu Val Glu
100 105 110

Lys Ala Val Ala Asp Arg Arg Gln Val Val Phe Thr Gly His Ser Ser
115 120 125

Gly Gly Ala Ile Ala Ile Leu Ala Thr Ala Trp Phe Leu Glu Val Tyr
130 135 140

Asn Arg Gln Ser Ser Asn Cys Met Ala Pro Leu Cys Leu Thr Phe Gly
145 150 155 160

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

Lys Trp Ser Arg Tyr Phe Val Asn Phe Val Met Arg Tyr Asp Ile Val
180 185 190

Pro Arg Ile Ser Leu Cys Pro Leu Ser Ser Ile Lys Gln Gln Leu Gln
195 200 205

Arg Val Leu Asp Tyr Phe Asn Gln Asn Ala Pro Gln Pro Pro Asn Asp
210 215 220

Ala Pro Ala Phe Tyr Glu Thr Val Val Lys Asn Ala Ser Ser Val Ala
225 230 235 240

P0101WOASequenceListing

Asn Tyr Ala Ala Cys Lys Ile Met Gly Ser Thr Asn Pro Leu Leu Glu
 245 250 255

Thr Val Ser Ser Phe Ile Glu Pro Ser Pro Tyr Arg Pro Phe Gly Thr
 260 265 270

Tyr Val Phe Cys Thr Gly Thr Gly Lys Leu Val Val Ile Ser Asn Pro
 275 280 285

Asp Ala Val Leu Gln Val Leu Phe Tyr Ser Ser Gln Leu Ser Thr Glu
 290 295 300

Glu Glu Lys Val Thr Val Ala Gln Thr Ser Leu Arg Asp His Leu Asn
 305 310 315 320

Tyr Glu Asn Tyr Leu Gln Glu His Leu Lys Thr Pro Ala Val Thr Ser
 325 330 335

Leu Phe His His Arg Gln Glu Ala Leu Ala Val Ser Trp Asn Val Ala
 340 345 350

Ser Val Glu Arg Glu Lys Val Asp Met Ala Leu Asn Asp Leu Gly Leu
 355 360 365

Ser Glu Arg Ala Arg Leu Ser Leu Arg Ala Ala Glu Ala Leu Glu Lys
 370 375 380

Gln Lys Leu Arg Asn Gln Asp Thr Ile Asp Gly Lys Lys Lys Asp Ile
 385 390 395 400

Glu Lys Cys Leu Asp Lys Leu Gln Glu Tyr Gln Ser Lys Cys Ala His
 405 410 415

Lys Val Gly Tyr Tyr Asp Ala Phe Lys Cys Ser Glu Glu Glu Glu Asp
 420 425 430

Phe His Ala Asn Val Ala Arg Leu Glu Leu Ala Gly Thr Trp Asp Val
 435 440 445

Ile Ile Glu Met Leu Lys Arg Tyr Glu Leu Pro Asp Glu Phe Glu Gly
 450 455 460

Gln Lys Glu Trp Ile Gly Leu Gly Thr Arg Tyr Arg Arg Ile Val Glu
 465 470 475 480

Pro Leu Asp Ile Ala Asn Tyr Tyr Arg His Leu Lys Asn Glu Asp Thr
 485 490 495

P0101WOASequenceListing

Gly Pro Tyr Met Gly Lys Gly Arg Pro Arg Arg Tyr Lys Cys Thr Gln
500 505 510

Lys Trp Arg Glu His Ala Glu Gln Leu Pro Asn Glu Ile Pro Glu Ser
515 520 525

Cys Phe Trp Ala Glu Val Glu Glu Leu Cys Ile Lys Ala Gly Cys Gln
530 535 540 545

Gly Thr Ile Glu Ser Ile Leu His Leu Lys Thr Lys Val Asp Lys Trp
545 550 555 560

Ile Gln Asn Glu Glu Leu Gly Gly Asp Val Leu Leu Glu Asn Ser Thr
565 570 575

Phe Thr Lys Leu Gln Lys Gln His Phe Leu Thr Asn
580 585