

PhoenixTemp33388.tmp.txt
SEQUENCE LISTING

<110> BASF Plant Science GmbH
Wiig, Aaron

<120> PATHOGEN INDUCIBLE PLANT TREHALOSE-6-PHOPHATE PHOPHATASE GENE
PROMOTERS AND REGULATORY ELEMENTS

<130> PF58033

<160> 26

<170> PatentIn version 3.4

<210> 1
<211> 1999
<212> DNA
<213> Arabidopsis thaliana

<400> 1
gtagtgccct tcatggatac caaaagagaa aatttgattt agtgcataca tataacaata 60
taacgccgca taataatact gtataaaaca gtcatgtaac gatatgacag cagtaataca 120
gttccaagag acgtttataat cgtatgcaat catatgcttg cgtagatttt ccaacagttt 180
tgtttcgttg ataggaggaa ctcaacactc tagggtagtg attggtagac actattagca 240
caaaaaatat taattttact ctgatgttta ccaaaaaagt taccaatcaa atatttaaga 300
gatcgtactc ttccacggcg actctaaaaa ccaaagatat aggttagact cataactact 360
ttataaagaa aatgttttaac gataactacc gagatctaataaataaacct tcattttcaa 420
gtatattata tttgcttctt ttgtttatat atcaaaccaa gttctggttt ataaaaatat 480
tagataaaac tcgtctaaat aggtaggtgt aaaataaaat tttaaatttt tatcgataat 540
atttaaaatt tgaaaagtta ataatgatcc acacattttt tctaataattt aatttagtaa 600
tttttgtatt aaataaaatt tcaatcatat acattcgatt tttctataca ttttaactat 660
ctatttctgc ataataaact gtattttcat tttatacgct tcatcttatg gatgatattt 720
aaattttaaa tagtaattca tacacttttt aatatttaat ttagtatttt cttaaattcca 780
aattttaatc ttacaattta aatatctact ttaacataat acaaatacaa ttttaatttca 840
ttgtattaaa ttcaaataa atttgattat aataaaatac aatttaattc taaaaagtcc 900
atcttagatt ttaattttcc tttttagttt tgaaaattaa aaatttaaat ttattagata 960
tatatgttac tttttcagtt ttcctattta ttttaagaaaa aaatattttt taacacatgt 1020
caacttgtaa acaatagact gaacacgtca ttttatatta tgttttagttt tgaaaattaa 1080
agttaattaa atattttatat ttcttttttt tagcttttct aattattttt aaaatagtaa 1140
atatttttaa taaaaatcaa tatctgaaca atagatttga tacataacat aatcctataa 1200
attattaact tggaaaacga tagttttatat aataaaatta ttttcttaag ttctctaacc 1260
ataacaatta aactatatatt tagcgaagaa aagaagagaa taccgagaga acgcaacttg 1320
cactaaaagc taccactttg gcaaatcact catttatatt attatatact atcacctcaa 1380
ttcaatcgaa acctcaaaat aacactaata tatacacaaa gaaacaacag aataacaccg 1440
aagaatatag gtttaggaaa atccagaatt tgttgagact aaagagatca aattttcgat 1500

PhoenixTemp33388.tmp.txt

acaagggtttt gctcaatttg tattttcata ataaaattct ttatttcacc atagacttac	1560
atgattagtt tttcttttaa taaaaaaaaa cacgcgacat gaaaattata ttatctcagt	1620
gttgtcgaat ttgaatttga attttgagtt aaatactaca catttgttga caacttatta	1680
aactttacaa gtctgtctaca aatattgtca aatattttact aattaatgga ccaaaatcct	1740
ctaacttgca aatttgtatc tacatcaact taaaaattag gaatatgcga cccaaaaaaa	1800
aaaaaactag gaataataat aaaaaaatgg aatgatgtgg aggaagctct ttactctttg	1860
agaggaagtt tataaattga ccacacattt agtctattat catcacatgt attaagactt	1920
gacaacttgt ctttctcaca ccaaacccct ctcctctgtt tcataacatc tgctctttct	1980
tttttttcct aagccccta	1999

<210> 2
 <211> 2110
 <212> DNA
 <213> Arabidopsis thaliana

<400> 2	
ggacaacatt gttaagagga gataagagat ataggaagct tcttttgctg cgtttcctct	60
tcttgaatca atagtcccat acaaaatggc attatgatca aactagggtta agaagaaatg	120
caaaaaagga acaactaaaa ataggtcaaa attaaataat gaaaagaaca agaacaatta	180
atttttctct tctcaaatcg atatcaaatt ctcaatagac tttggatgatg ggtttgcctt	240
ctgttctgtt ctgttctgtc aattcaagat ttcttttccc ctctctctct ttttctgttg	300
ttgtttgtct ctcttttttc ttatggctat tgcattgtga cctggatttg agagaaacag	360
aaaatgaacc tcagatttgt taagtcaata tttagaaaga aaaatggata cttgtcggaa	420
caaaaaaggg tccgagtttt tctcgacccg attctatttt tggttgattt tttggggttc	480
aaatttggtta ttatatTTTT tctaagtaat ttaagggtgtt tacgacgacg tatgtggatt	540
gctcataaaa tctaaaataa tgtgggttca ccaaatcaag aatctaaaga gacaattttc	600
tagttatctt tatatatatg tttgtatttg ccatttagaa gtttagaact caaaactcag	660
ttcttacaat gctagctata atttgcatga aaatagaaaa tgatattttc gtgtcttctt	720
tttttttttg cagatttttg tgaaaaatat ctttaaacca cacttggtta ttataaaaca	780
cagaaatatg tttatgttgc actggccctc agtttcgtga cgtgttgtaa agctggata	840
cgtacgtata ggttccggga agaaactagt tttaaatgaa ttacaaaatg tttttaagt	900
agtgaattag tactaatcac ctcgtaaccc taaattaata acataataca gcaataaaca	960
attcttaaac gagtgggtta ctagcaaatt acgttaactc cttaaccaac caacgggaaa	1020
aaacaaaacc ataatatata aaaacaaagg gaacgatcga ctgattagtc gagaagcaga	1080
acttgtgggc ttcgtgcaca cacgtaatca cgtataatga atttattcta tatgtaatta	1140
tgtattaata cttttacctt tgttttatga ctaaattatt atgcatgctt gaagtcgctt	1200
ttaggtctaa tagaaaaaga atctgccgac ttactagaga gtactgagta gagactagag	1260
aaggggttta tccatttatg tttcattagg gacacttact gaagtagacc acacgtgcgg	1320

PhoenixTemp33388.tmp.txt

tgtttggctc gaagcacgac aagattcaga tgagtcatat cacctatact tctgtcaagt	1380
agtgaccgac acgttatgag tcccttttga tctcttttagg cttcttctgt tcggtccatt	1440
ggccggcgaa gtagcgcttg aactccata agaccttcga atatcattat ataactaata	1500
acttgacaaa tgtagtccac tgttgtaata aatgatttat caaactatca atgcattcat	1560
aatctgtggg tttattcggt tagagatggg gtcaaaatat tatatgtgaa tagaaactgg	1620
aacaataata taatttttct gtttttgaga ttataaccga atgaaggaaa tcatatatag	1680
tatacttttc ttaaccaaata ctaatgtaca aatgttttaa atttgcaata atccaaccgc	1740
agagacgcgg attcgacgac tcgcatgggt cggcgacatt gacattagga cacgttacaa	1800
cgtacgcgaa tgagcgtagg cccattttaa cccattatta ggcccagtag gtcccacttt	1860
tttaccttg tctcctaca taaaccaaata tcgcagagta agctggaaaa aacacacacc	1920
caagtcattc tcatcttctt cctctctctt catcttttat tttgtaatat ctctacctta	1980
atctctagtt ttctcaaata ggtaggcttt ggttttactt tgatccattc tgacacttta	2040
actatccttc tctttgtgta acctatcctc tgtttttgca gtgcggtttg tcgtggaaaa	2100
accacagata	2110

<210> 3
 <211> 1000
 <212> DNA
 <213> Glycine max

<400> 3	
ctggtaaaga aaactcgctg attaatgcat aaagagatta attttctatt ttatttttca	60
caaacataat ttttcaaaag caagttgtat ttgaagcacc tcagaaatat taaatgtag	120
agattcaatc tttgaatttc taataagaga ggggggttaac tacatatatta gtgtttgata	180
gtaatttgag aaaaatatat ttagttttga tagcacttaa aaaacccta gaagaaataa	240
gaagaaagaa acagacactt ttcttaacaa atatttgaat ctttaatttac tattttttta	300
ttaaaaaat tactatatca tggtaaagta accataaact aactcttcta ttactcaata	360
gtgttggtca cagagtaata tatccttaaa accattcttt acttttattc aaaaaataa	420
taatcctaaa agcaagggtgc tattaaactt aatagaatat gataaagcaa gttagtggca	480
aaatggcat gaaacaaaat tatcagtaaa agttcctcat tattgtgaaa actcctactc	540
ctcaaagaaa agaagaagaa aaaaaaacc ttggaaaagg aggtttctga gcgattacta	600
tggtgtccct cctactttct tatttagtat agttgccgaa aagagggtgat aatttcgtcg	660
gtttatgcc gtgtaaccga agtttataaa ttgaccacac acacacaccc tcgcttctta	720
tacgtgactt gaaccaccca acgagtagaa aacgagtcca ttttttattt cttttttttt	780
tctttattca aacccttttt tctcccctat aaattccacg ttgagcaaag gaagcatcca	840
tccaaatata ccataacca tccctctctg ttctcttctc tgccttctct gtgtataacc	900
ccgtgaccct tcttctcatt tctcattctc ttttctttct cacaagagtt attgttatta	960
ttgttataac tattgttact attactaaac ttggtgtaga	1000

PhoenixTemp33388.tmp.txt

<210> 4
 <211> 1604
 <212> DNA
 <213> Glycine max

<400> 4
 cccgtgaccc ttctttctcat ttctcattct cttttctttc tcacaagagt tattattatt 60
 attgttataa ctattgttac tattactaaa cttggtgtag aatgacgaac cgtaatgtga 120
 ataacaccct tgtggagttg gcaatgtcga tttcaaacac aagtgtctta cctagagcta 180
 cgggtgcctgg aataatggcc ttgcttggtg gggttttggg cctaccccag aagaagctct 240
 taatgaaaac tttggaagat ggaagtgtta ataaaggagg gaccaaagtt attaacacat 300
 ggattgattc aatgagagcc tcttctccca cacgagtcaa atccacacaa aaccaagacc 360
 caacaagtcc ttggacactt taccaccctt cggcactgag catgtttgat cagattgtat 420
 gtgagtccaa aggaaagcag attgtgactt ttcttgacta tgatggaact ctctcccaa 480
 ttgttgacaga tccagataaa gcatacatga gtaaaaagat gaggaccaca ttgaaggact 540
 tagcaaggca tttccccact gccatcgtga gtggaagggt cctggacaag gtgtataact 600
 ttgtaagatt ggcagaactg tactatgctg ggagccatgg aatggacatc aagggacca 660
 caaataagcg aagtactaag aaggaaaatg aacaagtgtc cttccaaccc gctagtgaat 720
 tcttgcccat gatcaatgag gtgtacaaca tcttggtgga aaaaacaaag tctgtccctg 780
 gggctaagggt agaaaataac aagttttgct tgtccgtgca ctttcgctgt gttgacgaaa 840
 agagttgggt gtcattggct gaacaagtga gcttcgtgct caacgagtac caaaaactta 900
 agctaactca agggagaaaa gtgcttgaga ttcgaccaac cataaaatgg gacaagggca 960
 aggctcttga attcttgcta gagtcactgg gatatgctaa ttctgataat gtatttccaa 1020
 tctatattgg ggatgatcga actgatgaag atgcttttaa ggttttacgg aggaggggtc 1080
 atggggttgg gattctagtt tctaaaattc caaaagaaac tgatgcttcc tacactttgc 1140
 aagatccaac agaggttggg cagtttttga ggcatttggg ggagtggaaa agaacgagtt 1200
 cccaatacca caagttgtag attcttagat gaattcaggg aaattgacac cagcccataa 1260
 tttggtcaag ggggtggttc aattatatcc cttttcttgt tcgaaatagg aaatagtgtg 1320
 ttccataatt taaagtttta gggaggaaca aagttgaaat agctagctag gttctctctc 1380
 tattttcttt ttctaattga atctattcca tcacacgttt gcatgcgcat gcggatagtg 1440
 aaagaattga tgttttatgc cgcaattgag agtggcgcggt caaccttctt gctctgaatt 1500
 gtacttgtcg tacgtgtgga caatgtggta ttgaaaatga aaatcaccaa caacttcaac 1560
 ttcaaaagggt gatttagacc aaaaagaaaa aaaaaaaaaa aaaa 1604

<210> 5
 <211> 1105
 <212> DNA
 <213> Glycine max

<400> 5

PhoenixTemp33388.tmp.txt

actatagggc acgcgtggtc gacggcccgg gctggtaaag aaaactcgct gattaatgca	60
taaagagatt aatcttctat tttatcttct acaaacataa tttttcaaaa gcaagttgta	120
tttgaagcac ctcagaaata tttaatgtta gagattcaat ctttgaattt ctaataagag	180
aggggggttaa ctacatattt agtgtttgat agtaatttga gaaaaatata tttagttttg	240
atagcactta aaaaaccctt agaagaaata agaagaaaga aacagacact tttcttaaca	300
aatatttgaa tcttaattta ctattttttt attaaaaaaa ttactatatc atggtaaagt	360
aaccataaac taactcttct attactcaat agtgttggtc acagagtaat atacccttaa	420
aaccattctt tacttttatt caaaaaata ataaccctaa aagcaagggtg ctattaaact	480
taatagaata tgataaagca agttagtggtc aaaatgggtc tgaaacaaaa ttatcagtaa	540
aagttcctca ttattgtgaa aactcctact cctcaaagaa aagaagaaga aaaaaaaac	600
cttggaagag gaggtttctg agcgattact atgtgggtccc tcctactttc ttatttagta	660
tagttgccga aaagaggtga taatttcgtc ggtttatgcc cgtgtaaccg aagtttataa	720
attgaccaca cacacacacc ctcgcttctt atacgtgact tgaaccacc aacgagtaga	780
aaacgagtcc attttttatt tccttttttt ttctttattc aaaccctttt ttctccccta	840
taaattccac gttgagcaaa ggaagcatcc atccaaatac acccataacc atccctctct	900
gttctcttct ctgccttctc tgtgtataac cccgtgacct ttcttctcat ttctcattct	960
cttttcttct tcacaagagt tattgttatt attgttataa ctattgttac tattactaaa	1020
cttgggttag aatgacgaac cgtaatgtga ataacaccct tgtggagttg gcaatgtcga	1080
tttcaaacac aagtgtctta cctag	1105

<210> 6
 <211> 26
 <212> DNA
 <213> Artificial

<220>
 <223> primer sequence

<400> 6	
cccggggttag tgcccttcat ggatac	26

<210> 7
 <211> 35
 <212> DNA
 <213> Artificial

<220>
 <223> primer sequence

<400> 7	
ggcgcgccta ggggcttagg aaaaaaaga aagag	35

<210> 8
 <211> 27
 <212> DNA
 <213> Artificial

<220>

<223> primer sequence
 <400> 8
 cccgggggac aacattgtta agaggag 27

 <210> 9
 <211> 29
 <212> DNA
 <213> Artificial
 <220>
 <223> primer sequence
 <400> 9
 ggcgcgccta tctgtggttt ttccacgac 29

 <210> 10
 <211> 29
 <212> DNA
 <213> Artificial
 <220>
 <223> primer sequence
 <400> 10
 caaggccatt attccaggca ccgtagctc 29

 <210> 11
 <211> 30
 <212> DNA
 <213> Artificial
 <220>
 <223> primer sequence
 <400> 11
 ctaggtagag cacttgtgtt tgaaatcgac 30

 <210> 12
 <211> 22
 <212> DNA
 <213> Artificial
 <220>
 <223> primer sequence
 <400> 12
 gtaatacgac tcactatagg gc 22

 <210> 13
 <211> 19
 <212> DNA
 <213> Artificial
 <220>
 <223> primer sequence
 <400> 13
 actatagggc acgcgtggt 19

 <210> 14
 <211> 17
 <212> DNA

<213> Artificial
 <220>
 <223> primer sequence
 <400> 14
 ccttactata gggcacg 17

<210> 15
 <211> 30
 <212> DNA
 <213> Artificial
 <220>
 <223> primer sequence
 <400> 15
 ggcgcgcctc tacaccaagt ttagtaatag 30

<210> 16
 <211> 29
 <212> DNA
 <213> Artificial
 <220>
 <223> primer sequence
 <400> 16
 gcatctgcag cacatgtcaa cttgtaaac 29

<210> 17
 <211> 27
 <212> DNA
 <213> Artificial
 <220>
 <223> primer sequence
 <400> 17
 gcatctgcag gatacaaggt ttgctc 27

<210> 18
 <211> 22
 <212> DNA
 <213> Artificial
 <220>
 <223> primer sequence
 <400> 18
 gcttgacgtc taggggctta gg 22

<210> 19
 <211> 11
 <212> DNA
 <213> Artificial
 <220>
 <223> promoter motif consensus sequence defined using IUPAC ambiguous code
 <220>
 <221> misc_feature

```

<222> (3)..(3)
<223> n is a, c, g, or t

<400> 19
rtnggtttak k 11

<210> 20
<211> 15
<212> DNA
<213> Artificial

<220>
<223> promoter motif sequence defined using IUPAC ambiguous code

<220>
<221> misc_feature
<222> (15)..(15)
<223> n is a, c, g, or t

<400> 20
wamatgatta ktywn 15

<210> 21
<211> 25
<212> DNA
<213> Artificial

<220>
<223> promoter motif sequence defined using IUPAC ambiguous code

<220>
<221> misc_feature
<222> (1)..(1)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (4)..(6)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (11)..(11)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (22)..(22)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (25)..(25)
<223> n is a, c, g, or t

<400> 21
ntannngwwk nttatawatt gnych 25

<210> 22
<211> 25
<212> DNA
<213> Artificial

<220>

```


<223> promoter motif sequence defined using IUPAC ambiguous code

<220>
 <221> misc_feature
 <222> (15)..(15)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (22)..(22)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (25)..(25)
 <223> n is a, c, g, or t

<400> 22
 wcwyatwtag tmtantwkym knamn

25

<210> 23
 <211> 19
 <212> DNA
 <213> Artificial

<220>
 <223> promoter motif sequence defined using IUPAC ambiguous code

<220>
 <221> misc_feature
 <222> (3)..(3)
 <223> n is a, c, g, or t

<400> 23
 ttnwytttct camammwaw

19

<210> 24
 <211> 21
 <212> DNA
 <213> Artificial

<220>
 <223> promoter motif sequence defined using IUPAC ambiguous code

<220>
 <221> misc_feature
 <222> (1)..(1)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (4)..(4)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (6)..(6)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (11)..(11)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (14)..(14)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (21)..(21)
 <223> n is a, c, g, or t

<400> 24
 nwtntnctct ntntwywtt n

21

<210> 25
 <211> 17
 <212> DNA
 <213> Artificial

<220>
 <223> promoter motif sequence defined using IUPAC ambiguous code

<220>
 <221> misc_feature
 <222> (1)..(1)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (12)..(12)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (17)..(17)
 <223> n is a, c, g, or t

<400> 25
 nakwtsacrt gnmtran

17

<210> 26
 <211> 21
 <212> DNA
 <213> Artificial

<220>
 <223> promoter motif sequence defined using IUPAC ambiguous code

<220>
 <221> misc_feature
 <222> (1)..(1)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (17)..(17)
 <223> n is a, c, g, or t

<220>
 <221> misc_feature
 <222> (21)..(21)
 <223> n is a, c, g, or t

<400> 26
 narwtrktgk caaawwnktm n

21

PhoenixTemp33388.tmp.txt