

eolf-seql.txt
SEQUENCE LISTING

<110> CAILLET, Victoria
CHELLOUCHE, Ali
SPIRAL, Jérôme
McCARTHY, James

<120> GENES FOR MODULATING COFFEE MATURATION AND METHODS FOR THEIR USE

<130> NO 8715-WO-PCT

<160> 51

<170> PatentIn version 3.4

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<213> Coffea canephora

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eolf-seql.txt

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 <213> Coffea arabica

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eolf-seql.txt

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<212> DNA

<213> Coffea canephora

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eolf-seql.txt

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1998

eolf-seql.txt

<210> 8
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 <212> PRT
 <213> Coffea canephora

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 20 25 30

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 35 40 45

Glu Thr Val Asp Asp Lys Ser Thr Ser Val Gly Val Ser Gly Gly Gly
 50 55 60

Val Asp Val Asn Thr Gln Gly Gly Asn Pro Gly Gly Thr Asn Val Asn
 65 70 75 80

Ala Gly His Gly Gly Val Asp Val Asn Thr Pro Gly Gly Thr Asn Val
 85 90 95

Asn Val Gly Pro Gly Gly Val Gly Val Asn Thr Pro Gly Gly Thr Asn
 100 105 110

Val Asn Val Gly Pro Gly Asp Pro Gly Gly Ser Glu Thr Gln Gly Arg
 115 120 125

Asn Pro Glu Gly Thr Asn Val Asn Val Gly His Gly Gly Gly Val Thr
 130 135 140

Ala Ser Ser Gly His His Arg Gly Lys Pro Val Tyr Val Gly Gly Arg
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Pro Gly Thr Ser Pro Phe Leu Tyr Asn Tyr Ala Ala Thr Arg Asp Gln
 165 170 175

Leu His Asp Asn Pro Asn Val Ala Leu Phe Phe Leu Glu Asn Asn Met
 180 185 190

Thr Arg Gly Ser Lys Met Asn Leu His Phe Phe Lys Thr Ser His Gly
 195 200 205

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

Asn Lys Met Thr Glu Ile Leu Asn Lys Phe Ser Val Lys Pro Asn Ser
 225 230 235 240

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Gln Glu Ala Glu Val Met Lys Asn Thr Ile Lys Glu Cys Glu Lys Pro
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Gly Ile Gln Gly Glu Glu Lys Phe Cys Ala Thr Ser Leu Glu Ala Met
260 265 270

Val Asp Phe Thr Thr Ser Lys Leu Gly Lys Asn Val Gln Ala Ile Ser
275 280 285

Thr Asn Ser Glu Lys Asp Thr Pro Leu Gln Lys Tyr Thr Ile Ala Gly
290 295 300

Val Lys Asn Met Thr Asn Asp Lys Ala Val Val Cys His Gln Gln Asn
305 310 315 320

Tyr Ala Tyr Ala Val Phe Tyr Cys His Lys Thr Gln Ala Thr Arg Ala
325 330 335

Tyr Thr Leu Ser Leu Val Gly Ala Asp Gly Thr Lys Val Lys Ala Val
340 345 350

Ala Val Cys His Glu Asp Thr Thr Lys Trp Asn Pro Lys His Leu Ala
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<212> PRT
<213> Coffea canephora

<400> 9

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20 25 30

Pro Asn Thr Pro Met Pro Lys Ala Val Arg Asp Leu Leu Lys Asp Gly
35 40 45

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

Cys Ser Phe Lys His Tyr Cys Gly Asn Pro Thr Glu Asp Glu Leu His
65 70 75 80

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85 90 95

Gly Ser Ser Met Asn Met Lys Phe Val Glu Ser Val Lys Ser Pro Thr
100 105 110

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115 120 125

Ser Val Pro Glu Ile Leu Asn Lys Tyr Ser Leu Asn Pro Gln Ser Gln
130 135 140

Asp Ala Arg Ile Ile Lys Glu Thr Ile Ala Glu Cys Glu Val Pro Ala
145 150 155 160

Met Lys Gly Glu Asp Lys Tyr Cys Ala Thr Ser Leu Glu Ser Met Val
165 170 175

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

Glu Ala Gln Lys Thr Asp Pro Glu Val Gln Lys Tyr Gly Ile Val Ser
195 200 205

Val Ser Lys Leu Asn Asn Asn Asp Lys Glu Ile Val Ser Cys His Arg
210 215 220

Gln Asn Tyr Phe Tyr Ala Val Phe Tyr Cys His Thr Thr Gln Asn Thr
225 230 235 240

Asp Ala Tyr Met Val Asn Leu Val Gly Ala Asp Gly Ala Lys Val Lys
245 250 255

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

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 65 70 75 80

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 100 105 110

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 115 120 125

Val Pro Met Asp Phe Ser Pro Thr Ser Asn Gly Cys Thr Arg Gly Ile
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Pro Gly Gly Cys Asn Asn Pro Cys Thr Val Phe Lys Thr Asp Gln Tyr
 165 170 175

Cys Cys Asn Ser Gly Ser Cys Ser Ala Thr Asp Tyr Ser Arg Phe Phe
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Ser Thr Phe Thr Cys Arg Gly Gly Thr Asn Tyr Arg Val Val Phe Cys
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<210> 11
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 <213> Coffea arabica

<400> 11

Met Arg Val His Leu Asp Tyr Phe Gly Leu Leu Leu Val Asn Leu Ser
 1 5 10 15

Gly Cys Ser Ile Gln Asn Phe Gly Phe Thr Ser Asp Ile Thr His Phe
 20 25 30

eolf-seql.txt

Gly Pro Pro Cys His Ser Arg Pro Leu Pro Tyr Lys Tyr Pro Pro Ile
35 40 45

Phe Leu Ser Leu Ala His Ser Tyr Lys His Asp Phe Leu His Ser Leu
50 55 60

Thr Met Lys Thr Phe Asn Ser Phe Ser Ile Ser Thr Leu Leu Ile Ile
65 70 75 80

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

Asn Cys Pro Tyr Thr Val Trp Ala Ala Ala Val Pro Gly Gly Gly Arg
100 105 110

Arg Leu Asp Arg Gly Gln Thr Trp Thr Ile Asn Val Ala Ala Gly Thr
115 120 125

Ala Gly Ala Arg Ile Trp Ala Arg Thr Asn Cys Asn Phe Gly Gly Asn
130 135 140

Gly Arg Gly Ser Cys Gln Thr Gly Asp Cys Gly Gly Val Leu Gln Cys
145 150 155 160

Thr Ala Tyr Gly Arg Pro Pro Asn Thr Leu Ala Glu Tyr Ala Leu Asn
165 170 175

Gln Phe Asn Asn Leu Asp Phe Phe Asp Ile Ser Leu Val Asp Gly Phe
180 185 190

Asn Val Pro Met Asp Phe Ser Pro Thr Ser Asn Gly Cys Thr Arg Gly
195 200 205

Ile Arg Cys Thr Ala Asp Ile Asn Gly Gln Cys Pro Asn Gln Leu Arg
210 215 220

Ala Pro Gly Gly Cys Asn Asn Pro Cys Thr Val Phe Lys Thr Asp Gln
225 230 235 240

Tyr Cys Cys Asn Ser Gly Ser Cys Gly Pro Thr Asp Tyr Ser Arg Phe
245 250 255

Phe Lys Thr Arg Cys Pro Asp Ala Tyr Ser Tyr Pro
260 265

<210> 12
<211> 21
<212> DNA
<213> Artificial

<220>

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<223> primer

<400> 12
gaacaggccc atcccttatt g 21

<210> 13
<211> 17
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 13
cggcgcttgg cattgta 17

<210> 14
<211> 16
<212> DNA
<213> Artificial

<220>
<223> probe

<400> 14
atgcgcactg acaaca 16

<210> 15
<211> 21
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 15
cccaaaacac ttggctttca a 21

<210> 16
<211> 23
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 16
gaaatggcaa acaggaactt gtc 23

<210> 17
<211> 16
<212> DNA
<213> Artificial

<220>
<223> probe

<400> 17
tctgcagatc aagcca 16

<210> 18
<211> 19

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<212> DNA
<213> Artificial

<220>
<223> primer

<400> 18
tggctcgtgc gcataaaact 19

<210> 19
<211> 21
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 19
tgggcatagg agtgtttgga a 21

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

<220>
<223> probe

<400> 20
ttatggaatt tctgaagctt 20

<210> 21
<211> 17
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 21
ggtgcaccgc cgacata 17

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

<220>
<223> primer

<400> 22
caacctcctg gagctttaag ca 22

<210> 23
<211> 15
<212> DNA
<213> Artificial

<220>
<223> probe

<400> 23
tgggcagtgc ccaag 15

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<210> 24
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 <213> Artificial
 <220>
 <223> primer
 <400> 24
 ccgactcatg aaggcgtctt 20

<210> 25
 <211> 18
 <212> DNA
 <213> Artificial
 <220>
 <223> primer
 <400> 25
 gtcctgcagc gccacttt 18

<210> 26
 <211> 14
 <212> DNA
 <213> Artificial
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 <223> probe
 <400> 26
 ccaggagcaa atgg 14

<210> 27
 <211> 22
 <212> DNA
 <213> Artificial
 <220>
 <223> primer
 <400> 27
 tctgcttcaa tatcccccttc gt 22

<210> 28
 <211> 27
 <212> DNA
 <213> Artificial
 <220>
 <223> primer
 <400> 28
 gtgacacagt ccactaaaca gttggta 27

<210> 29
 <211> 16
 <212> DNA
 <213> Artificial
 <220>

<223> probe
 <400> 29
 tgccccttag actgtc 16

 <210> 30
 <211> 30
 <212> DNA
 <213> Artificial

 <220>
 <223> primer

 <400> 30
 tcgatagctt tcggcatagg actgttaggg 30

 <210> 31
 <211> 28
 <212> DNA
 <213> Artificial

 <220>
 <223> primer

 <400> 31
 ttccaatatg tctcagcagg ttgtgctg 28

 <210> 32
 <211> 25
 <212> DNA
 <213> Artificial

 <220>
 <223> primer

 <400> 32
 atgtttggcc tcggtctagc cttcg 25

 <210> 33
 <211> 27
 <212> DNA
 <213> Artificial

 <220>
 <223> primer

 <400> 33
 tttcggatgt cgaaagtggc agcatgg 27

 <210> 34
 <211> 22
 <212> DNA
 <213> Artificial

 <220>
 <223> primer

 <400> 34
 gtaatacgac tcactatagg gc 22

 <210> 35
 <211> 19

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<212> DNA
<213> Artificial

<220>
<223> primer

<400> 35
actatagggc acgcgtggt 19

<210> 36
<211> 20
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 36
gaacaatttt ctatttggtg 20

<210> 37
<211> 18
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 37
tagctttcgg cataggac 18

<210> 38
<211> 21
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 38
gtcagccaca ttaagagcag g 21

<210> 39
<211> 20
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 39
gggcaagcat ttggagtttc 20

<210> 40
<211> 19
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 40
actatagggc acgcgtggt 19

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eolf-seql.txt

<210> 41
<211> 26
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 41
tttcggatgt cgaaagtggc agcatg

26

<210> 42
<211> 19
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 42
gaagagaata catgggacg

19

<210> 43
<211> 19
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 43
gcagatgacg ttatgtgtt

19

<210> 44
<211> 364
<212> PRT
<213> Vitis vinifera

<400> 44

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

Ala Ala Gly His Ala Ala Leu Pro Thr Lys Val Tyr Trp Asn Ser Val
20 25 30

Leu Pro Asn Thr Pro Met Pro Lys Ala Ile Arg Asp Ile Leu Arg Pro
35 40 45

Asp Leu Met Glu Glu Lys Gly Thr Ser Val Ser Val Gly Lys Gly Gly
50 55 60

Val Asn Val His Ala Gly Lys Gly Lys Ser Gly Gly Gly Thr Thr Val
65 70 75 80

Gly Val Gly Lys Gly Thr Gly Val Asn Val His Ala Gly Lys Gly Lys
85 90 95

eolf-seql.txt

Pro Gly Gly Gly Thr Thr Val Gly Val Gly Lys Gly Gly Val Ser Val
100 105 110

Asn Ala Gly His Lys Gly Lys His Val Tyr Val Gly Val Gly Lys Gly
115 120 125

Lys Ser Lys Ser Pro Phe Asp Tyr Lys Tyr Ala Ala Thr Glu Asp Gln
130 135 140

Leu His Asp Asp Pro Asn Val Ala Leu Phe Phe Phe Glu Lys Asn Met
145 150 155 160

Gln Pro Gly Thr Lys Met Glu Leu His Phe Ile Arg Asp Ala Asn Leu
165 170 175

Ala Thr Phe Leu Pro Arg Gln Val Ala Asn Ser Ile Pro Phe Ser Ser
180 185 190

Lys Lys Phe Pro Glu Ile Leu Asn Glu Phe Ser Ile Lys Pro Glu Ser
195 200 205

Glu Glu Ala Glu Thr Ile Lys Asn Thr Ile Arg Glu Cys Glu Glu Pro
210 215 220

Gly Ile Lys Gly Glu Glu Lys Tyr Cys Ala Thr Ser Leu Glu Ser Met
225 230 235 240

Val Asp Phe Ser Thr Ser Lys Leu Gly Lys Gly Val Gln Met Ile Ser
245 250 255

Thr Glu Val Glu Lys Glu Thr Pro Glu Gln Gln Tyr Thr Ile Thr Thr
260 265 270

Gly Val Lys Lys Leu Ala Gly Asp Lys Ala Val Val Cys His Lys Gln
275 280 285

Ser Tyr Pro Tyr Ala Val Phe Tyr Cys His Lys Thr Gln Thr Thr Arg
290 295 300

Ala Tyr Met Val Pro Leu Val Gly Ala Asp Gly Ser Lys Val Lys Ala
305 310 315 320

Val Ala Val Cys His Thr Asp Thr Ser Ala Trp Asn Pro Lys His Leu
325 330 335

Ala Phe Gln Val Leu Lys Val Lys Pro Gly Thr Val Pro Ile Cys His
340 345 350

Phe Leu Pro Glu Asp His Val Val Trp Val Pro Lys
355 360

eolf-seql.txt

<210> 45
 <211> 376
 <212> PRT
 <213> Gossypium arboreum

<400> 45

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

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

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

Leu Met Glu Glu Lys Ser Thr Ser Val Asn Val Gly Gly Gly Gly Val
 50 55 60

Asn Val Asn Thr Gly Lys Gly Lys Pro Ala Gly Gly Thr His Val Asn
 65 70 75 80

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

Thr His Val Asn Val Gly Gly Lys Gly Val Gly Val Asn Thr Gly Lys
 100 105 110

Pro Gly Gly Gly Thr His Val Asn Val Gly Gly Lys Gly Gly Gly Val
 115 120 125

Ser Val His Thr Gly His Lys Gly Lys Pro Val Asn Val Asn Val Ser
 130 135 140

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

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

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

Pro Tyr Gln Thr Ala Gln Lys Ile Pro Phe Ser Ser Asn Glu Leu Pro
 195 200 205

Glu Ile Phe Asn Lys Phe Ser Val Lys Pro Gly Ser Val Lys Ala Glu
 210 215 220

Met Met Lys Asn Thr Ile Lys Glu Cys Glu Gln Pro Ala Ile Glu Gly
 225 230 235 240

ecolf-seql.txt

Glu Glu Lys Tyr Cys Ala Thr Ser Leu Glu Ser Met Ile Asp Tyr Ser
245 250 255

Ile Ser Lys Leu Gly Lys Val Asp Gln Ala Val Ser Thr Glu Val Glu
260 265 270

Lys Gln Thr Pro Thr His Lys Tyr Thr Ile Thr Ala Gly Val Gln Lys
275 280 285

Met Thr Asn Asp Lys Ala Val Val Cys His Lys Gln Asn Tyr Ala Tyr
290 295 300

Ala Val Phe Tyr Cys His Lys Ser Glu Thr Thr Arg Ala Tyr Met Val
305 310 315 320

Pro Leu Glu Gly Ala Asp Gly Thr Lys Ala Lys Ala Val Ala Val Cys
325 330 335

His Thr Asp Thr Ser Ala Trp Asn Pro Lys His Leu Ala Phe Gln Val
340 345 350

Leu Lys Val Glu Pro Gly Thr Ile Pro Val Cys His Phe Leu Pro Arg
355 360 365

Asp His Ile Val Trp Val Pro Lys
370 375

<210> 46
<211> 335
<212> PRT
<213> Gossypium hirsutum

<400> 46

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

Val Ser His Ala Ala Leu Ser Pro Glu Gln Tyr Trp Ser Tyr Lys Leu
20 25 30

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

Leu Met Glu Glu Lys Ser Thr Ser Val Asn Val Gly Gly Gly Gly Val
50 55 60

Asn Val Asn Thr Gly Lys Gly Lys Pro Gly Gly Asp Thr His Val Asn
65 70 75 80

Val Gly Gly Lys Gly Val Gly Val Asn Thr Gly Lys Pro Gly Gly Gly
85 90 95

Thr His Val Asn Val Gly Asp Pro Phe Asn Tyr Leu Tyr Ala Ala Ser

100

105

110

Glu Thr Gln Ile His Glu Asp Pro Asn Val Ala Leu Phe Phe Leu Glu
 115 120 125

Lys Asp Met His Pro Gly Ala Thr Met Ser Leu His Phe Thr Glu Asn
 130 135 140

Thr Glu Lys Ser Ala Phe Leu Pro Tyr Gln Thr Ala Gln Lys Ile Pro
 145 150 155 160

Phe Ser Ser Asp Lys Leu Pro Glu Ile Phe Asn Lys Phe Ser Val Lys
 165 170 175

Pro Gly Ser Leu Lys Ala Glu Met Met Lys Asn Thr Ile Lys Glu Cys
 180 185 190

Glu Gln Pro Ala Ile Glu Gly Glu Glu Lys Tyr Cys Ala Thr Ser Leu
 195 200 205

Glu Ser Met Ile Asp Tyr Ser Ile Ser Lys Leu Gly Lys Val Asp Gln
 210 215 220

Ala Val Ser Thr Glu Val Glu Lys Gln Thr Pro Met Gln Lys Tyr Thr
 225 230 235 240

Ile Ala Ala Gly Val Gln Lys Met Thr Asp Asp Lys Ala Val Val Cys
 245 250 255

His Lys Gln Asn Tyr Ala Tyr Ala Val Phe Tyr Cys His Lys Ser Glu
 260 265 270

Thr Thr Arg Ala Tyr Met Val Pro Leu Glu Gly Ala Asp Gly Thr Lys
 275 280 285

Ala Lys Ala Val Ala Val Cys His Thr Asp Thr Ser Ala Trp Asn Pro
 290 295 300

Lys His Leu Ala Phe Gln Val Leu Lys Val Glu Pro Gly Thr Ile Pro
 305 310 315 320

Val Cys His Phe Leu Pro Arg Asp His Ile Val Trp Val Pro Lys
 325 330 335

<210> 47

<211> 392

<212> PRT

<213> Arabidopsis thaliana

<400> 47

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

eolf-seql.txt

Val Ala Ile Ala Ala Asp Leu Thr Pro Glu Arg Tyr Trp Ser Thr Ala
20 25 30

Leu Pro Asn Thr Pro Ile Pro Asn Ser Leu His Asn Leu Leu Thr Phe
35 40 45

Asp Phe Thr Asp Glu Lys Ser Thr Asn Val Gln Val Gly Lys Gly Gly
50 55 60

Val Asn Val Asn Thr His Lys Gly Lys Thr Gly Ser Gly Thr Ala Val
65 70 75 80

Asn Val Gly Lys Gly Gly Val Arg Val Asp Thr Gly Lys Gly Lys Pro
85 90 95

Gly Gly Gly Thr His Val Ser Val Gly Ser Gly Lys Gly His Gly Gly
100 105 110

Gly Val Ala Val His Thr Gly Lys Pro Gly Lys Arg Thr Asp Val Gly
115 120 125

Val Gly Lys Gly Gly Val Thr Val His Thr Arg His Lys Gly Arg Pro
130 135 140

Ile Tyr Val Gly Val Lys Pro Gly Ala Asn Pro Phe Val Tyr Asn Tyr
145 150 155 160

Ala Ala Lys Glu Thr Gln Leu His Asp Asp Pro Asn Ala Ala Leu Phe
165 170 175

Phe Leu Glu Lys Asp Leu Val Arg Gly Lys Glu Met Asn Val Arg Phe
180 185 190

Asn Ala Glu Asp Gly Tyr Gly Gly Lys Thr Ala Phe Leu Pro Arg Gly
195 200 205

Glu Ala Glu Thr Val Pro Phe Gly Ser Glu Lys Phe Ser Glu Thr Leu
210 215 220

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

Lys Thr Ile Glu Glu Cys Glu Ala Arg Lys Val Ser Gly Glu Glu Lys
245 250 255

Tyr Cys Ala Thr Ser Leu Glu Ser Met Val Asp Phe Ser Val Ser Lys
260 265 270

Leu Gly Lys Tyr His Val Arg Ala Val Ser Thr Glu Val Ala Lys Lys
275 280 285

eolf-seql.txt

Asn Ala Pro Met Gln Lys Tyr Lys Ile Ala Ala Ala Gly Val Lys Lys
290 295 300

Leu Ser Asp Asp Lys Ser Val Val Cys His Lys Gln Lys Tyr Pro Phe
305 310 315 320

Ala Val Phe Tyr Cys His Lys Ala Met Met Thr Thr Val Tyr Ala Val
325 330 335

Pro Leu Glu Gly Glu Asn Gly Met Arg Ala Lys Ala Val Ala Val Cys
340 345 350

His Lys Asn Thr Ser Ala Trp Asn Pro Asn His Leu Ala Phe Lys Val
355 360 365

Leu Lys Val Lys Pro Gly Thr Val Pro Val Cys His Phe Leu Pro Glu
370 375 380

Thr His Val Val Trp Phe Ser Tyr
385 390

<210> 48
<211> 225
<212> PRT
<213> Actinidia deliciosa

<400> 48

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

Phe Leu Phe Thr Cys Ala Arg Gly Ala Thr Phe Asn Ile Ile Asn Asn
20 25 30

Cys Pro Phe Thr Val Trp Ala Ala Ala Val Pro Gly Gly Gly Lys Arg
35 40 45

Leu Asp Arg Gly Gln Asn Trp Ile Ile Asn Pro Gly Ala Gly Thr Lys
50 55 60

Gly Ala Arg Val Trp Pro Arg Thr Gly Cys Asn Phe Asp Gly Ala Gly
65 70 75 80

Arg Gly Lys Cys Gln Thr Gly Asp Cys Asn Gly Leu Leu Gln Cys Gln
85 90 95

Ala Phe Gly Gln Pro Pro Asn Thr Leu Ala Glu Tyr Ala Leu Asn Gln
100 105 110

Phe Asn Asn Leu Asp Phe Phe Asp Ile Ser Leu Val Asp Gly Phe Asn
115 120 125

eolf-seql.txt

Val Ala Met Glu Phe Ser Pro Thr Ser Gly Gly Cys Thr Arg Gly Ile
130 135 140

Lys Cys Thr Ala Asp Ile Asn Gly Gln Cys Pro Asn Glu Leu Arg Ala
145 150 155 160

Pro Gly Gly Cys Asn Asn Pro Cys Thr Val Phe Lys Thr Asp Gln Tyr
165 170 175

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

Lys Asp Arg Cys Pro Asp Ala Tyr Ser Tyr Pro Lys Asp Asp Gln Thr
195 200 205

Ser Thr Phe Thr Cys Pro Ala Gly Thr Asn Tyr Lys Val Val Phe Cys
210 215 220

Pro
225

<210> 49
<211> 222
<212> PRT
<213> Helianthus annuus

<400> 49

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

His Tyr Thr Asn Ala Ala Val Phe Thr Ile Arg Asn Asn Cys Pro Tyr
20 25 30

Thr Val Trp Ala Gly Ala Val Pro Gly Gly Gly Arg Gln Leu Asn Ser
35 40 45

Gly Gln Thr Trp Ser Leu Thr Val Ala Ala Gly Thr Ala Gly Ala Arg
50 55 60

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

Cys Gln Thr Gly Asp Cys Asn Gly Leu Leu Gln Cys Gln Asn Tyr Gly
85 90 95

Thr Pro Pro Asn Thr Leu Ala Glu Tyr Ala Leu Asn Gln Phe Asn Asn
100 105 110

Leu Asp Phe Phe Asp Ile Ser Leu Val Asp Gly Phe Asn Val Pro Met
115 120 125

eolf-seql.txt

Val Phe Arg Pro Asn Ser Asn Gly Cys Thr Arg Gly Ile Ser Cys Thr
130 135 140

Ala Asp Ile Asn Gly Gln Cys Pro Gly Glu Leu Arg Ala Pro Gly Gly
145 150 155 160

Cys Asn Asn Pro Cys Thr Val Tyr Lys Thr Asp Gln Tyr Cys Cys Asn
165 170 175

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

Cys Pro Asp Ala Tyr Ser Tyr Pro Lys Asp Asp Pro Thr Ser Thr Phe
195 200 205

Thr Cys Pro Gly Gly Thr Asn Tyr Asp Val Ile Phe Cys Pro
210 215 220

<210> 50
<211> 226
<212> PRT
<213> Fragaria x ananassa

<400> 50

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

Ala Ala Ser Thr Val Asn Ala Ala Thr Phe Asn Lys Lys Asn Asn Cys
20 25 30

Pro Phe Thr Val Trp Ala Gly Ala Val Pro Gly Gly Gly Lys Gln Leu
35 40 45

Gly Thr Gly Gln Thr Trp Thr Ile Asn Val Ala Ala Gly Thr Lys Gly
50 55 60

Ala Arg Ile Trp Pro Arg Thr Asn Cys Asn Phe Asp Gly Ala Gly Arg
65 70 75 80

Gly Arg Cys Gln Thr Gly Asp Cys Gly Gly Leu Leu Gln Cys Gln Gly
85 90 95

Tyr Gly Gln Pro Pro Asn Thr Leu Ala Glu Tyr Ala Leu Asn Gln Tyr
100 105 110

Met Asn Arg Asp Phe Tyr Asp Ile Ser Leu Ile Asp Gly Phe Asn Val
115 120 125

Pro Met Asp Phe Ser Pro Val Ser Asn Gly Cys Thr Arg Gly Ile Arg
130 135 140

Cys Thr Ala Asp Ile Asn Gly Gln Cys Pro Ala Gln Leu Arg Ala Pro

eolf-seql.txt

145 150 155 160

Gly Gly Cys Asn Asn Ala Cys Thr Val Ser Lys Thr Asp Gln Tyr Cys
 165 170 175

Cys Asn Ser Gly His Cys Gly Pro Thr Asp Tyr Ser Arg Phe Phe Lys
 180 185 190

Ser Arg Cys Pro Asp Ala Tyr Ser Tyr Pro Lys Asp Asp Ala Thr Ser
 195 200 205

Thr Val Leu Phe Thr Cys Pro Gly Gly Thr Asn Tyr Arg Val Val Phe
 210 215 220

Cys Pro
225

<210> 51
<211> 25
<212> DNA
<213> Artificial

<220>
<223> primer

<400> 51
cgaaggctag accgaggcca aacat

25