

LISTADO DE SECUENCIAS

<110> Pairwise Plants, LLC

<120> MÉTODOS PARA PRODUCIR PLANTAS CON DESARROLLO DE FRUTAS ALTERADAS Y PLANTAS DERIVAS DE LAS MISMAS

<130> 1499-38W0

<160> 218

<170> PatentIn version 3.5

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<212> PRT

<213> Arabidopsis thaliana

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Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
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Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ser Met Leu
50 55 60

Arg Thr Leu Glu Arg Tyr Gln Lys Cys Asn Tyr Gly Ala Pro Glu Pro
65 70 75 80

Asn Val Pro Ser Arg Glu Ala Leu Ala Val Glu Leu Ser Ser Gln Gln
85 90 95

Glu Tyr Leu Lys Leu Lys Glu Arg Tyr Asp Ala Leu Gln Arg Thr Gln
100 105 110

Arg Asn Leu Leu Gly Glu Asp Leu Gly Pro Leu Ser Thr Lys Glu Leu
115 120 125

Glu Ser Leu Glu Arg Gln Leu Asp Ser Ser Leu Lys Gln Ile Arg Ala
130 135 140

Leu Arg Thr Gln Phe Met Leu Asp Gln Leu Asn Asp Leu Gln Ser Lys
145 150 155 160

Glu Arg Met Leu Thr Glu Thr Asn Lys Thr Leu Arg Leu Arg Leu Ala
165 170 175

Asp Gly Tyr Gln Met Pro Leu Gln Leu Asn Pro Asn Gln Glu Glu Val
180 185 190

Asp His Tyr Gly Arg His His His Gln Gln Gln Gln His Ser Gln Ala
195 200 205

Phe Phe Gln Pro Leu Glu Cys Glu Pro Ile Leu Gln Ile Gly Tyr Gln
210 215 220

Gly Gln Gln Asp Gly Met Gly Ala Gly Pro Ser Val Asn Asn Tyr Met
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Leu Gly Trp Leu Pro Tyr Asp Thr Asn Ser Ile
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35 40 45

Ser His Lys Gly Lys Leu Phe Glu Tyr Ser Ser Glu Ser Cys Met Glu
50 55 60

Lys Val Leu Glu Arg Tyr Glu Arg Tyr Ser Tyr Ala Glu Arg Gln Leu
65 70 75 80

Ile Ala Pro Asp Ser His Val Asn Ala Gln Thr Asn Trp Ser Met Glu
85 90 95

Tyr Ser Arg Leu Lys Ala Lys Ile Glu Leu Leu Glu Arg Asn Gln Arg
100 105 110

His Tyr Leu Gly Glu Glu Leu Glu Pro Met Ser Leu Lys Asp Leu Gln
115 120 125

Asn Leu Glu Gln Gln Leu Glu Thr Ala Leu Lys His Ile Arg Ser Arg
130 135 140

Lys Asn Gln Leu Met Asn Glu Ser Leu Asn His Leu Gln Arg Lys Glu
145 150 155 160

Lys Glu Ile Gln Glu Glu Asn Ser Met Leu Thr Lys Gln Ile Lys Glu
165 170 175

Arg Glu Asn Ile Leu Arg Thr Lys Gln Thr Gln Cys Glu Gln Leu Asn
180 185 190

Arg Ser Val Asp Asp Val Pro Gln Pro Gln Pro Phe Gln His Pro His

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205

Leu Tyr Met Ile Ala His Gln Thr Ser Pro Phe Leu Asn Met Gly Gly
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Leu Tyr Gln Glu Glu Asp Gln Thr Ala Met Arg Arg Asn Asn Leu Asp
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Leu Thr Leu Glu Pro Ile Tyr Asn Tyr Leu Gly Cys Tyr Ala Ala
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 35 40 45

Ser His Lys Gly Lys Leu Phe Glu Tyr Ser Thr Asp Ser Cys Met Glu
 50 55 60

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

Ile Ala Pro Glu Ser Asp Val Asn Thr Asn Trp Ser Met Glu Tyr Asn
 85 90 95

Arg Leu Lys Ala Lys Ile Glu Leu Leu Glu Arg Asn Gln Arg His Tyr
 100 105 110

Leu Gly Glu Asp Leu Gln Ala Met Ser Pro Lys Glu Leu Gln Asn Leu
 115 120 125

Glu Gln Gln Leu Asp Thr Ala Leu Lys His Ile Arg Thr Arg Lys Asn
 130 135 140

Gln Leu Met Tyr Glu Ser Ile Asn Glu Leu Gln Lys Lys Glu Lys Ala
 145 150 155 160

Ile Gln Glu Gln Asn Ser Met Leu Ser Lys Gln Ile Lys Glu Arg Glu
 165 170 175

Lys Ile Leu Arg Ala Gln Gln Glu Gln Trp Asp Gln Gln Asn Gln Gly
 180 185 190

His Asn Met Pro Pro Pro Leu Pro Pro Gln Gln His Gln Ile Gln His
195 200 205

Pro Tyr Met Leu Ser His Gln Pro Ser Pro Phe Leu Asn Met Gly Gly
210 215 220

Leu Tyr Gln Glu Asp Asp Pro Met Ala Met Arg Arg Asn Asp Leu Glu
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Lys Glu Leu Ser Val Leu Cys Asp Ala Glu Ile Gly Val Val Ile Phe
35 40 45

Ser Pro Gln Gly Lys Leu Phe Glu Leu Ala Thr Lys Gly Thr Met Glu
50 55 60

Gly Met Ile Asp Lys Tyr Met Lys Cys Thr Gly Gly Gly Arg Gly Ser
65 70 75 80

Ser Ser Ala Thr Phe Thr Ala Gln Glu Gln Leu Gln Pro Pro Asn Leu
85 90 95

Asp Pro Lys Asp Glu Ile Asn Val Leu Lys Gln Glu Ile Glu Met Leu
100 105 110

Gln Lys Gly Ile Ser Tyr Met Phe Gly Gly Gly Asp Gly Ala Met Asn
115 120 125

Leu Glu Glu Leu Leu Leu Leu Glu Lys His Leu Glu Tyr Trp Ile Ser
130 135 140

Gln Ile Arg Ser Ala Lys Met Asp Val Met Leu Gln Glu Ile Gln Ser
145 150 155 160

Leu Arg Asn Lys Glu Gly Val Leu Lys Asn Thr Asn Lys Tyr Leu Leu
165 170 175

Glu Lys Ile Glu Glu Asn Asn Asn Ser Ile Leu Asp Ala Asn Phe Ala
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Val Met Glu Thr Asn Tyr Ser Tyr Pro Leu Thr Met Pro Ser Glu Ile
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Phe Gln Phe
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Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Ile Ala Leu Leu Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Pro Ser Gly Met
50 55 60

Ala Arg Thr Val Asp Lys Tyr Arg Lys His Ser Tyr Ala Thr Met Asp
65 70 75 80

Pro Asn Gln Ser Ala Lys Asp Leu Gln Asp Lys Tyr Gln Asp Tyr Leu
85 90 95

Lys Leu Lys Ser Arg Val Glu Ile Leu Gln His Ser Gln Arg His Leu
100 105 110

Leu Gly Glu Glu Leu Ser Glu Met Asp Val Asn Glu Leu Glu His Leu
115 120 125

Glu Arg Gln Val Asp Ala Ser Leu Arg Gln Ile Arg Ser Thr Lys Ala
130 135 140

Arg Ser Met Leu Asp Gln Leu Ser Asp Leu Lys Thr Lys Glu Glu Met
145 150 155 160

Leu Leu Glu Thr Asn Arg Asp Leu Arg Arg Lys Leu Glu Asp Ser Asp
165 170 175

Ala Ala Leu Thr Gln Ser Phe Trp Gly Ser Ser Ala Ala Glu Gln Gln
180 185 190

Gln Gln His Gln Gln Gln Gln Gln Gly Met Ser Ser Tyr Gln Ser Asn
195 200 205

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

Ala Leu Gln Met Ser Ser His Tyr Asn His Asn Pro Ala Asn Ala Thr
225 230 235 240

Asn Ser Ala Thr Thr Ser Gln Asn Val Asn Gly Phe Phe Pro Gly Trp
245 250 255

Met Val

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Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn Arg
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Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr
35 40 45

Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Val Ile Phe Ser
50 55 60

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

Ile Glu Arg Tyr Lys Lys Ala Cys Ser Asp Ala Val Asn Pro Pro Thr
85 90 95

Ile Thr Glu Ala Asn Thr Gln Tyr Tyr Gln Gln Glu Ala Ser Lys Leu
100 105 110

Arg Arg Gln Ile Arg Asp Ile Gln Asn Leu Asn Arg His Ile Leu Gly
115 120 125

Glu Ser Leu Gly Ser Leu Asn Phe Lys Glu Leu Lys Asn Leu Glu Ser
130 135 140

Arg Leu Glu Lys Gly Ile Ser Arg Val Arg Ser Lys Lys His Glu Met
145 150 155 160

Leu Val Ala Glu Ile Glu Tyr Met Gln Lys Arg Val Lys Glu Ile Glu
165 170 175

Leu Gln Asn Asp Asn Met Tyr Leu Arg Ser Lys Ile Thr Glu Arg Thr
180 185 190

Gly Leu Gln Gln Gln Glu Ser Ser Val Ile His Gln Gly Thr Val Tyr

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

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

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

Thr Ile Glu Arg Tyr Asn Arg Cys Tyr Asn Cys Ser Leu Ser Asn Asn
65 70 75 80

Lys Pro Glu Glu Thr Thr Gln Ser Trp Cys Gln Glu Val Thr Lys Leu
85 90 95

Lys Ser Lys Tyr Glu Ser Leu Val Arg Thr Asn Arg Asn Leu Leu Gly
100 105 110

Glu Asp Leu Gly Glu Met Gly Val Lys Glu Leu Gln Ala Leu Glu Arg
115 120 125

Gln Leu Glu Ala Ala Leu Thr Ala Thr Arg Gln Arg Lys Thr Gln Val
130 135 140

Met Met Glu Glu Met Glu Asp Leu Arg Lys Lys Glu Arg Gln Leu Gly
145 150 155 160

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

Phe Lys Thr Phe Gln Asp Leu Trp Ala Asn Ser Ala Ala Ser Val Ala
180 185 190

Gly Asp Pro Asn Asn Ser Glu Phe Pro Val Glu Pro Ser His Pro Asn
195 200 205

Val Leu Asp Cys Asn Thr Glu Pro Phe Leu Gln Ile Gly Phe Gln Gln
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His Tyr Tyr Val Gln Gly Glu Gly Ser Ser Val Ser Lys Ser Asn Val
225 230 235 240

Ala Gly Glu Thr Asn Phe Val Gln Gly Trp Val Leu
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Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ser Leu Ile Ile Phe
35 40 45

Ser Pro Lys Gly Lys Leu Tyr Glu Phe Ala Ser Ser Asn Met Gln Asp
50 55 60

Thr Ile Asp Arg Tyr Leu Arg His Thr Lys Asp Arg Val Ser Thr Lys
65 70 75 80

Pro Val Ser Glu Glu Asn Met Gln His Leu Lys Tyr Glu Ala Ala Asn
85 90 95

Met Met Lys Lys Ile Glu Gln Leu Glu Ala Ser Lys Arg Lys Leu Leu
100 105 110

Gly Glu Gly Ile Gly Thr Cys Ser Ile Glu Glu Leu Gln Gln Ile Glu
115 120 125

Gln Gln Leu Glu Lys Ser Val Lys Cys Ile Arg Ala Arg Lys Thr Gln
130 135 140

Val Phe Lys Glu Gln Ile Glu Gln Leu Lys Gln Lys Glu Lys Ala Leu
145 150 155 160

Ala Ala Glu Asn Glu Lys Leu Ser Glu Lys Trp Gly Ser His Glu Ser
165 170 175

Glu Val Trp Ser Asn Lys Asn Gln Glu Ser Thr Gly Arg Gly Asp Glu
180 185 190

Glu Ser Ser Pro Ser Ser Glu Val Glu Thr Gln Leu Phe Ile Gly Leu
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Pro Cys Ser Ser Arg Lys
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Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ser Leu Ile Val Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Thr Ser Asn Met Leu
50 55 60

Lys Thr Leu Glu Arg Tyr Gln Lys Cys Ser Tyr Gly Ser Ile Glu Val
65 70 75 80

Asn Asn Lys Pro Ala Lys Glu Leu Glu Asn Ser Tyr Arg Glu Tyr Leu
85 90 95

Lys Leu Lys Gly Arg Tyr Glu Asn Leu Gln Arg Gln Gln Arg Asn Leu
100 105 110

Leu Gly Glu Asp Leu Gly Pro Leu Asn Ser Lys Glu Leu Glu Gln Leu
115 120 125

Glu Arg Gln Leu Asp Gly Ser Leu Lys Gln Val Arg Cys Ile Lys Thr
130 135 140

Gln Tyr Met Leu Asp Gln Leu Ser Asp Leu Gln Gly Lys Glu His Ile
145 150 155 160

Leu Leu Asp Ala Asn Arg Ala Leu Ser Met Lys Leu Glu Asp Met Ile
165 170 175

Gly Val Arg His His His Ile Gly Gly Gly Trp Glu Gly Gly Asp Gln
180 185 190

Gln Asn Ile Ala Tyr Gly His Pro Gln Ala His Ser Gln Gly Leu Tyr
195 200 205

Gln Ser Leu Glu Cys Asp Pro Thr Leu Gln Ile Gly Tyr Ser His Pro
210 215 220

Val Cys Ser Glu Gln Met Ala Val Thr Val Gln Gly Gln Ser Gln Gln
225 230 235 240

Gly Asn Gly Tyr Ile Pro Gly Trp Met Leu
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35 40 45

Ser Pro Lys Gly Lys Leu Phe Glu Tyr Ser Ala Gly Ser Ser Met Glu
50 55 60

Arg Ile Leu Asp Arg Tyr Glu Arg Ser Ala Tyr Ala Gly Gln Asp Ile
65 70 75 80

Pro Thr Pro Asn Leu Asp Ser Gln Gly Glu Cys Ser Thr Glu Cys Ser
85 90 95

Lys Leu Leu Arg Met Ile Asp Val Leu Gln Arg Ser Leu Arg His Leu
100 105 110

Arg Gly Glu Glu Val Asp Gly Leu Ser Ile Arg Asp Leu Gln Gly Val
115 120 125

Glu Met Gln Leu Asp Thr Ala Leu Lys Lys Thr Arg Ser Arg Lys Asn
130 135 140

Gln Leu Met Val Glu Ser Ile Ala Gln Leu Gln Lys Lys Glu Lys Glu
145 150 155 160

Leu Lys Glu Leu Lys Lys Gln Leu Thr Lys Lys Ala Gly Glu Arg Glu
165 170 175

Asp Phe Gln Thr Gln Asn Leu Ser His Asp Leu Ala Ser Leu Ala Thr
180 185 190

Pro Pro Phe Glu Ser Pro His Glu Leu Arg Arg Thr Ile Ser Pro Pro
195 200 205

Pro Pro Pro Leu Ser Ser Gly Asp Thr Ser Gln Arg Asp Gly Val Gly

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215

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Glu Val Ala Ala Gly Thr Leu Ile Arg Arg Thr Asn Ala Thr Leu Pro
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His Trp Met Pro Gln Leu Thr Gly Glu
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Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn Arg
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Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr
 35 40 45

Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Val Ile Phe Ser
 50 55 60

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

Ile Glu Arg Tyr Lys Lys Ala Cys Ser Asp Ala Val Asn Pro Pro Ser
 85 90 95

Val Thr Glu Ala Asn Thr Gln Tyr Tyr Gln Gln Glu Ala Ser Lys Leu
 100 105 110

Arg Arg Gln Ile Arg Asp Ile Gln Asn Ser Asn Arg His Ile Val Gly
 115 120 125

Glu Ser Leu Gly Ser Leu Asn Phe Lys Glu Leu Lys Asn Leu Glu Gly
 130 135 140

Arg Leu Glu Lys Gly Ile Ser Arg Val Arg Ser Lys Lys Val Lys Ser
 145 150 155 160

Thr Leu Leu Ser Leu Cys Val Ser Val Ser Leu Ser Ile Tyr Ser Pro
 165 170 175

Leu Val Tyr Ile Val His His Pro Phe Val Arg Ile Leu Gln Asn Glu
 180 185 190

Leu Leu Val Ala Glu Ile Glu Tyr Met Gln Lys Arg Glu Met Glu Leu
 195 200 205

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

Leu Asn Pro Asp Gln Gln Glu Ser Ser Val Ile Gln Gly Thr Thr Val
225 230 235 240

Tyr Glu Ser Gly Val Ser Ser His Asp Gln Ser Gln His Tyr Asn Arg
245 250 255

Asn Tyr Ile Pro Val Asn Leu Leu Glu Pro Asn Gln Gln Phe Ser Gly
260 265 270

Gln Asp Gln Pro Pro Leu Gln Leu Val
275 280

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Arg Gln Val Thr Phe Ser Lys Arg Lys Ser Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ser Leu Ile Ile Phe
35 40 45

Ser Thr Gly Gly Lys Leu Tyr Glu Phe Ser Asn Val Gly Val Gly Arg
50 55 60

Thr Ile Glu Arg Tyr Tyr Arg Cys Lys Asp Asn Leu Leu Asp Asn Asp
65 70 75 80

Thr Leu Glu Asp Thr Gln Gly Leu Arg Gln Glu Val Thr Lys Leu Lys
85 90 95

Cys Lys Tyr Glu Ser Leu Leu Arg Thr His Arg Asn Leu Val Gly Glu
100 105 110

Asp Leu Glu Gly Met Ser Ile Lys Glu Leu Gln Thr Leu Glu Arg Gln
115 120 125

Leu Glu Gly Ala Leu Ser Ala Thr Arg Lys Gln Lys Thr Gln Val Met
130 135 140

Met Glu Gln Met Glu Glu Leu Arg Arg Lys Glu Arg Glu Leu Gly Asp
145 150 155 160

Ile Asn Asn Lys Leu Lys Leu Glu Thr Glu Asp His Asp Phe Lys Gly
165 170 175

Phe Gln Asp Leu Leu Leu Asn Pro Val Leu Thr Ala Gly Cys Ser Thr
180 185 190

Asp Phe Ser Leu Gln Ser Thr His Gln Asn Tyr Ile Ser Asp Cys Asn
195 200 205

Leu Gly Tyr Phe Leu Gln Ile Gly Phe Gln Gln His Tyr Glu Gln Gly
210 215 220

Glu Gly Ser Ser Val Thr Lys Ser Asn Ala Arg Ser Asp Ala Glu Thr
225 230 235 240

Asn Phe Val Gln

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Met Leu Phe Pro His Glu Arg Lys Lys Glu Lys Glu Arg Ser Gln Gly
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Phe Tyr Leu Val Thr Arg Leu Arg Ile Arg Met Gly Arg Gly Lys Ile
20 25 30

Glu Ile Lys Arg Ile Glu Asn Ser Thr Asn Arg Gln Val Thr Phe Cys
35 40 45

Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu
50 55 60

Cys Asp Ala Glu Val Ala Leu Ile Val Phe Ser Thr Arg Gly Arg Leu
65 70 75 80

Tyr Glu Tyr Ala Asn Asn Asn Ile Arg Ser Thr Ile Glu Arg Tyr Lys
85 90 95

Lys Ala Cys Ser Asp Ser Thr Asn Thr Ser Thr Val Gln Glu Ile Asn
100 105 110

Ala Ala Tyr Tyr Gln Gln Glu Ser Ala Lys Leu Arg Gln Gln Ile Gln
115 120 125

Thr Ile Gln Asn Ser Asn Arg Asn Leu Met Gly Asp Ser Leu Ser Ser
130 135 140

Leu Ser Val Lys Glu Leu Lys Gln Val Glu Asn Arg Leu Glu Lys Ala
145 150 155 160

Ile Ser Arg Ile Arg Ser Lys Lys His Glu Leu Leu Leu Val Glu Ile
165 170 175

Glu Asn Ala Gln Lys Arg Glu Ile Glu Leu Asp Asn Glu Asn Ile Tyr
180 185 190

Leu Arg Thr Lys Val Ala Glu Val Glu Arg Tyr Gln Gln His His His
195 200 205

Gln Met Val Ser Gly Ser Glu Ile Asn Ala Ile Glu Ala Leu Ala Ser
210 215 220

Arg Asn Tyr Phe Ala His Ser Ile Met Thr Ala Gly Ser Gly Ser Gly
225 230 235 240

Asn Gly Gly Ser Tyr Ser Asp Pro Asp Lys Lys Ile Leu His Leu Gly
245 250 255

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Met Val Arg Gly Lys Thr Glu Met Lys Arg Ile Glu Asn Ala Thr Ser
1 5 10 15

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

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

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

Lys Thr Val Glu Arg Tyr Gln Lys Arg Ile Gln Asp Leu Gly Ser Asn
65 70 75 80

His Lys Arg Asn Asp Asn Ser Gln Gln Ser Lys Asp Glu Thr Tyr Gly
85 90 95

Leu Ala Arg Lys Ile Glu His Leu Glu Ile Ser Thr Arg Lys Met Met
100 105 110

Gly Glu Gly Leu Asp Ala Ser Ser Ile Glu Glu Leu Gln Gln Leu Glu
115 120 125

Asn Gln Leu Asp Arg Ser Leu Met Lys Ile Arg Ala Lys Lys Tyr Gln
130 135 140

Leu Leu Arg Glu Glu Thr Glu Lys Leu Lys Glu Lys Glu Arg Asn Leu
145 150 155 160

Ile Ala Glu Asn Lys Met Leu Met Glu Lys Cys Glu Met Gln Gly Arg

165

170

175

Gly Ile Ile Gly Arg Ile Ser Ser Ser Ser Ser Thr Ser Glu Leu Asp
 180 185 190

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

Pro Glu Thr Arg His Phe Lys Lys Phe Pro Pro Ser Asn
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<213> Arabidopsis thaliana

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

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 35 40 45

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
 50 55 60

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Ser Val Lys Gly
 65 70 75 80

Thr Ile Glu Arg Tyr Lys Lys Ala Ile Ser Asp Asn Ser Asn Thr Gly
 85 90 95

Ser Val Ala Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala Lys
 100 105 110

Leu Arg Gln Gln Ile Ile Ser Ile Gln Asn Ser Asn Arg Gln Leu Met
 115 120 125

Gly Glu Thr Ile Gly Ser Met Ser Pro Lys Glu Leu Arg Asn Leu Glu
 130 135 140

Gly Arg Leu Glu Arg Ser Ile Thr Arg Ile Arg Ser Lys Lys Asn Glu
 145 150 155 160

Leu Leu Phe Ser Glu Ile Asp Tyr Met Gln Lys Arg Glu Val Asp Leu
 165 170 175

His Asn Asp Asn Gln Ile Leu Arg Ala Lys Ile Ala Glu Asn Glu Arg
 180 185 190

Asn Asn Pro Ser Ile Ser Leu Met Pro Gly Gly Ser Asn Tyr Glu Gln
195 200 205

Leu Met Pro Pro Pro Gln Thr Gln Ser Gln Pro Phe Asp Ser Arg Asn
210 215 220

Tyr Phe Gln Val Ala Ala Leu Gln Pro Asn Asn His His Tyr Ser Ser
225 230 235 240

Ala Gly Arg Gln Asp Gln Thr Ala Leu Gln Leu Val
245 250

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Met Val Arg Gly Lys Thr Glu Met Lys Arg Ile Glu Asn Ala Thr Ser
1 5 10 15

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

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Val Ile Phe
35 40 45

Ser Pro Arg Ser Lys Leu Tyr Glu Phe Ser Ser Ser Ser Ile Ala Ala
50 55 60

Thr Ile Glu Arg Tyr Gln Arg Arg Ile Lys Glu Ile Gly Asn Asn His
65 70 75 80

Lys Arg Asn Asp Asn Ser Gln Gln Ala Arg Asp Glu Thr Ser Gly Leu
85 90 95

Thr Lys Lys Ile Glu Gln Leu Glu Ile Ser Lys Arg Lys Leu Leu Gly
100 105 110

Glu Gly Ile Asp Ala Cys Ser Ile Glu Glu Leu Gln Gln Leu Glu Asn
115 120 125

Gln Leu Asp Arg Ser Leu Ser Arg Ile Arg Ala Lys Lys Tyr Gln Leu
130 135 140

Leu Arg Glu Glu Ile Glu Lys Leu Lys Ala Glu Glu Arg Asn Leu Val
145 150 155 160

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

Thr Ile Ala Ser Ser Gln Ser Thr Leu Ser Ser Ser Glu Val Asn Ile
180 185 190

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

Thr Arg Gln Ser Lys Lys Phe Pro Pro Gln Asn
210 215

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Met Gly Arg Gly Arg Val Glu Leu Lys Arg Ile Glu Asn Lys Ile Asn
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Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Asn Met Leu
50 55 60

Lys Thr Leu Asp Arg Tyr Gln Lys Cys Ser Tyr Gly Ser Ile Glu Val
65 70 75 80

Asn Asn Lys Pro Ala Lys Glu Leu Glu Asn Ser Tyr Arg Glu Tyr Leu
85 90 95

Lys Leu Lys Gly Arg Tyr Glu Asn Leu Gln Arg Gln Gln Arg Asn Leu
100 105 110

Leu Gly Glu Asp Leu Gly Pro Leu Asn Ser Lys Glu Leu Glu Gln Leu
115 120 125

Glu Arg Gln Leu Asp Gly Ser Leu Lys Gln Val Arg Ser Ile Lys Thr
130 135 140

Gln Tyr Met Leu Asp Gln Leu Ser Asp Leu Gln Asn Lys Glu Gln Met
145 150 155 160

Leu Leu Glu Thr Asn Arg Ala Leu Ala Met Lys Leu Asp Asp Met Ile
165 170 175

Gly Val Arg Ser His His Met Gly Gly Gly Gly Trp Glu Gly Gly
180 185 190

Glu Gln Asn Val Thr Tyr Ala His His Gln Ala Gln Ser Gln Gly Leu
195 200 205

Tyr Gln Pro Leu Glu Cys Asn Pro Thr Leu Gln Met Gly Cys Cys Phe
210 215 220

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

Gln Ile Thr Ala Thr Thr Gln Ala Gln Ala Gln Gln Gly Asn Gly Tyr
245 250 255

Ile Pro Gly Trp Met Leu
260

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<213> Arabidopsis thaliana
<400> 18

Met Val Arg Gly Lys Ile Glu Ile Lys Lys Ile Glu Asn Val Thr Ser
1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Phe Lys Lys Ala
20 25 30

His Glu Leu Ser Val Leu Cys Asp Ala Gln Val Ala Ala Met Ile Phe
35 40 45

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

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

Thr His Pro Ile Glu Gln Tyr Val Gln Gly Leu Lys Lys Glu Met Val
85 90 95

Thr Met Val Lys Lys Ile Glu Val Leu Glu Val His Asn Arg Lys Met
100 105 110

Met Gly Gln Ser Leu Asp Ser Cys Ser Val Lys Glu Leu Ser Glu Ile
115 120 125

Ala Thr Gln Ile Glu Lys Ser Leu His Met Val Arg Leu Arg Lys Ala
130 135 140

Lys Leu Tyr Glu Asp Glu Leu Gln Lys Leu Lys Ala Lys Glu Arg Glu
145 150 155 160

Leu Lys Asp Glu Arg Val Arg Leu Ser Leu Lys Lys Thr Ile Tyr Thr
165 170 175

His Leu Cys Gln Val Gly Glu Arg Pro Met Gly Met Pro Ser Gly Ser
180 185 190

Lys Glu Lys Glu Asp Val Glu Thr Asp Leu Phe Ile Gly Phe Leu Lys

195

200

205

Asn Arg Pro
210

<210> 19
<211> 229
<212> PRT
<213> Arabidopsis thaliana

<400> 19

Met Asn Leu Gly Met Asn Ile Ala Gly Thr Met Val Arg Gly Lys Ile
1 5 10 15

Glu Ile Lys Lys Ile Glu Asn Val Thr Ser Arg Gln Val Thr Phe Ser
20 25 30

Lys Arg Arg Ser Gly Leu Phe Lys Lys Ala His Glu Leu Ser Val Leu
35 40 45

Cys Asp Ala Gln Val Ala Ala Ile Val Phe Ser Gln Ser Gly Arg Leu
50 55 60

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

Lys Phe Ser Asn Ala Phe Tyr Val Ala Glu Arg Pro Gln Val Glu Arg
85 90 95

Tyr Leu Gln Glu Leu Lys Met Glu Ile Asp Arg Met Val Lys Lys Ile
100 105 110

Asp Leu Leu Glu Val His His Arg Lys Leu Leu Gly Gln Gly Leu Asp
115 120 125

Ser Cys Ser Val Thr Glu Leu Gln Glu Ile Asp Thr Gln Ile Glu Lys
130 135 140

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

Leu Lys Lys Leu Lys Glu Lys Glu Arg Glu Leu Leu Asn Glu Arg Lys
165 170 175

Arg Leu Leu Glu Glu Gln Asn Arg Glu Arg Leu Met Arg Pro Val Val
180 185 190

Pro Ala Thr Leu Gln Ile Cys Asp Lys Gly Asn Thr Glu Gly Gly His
195 200 205

Arg Thr Lys His Ser Ser Glu Val Glu Thr Asp Leu Phe Ile Gly Leu
210 215 220

Pro Val Thr Arg Leu
225

<210> 20
<211> 242
<212> PRT
<213> Arabidopsis thaliana

<400> 20

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

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Lys Gly Lys Leu Phe Glu Tyr Ser Thr Asp Ser Cys Met Glu
50 55 60

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

Val Gly Arg Asp Val Ser Gln Ser Glu Asn Trp Val Leu Glu His Ala
85 90 95

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

Met Gly Glu Asp Leu Asp Ser Leu Ser Leu Lys Glu Leu Gln Ser Leu
115 120 125

Glu His Gln Leu Asp Ala Ala Ile Lys Ser Ile Arg Ser Arg Lys Asn
130 135 140

Gln Ala Met Phe Glu Ser Ile Ser Ala Leu Gln Lys Lys Asp Lys Ala
145 150 155 160

Leu Gln Asp His Asn Asn Ser Leu Leu Lys Lys Ile Lys Glu Arg Glu
165 170 175

Lys Lys Thr Gly Gln Gln Glu Gly Gln Leu Val Gln Cys Ser Asn Ser
180 185 190

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

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

Glu Pro Asn Ser Leu Leu Pro Ala Trp Met Leu Arg Pro Thr Thr Thr
225 230 235 240

Asn Glu

<210> 21
<211> 210
<212> PRT
<213> Arabidopsis thaliana

<400> 21

Met Val Arg Gly Lys Ile Glu Met Lys Lys Ile Glu Asn Ala Thr Ser
1 5 10 15

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

Tyr Glu Leu Ser Val Leu Cys Asp Ala Gln Leu Ser Leu Ile Ile Phe
35 40 45

Ser Gln Arg Gly Arg Leu Tyr Glu Phe Ser Ser Ser Asp Met Gln Lys
50 55 60

Thr Ile Glu Arg Tyr Arg Lys Tyr Thr Lys Asp His Glu Thr Ser Asn
65 70 75 80

His Asp Ser Gln Ile His Leu Gln Gln Leu Lys Gln Glu Ala Ser His
85 90 95

Met Ile Thr Lys Ile Glu Leu Leu Glu Phe His Lys Arg Lys Leu Leu
100 105 110

Gly Gln Gly Ile Ala Ser Cys Ser Leu Glu Glu Leu Gln Glu Ile Asp
115 120 125

Ser Gln Leu Gln Arg Ser Leu Gly Lys Val Arg Glu Arg Lys Ala Gln
130 135 140

Leu Phe Lys Glu Gln Leu Glu Lys Leu Lys Ala Lys Glu Lys Gln Leu
145 150 155 160

Leu Glu Glu Asn Val Lys Leu His Gln Lys Asn Val Ile Asn Pro Trp
165 170 175

Arg Gly Ser Ser Thr Asp Gln Gln Gln Glu Lys Tyr Lys Val Ile Asp
180 185 190

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

Asn Cys
210

<210> 22
<211> 251

<212> PRT
<213> Fragaria vesca

<400> 22

Met Ala Tyr Glu Asn Lys Pro Asn Thr Asp Leu Asp Ala Asp Ala Gln
1 5 10 15
Arg Arg Leu Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr
20 25 30
Thr Asn Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys
35 40 45
Lys Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile
50 55 60
Val Phe Ser Asn Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Ser Ser
65 70 75 80
Val Arg Glu Thr Ile Glu Arg Tyr Lys Lys Ala Cys Ala Asp Thr Ser
85 90 95
Thr Asn Gly Ser Ala Ser Glu Ala Thr Ala Gln Tyr Tyr Gln Gln Glu
100 105 110
Ala Ala Lys Leu Arg Asn Gln Ile Asn Ala Leu Gln Asn Ser Asn Arg
115 120 125
Gly Tyr Met Ala Glu Gly Leu Ser Asn Met Asn Ile Lys Glu Leu Lys
130 135 140
Gly Met Glu Ser Lys Leu Glu Lys Ala Ile Thr Arg Ile Arg Ser Lys
145 150 155 160
Lys Asn Glu Leu Leu Phe Ala Glu Ile Glu Tyr Met Gln Lys Arg Glu
165 170 175
Leu Asp Leu His Asn Asn Asn Gln Leu Leu Arg Ala Lys Gly Gln Ile
180 185 190
Ala Glu Asn Glu Arg Gln Gln Gln Ser Ile Asn Ala Ile Ala Gly Gly
195 200 205
His Gly Ser Tyr Glu Ile Val Gln Pro Thr Gln Pro Phe His Glu Ala
210 215 220
Arg Asn Tyr Phe Gln Val Asn Ala Leu Gln Pro Asn Ile His Gln Tyr
225 230 235 240
Ser Arg His Asp Gln Val Ser Leu Gln Leu Val
245 250

<210> 23

<211> 242
<212> PRT
<213> *Fragaria vesca*

<400> 23

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ser Met Leu
50 55 60

Lys Thr Leu Glu Arg Tyr Gln Lys Cys Asn Tyr Gly Ala Pro Glu Thr
65 70 75 80

Asn Val Ser Thr Arg Glu Ala Leu Glu Leu Ser Ser Gln Gln Glu Tyr
85 90 95

Leu Lys Leu Lys Ala Arg Tyr Glu Ala Leu Gln Arg Asn Gln Arg Asn
100 105 110

Leu Leu Gly Glu Asp Leu Gly Pro Leu Ser Ser Lys Glu Leu Glu Ser
115 120 125

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

Thr Gln Cys Met Leu Asp Gln Leu Thr Asp Leu Gln Arg Lys Glu His
145 150 155 160

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

Tyr His His Gln Leu Gln Leu Asn Ala Asn Ala Glu Glu Val Ala Tyr
180 185 190

Gly Arg Gln Glu Ala His Gln Pro Gln Gly Asp Gly Phe Phe Gln Ala
195 200 205

Leu Glu Cys Glu Pro Thr Leu Gln Ile Gly Tyr His Gln Asn Asp Pro
210 215 220

Ile Gln Val Val Thr Ala Gly Pro Ser Val Asn Tyr Met Gly Gly Trp
225 230 235 240

Leu Pro

<210> 24
<211> 231
<212> PRT
<213> *Fragaria vesca*

<400> 24

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

Arg Gln Val Thr Phe Ser Lys Arg Arg Thr Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Met Cys Asp Ala Gln Val Ala Leu Ile Val Phe
35 40 45

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

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

Val Glu Pro Asp Phe Asp Ser Gln Gly Asn Trp Pro Phe Glu His Ala
85 90 95

Arg Leu Lys Val Lys Val Glu Leu Leu Gln Arg Asn Leu Arg His Tyr
100 105 110

Leu Gly Glu Asp Leu Asp Ser Leu Ser Ile Lys Glu Ile Gln Ser Leu
115 120 125

Glu Gln Gln Leu Glu Thr Ala Leu Lys Gln Ile Arg Ser Arg Lys Glu
130 135 140

Lys Ala Ile Lys Glu Gln Asn Asn Leu Leu Ser Lys Lys Ile Lys Glu
145 150 155 160

His Glu Lys Asn Val Ala Glu Ala Gln Glu Val His Asp Trp Glu Gln
165 170 175

Gln Gln Gln Asn His Gly Leu Asn Leu Leu Ala Gln Gly Pro Ile Pro
180 185 190

Cys Leu Asn Met Gly Gly Thr Gln Gln Asn Asp Gln Phe Leu Gln Val
195 200 205

Arg Arg Asn Gln Leu Asp Leu Thr Leu Glu Pro Ser Leu Tyr Ser Cys
210 215 220

His Leu Gly Cys Phe Ala Ser
225 230

<210> 25
<211> 90
<212> PRT

<213> Fragaria vesca

<400> 25

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Cys Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Ser Arg Gly Lys Leu Tyr Glu Phe Cys Ser Gly Pro Ser Met Glu
50 55 60

Lys Thr Ile Glu Lys Tyr Gln Arg Tyr Thr Tyr Ala Glu Leu Glu Ala
65 70 75 80

Ala Gln Pro Ala Gln Asp Thr Gln Val Asn
85 90

<210> 26

<211> 225

<212> PRT

<213> Fragaria vesca

<400> 26

Met Val Arg Gly Lys Thr Gln Met Lys Arg Ile Glu Asn Ala Ala Ser
1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Phe Glu Phe Ser Ser Cys Ser Ser Leu Asn
50 55 60

Lys Thr Ile Asp Arg Phe Gln Lys Arg Ala Lys Asp Gln Gly Leu Ser
65 70 75 80

Gly Lys Ala Ala Arg Asp His Asp His Met Glu Leu Ala Asn Glu Asp
85 90 95

Thr Ser Ser Met Ala Met Arg Ile Glu Leu Ile Glu Ser Ser Lys Arg
100 105 110

Lys Leu Leu Gly Asp Gly Leu Glu Ser Cys Ser Ile Asp Glu Leu His
115 120 125

Gln Leu Glu Lys Asp Leu Glu Arg Ser Leu Ala Lys Ile Arg Asp Gln
130 135 140

Lys Asn Leu Met Leu Arg Glu Gln Ile Gln Gln Leu Lys Glu Lys Glu
145 150 155 160

Ile Ser Leu Leu Glu Glu Asn Ala Glu Leu Met Glu Lys Cys Gly Met
165 170 175

Gln Gln Ile Gly Pro Pro Ser Asn Gly Glu Gln Tyr Gly Val Glu Asp
180 185 190

Asp Asp Val Glu Thr Glu Ser Asp Ser Gln Asn Met Glu Val Glu Thr
195 200 205

Glu Leu Phe Ile Gly Pro Pro Lys Arg Gln Arg Ser Ala Lys Lys Ile
210 215 220

Pro
225

<210> 27
<211> 290
<212> PRT
<213> *Fragaria vesca*

<400> 27

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

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Thr Lys Gly Lys Leu Phe Glu Tyr Ser Thr Asp Ser Ser Tyr Ser
50 55 60

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

Tyr Ala Glu Arg Gln Leu Leu Gly Asn Asn His Glu Gln Gln Asp Gln
85 90 95

Asp Gln Ser Asn Gly Asn Trp Thr Leu Glu His Ala Lys Leu Lys Ala
100 105 110

Arg Val Glu Val Leu Gln Lys Asn Gln Ser His Phe Met Gly Glu Asp
115 120 125

Leu Gln Ser Leu Ser Met Lys Gln Leu Gln Asn Leu Glu Gln Gln Leu
130 135 140

Asp Ser Ala Leu Lys His Val Arg Ser Arg Lys Asn Gln Leu Met Tyr
145 150 155 160

Glu Ser Ile Ser Thr Leu Gln Lys Lys Asp Lys Ala Leu Gln Glu Gln
165 170 175

Asn Asn Leu Leu Thr Lys Lys Val Lys Glu Lys Glu Lys Ala Val Ala
180 185 190

Gly Ser Ala Pro Gln Ser Gln Ala Gln Ala Gln Val Arg Gly Gln Ala
195 200 205

Gln Ala Gln Val Gln Ala Gln Ala Gln Ala Gln Ala Gln Ala Gln Ser
210 215 220

Gln Trp Glu Gln Met Gln Arg Gln Ser Phe Asp Ser Ser Thr Ser Ala
225 230 235 240

Leu Leu Pro Gln Ala Leu Pro Ser Met Asn Phe Gly Gly Ser Ser Gly
245 250 255

Gly Tyr Asp Gln Asp Glu Glu Ile Pro Pro Pro Pro Gln His Gln Ala
260 265 270

Ala Ala Asn Ser Asn Thr Leu Leu Pro Pro Trp Met Leu Arg His Leu
275 280 285

Asn Glu
290

<210> 28
<211> 255
<212> PRT
<213> Fragaria vesca

<400> 28

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Gly Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Leu Ser Met Met
50 55 60

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

Asn Gln Pro Val Asn Glu Thr Gln Asn Ser Tyr Gln Glu Tyr Leu Arg
85 90 95

Leu Lys Ala Arg Val Glu Val Leu Gln Arg Ser Gln Arg Asn Leu Leu

100					105					110					
Gly	Glu	Asp	Leu	Gly	Pro	Leu	Asn	Thr	Lys	Glu	Leu	Glu	Gln	Leu	Glu
		115					120					125			
His	Gln	Leu	Glu	Ser	Ser	Leu	Lys	His	Ile	Arg	Ser	Thr	Lys	Thr	Gln
	130					135					140				
Phe	Met	Leu	Asp	Glu	Leu	Ser	Asp	Leu	Gln	Asn	Arg	Glu	Gln	Met	Leu
145					150					155					160
Val	Glu	Thr	Asn	Lys	Ser	Leu	Arg	Arg	Lys	Leu	Glu	Glu	Thr	Asn	Leu
				165					170					175	
Gln	Gly	Ala	Pro	Leu	His	Leu	Ala	Trp	Asp	Gly	Gly	Tyr	Gly	Gln	Asn
			180					185					190		
Asn	Ile	His	Glu	His	Asn	Ser	Arg	Phe	Pro	Pro	Gln	Ser	Gln	Gly	Phe
		195					200					205			
Phe	Gln	Gln	Leu	Gln	Gly	Asn	Asn	Asn	Ser	Ala	Met	Gln	Met	Gly	Tyr
	210					215					220				
Thr	Pro	Leu	Gly	Ser	Asp	His	His	His	His	Gln	Gln	Met	Asn	Ala	Gly
225					230					235					240
Asn	Pro	Gly	Gln	Asn	Val	Asn	Gly	Phe	Ile	Pro	Gly	Trp	Met	Leu	
				245					250					255	

<210> 29
 <211> 223
 <212> PRT
 <213> Fragaria vesca

<400> 29

Met	Gly	Arg	Gly	Lys	Ile	Glu	Ile	Lys	Arg	Ile	Glu	Asn	Thr	Thr	Asn
1				5					10					15	
Arg	Gln	Val	Thr	Phe	Cys	Lys	Arg	Arg	Asn	Gly	Leu	Leu	Lys	Lys	Ala
			20					25					30		
Tyr	Glu	Leu	Ser	Ile	Leu	Cys	Glu	Ala	Glu	Val	Ala	Leu	Ile	Val	Phe
		35					40					45			
Ser	Ser	Arg	Gly	Arg	Leu	Tyr	Glu	Tyr	Ser	Asn	Asn	Asn	Ser	Ile	Arg
	50					55					60				
Asn	Thr	Ile	Glu	Arg	Tyr	Lys	Lys	Ala	Ser	Ser	Asp	Asn	Ser	Gly	Ala
65					70					75					80
Thr	Thr	Ile	Thr	Glu	Ile	Asn	Ala	Gln	Tyr	Tyr	Gln	Gln	Glu	Ser	Thr
				85					90					95	

Lys Leu Arg His Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
100 105 110

Met Gly Asp Ser Leu Ser Asn Leu Thr Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Leu Thr Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Arg Glu Ile Glu
145 150 155 160

Leu Glu Asn Glu Asn Val Leu Ile Arg Ala Lys Ile Ala Glu Val Glu
165 170 175

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

Gln Ala Leu Ala Ser Arg Asn Phe Phe Glu Ser Thr Met Met Glu Gly
195 200 205

Glu Thr Ser Tyr Ser Gln Pro Glu Lys Lys Leu Leu His Leu Gly
210 215 220

<210> 30
<211> 210
<212> PRT
<213> Fragaria vesca

<400> 30

Met Ala Arg Gly Lys Val Gln Met Lys Lys Ile Glu Asn Pro Val His
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Ala Gly Leu Leu Lys Lys Ala
20 25 30

Lys Glu Leu Ser Val Leu Cys Asp Ala Asp Ile Gly Val Leu Ile Tyr
35 40 45

Ser Ser His Gly Lys Leu Phe Glu Leu Ala Thr Lys Gly Ser Met Gln
50 55 60

Gly Leu Ile Glu Arg Tyr Met Lys Thr Lys Pro Ala Arg Val Pro Gln
65 70 75 80

Ala Glu Pro Val Met Glu Thr Gln Thr Leu Asp Ala Lys Lys Glu Cys
85 90 95

Asn Leu Leu Lys Gln Glu Ile Glu Ile Leu Gln Lys Gly Leu Arg Tyr
100 105 110

Met Phe Gly Gly Gly Ala Gly Thr Met Ser Leu Asp Glu Leu Gln Val
115 120 125

Leu Glu Lys His Leu Glu Leu Trp Ile Tyr His Val Arg Ser Ala Lys
130 135 140

Met Asp Ile Leu Leu Gln Glu Ile Gln Leu Leu Arg Asn Ser Glu Gly
145 150 155 160

Ile Leu Thr Ala Ala Asn Lys Tyr Leu Gln Asp Lys Ile Glu Glu Asn
165 170 175

Ser Gly Val Thr Asn Leu Met Pro Val Ala Thr Asp Thr Pro Tyr Pro
180 185 190

Leu Thr Ile Pro Asn Asp Asp Ile Ile Ser Leu Leu Gly Ser Asn Phe
195 200 205

Gly Phe
210

<210> 31
<211> 249
<212> PRT
<213> Fragaria vesca

<400> 31

Met Glu Ile Pro Lys Gln Ile Thr Pro Ala Asp Asp Pro Glu Ser Ser
1 5 10 15

Ser Gln Lys Lys Leu Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu
20 25 30

Asn Thr Thr Asn Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu
35 40 45

Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala
50 55 60

Leu Ile Val Phe Ser Thr Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asn
65 70 75 80

Ser Val Arg Ala Thr Ile Glu Arg Tyr Lys Lys Ala Cys Asp Ser Ser
85 90 95

Asn Thr Gly Ser Val Thr Glu Ala Asn Val Gln Phe Tyr Gln Gln Glu
100 105 110

Ala Ser Lys Leu Arg Arg Gln Ile Arg Glu Ile Gln Asn Ser Asn Arg
115 120 125

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

Asn Leu Glu Gly Arg Leu Glu Lys Gly Ile Ser Arg Ile Arg Ser Lys
145 150 155 160

Lys Asn Glu Met Leu Phe Ala Glu Ile Glu Tyr Met Gln Lys Arg Glu
165 170 175

Ile Glu Leu Gln Asn His Asn Asn Phe Leu Arg Ala Lys Ile Ala Glu
180 185 190

Asn Asp Arg Ala Gln Gln Gln Gln Ala Asn Met Leu Pro Gly Thr Ser
195 200 205

Ser Ala Tyr Glu Gln Pro Met Pro Pro Pro Gln Ser Tyr Asp Arg Ser
210 215 220

Phe Leu Pro Val Ile Ile Glu Ser Asn His Asn Tyr Asn Arg Gln Gly
225 230 235 240

Gln Asn Leu Thr Pro Leu Gln Leu Val
245

<210> 32
<211> 257
<212> PRT
<213> Fragaria vesca

<400> 32

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

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

His Glu Ile Ser Val Leu Cys Asp Ala Asp Val Ala Leu Ile Val Phe
35 40 45

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

Ala Ile Leu Glu Arg Tyr Glu Gln Tyr Ser Tyr Ala Glu Arg Gln Ser
65 70 75 80

Thr Gly Ile Pro Asp Ser Gln Pro Gln Gly Ser Trp Phe Met Glu Phe
85 90 95

Pro Lys Leu Ala Ala Arg Ile Glu Ile Leu Gln Arg Lys Ile Arg Asn
100 105 110

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

Leu Glu Gln Gln Ile Asp Thr Ala Leu Lys Arg Val Arg Ala Arg Lys
130 135 140

Asn Gln Ala Val His Glu Ser Leu Ser Glu Met His Lys Lys Gln Arg

145					150					155					160
Thr	Leu	Gln	Glu	Gln	Asn	Asn	Ser	Leu	Ala	Lys	Lys	Leu	Lys	Glu	Asn
				165					170					175	
Glu	Lys	Leu	Leu	Gln	Glu	Glu	Pro	Asn	Asp	Asn	Gln	Gln	Pro	Asn	Pro
			180					185					190		
Ser	Thr	Leu	Val	Leu	Met	Pro	Thr	Gln	Gln	Ala	Pro	Lys	Ser	Pro	Ala
		195					200					205			
Leu	Leu	Ser	Ser	Leu	Thr	Ile	Gly	Gly	Asp	Phe	Gln	Gly	Arg	Arg	Asp
	210					215					220				
Ala	Met	Asp	Glu	Asp	Val	Arg	Asp	Tyr	Gln	Gly	Arg	Ala	Glu	Thr	Gln
225					230					235					240
Pro	Ala	Ser	Ser	Thr	Val	Met	Pro	Pro	Trp	Met	Val	Arg	His	Leu	Asn
				245					250					255	

Gln

<210> 33
 <211> 249
 <212> PRT
 <213> Fragaria vesca
 <400> 33

Met	Gly	Arg	Gly	Arg	Val	Glu	Leu	Lys	Arg	Ile	Glu	Asn	Lys	Ile	Asn
1				5					10					15	
Arg	Gln	Val	Thr	Phe	Ala	Lys	Arg	Arg	Asn	Gly	Leu	Leu	Lys	Lys	Ala
			20					25					30		
Tyr	Glu	Leu	Ser	Ile	Leu	Cys	Asp	Ala	Glu	Val	Ala	Leu	Ile	Ile	Phe
		35					40					45			
Ser	Asn	Arg	Gly	Lys	Leu	Tyr	Glu	Phe	Cys	Ser	Ser	Ser	Ser	Met	Leu
	50					55					60				
Lys	Thr	Leu	Glu	Arg	Tyr	Gln	Lys	Cys	Ser	Tyr	Gly	Ala	Met	Glu	Val
65					70					75				80	
Gln	Lys	Pro	Ala	Lys	Glu	Leu	Glu	Glu	Ser	Ser	Tyr	Arg	Glu	Tyr	Leu
				85					90					95	
Lys	Leu	Lys	Thr	Arg	Cys	Glu	Ser	Leu	Gln	Gln	Thr	Gln	Arg	Asn	Leu
			100					105					110		
Leu	Gly	Glu	Asp	Leu	Gly	Pro	Leu	Asn	Thr	Lys	Glu	Leu	Glu	Gln	Leu
		115					120					125			

Glu Arg Gln Leu Glu Ser Ser Leu Lys His Val Arg Ser Thr Lys Thr
130 135 140

Gln His Met Ile Asp Leu Leu Ser Asp Leu Gln Ser Lys Glu His Met
145 150 155 160

Leu Ile Glu Ala Asn Arg Asp Leu Lys Thr Lys Leu Asp Glu Ile Asp
165 170 175

Ser Arg Thr Gln Leu Arg Gln Thr Trp Glu His Gly His Asp His Gln
180 185 190

Thr Met Leu Tyr Gly Thr Gln His Ala Gln Thr Gln Gly Leu Met Phe
195 200 205

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

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

Asn Gly Phe Ile Pro Gly Trp Met Leu
245

<210> 34
<211> 245
<212> PRT
<213> Fragaria vesca

<400> 34

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

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

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Ser Arg Gly Lys Leu Tyr Glu Phe Ser Ser Ala Gly Met Thr Gln
50 55 60

Thr Leu Glu Arg Tyr Gln Arg Ser Ser Tyr Thr Pro His Asp Asn Pro
65 70 75 80

Ile Lys Gln Glu Thr Glu Cys Trp Tyr Glu Glu Val Ser Lys Leu Arg
85 90 95

Ala Lys His Asp Ser Leu Leu Arg Thr Gln Arg His Leu Leu Gly Glu
100 105 110

Asp Leu Gly Pro Leu Ser Val Lys Glu Leu Gln Asn Leu Glu Lys Gln
115 120 125

Leu Glu Gly Ala Leu Thr Leu Ala Arg Gln Arg Lys Thr Gln Ile Met
130 135 140

Ile Glu Gln Leu Glu His Leu Arg Lys Lys Glu Arg Gln Leu Gly Asp
145 150 155 160

Leu Asn Leu Gln Leu Arg Asp Lys Leu Gln Lys Glu Gly Glu Asn Leu
165 170 175

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

Asn Asn Phe Leu His Ser Ser Gln Ala Gly His Ile Asp Pro Pro Pro
195 200 205

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

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

Gln Gly Trp Val Leu
245

<210> 35
<211> 215
<212> PRT
<213> Fragaria vesca

<400> 35

Met Val Arg Gly Lys Thr Gln Met Arg Arg Ile Glu Asn Ala Thr Ser
1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30

Phe Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Pro Arg Gly Lys Leu Tyr Glu Phe Ala Ser Ser Ser Met Gln Glu
50 55 60

Thr Ile Glu Arg Tyr Glu Lys His Thr Arg Asp Asn Gln Ala Asn Asn
65 70 75 80

Lys Val Ala Ile Ser Glu Gln Asn Val Gln Gln Leu Lys His Glu Ala
85 90 95

Thr Ser Met Met Lys Gln Ile Glu His Leu Glu Val Ser Lys Arg Lys
100 105 110

Leu Leu Gly Glu Ser Leu Gly Leu Cys Thr Ile Glu Glu Leu Gln Glu
115 120 125

Val Glu Gln Gln Leu Glu Arg Ser Val Asn Thr Ile Arg Ala Arg Lys
130 135 140

Ala Gln Val Phe Lys Glu Gln Ile Glu Gln Leu Lys Glu Lys Glu Arg
145 150 155 160

Ile Leu Thr Ala Glu Asn Glu Arg Leu Thr Glu Lys Cys Asp Ala Leu
165 170 175

Gln Gln Arg Gln Pro Val Ile Glu Gln Arg Glu His Leu Ala Tyr Asn
180 185 190

Glu Ser Ser Thr Ser Ser Asp Val Glu Thr Glu Leu Phe Ile Gly Leu
195 200 205

Pro Glu Arg Arg Ser Lys His
210 215

<210> 36
<211> 229
<212> PRT
<213> Fragaria vesca

<400> 36

Met Val Arg Gly Lys Ile Glu Met Lys Arg Ile Glu Asn Ala Thr Ser
1 5 10 15

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

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Val Ile Val Phe
35 40 45

Ser Gln Lys Gly Arg Leu Tyr Glu Phe Ser Ser Ser Asp Met Gln Lys
50 55 60

Thr Ile Lys Arg Tyr His Lys His Ala Lys Gly Ala Gln Thr Asn Thr
65 70 75 80

Thr Glu Val Glu Gln Tyr Met Gln Gln Leu Lys His Glu Ser Ala Asp
85 90 95

Met Ala Lys Lys Ile Glu Ile Leu Glu Ala Ser Gln Arg Phe Met Thr
100 105 110

Trp Arg Leu Leu Gly His Asp Leu Asp Ser Cys Ser Ala Gln Glu Leu
115 120 125

Asn Gln Ile Ser Ser Gln Leu Glu Arg Ser Ile Arg Ile Val Arg Asp
130 135 140

Arg Lys Gly Gln Leu Phe Met Glu Gln Ile Glu Arg Leu Gln Ala Lys

145 150 155 160
 Glu Arg Ile Leu Leu Glu Glu Asn Thr Lys Leu His Ile Ala Cys Gly
 165 170 175
 Ala Arg Pro Trp Gln Gln His Ile Val Gln Glu Lys Glu Val Gly Ala
 180 185 190
 Ala Thr Tyr Asn Trp Met Asn Ser Ser Gln Ser Ser Ser Ser Gln Thr
 195 200 205
 Ile Ser Asn Ser Asp Gln Val Glu Thr Gly Leu Phe Ile Gly Pro Pro
 210 215 220
 Ala Met Arg Cys Glu
 225

<210> 37
 <211> 141
 <212> PRT
 <213> Malus domestica

<400> 37

Met Trp His Ile Phe Thr Asn Phe Tyr Lys Ile Ile Phe Leu Tyr Tyr
 1 5 10 15
 Tyr Leu Trp Trp Trp Met Met Ile Arg Gln Ser Glu Asp Met Val Arg
 20 25 30
 Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Asp Thr Ser Arg Gln Val
 35 40 45
 Thr Phe Ser Lys Arg Arg Asn Gly Leu Phe Lys Lys Ala Phe Glu Leu
 50 55 60
 Ser Val Leu Cys Asp Ala Glu Val Ala Val Ile Thr Phe Ser Gln Lys
 65 70 75 80
 Gly Arg Ile Tyr Glu Phe Ser Ser Ser Asp Met His Gln Thr Ile Glu
 85 90 95
 Arg Tyr Leu Lys His Glu Asn Gly Gly Glu Thr Asn Met Val Glu Ala
 100 105 110
 Glu Gln Tyr Val Gln Val Arg Ser Ser Ile Phe Glu Phe Glu Asn Pro
 115 120 125
 Ser Leu Ile Ser Glu Phe Ile Ile Lys Leu Thr Val Ser
 130 135 140

<210> 38
 <211> 228
 <212> PRT
 <213> Malus domestica

<400> 38

Met Lys Arg Ile Glu Asn Asn Thr Ser Arg Gln Val Thr Phe Ser Lys
1 5 10 15

Arg Arg Lys Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys
20 25 30

Asp Ala Glu Val Ala Val Ile Val Phe Ser Gln Lys Gly Arg Ile Tyr
35 40 45

Glu Phe Ser Ser Ser Asp Met Gln Arg Thr Ile Asn Arg Tyr His Lys
50 55 60

His Glu Asn Gly Ser Gly Pro Thr Asn Lys Val Glu Val Glu Gln Tyr
65 70 75 80

Val Gln His Leu Lys His Glu Ser Ala Ile Ile Ala Lys Lys Ile Glu
85 90 95

Ile Leu Glu Ala Ser Gln Arg Lys Leu Leu Gly Asn Asp Leu Asp Ser
100 105 110

Cys Pro Val Glu Glu Leu Gln Glu Ile Ser Ser Gln Leu Glu Arg Ser
115 120 125

Leu Arg Ser Ile Ser Glu Arg Lys Ala Gln Leu Tyr Thr Glu Gln Met
130 135 140

Glu Gln His Lys Ala Arg Glu Arg Phe Leu Leu Gln Glu Asn Ala Gln
145 150 155 160

Leu Arg Glu Glu Cys Cys Ala Lys Pro Trp Met Glu Phe Ser Pro Gln
165 170 175

Glu Lys Arg Ala Ser Ala Ser Val Ser Asn Glu Lys Ala Gly Ala Ser
180 185 190

Ala Ser Ala Pro Ile Asn Tyr Arg Ser Gln Ser Ser Met Ser Ser Glu
195 200 205

Val Asp Thr Asp Leu Leu Ile Gly Gln Pro Met Val Arg Ala Val Asp
210 215 220

Arg Ile Ala Val
225

<210> 39

<211> 247

<212> PRT

<213> Malus domestica

<400> 39

Met Lys Arg Ile Glu Asn Ala Thr Ser Arg Gln Val Thr Phe Thr Lys
1 5 10 15

Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys
20 25 30

Asp Ala Glu Val Ala Val Ile Ile Phe Ser Gln Lys Asp Lys Leu Tyr
35 40 45

Glu Phe Cys Ser Ser Asp Met Gln Glu Thr Leu Thr Arg Tyr His Asn
50 55 60

Tyr Ala Lys Asp Glu Gln Thr Asn Lys Val Glu Val Glu Gln His Val
65 70 75 80

Gln His Leu Lys His Glu Ser Ala Ile Met Thr Lys Lys Ile Glu Ile
85 90 95

Leu Glu Ala Ser Gln Arg Lys Leu Leu Gly Asn Asp Leu Asp Ser Cys
100 105 110

Phe Val Glu Glu Leu Gln Glu Ile Ser Ser Gln Leu Glu Arg Ser Leu
115 120 125

Arg Ser Ile Arg Glu Arg Lys Ala Gln Leu Phe Met Glu Gln Met Glu
130 135 140

Asn Leu Lys Ala Lys Glu Thr Leu Leu Leu Gln Glu Asn Ala Lys Leu
145 150 155 160

Arg Glu Glu Ser Gly Ala Lys Leu Leu Met Glu His Ser Ala Gln Glu
165 170 175

Lys Arg Ala Ser Ala Ser Val Ser Tyr Glu Lys Ala Gly Ala Ser Ala
180 185 190

Ser Ala Ser Val Asn Tyr Trp Ser Gln Ser Ile Met Ser Ser Glu Val
195 200 205

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

Ile Ala Val Leu Ser Asn Ile His Gln Ile Asn Asn Asn Ala Cys Gln
225 230 235 240

Ser Ser Leu Lys Thr Ile Pro
245

<210> 40

<211> 231

<212> PRT

<213> Malus domestica

<400> 40

Met Lys Arg Ile Glu Asn Ala Thr Ser Arg Gln Val Thr Phe Ser Lys
1 5 10 15

Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys
20 25 30

Asp Ala Glu Val Ala Val Ile Ile Phe Ser Gln Lys Asp Arg Leu Tyr
35 40 45

Glu Phe Ser Ser Ser Asp Met Arg Glu Thr Leu Thr Arg Tyr Arg Lys
50 55 60

Tyr Ala Lys Asp His Glu Gln Thr Asn Lys Val Glu Val Glu Gln His
65 70 75 80

Val Gln His Leu Lys His Glu Ser Ala Ile Met Ala Lys Lys Ile Glu
85 90 95

Ile Leu Glu Ala Thr Gln Arg Lys Leu Leu Gly Asn Asp Leu Asp Ser
100 105 110

Cys Tyr Val Glu Glu Leu Gln Glu Leu Ser Ser Gln Leu Glu Arg Ser
115 120 125

Leu Arg Ser Ile Arg Glu Arg Lys Ala Gln Leu Phe Met Glu Gln Met
130 135 140

Glu Gln Leu Lys Ala Lys Glu Thr Leu Leu Leu Gln Glu Asn Ala Lys
145 150 155 160

Leu Arg Glu Gln Ser Gly Ala Lys Leu Trp Met Glu His Ser Val Gln
165 170 175

Ala Lys Arg Ala Ser Thr Leu Ser Tyr Glu Lys Ala Gly Val Ser Ala
180 185 190

Ser Val Asn Tyr Arg Ser Gln Gly Ser Met Ser Ser Glu Val Glu Thr
195 200 205

Glu Leu Phe Ile Gly Pro Pro Ile Met Arg Ala Val Asp Ala Ser Gln
210 215 220

Pro Glu Ser Thr Tyr Ile Arg
225 230

<210> 41
<211> 211
<212> PRT
<213> Malus domestica

<400> 41

Met Val Arg Gly Lys Thr Gln Met Arg Arg Ile Glu Asn Thr Thr Ser
1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ser Leu Ile Ile Phe
35 40 45

Ser Pro Arg Gly Lys Leu Tyr Glu Phe Ala Ser Ser Ser Met Gln Gly
50 55 60

Thr Ile Glu Arg Tyr Gln Lys His Ala Lys Asp Asn Gln Thr Asn Asp
65 70 75 80

Lys Ser Ser Ser Ser Glu Gln Asn His Leu Lys Gln Glu Ala Thr Ser
85 90 95

Met Met Lys Gln Ile Glu Leu Leu Glu Val Ser Lys Arg Lys Leu Leu
100 105 110

Gly Glu Gly Leu Gly Ser Cys Thr Leu Ala Glu Leu Gln Glu Ile Glu
115 120 125

Asp Gln Leu Glu Lys Ser Val Tyr Asn Val Arg Ala Arg Lys Ser Gln
130 135 140

Val Phe Lys Glu Gln Ile Glu Gln Leu Arg Glu Lys Glu Lys Leu Leu
145 150 155 160

Thr Ala Glu Asn Thr Arg Leu Val Glu Lys Tyr Gly Ser Phe Lys Lys
165 170 175

Thr Leu His Glu Arg Arg Glu Lys Thr Pro Tyr Asn Glu Ser Ser Thr
180 185 190

Ser Ser Asp Val Glu Thr Glu Leu Phe Ile Gly Leu Pro Glu Ser Arg
195 200 205

Ala Arg Arg
210

<210> 42
<211> 243
<212> PRT
<213> Malus domestica

<400> 42

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

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

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Gly Leu Ile Ile Phe

35

40

45

Ser Ser Arg Gly Lys Leu Tyr Glu Phe Ala Ser Ala Gly Met Ser Lys
50 55 60

Thr Leu Glu Arg Tyr Gln Arg Cys Ser Phe Thr Pro Pro Glu Asn Ser
65 70 75 80

Ile Glu Arg Glu Thr Gln Ser Trp Tyr Gln Glu Val Thr Lys Leu Lys
85 90 95

Ala Lys Tyr Glu Ser Leu Gln Arg Thr Gln Arg His Leu Leu Gly Glu
100 105 110

Asp Leu Gly Pro Leu Ser Val Lys Glu Leu Gln Asn Leu Glu Lys Gln
115 120 125

Leu Glu Gly Ala Leu Ala Gln Thr Arg Gln Arg Lys Thr Gln Leu Met
130 135 140

Ile Glu Gln Met Glu Asp Leu Arg Lys Lys Glu Arg His Leu Gly Asp
145 150 155 160

Leu Asn Lys Gln Leu Arg Val Lys Leu Glu Ala Glu Gly Gln Asn Leu
165 170 175

Asn Val Ile Gln Asn Met Trp Ser Ser Asp Ala Ala Ala Gly Ser Ser
180 185 190

Asn Phe Ser Leu His Ser Ser Gln Thr Asn Pro Met Asp Cys Thr Pro
195 200 205

Glu Pro Val Ile Gln Met Gly Tyr His Pro Tyr His Pro Ala Glu Gly
210 215 220

Ser Ser Ile Pro Arg Ser Leu Thr Gly Glu Thr Asn Phe Ile Gln Gly
225 230 235 240

Trp Val Leu

<210> 43

<211> 219

<212> PRT

<213> Malus domestica

<400> 43

Met Val Arg Gly Lys Thr Gln Met Lys Arg Ile Glu Asn Ala Ala Ser
1 5 10 15

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

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Val Ile Phe
35 40 45

Ser Ala Arg Gly Lys Leu Tyr Glu Phe Ser Ser Thr Ser Ile Arg Ser
50 55 60

Thr Ile Asp Arg Tyr Gln Met Arg Val Lys Asp Gln Gly Gln Leu Thr
65 70 75 80

Thr Lys Ala Phe Gln Glu Asp Met Glu His Glu Thr Asn Asp Thr Gln
85 90 95

Thr Leu Ala Lys Lys Ile Glu Ser Ile Glu Ala Ser Lys Arg Lys Leu
100 105 110

Leu Gly Asn Asp Leu Glu Ser Cys Ser Met Glu Glu Leu His Gln Thr
115 120 125

Glu Asn Gln Leu Glu Arg Ser Leu Lys Lys Ile Arg Ala Lys Lys His
130 135 140

Gln Leu Leu Arg Glu Gln Ile Asp Lys Leu Lys Glu Glu Glu Lys Asn
145 150 155 160

Leu Leu Glu Gln Asn Ala Lys Leu Arg Glu Met Cys Gly Met Gln Gln
165 170 175

Leu Gly Pro Ser Arg Lys Ser Lys His Gly Asp Asp Arg Glu Val Phe
180 185 190

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

Pro Pro Lys Arg Gln Gln Ser Gly Arg Lys Pro
210 215

<210> 44
<211> 242
<212> PRT
<213> Malus domestica

<400> 44

Met Gly Arg Gly Lys Val Gln Leu Lys Arg Ile Asp Asp Lys Ile Arg
1 5 10 15

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

Arg Glu Leu Ser Val Leu Cys Gly Val Asp Val Gly Leu Val Ile Phe
35 40 45

Ser Pro Lys Gly Arg Leu Tyr Glu Phe Cys Ser Gly Glu Ser Phe Gly
50 55 60

Lys Leu Val Glu Arg Tyr Gln Ile His Asn Asp Glu Glu Ile Gly Thr
65 70 75 80

Ser Lys Asp Ala Gly Gly Thr Asp Lys Lys Asn Asn Ser Glu Gly Ser
85 90 95

Gly Leu Arg Thr Gly Ala Asn Gln Ser Leu Lys Met Ile Gln Ser Asp
100 105 110

Met Glu Ala Gln Asp Ile Glu Asn Leu Asp Ile Pro Glu Leu Thr Gln
115 120 125

Leu Glu Glu Glu Leu Asp Ala Val Leu Arg Arg Thr Arg Ser Arg Lys
130 135 140

Thr Gln Leu Met Thr Glu Thr Cys Thr Ala Leu Ile Glu Thr Glu Lys
145 150 155 160

Gln Leu Lys Glu Glu Lys Leu Leu Leu Glu Asn Glu Ile Ala Ala Leu
165 170 175

Lys Leu Lys Gln Gln Gln Ser Lys Asp Arg Ala Ala Asp Glu Glu Pro
180 185 190

Asp Gln Gln Ser Thr Phe Ala Ala Asn Asn Thr Thr Thr Thr Thr
195 200 205

Asn Ser Cys Cys Ser Asp Asp Asn Val Pro Ala Ile Lys Leu His Leu
210 215 220

Phe Leu Ser Glu Lys Arg Lys His Asn Ala Asp Thr Asp Thr Asp Gln
225 230 235 240

Thr Asn

<210> 45
<211> 120
<212> PRT
<213> Malus domestica

<400> 45

Met Gly Arg Gly Lys Ile Val Ile Arg Arg Ile Asp Asn Ser Thr Ser
1 5 10 15

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

Lys Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Gly Leu Ile Val Phe
35 40 45

Ser Ser Thr Gly Arg Leu Tyr Asp Tyr Ala Ser Thr Arg Lys Cys Ser
50 55 60

Phe Leu Gly Thr Tyr Glu Gly Gly Cys Met Met Gly Lys Ala Glu Phe
65 70 75 80

Leu Asp Val Arg Ile Leu Tyr Leu Gln Val Leu Thr Gln Leu His Lys
85 90 95

Tyr Ile Tyr Arg Gly Arg Phe Cys Gly Asp Ile Lys Lys Thr Asn Phe
100 105 110

Glu Thr Val Arg Phe Val His Phe
115 120

<210> 46

<211> 245

<212> PRT

<213> Malus domestica

<400> 46

Met Ala Asn Glu Asn Lys Ser Leu Ser Ile Asp Ser Pro Gln Arg Lys
1 5 10 15

Leu Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
20 25 30

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
35 40 45

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
50 55 60

Ser Asn Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asn Ser Val Lys Ala
65 70 75 80

Thr Val Glu Arg Tyr Lys Lys Thr Cys Ala Asp Ser Ser Asn Thr Gly
85 90 95

Ser Val Ser Glu Ala Ser Thr Gln Tyr Tyr Gln Gln Glu Ser Ala Lys
100 105 110

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

Gly Asp Ala Leu Ser Ser Met Pro Ile Lys Asp Leu Lys Ser Leu Glu
130 135 140

Ser Lys Leu Glu Lys Gly Ile Ser Arg Ile Arg Ser Lys Lys Asn Glu
145 150 155 160

Leu Leu Phe Ala Glu Ile Glu Tyr Met Gln Lys Arg Glu Leu Asp Leu
165 170 175

His Asn Asn Asn Gln Leu Leu Arg Ala Lys Ile Ala Glu Asn Glu Arg

180

185

190

Gly Gln Gln Asn Ile Asn Val Met Ala Gly Gly Gly Thr Ser Ser Tyr
195 200 205

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

Asn Ala Leu Gln Pro Asn His Gln Tyr Asn Pro Arg His Asp Gln Ile
225 230 235 240

Ser Leu Gln Leu Val
245

<210> 47

<211> 223

<212> PRT

<213> Malus domestica

<400> 47

Met Asp Lys Tyr Asn Lys Val Leu Val Lys Met Gly Arg Gly Lys Val
1 5 10 15

Glu Leu Lys Arg Ile Asp Asn Pro Thr Ser Arg His Val Thr Phe Ser
20 25 30

Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Phe Glu Leu Ser Ile Leu
35 40 45

Cys Asp Ala Glu Val Ala Val Ile Val Phe Ser His Ser Gly Lys Ala
50 55 60

Tyr Glu Phe Ala Ser His Asp Ile Asn Arg Thr Ile Ala Met Tyr Arg
65 70 75 80

Arg Glu Val Gly Leu Pro Glu Pro Asn Asn Ser Thr Phe Arg Arg Ala
85 90 95

Arg Thr Met Glu Tyr Trp Arg Asn Glu Thr Glu Glu Leu Arg Arg Ser
100 105 110

Ile Gln Asn Leu Glu Met Arg Leu Lys His Leu Ala Gly Glu Glu Leu
115 120 125

Ser Thr Leu Gly Met Gln Glu Leu Lys Gln Leu Glu Arg Gln Leu Lys
130 135 140

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

Asn Leu Leu Lys Arg Lys His Lys Glu Leu Arg Glu Glu Asn Lys Arg
165 170 175

Leu Gln Lys Arg Val Lys Leu Gln Glu Phe His Phe Ala Asp Val Thr
180 185 190

Ser Ser Thr Ser Thr Thr Thr Leu Gly Ala Asn Ala Cys Met Ser Ala
195 200 205

Phe Pro Arg Val Met Phe Ser Gln Gln His Gln Leu Leu Pro Asn
210 215 220

<210> 48
<211> 234
<212> PRT
<213> Malus domestica

<400> 48

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

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

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Gly Arg Gly Lys Leu Tyr Glu Phe Ser Ser Ser Leu Ser Met Met
50 55 60

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

Asn Arg Pro Ala Lys Glu Thr Gln Gln Asn Ser Tyr Gln Glu Tyr Leu
85 90 95

Gln Leu Glu Thr Arg Val Asp Val Leu Gln Gln Ser Gln Arg Asn Leu
100 105 110

Leu Gly Glu Asp Leu Ala Thr Leu Asn Thr Lys Glu Leu Glu Glu Leu
115 120 125

Glu His Gln Leu Glu Thr Ser Leu Asn Lys Ile Arg Ser Thr Lys Thr
130 135 140

Gln Phe Met Leu Asp Gln Leu Ser Asp Leu Gln Asn Thr Glu Gln Met
145 150 155 160

Leu Val Glu Ala Asn Lys Ala Leu Arg Arg Lys Leu Glu Glu Thr Ser
165 170 175

Val Gln Ala Pro Gln Phe Met Ala Arg Glu Ala Ala Gly His Gly His
180 185 190

Asn Asn Gly Gln Gln Thr Trp Leu Pro Ser Asn Ser Glu Ala Phe Phe
195 200 205

His Pro Leu Gly Gly Asn Asn Ser Thr Tyr Gln Ile Gly Gly Tyr Ala
210 215 220

Asp Thr Leu Met His Pro Phe Gly Phe Thr
225 230

<210> 49
<211> 249
<212> PRT
<213> Malus domestica

<400> 49

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

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

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Gly Arg Gly Lys Leu Tyr Glu Phe Ser Ser Ser Leu Ser Met Met
50 55 60

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

Asn Arg Pro Ala Asn Glu Thr Gln Gln Asn Ser Tyr Gln Glu Tyr Leu
85 90 95

Gln Leu Glu Thr Arg Val Glu Ala Leu Gln Gln Ser Gln Arg Asn Leu
100 105 110

Leu Gly Glu Asp Leu Ala Thr Leu Asn Thr Lys Lys Leu Glu Glu Leu
115 120 125

Glu His Gln Leu Glu Thr Ser Leu Asn Lys Ile Arg Ser Thr Lys Thr
130 135 140

Gln Phe Met Leu Asp Gln Leu Ser Asp Leu Gln Asn Arg Glu Gln Met
145 150 155 160

Leu Ile Glu Ala Asn Lys Ala Leu Arg Arg Lys Leu Glu Glu Thr Ser
165 170 175

Val Gln Ala Pro Gln Phe Met Ala Trp Glu Ala Ala Gly Asp Gly His
180 185 190

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

His Pro Leu Gly Gly Asn Asn Ser Thr Ser Gln Ile Gly Tyr Ala His
210 215 220

Leu Gly Ser His Asn Gly Met Asp Val Gly Asn Pro Gly Gln His Val
225 230 235 240

Asn Gly Tyr Ile Pro Gly Trp Met Leu
245

<210> 50
<211> 234
<212> PRT
<213> Malus domestica

<400> 50

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

Arg Gln Val Thr Phe Ser Lys Arg Thr Ser Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Thr Lys Gly Lys Leu Phe Glu Tyr Ser Thr Asp Ser Cys Met Glu
50 55 60

Arg Ile Leu Glu Arg Tyr Glu Arg Tyr Ser His Ala Glu Arg Gln Leu
65 70 75 80

Leu Ala Asn Asp Asn Glu Ser Thr Gly Asn Trp Thr Leu Glu His Ala
85 90 95

Lys Leu Lys Ala Arg Val Glu Val Leu Gln Arg Asn Gln Ser His Tyr
100 105 110

Met Gly Glu Asp Leu Gln Ile Leu Ser Phe Gln Glu Leu Gln Asn Leu
115 120 125

Glu Gln Gln Leu Asp Ser Ala Leu Arg Arg Ile Arg Ser Arg Lys Asn
130 135 140

Gln Val Met Tyr Glu Ser Ile Ser Glu Leu Gln Lys Lys Asp Lys Ala
145 150 155 160

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

Lys Ala Val Thr Ser Gln Ala Gln Leu Glu His Ala Gln Lys Gln Ser
180 185 190

Leu Asp Ser Ser Ser Thr Leu Leu Pro Gln Glu Leu Gln Tyr Leu Asn
195 200 205

Phe Arg Trp Arg Glu Asn Ile Trp Glu Lys Arg Gly Met Lys Asp Asp

210

215

220

Trp Lys Val Val Gly Gly Arg Arg Lys Lys
 225 230

<210> 51

<211> 215

<212> PRT

<213> Malus domestica

<400> 51

Met Val Arg Gly Lys Thr Gln Met Arg Arg Ile Glu Asn Ala Thr Ser
 1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
 20 25 30

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ser Leu Ile Ile Phe
 35 40 45

Ser Pro Arg Gly Lys Leu Phe Glu Phe Ala Ser Ser Ser Met Gln Gly
 50 55 60

Thr Ile Glu Arg Tyr Gln Lys His Ala Lys Gly Asn Gln Thr Gly Asn
 65 70 75 80

Lys Ser Ser Ser Asn Glu Gln Asn Met Gln His Leu Lys Gln Lys Ala
 85 90 95

Thr Ser Met Met Lys Gln Leu Glu Leu Leu Glu Val Ser Lys Arg Lys
 100 105 110

Leu Leu Gly Glu Gly Leu Gly Ser Cys Thr Leu Ala Glu Leu Gln Glu
 115 120 125

Ile Glu His Gln Leu Glu Lys Ser Val Asn Asn Val Arg Ala Arg Lys
 130 135 140

Ser Gln Val Phe Lys Glu Gln Ile Glu Gln Leu Arg Glu Lys Glu Lys
 145 150 155 160

Leu Leu Lys Ala Glu Thr Ala Arg Leu Val Glu Lys Cys Gly Ser Phe
 165 170 175

Gln Pro Arg Lys Thr Leu Asp Glu Arg Arg Gln Asn Thr Thr Tyr Thr
 180 185 190

Asp Ser Ser Thr Ser Ser Asp Val Glu Thr Glu Leu Phe Ile Gly Leu
 195 200 205

Pro Glu Ser Arg Ala Arg Arg
 210 215

<210> 52
<211> 202
<212> PRT
<213> Malus domestica

<400> 52

Met Ala Arg Gly Lys Val Gln Met Lys Arg Ile Glu Asn Met Val His
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Ala Gly Leu Leu Lys Lys Ala
20 25 30

Lys Glu Leu Ser Val Leu Cys Asp Ala Glu Ile Gly Val Phe Ile Phe
35 40 45

Ser Ser His Gly Lys Leu Phe Glu Leu Ala Thr Lys Gly Ser Met Gln
50 55 60

Gly Leu Ile Glu Arg Tyr Met Lys Met Lys Ser Thr Arg Ala Pro Gln
65 70 75 80

Thr Glu Gln Thr Met Glu Thr Gln Thr Leu Asp Ala Lys Lys Glu Ile
85 90 95

Asn Trp Met Lys Gln Glu Ile Glu Ile Leu Gln Lys Gly Leu Arg Tyr
100 105 110

Met Phe Asp Gly Gly Ala Gly Thr Met Thr Leu Asp Glu Leu Gln Val
115 120 125

Leu Glu Lys His Leu Glu Thr Trp Ile Tyr His Val Arg Ser Ala Lys
130 135 140

Met Asp Ile Leu Phe Gln Glu Ile Gln Leu Leu Arg Asn Ser Glu Gly
145 150 155 160

Ile Leu Ala Ala Ala Asn Lys Phe Leu Gln Asp Lys Ile Glu Val Asn
165 170 175

Thr Gly Pro Asn Asp Phe Met Pro Ile Ala Thr Asp Asn Thr Tyr Pro
180 185 190

Leu Thr Ile Pro Asn Gly Ile Tyr Glu Phe
195 200

<210> 53
<211> 223
<212> PRT
<213> Malus domestica

<400> 53

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Thr Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ile Arg Asn
50 55 60

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

Ser Val Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala Lys
85 90 95

Leu Arg Gln Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu Met
100 105 110

Gly Asp Ala Leu Ser Thr Leu Thr Val Lys Glu Leu Lys Gln Val Glu
115 120 125

Asn Arg Leu Glu Arg Gly Ile Thr Arg Ile Arg Ser Lys Lys His Glu
130 135 140

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

Glu Asn Glu Asn Val Tyr Leu Arg Thr Lys Val Ser Glu Val Glu Arg
165 170 175

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

Ala Leu Ala Ser Arg His Phe Phe Ser Gln Asn Met Ile Glu Gly Gly
195 200 205

Glu Ala Thr Phe Pro Gln Gln Asp Lys Lys Asn Leu His Leu Gly
210 215 220

<210> 54
<211> 246
<212> PRT
<213> Malus domestica

<400> 54

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

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

Gln Thr Val Asp Arg Tyr Gln Lys Cys Ser Tyr Gly Ala Val Asp Gln
65 70 75 80

Val Asn Ile Pro Ala Lys Glu Leu Glu Ser Ser Tyr Arg Glu Tyr Met
85 90 95

Lys Leu Lys Gly Arg Cys Glu Ser Leu Gln Arg Thr Gln Arg Asn Leu
100 105 110

Leu Gly Glu Glu Leu Gly Pro Leu Asn Thr Lys Glu Leu Glu Gln Leu
115 120 125

Glu Arg Gln Leu Glu Ala Ser Leu Lys Gln Val Arg Ser Thr Lys Thr
130 135 140

Gln Tyr Met Leu Asp Gln Leu Ser Ala Leu Gln Asn Lys Glu Gln Leu
145 150 155 160

Leu Ile Glu Ala Asn Arg Asp Leu Thr Met Lys Leu Asp Glu Ile Gly
165 170 175

Ser Arg Asn Gln Leu Arg Gln Ser Trp Glu Gly Gly Asp Gln Gly Met
180 185 190

Ala Tyr Gly Thr Gln His His His Ala Gln Ser Gln Gly Phe Phe Gln
195 200 205

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

Ser Glu Gln Met Gly Ala Thr Thr His Ala Gln Gln Val Asn Cys Phe
225 230 235 240

Ile Pro Gly Trp Met Leu
245

<210> 55
<211> 242
<212> PRT
<213> Malus domestica

<400> 55

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

Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn Arg
20 25 30

Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr
35 40 45

Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe Ser
50 55 60

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

Ile Asp Arg Tyr Lys Lys Ala Cys Ala Asp Ser Thr Asp Gly Gly Ser
85 90 95

Val Ser Glu Ala Asn Thr Gln Phe Tyr Gln Gln Glu Ala Ser Lys Leu
100 105 110

Arg Arg Gln Ile Arg Glu Ile Gln Asn Ser Asn Arg His Ile Leu Gly
115 120 125

Glu Ser Leu Ser Thr Leu Lys Val Lys Glu Leu Lys Asn Leu Glu Gly
130 135 140

Arg Leu Glu Lys Gly Ile Ser Arg Ile Arg Ser Lys Lys Asn Glu Ile
145 150 155 160

Leu Phe Ser Glu Ile Glu Phe Met Gln Lys Arg Glu Thr Glu Leu Gln
165 170 175

His His Asn Asn Phe Leu Arg Ala Lys Ile Ala Glu Ser Glu Arg Glu
180 185 190

Gln Gln Gln Gln Gln Thr His Met Met Pro Gly Thr Ser Tyr Asp Pro
195 200 205

Ser Met Pro Ser Asn Ser Tyr Asp Arg Asn Phe Phe Pro Val Ile Leu
210 215 220

Glu Ser Asn Asn Asn His Tyr Pro Arg Gln Gly Gln Thr Ala Leu Gln
225 230 235 240

Leu Val

<210> 56
<211> 201
<212> PRT
<213> Malus domestica

<400> 56

Met Gly Arg Gly Lys Val Glu Leu Lys Leu Ile Asp Asp Lys Leu Arg
1 5 10 15

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

Arg Glu Leu Ser Val Leu Cys Gly Val Glu Val Gly Leu Val Ile Phe

35

40

45

Ser Ala Lys Gly Arg Leu Tyr Glu Phe Cys Ser Gly Glu Ser Leu Gly
50 55 60

Lys Leu Leu Glu Arg Tyr Gln Met His Ser Glu Glu Glu Ile Gly Ala
65 70 75 80

Ser Lys Asn Ala Gly Gly Thr Asp Lys Lys His Asn Ser Glu Cys Ser
85 90 95

Asp Leu Arg Ala Gly Ala Asn Arg Ser Pro Lys Met Ile Gln Ser Gly
100 105 110

Arg Glu Ala Gln Asp Leu Glu Asn Leu Asp Val Pro Glu Leu Thr Gln
115 120 125

Leu Glu Glu Glu Leu Asp Ala Leu Leu Arg Gln Thr Arg Ser Arg Lys
130 135 140

Thr Gln Leu Met Met Glu Asn Leu Thr Ala Leu Ile Glu Thr Glu Lys
145 150 155 160

Gln Leu Lys Glu Glu Lys Arg Leu Ile Glu Asn Glu Ile Ala Ala Leu
165 170 175

Lys Leu Lys Glu Gln Ala Glu Gln Gly Leu Ser Cys Arg Arg Gly Thr
180 185 190

Gly Ser Ala Glu His Phe Leu Arg Leu
195 200

<210> 57

<211> 65

<212> PRT

<213> Malus domestica

<400> 57

Met Gly Arg Gly Lys Val Val Ile Arg Arg Ile Asp Asn Leu Thr Ser
1 5 10 15

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

Lys Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Gly Leu Ile Ile Phe
35 40 45

Ser Ser Thr Gly Arg Leu Tyr Asp Tyr Ala Ser Thr Ser Leu His Trp
50 55 60

Asn
65

<210> 58
<211> 234
<212> PRT
<213> Malus domestica

<400> 58

Met Asp Ser Pro Gln Arg Lys Leu Gly Arg Gly Lys Ile Glu Ile Lys
1 5 10 15

Arg Ile Glu Asn Thr Thr Asn Arg Gln Val Thr Phe Cys Lys Arg Arg
20 25 30

Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala
35 40 45

Glu Val Ala Leu Ile Val Phe Ser Asn Arg Gly Arg Leu Tyr Glu Tyr
50 55 60

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

Ala Asp Ser Ser Asn Thr Gly Ser Val Ser Glu Ala Ser Thr Gln Tyr
85 90 95

Tyr Gln Gln Glu Ala Ala Lys Leu Arg Ala Gln Ile Val Lys Leu Gln
100 105 110

Asn Asp Asn Arg Asn Met Met Gly Asp Ala Leu Ser Ser Met Ser Val
115 120 125

Lys Asp Leu Lys Ser Leu Glu Asn Lys Leu Glu Lys Ala Ile Ser Arg
130 135 140

Ile Arg Ser Lys Lys Asn Glu Leu Leu Phe Ala Glu Ile Glu Tyr Met
145 150 155 160

Gln Lys Arg Glu Leu Asp Leu His Asn Asn Asn Gln Leu Leu Arg Ala
165 170 175

Lys Ile Ala Glu Asn Glu Arg Gly Gln Gln Asn Ile Asn Val Met Ala
180 185 190

Gly Gly Gly Ser Tyr Glu Ile Leu Gln Ser Gln Pro Tyr Asp Ser Arg
195 200 205

Asp Tyr Phe Gln Val Asn Val Leu Gln Pro Asn His His His Asn Pro
210 215 220

Arg His Asp Gln Ile Ser Leu Gln Leu Val
225 230

<210> 59
<211> 239
<212> PRT

<213> Malus domestica

<400> 59

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

Arg Gln Val Thr Phe Ser Lys Arg Ser Thr Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Gln Val Ala Leu Ile Val Phe
35 40 45

Ser Asn Lys Gly Lys Leu Leu Glu Tyr Ala Thr Asp Ser Cys Met Glu
50 55 60

Gln Ile Leu Glu Arg Tyr Glu Arg Tyr Ser Tyr Ala Glu Arg Gln Leu
65 70 75 80

Val Glu Pro Asp Phe Glu Ser Gln Gly Asn Trp Thr Phe Glu Tyr Ser
85 90 95

Arg Leu Lys Ala Lys Val Glu Val Leu Gln Arg Asn His Arg His Tyr
100 105 110

Leu Gly Glu Asp Leu Asp Ser Leu Thr Leu Lys Asp Ile Gln Ser Leu
115 120 125

Glu Gln Gln Leu Asp Thr Ala His Lys Gln Ile Arg Leu Arg Lys Asn
130 135 140

Gln Leu Met His Glu Ser Ile Thr Glu Leu Gln Arg Lys Glu Lys Ala
145 150 155 160

Ile Gln Glu Gln Asn Asn Leu Leu Ala Lys Lys Ile Lys Glu Lys Glu
165 170 175

Lys Ala Ala Ala Gln Pro Gln Val Gln Asn Trp Glu Gln Gln Asn His
180 185 190

Asp Leu Asp Leu Leu Pro Gln Pro Leu Pro Cys Leu Asn Ile Gly Gly
195 200 205

Thr Gln Gln Asp Glu Phe Leu Gln Val Arg Arg Asn Gln Leu Asp Leu
210 215 220

Thr Leu Glu Pro Phe Tyr Ser Cys His Leu Gly Cys Phe Ala Ala
225 230 235

<210> 60

<211> 235

<212> PRT

<213> Malus domestica

<400> 60

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Thr Ser Gly Lys Leu Tyr Glu Phe Cys Ser Gly Pro Ser Ile Ala
50 55 60

Lys Thr Leu Glu Arg His Gln Arg Cys Thr Tyr Gly Glu Leu Gly Ala
65 70 75 80

Ser Gln Ser Ala Glu Asp Glu Gln Ser Arg Tyr Gln Glu Tyr Leu Lys
85 90 95

Leu Lys Thr Lys Val Glu Ala Leu Gln Arg Thr Gln Arg His Leu Leu
100 105 110

Gly Glu Asp Leu Val His Leu Gly Thr Lys Glu Leu Gln Gln Leu Glu
115 120 125

Asn Gln Leu Asp Val Ser Met Lys Lys Ile Arg Ser Thr Lys Thr Gln
130 135 140

Phe Met His Val Gln Ile Ser Glu Leu Gln Arg Lys Glu Glu Met Leu
145 150 155 160

Leu Glu Ala Asn Thr Gly Leu Arg Arg Lys Leu Glu Glu Ile Thr Ala
165 170 175

Gly His Gln Arg Ser Trp Asn Gly Asn His Gln Ala Ala Gln Leu Glu
180 185 190

Gly Phe Pro Glu His Leu Gln Tyr Asn Asn Ala Leu Gln Ile Gly Thr
195 200 205

Pro Val Val Thr Asn Asp Glu Ala Asn Val Ala Thr Ser Ser Ala Gln
210 215 220

Asn Gly Thr Gly Phe Phe Pro Gly Trp Met Leu
225 230 235

<210> 61
<211> 239
<212> PRT
<213> Malus domestica

<400> 61

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ser Thr Leu
50 55 60

Lys Thr Leu Glu Arg Tyr Gln Lys Cys Asn Tyr Gly Ala Pro Glu Thr
65 70 75 80

Asn Ile Ser Thr Arg Glu Ala Leu Glu Leu Ser Ser Gln Gln Glu Tyr
85 90 95

Leu Lys Leu Lys Ala Arg Phe Glu Ala Leu Gln Arg Asn Gln Arg Asn
100 105 110

Leu Leu Gly Glu Asp Leu Gly Pro Leu Ser Ser Lys Asp Leu Glu Ser
115 120 125

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

Thr Gln Cys Met Leu Asp Gln Leu Thr Asp Leu Gln Arg Lys Glu His
145 150 155 160

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

Tyr His Ala Leu Gln Leu Asn Ala Asn Ala Asp Glu Tyr Gly Arg Gln
180 185 190

Gln Ala Gln Ala Ala Gln Gly Asp Val Phe Phe His Pro Leu Asp Cys
195 200 205

Glu Pro Thr Leu Gln Ile Gly Tyr Gln Asn Asp Pro Ile Ser Val Val
210 215 220

Thr Ala Gly Pro Ser Val Ser Asn Tyr Met Gly Gly Trp Leu Pro
225 230 235

<210> 62
<211> 204
<212> PRT
<213> Malus domestica

<400> 62

Met Gly Arg Gly Lys Val Glu Leu Lys Arg Ile Asp Asn Pro Thr Ser
1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala

20

25

30

Phe Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Pro Ser Gly Lys Ala Tyr Gln Phe Ala Ser His Asp Ile Thr Arg
50 55 60

Thr Ile Ser Met Tyr Arg Arg Glu Val Gly Leu Pro Glu Ser Asn Asn
65 70 75 80

Ser Ser Phe Leu Arg Ala Arg Thr Met Glu Tyr Trp Arg Asn Glu Asn
85 90 95

Glu Glu Leu Arg Arg Ser Ile Gly Asn Leu Glu Met Arg Leu Met Asn
100 105 110

Leu Ala Gly Glu Glu Leu Ser Thr Leu Gly Val Gln Glu Leu Lys Gln
115 120 125

Leu Glu Arg Gln Leu Lys Thr Gly Val Glu Arg Ile Arg Ser Lys Met
130 135 140

Arg Arg Ile Ile Ser Glu Asn Val Ser Leu Leu Lys Arg Lys His Lys
145 150 155 160

Ala Ser Gln Glu Glu Asn Thr His Leu Leu Lys Arg Ile Lys Leu His
165 170 175

Glu Leu Asn Val Ala Asp Ala Ser Cys Ser Thr Thr Thr Val Gly Ala
180 185 190

Asn Ala Arg Ile Ser Ala Phe Pro Ser Glu Leu Ile
195 200

<210> 63

<211> 249

<212> PRT

<213> Malus domestica

<400> 63

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Ser Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Phe Ser Met Met
50 55 60

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

Asn Leu Pro Ala Asn Glu Thr Gln Gln Asn Ser Tyr Gln Asp Tyr Leu
85 90 95

Met Leu Lys Ala Arg Val Glu Val Leu Gln Gln Ser Gln Arg Asn Leu
100 105 110

Leu Gly Glu Asp Leu Ser His Leu Asn Thr Lys Glu Leu Glu His Leu
115 120 125

Glu His Gln Leu Glu Thr Ser Leu Lys Gln Ile Arg Ser Arg Lys Thr
130 135 140

Gln Phe Ile Leu Asp Gln Leu Ser Asp Leu Gln Asn Arg Glu Gln Met
145 150 155 160

Leu Val Glu Ala Asn Lys Ala Leu Lys Arg Lys Leu Glu Glu Thr Ser
165 170 175

Val Gln Ala Pro Glu Gly Met Ala Trp Glu Ala Ala Gly His Gly Pro
180 185 190

Asn Asn Ile Gln Gln Thr Arg Leu Pro Ser His Ser Glu Ala Phe Phe
195 200 205

His Pro Leu Glu Gly Asn Asn Ser Ser Ser Gln Ile Gly Tyr Thr His
210 215 220

Met Gly Ser Asp Asn Glu Met Asn Val Gly Asn Pro Gly Gln Tyr Val
225 230 235 240

Asn Gly Tyr Ile Pro Gly Trp Met Leu
245

<210> 64
<211> 255
<212> PRT
<213> Malus domestica

<400> 64

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

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Met Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

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

Arg Ile Leu Glu Arg Tyr Glu Arg Tyr Ser Tyr Thr Glu Arg Gln Leu
65 70 75 80

Leu Ala Asn Asp Asn Glu Ser Thr Gly Ser Trp Thr Leu Glu His Ala
85 90 95

Lys Leu Lys Ala Arg Val Glu Val Leu Gln Arg Asn Gln Arg His Tyr
100 105 110

Met Gly Glu Asp Leu Gln Ser Leu Ser Leu Lys Glu Leu Gln Asn Leu
115 120 125

Glu Gln Gln Leu Asp Ser Ala Leu Lys His Ile Arg Ser Arg Lys Asn
130 135 140

Gln Val Met Tyr Glu Ser Ile Ser Glu Leu Gln Lys Lys Asp Lys Ala
145 150 155 160

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

Asn Ala Val Ala Gln Gln Ala Gln Leu Glu His Val Gln Glu Gln Arg
180 185 190

Leu Asn Ser Ser Ser Ser Leu Leu Pro Arg Ala Leu Gln Ser Leu Asn
195 200 205

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

Pro Gly Asp Asn Gln Gln Tyr Gly Asp Glu Thr Pro Thr Pro His Arg
225 230 235 240

Pro Asn Met Leu Leu Pro Ala Trp Met Leu Arg His Leu Asn Glu
245 250 255

<210> 65
<211> 202
<212> PRT
<213> Malus domestica

<400> 65

Met Ala Arg Gly Lys Val Gln Met Lys Arg Ile Glu Asn Pro Val His
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Val Gly Leu Leu Lys Lys Ala
20 25 30

Lys Glu Leu Ser Val Leu Cys Asp Ala Glu Ile Gly Val Phe Ile Phe
35 40 45

Ser Ser His Gly Lys Leu Phe Glu Leu Ala Thr Lys Gly Ser Met Gln
50 55 60

Gly Leu Ile Glu Arg Tyr Met Lys Met Lys Pro Thr Arg Val Ser Gln
65 70 75 80

Val Glu Gln Thr Val Glu Thr Gln Thr Leu Asp Ala Lys Lys Glu Ile
85 90 95

Asn Leu Leu Lys Gln Glu Ile Glu Ile Leu Gln Lys Gly Leu Arg Tyr
100 105 110

Met Phe Asp Gly Gly Ala Gly Thr Met Thr Leu Asp Glu Leu Gln Val
115 120 125

Leu Glu Lys Asn Leu Glu Ile Trp Ile Tyr His Val Arg Ser Ala Lys
130 135 140

Met Asp Ile Leu Phe Gln Glu Ile Gln Leu Leu Arg Asn Ser Glu Gly
145 150 155 160

Val Leu Thr Ala Ala Asn Lys Tyr Leu Gln Asp Lys Ile Glu Glu Asn
165 170 175

Thr Gly Val Thr Asn Phe Ile Pro Met Ala Thr Asp Asn Thr Tyr Pro
180 185 190

Phe Thr Ile Pro Asp Asp Ile Phe Glu Cys
195 200

<210> 66
<211> 222
<212> PRT
<213> Malus domestica

<400> 66

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Ile Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ile Arg Asn
50 55 60

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

Ser Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala Lys
85 90 95

Leu Arg Gln Gln Ile Gln Met Leu Gln Asn Tyr Asn Arg His Leu Met

			100						105						110					
Gly	Asp	Ala 115	Leu	Ser	Asn	Leu	Thr 120	Val	Lys	Glu	Leu	Lys 125	Gln	Leu	Glu					
Asn	Arg 130	Leu	Glu	Arg	Gly	Met 135	Thr	Arg	Ile	Arg	Ser 140	Lys	Lys	Asp	Glu					
Met 145	Leu	Ile	Ala	Glu	Ile 150	Glu	Tyr	Leu	Gln	Lys 155	Lys	Glu	Ile	Glu	Leu 160					
Glu	Asn	Glu	Asn	Val 165	Tyr	Leu	Arg	Thr	Lys 170	Ile	Ser	Glu	Val	Glu 175	Arg					
His	Gln	Ala	Asn 180	Met	Val	Ser	Val	Pro 185	Glu	Met	Asn	Ala	Ile 190	Gln	Ala					
Leu	Ala	Ser 195	Arg	Asn	Phe	Phe	Ser 200	Gln	Asn	Ile	Ile	Glu 205	Gly	Gly	Gly					
Ala	Thr 210	Phe	Pro	Gln	Gln	Asn 215	Lys	Lys	Ile	Leu	His 220	Leu	Gly							
<210>	67																			
<211>	239																			
<212>	PRT																			
<213>	Malus domestica																			
<400>	67																			
Met 1	Gly	Arg	Gly	Arg 5	Val	Gln	Leu	Lys	Arg 10	Ile	Glu	Asn	Lys	Ile 15	Asn					
Arg	Gln	Val	Thr 20	Phe	Ser	Lys	Arg	Arg 25	Thr	Gly	Leu	Leu	Lys 30	Lys	Ala					
His	Glu	Ile 35	Ser	Val	Leu	Cys	Asp 40	Ala	Gln	Val	Ala	Leu 45	Ile	Val	Phe					
Ser	Asn 50	Lys	Gly	Lys	Leu	Phe 55	Glu	Tyr	Ala	Thr	Asp 60	Ser	Cys	Met	Glu					
Gln 65	Ile	Leu	Glu	Arg	Tyr 70	Glu	Arg	Tyr	Ser	Tyr 75	Ala	Glu	Arg	Gln	Leu 80					
Val	Glu	Pro	Asp	Phe 85	Glu	Ser	Gln	Gly	Asn 90	Trp	Thr	Phe	Glu	Tyr 95	Ser					
Arg	Leu	Lys	Ala 100	Lys	Ala	Glu	Val	Leu 105	Gln	Arg	Asn	His	Arg 110	His	Tyr					
Leu	Gly	Glu 115	Asp	Leu	Asp	Ser	Leu 120	Thr	Leu	Lys	Glu	Ile 125	Gln	Asn	Leu					

Glu Gln Gln Leu Asp Thr Ala Leu Lys Gln Ile Arg Leu Arg Lys Asn
130 135 140

Gln Leu Met Asn Glu Ser Ile Ser Glu Leu Gln Arg Lys Arg Lys Ala
145 150 155 160

Ile Gln Glu Glu Asn Asn Leu Leu Ala Lys Lys Ile Lys Glu Lys Glu
165 170 175

Lys Ala Ala Ala Gln Pro Gln Val Gln Asn Trp Glu Gln Gln Asn His
180 185 190

Gly Leu Asp Leu Leu Pro Gln Pro Leu Pro Cys Leu Asn Asn Gly Gly
195 200 205

Thr Gln Gln Asp Glu Phe Leu Gln Val Arg Arg Asn Gln Leu Asp Leu
210 215 220

Thr Leu Glu Pro Leu Tyr Glu Cys His Leu Gly Cys Phe Ala Ala
225 230 235

<210> 68
<211> 237
<212> PRT
<213> Malus domestica

<400> 68

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Lys Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Thr Arg Gly Lys Leu Ser Glu Phe Ser Ser Gly Pro Ser Met Ala
50 55 60

Lys Thr Leu Glu Arg Tyr Gln Arg Cys Thr Tyr Gly Glu Leu Gly Ala
65 70 75 80

Ser Gln Ser Ala Glu Asp Glu Gln Ser Arg Tyr Gln Asp Tyr Leu Lys
85 90 95

Leu Lys Thr Lys Val Glu Ala Leu Gln Arg Thr Gln Arg His Phe Leu
100 105 110

Gly Glu Asp Leu Val His Leu Gly Met Thr Glu Leu Gln Gln Leu Glu
115 120 125

Asn Gln Leu Asp Met Ser Leu Lys Lys Ile Arg Ser Thr Lys Thr Gln
130 135 140

Phe Met His Val Gln Ile Ser Glu Leu Gln Arg Lys Glu Glu Met Leu
145 150 155 160

Leu Glu Ala Asn Thr Gly Leu Arg Arg Lys Leu Glu Glu Ser Thr Ala
165 170 175

Asp Leu Gln Arg Ser Trp Asn Ser His His Gln Ala Ala Gln Leu Glu
180 185 190

Gly Phe Pro Glu His Leu Gln Phe Asn Asn Thr Leu Gln Ile Gly Tyr
195 200 205

Ser Thr Pro Ala Val Thr Asn Asp Glu Val Asn Val Ala Thr Ser Ser
210 215 220

Glu Gln Ser Arg Arg Gly Phe Ile Pro Gly Trp Met Leu
225 230 235

<210> 69
<211> 202
<212> PRT
<213> Malus domestica

<400> 69

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Arg Leu Ser
50 55 60

Val Ser Ala Ser Ala Leu Leu Leu Asp Leu Gln Gln Glu Ile Lys Ile
65 70 75 80

Asn Pro Ile Lys Arg Arg Ser Leu Ile Ser His His Ser Ser Leu Thr
85 90 95

Val Phe Phe His Asn Ser Pro Ser Val Ser Ala Gly Ser His Leu Cys
100 105 110

Ser Tyr Thr Glu Asn Leu Gly Arg Glu Phe Phe Ser Ile Phe Leu Lys
115 120 125

Ile Lys Leu Ser Phe Leu Glu Ile Leu Ile Gln Lys Gln Glu Leu Asn
130 135 140

Tyr Pro Val Phe Pro Val Pro His Leu Gly Leu Asn Ile Phe Ser Tyr
145 150 155 160

Thr Val Leu Ile Ile Ser Ser Leu Phe Lys Phe Asn Phe Tyr Glu Ile
165 170 175

Gly Leu Ile Leu Ser Phe Phe Ser Ile Phe Val Phe Arg Phe Leu Val
180 185 190

Ser Gln Met His Gly Asn Val Lys Lys Phe
195 200

<210> 70
<211> 225
<212> PRT
<213> Malus domestica

<400> 70

Met Gly Arg Gly Lys Val Gln Leu Lys Arg Ile Asp Asp Lys Ile Arg
1 5 10 15

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

Arg Glu Leu Ser Val Leu Cys Gly Val Glu Val Gly Leu Val Ile Phe
35 40 45

Ser Thr Lys Gly Arg Leu Tyr Glu Phe Cys Ser Gly Ser Ser Phe Ala
50 55 60

Lys Leu Leu Glu Arg Tyr Gln Gln His Asn Ala Glu Glu Ile Ala Ala
65 70 75 80

Ser Lys Asn Ala Gly Asp Thr Asp Lys Lys His Asn Leu Glu Cys Ser
85 90 95

Gly Leu Arg Thr Gly Ala Ser Arg Ser Leu Lys Met Ile Gln Ser Asp
100 105 110

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

Leu Glu Glu Glu Leu Asp Ala Val Leu Arg Gln Thr Arg Ser Arg Lys
130 135 140

Thr Gln Leu Met Met Glu Thr Leu Thr Ala Leu Ile Glu Gln Glu Lys
145 150 155 160

Gln Leu Lys Glu Glu Lys Leu Leu Leu Glu Asn Glu Ile Ala Ala Lys
165 170 175

Glu Gln Gln Ile Arg Asp Arg Ala Ala Asp Glu Glu Pro Val Gln Gln
180 185 190

Asn Thr Ser Ala Ala Asn His Thr Thr Thr Thr Thr Ser Asn Asn Asn

195

200

205

Asn Asn Cys Ser Ser Asp Asp Val Pro Ala Thr Ile Leu Arg Leu
 210 215 220

Phe
 225

<210> 71
 <211> 246
 <212> PRT
 <213> Malus domestica

<400> 71

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
 35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ile Leu
 50 55 60

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

Val Asn Arg Pro Ala Lys Glu Leu Glu Ser Ser Tyr Arg Glu Tyr Met
 85 90 95

Lys Leu Lys Gly Arg Tyr Glu Ser Leu Gln Arg Thr Gln Arg Asn Leu
 100 105 110

Leu Gly Glu Asp Leu Gly Pro Leu Asn Thr Lys Glu Leu Glu Gln Leu
 115 120 125

Glu Arg Gln Leu Glu Gly Ser Leu Lys Gln Val Arg Ser Thr Lys Thr
 130 135 140

Gln Tyr Met Leu Asp Gln Leu Ser Asp Leu Gln Asn Lys Glu Gln Leu
 145 150 155 160

Leu Ile Glu Ala Asn Arg Asp Leu Thr Met Lys Leu Asp Glu Ile Ser
 165 170 175

Ser Arg Asn Gln Leu Arg Gln Ser Trp Glu Gly Gly Asp Gln Gly Met
 180 185 190

Ala Tyr Ala Thr Gln His His His Ala Gln Ser Gln Gly Phe Phe Gln
 195 200 205

Pro Leu Asp Cys Asn Pro Thr Leu Gln Met Gly Tyr Ser Ala Val Gly
210 215 220

Ser Glu Gln Met Ser Ala Thr Thr Asn Ala Gln Gln Val Asn Cys Phe
225 230 235 240

Ile Pro Gly Trp Met Leu
245

<210> 72
<211> 262
<212> PRT
<213> Malus domestica

<400> 72

Met Gly Arg Gly Lys Val Gln Leu Lys Arg Ile Glu Asn Thr Ile Ser
1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Thr Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Asp Val Ala Leu Ile Val Phe
35 40 45

Ser Thr Lys Gly Lys Leu Phe Glu Tyr Ser Thr Asp Ser Ser Met Glu
50 55 60

Arg Ile Leu Asp Arg Tyr Glu Gln Tyr Thr Val Ala Glu Arg Gln Leu
65 70 75 80

Asn Gly Thr Asn Ser Glu Ser Gln Glu Asn Trp Cys Val Glu Tyr Pro
85 90 95

Lys Leu Ala Ala Arg Ile Glu Val Ile Gln Arg Lys Leu Arg Asn Phe
100 105 110

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

Glu Gln Gln Leu Asp Thr Ala Leu Lys Arg Ile Arg Thr Arg Lys Asn
130 135 140

Gln Leu Met His Glu Ser Ile Ser Glu Met His Lys Lys Gln Lys Ala
145 150 155 160

Leu Arg Glu Leu Asn Asn Ser Leu Ala Lys Gln Val Lys Glu Asn Gly
165 170 175

Lys Met Leu Glu Glu Glu His Asp Gln Val Gln Val Val Gly Arg Gln
180 185 190

Gln Gln Thr Asn Gln Gly Arg His Asn Ser Ser Thr Leu Met Leu Met
195 200 205

Pro Pro Pro Gln Pro Pro Ser Thr Pro Ser Leu Pro Thr Ser Arg Ser
210 215 220

Thr Ser Gly Gly Phe Gln Ala Arg Gly Ala Thr Asp Gly Asp Tyr Glu
225 230 235 240

Gly Arg Pro Arg Pro Pro Ala Ala Lys Asn Thr His Met Pro Leu Trp
245 250 255

Met Leu Ser Pro Phe Gly
260

<210> 73
<211> 240
<212> PRT
<213> Prunus persica

<400> 73

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Glu Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ser Met Leu
50 55 60

Lys Thr Leu Glu Arg Tyr Gln Lys Cys Asn Tyr Gly Ala Pro Glu Thr
65 70 75 80

Asn Val Ser Ala Arg Glu Ala Leu Glu Leu Ser Ser Gln Gln Glu Tyr
85 90 95

Leu Lys Leu Lys Ala Arg Tyr Glu Ala Leu Gln Arg Asn Gln Arg Asn
100 105 110

Leu Leu Gly Glu Asp Leu Gly Pro Leu Ser Ser Lys Glu Leu Glu Ser
115 120 125

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

Thr Gln Cys Met Leu Asp Gln Leu Thr Asp Leu Gln Arg Lys Glu His
145 150 155 160

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

Tyr His Val Asn Ser Leu Gln Met Asn Pro Asn Ala Asp Glu Tyr Gly
180 185 190

Arg Gln Gln Thr Gln Ala His Gly Asp Gly Phe Phe His Pro Leu Asp
195 200 205

Cys Glu Pro Thr Leu Gln Ile Gly Tyr Gln Asn Asp Pro Ile Ser Val
210 215 220

Val Thr Ala Gly Pro Ser Val Ser Asn Tyr Met Ala Gly Trp Leu Pro
225 230 235 240

<210> 74
<211> 249
<212> PRT
<213> Prunus persica
<400> 74

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

Gln Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Thr Arg Gly Lys Leu Tyr Glu Phe Cys Ser Gly Ser Ser Met Glu
50 55 60

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

Ser Gln Pro Ala Gln Asp Ser Gln Ser Arg Tyr Gln Asp Tyr Leu Asn
85 90 95

Leu Lys Ala Lys Val Glu Val Leu Gln Arg Thr Gln Arg Asn Phe Leu
100 105 110

Gly Glu Asp Leu Gly His Leu Gly Thr Lys Glu Leu Gln Gln Leu Glu
115 120 125

Asn Gln Leu Asp Met Ser Leu Arg Gln Ile Arg Ser Thr Lys Thr Gln
130 135 140

Val Met His Gly Gln Ile Ser Asp Leu Leu Arg Lys Glu Gln Met Leu
145 150 155 160

Leu Glu Ala Asn His Glu Leu Arg Arg Lys Leu Glu Glu Cys Asp Ala
165 170 175

Thr Ile Glu Arg Tyr Ser Arg Thr Thr Lys Glu Gln Asn Gln Asn Val
180 185 190

Pro Asn Ser Ser His His Gln Ala Ala Gln Phe Glu Gly Val Leu Asp

195

200

205

His Ser Gln Cys Asn Asn Thr Leu Gln Ile Gly Tyr Asn Pro Pro Glu
 210 215 220

Val Thr Asp His His Gly Leu Gln Ser Ser Thr Gln Ser His Ser Gly
 225 230 235 240

Leu Phe Val Pro Gly Thr Trp Val Leu
 245

<210> 75

<211> 238

<212> PRT

<213> Prunus persica

<400> 75

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

Arg Gln Val Thr Phe Ser Lys Arg Arg Thr Gly Leu Leu Lys Lys Ala
 20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Gln Val Ala Leu Val Val Phe
 35 40 45

Ser Asn Lys Gly Lys Leu Cys Glu Tyr Ala Thr Asp Ser Cys Met Asp
 50 55 60

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

Val Glu Pro Asp Ile Glu Ser Gln Cys Asn Trp Thr Phe Glu Tyr Ser
 85 90 95

Arg Leu Lys Ala Lys Val Glu Leu Leu Gln Arg Asn Gln Arg His Tyr
 100 105 110

Leu Gly Glu Asp Leu Asp Ser Leu Thr Leu Lys Glu Ile Gln Ser Leu
 115 120 125

Glu His Gln Leu Glu Thr Ala Leu Lys Gln Ile Arg Ser Arg Lys Asn
 130 135 140

Gln Leu Met His Glu Ser Ile Ser Glu Leu Gln Arg Lys Glu Arg Ala
 145 150 155 160

Met Gln Glu Gln Asn Asn Leu Leu Ala Lys Lys Ile Lys Glu Lys Glu
 165 170 175

Lys Ala Ala Ala Glu Glu Val His Asn Trp Glu Gln Gln Asn Asn Gly
 180 185 190

Leu Asn Leu Leu Pro Gln Pro Leu Pro Cys Leu Asn Met Gly Gly Thr
195 200 205

Gln Gln Asp Glu Phe Leu Gln Val Arg Arg Asn Gln Leu Asp Leu Thr
210 215 220

Leu Glu Pro Leu Tyr Ser Cys Asn Leu Gly Cys Phe Ala Ala
225 230 235

<210> 76
<211> 70
<212> PRT
<213> Prunus persica

<400> 76

Met Gly Arg Gly Lys Ile Val Ile Arg Arg Ile Asp Asn Ser Thr Ser
1 5 10 15

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

Lys Glu Leu Ala Ile Leu Cys Asp Ala Glu Val Gly Val Met Ile Phe
35 40 45

Ser Ser Thr Gly Lys Leu Tyr Asp Phe Ala Ser Thr Arg Phe Arg Phe
50 55 60

Ile Ala Ile Trp Thr Ala
65 70

<210> 77
<211> 204
<212> PRT
<213> Prunus persica

<400> 77

Met Ala Arg Gly Lys Val Gln Met Lys Lys Ile Glu Asn Pro Val His
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Ala Gly Leu Leu Lys Lys Ala
20 25 30

Lys Glu Leu Ser Val Leu Cys Asp Ala Asp Ile Gly Ile Leu Ile Phe
35 40 45

Ser Ser His Gly Lys Leu Phe Glu Leu Ala Thr Lys Gly Asn Met Gln
50 55 60

Gly Leu Ile Glu Lys Tyr Met Lys Met Lys Pro Pro Arg Val Ser Gln
65 70 75 80

Ala Asp Gln Ala Ile Glu Thr Gln Thr Leu Asp Ala Lys Lys Glu Ile
85 90 95

Asn Leu Leu Lys Gln Glu Ile Glu Ile Leu Gln Lys Gly Leu Arg Tyr
100 105 110

Met Phe Gly Gly Gly Ala Gly Thr Met Thr Leu Asp Glu Leu Gln Val
115 120 125

Leu Glu Lys His Leu Glu Val Trp Ile Tyr His Val Arg Ser Ala Lys
130 135 140

Met Asp Val Leu Phe Gln Glu Ile Gln Leu Leu Arg Asn Ser Glu Gly
145 150 155 160

Ile Leu Thr Ala Ala Asn Lys Tyr Leu Gln Asp Lys Ile Val Glu Glu
165 170 175

Asn Ile Gly Val Thr Asn Ile Thr Pro Met Ala Ser Asp Asn Pro Tyr
180 185 190

Pro Leu Thr Ile Pro Asp Asp Asp Ile Phe Gln Ile
195 200

<210> 78
<211> 222
<212> PRT
<213> Prunus persica

<400> 78

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
50 55 60

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

Thr Ser Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
85 90 95

Lys Leu Arg Gln Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
100 105 110

Met Gly Asp Ala Leu Ser Thr Leu Ser Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Ile Asn Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Lys Glu Ile Glu
145 150 155 160

Leu Glu Asn Glu Asn Val Cys Leu Arg Thr Lys Ile Ser Glu Val Glu
165 170 175

Arg Leu Gln Gln Ala Asn Met Val Gly Pro Glu Leu Asn Ala Ile Gln
180 185 190

Ala Leu Ala Ser Arg Asn Phe Phe Ser Gln Asn Met Met Glu Gly Gly
195 200 205

Ala Thr Tyr Pro Gln Gln Asp Lys Lys Ile Leu His Leu Gly
210 215 220

<210> 79
<211> 244
<212> PRT
<213> Prunus persica

<400> 79

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

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

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Ser Arg Gly Lys Leu His Glu Phe Gly Ser Ala Gly Met Thr Lys
50 55 60

Thr Leu Glu Arg Tyr Gln His Ser Cys Phe Asn Pro Glu Glu Asn Ser
65 70 75 80

Thr Glu Arg Glu Ala Gln Ser Trp Tyr Gln Glu Val Thr Lys Leu Lys
85 90 95

Ala Lys Tyr Glu Ser Leu Leu Arg Thr Gln Arg Gln Leu Leu Gly Glu
100 105 110

Asp Leu Gly Pro Leu Asn Val Lys Glu Leu Gln Asn Leu Glu Lys Gln
115 120 125

Leu Glu Gly Ala Leu Ala Gln Ala Arg Gln Arg Lys Thr Gln Leu Met
130 135 140

Ile Glu Gln Met Glu Asp Leu Arg Lys Lys Glu Arg His Leu Gly Asp
145 150 155 160

Leu Asn Lys Gln Leu Arg Val Lys Leu Glu Thr Glu Gly Gln Asn Leu
165 170 175

Lys Ala Ile Gln Asn Met Trp Ser Ser Asn Ala Ala Ala Gly Ser Ser
180 185 190

Ser Phe Ser Phe His Ser Ser Gln Thr Asn Pro Met Asp Cys Gln Pro
195 200 205

His Glu Pro Val Leu Gln Ile Gly Tyr His Gln Tyr Leu Pro Ala Glu
210 215 220

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

Gly Trp Val Leu

<210> 80
<211> 215
<212> PRT
<213> Prunus persica

<400> 80

Met Val Arg Gly Lys Thr Gln Met Arg Arg Ile Glu Asn Ala Thr Ser
1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Pro Arg Gly Lys Leu Tyr Glu Phe Ala Ser Ser Ser Met Gln Thr
50 55 60

Thr Ile Glu Arg Tyr Gln Lys His Thr Lys Asp Asn His Thr Ser Asn
65 70 75 80

Lys Ser Val Ser Thr Asp Gln Asn Met Gln His Leu Lys Gln Glu Ser
85 90 95

Ser Ser Met Met Lys Gln Ile Glu Leu Leu Glu Val Ser Lys Arg Lys
100 105 110

Leu Leu Gly Glu Gly Leu Gly Ser Cys Thr Ile Glu Glu Leu Gln Glu
115 120 125

Ile Glu Gln Gln Leu Glu Arg Ser Val Ser Asn Val Arg Ala Arg Lys
130 135 140

Thr Gln Val Phe Lys Glu Gln Ile Asp Gln Leu Arg Glu Lys Gly Lys
145 150 155 160

Ala Leu Ala Ala Glu Asn Glu Arg Leu Ile Glu Lys Cys Gly Lys Ile

165

170

175

Gln Pro Arg Lys Ala Ser Asn Glu Gln Arg Glu Asn Leu Ala Tyr Thr
 180 185 190

Glu Ser Ser Pro Ser Ser Asp Val Glu Thr Glu Leu Phe Ile Gly Leu
 195 200 205

Pro Glu Arg Arg Met Lys Arg
 210 215

<210> 81

<211> 217

<212> PRT

<213> Prunus persica

<400> 81

Met Val Arg Gly Lys Ile Glu Met Lys Arg Ile Glu Asn Ala Thr Ser
 1 5 10 15

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

Phe Glu Leu Ser Val Leu Cys Asp Ala Gln Val Ser Val Ile Ile Phe
 35 40 45

Ser Gln Lys Gly Arg Leu Tyr Glu Phe Ser Ser Ser Asp Met Gln Asp
 50 55 60

Thr Ile Lys Arg Tyr His Lys His Ala Lys Ala Gly Gln Thr Asn Lys
 65 70 75 80

Ile Glu Val Glu Glu Tyr Val Glu Gln Leu Lys His Glu Ser Thr Ala
 85 90 95

Met Ala Lys Lys Ile Glu Asn Leu Glu Ala Ser Gln Arg Lys Leu Leu
 100 105 110

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

Gly Gln Leu Glu Arg Ser Val Arg Lys Ile Arg Glu Arg Lys Ala His
 130 135 140

Leu Phe Ala Glu Gln Met Glu Gln Leu Arg Ala Lys Glu Arg Leu Leu
 145 150 155 160

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

Gln Leu Leu Leu Gln Gln Gln Leu Ser Val Glu Glu Lys Gly Ala Val
 180 185 190

Ser Tyr Trp Ser Gln Ser Ser Leu Ser Ser Glu Val Glu Thr Glu Leu
195 200 205

Phe Ile Gly Pro Pro Val Thr Arg Cys
210 215

<210> 82
<211> 244
<212> PRT
<213> Prunus persica

<400> 82

Met Glu Phe Pro Asn Gln Ala Pro Glu Ser Ser Ser Gln Arg Lys Ile
1 5 10 15

Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn Arg
20 25 30

Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr
35 40 45

Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe Ser
50 55 60

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

Ile Asp Arg Tyr Lys Lys Ala Cys Thr Asp Ser Thr Asn Gly Gly Ser
85 90 95

Val Ser Glu Ala Asn Thr Gln Phe Tyr Gln Gln Glu Ser Ser Lys Leu
100 105 110

Arg Arg Gln Ile Arg Glu Ile Gln Asn Ser Asn Arg His Ile Leu Gly
115 120 125

Glu Ala Leu Ser Thr Leu Asn Ile Lys Glu Leu Lys Asn Leu Glu Gly
130 135 140

Arg Leu Glu Lys Gly Ile Ser Arg Ile Arg Ser Lys Lys Asn Glu Met
145 150 155 160

Leu Phe Ala Glu Ile Glu Phe Met Gln Lys Arg Glu Met Glu Leu Gln
165 170 175

Asn His Asn Asn Tyr Leu Arg Ala Lys Ile Ala Glu Asn Glu Arg Ala
180 185 190

Gln Gln Gln Gln Thr Asn Met Ile Gln Gly Thr Ser Tyr Asp Gln Ser
195 200 205

Met Pro Ser Gln Ser Tyr Asp Arg Asn Phe Leu Pro Val Ile Leu Glu
210 215 220

Ala Asn Asn Asn Asn Asn Asn His Tyr Ser Arg His Asp Gln Thr Ala
225 230 235 240

Leu Gln Leu Val

<210> 83
<211> 321
<212> PRT
<213> Prunus persica

<400> 83

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

Arg Gln Val Thr Phe Ser Lys Arg Arg Ala Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Asp Val Ala Leu Ile Val Phe
35 40 45

Ser Thr Lys Gly Lys Leu Phe Glu Tyr Ser Ser Asp Ser Ser Met Glu
50 55 60

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

Thr Thr Asp Ser Glu Pro Gln Gly Ser Cys Trp Ser Leu Glu Tyr Pro
85 90 95

Lys Leu Ala Ala Arg Ile Glu Val Leu Gln Arg Lys Leu Arg His Phe
100 105 110

Thr Gly Glu Asp Leu Glu Ser Leu Ser Leu Arg Glu Leu Gln Asn Leu
115 120 125

Glu Leu Gln Leu Glu Thr Ala Leu Lys Arg Ile Arg Thr Arg Lys Asn
130 135 140

Gln Leu Met His Glu Ser Ile Ser Glu Leu His Lys Lys Gln Lys Ala
145 150 155 160

Leu Gln Glu Gln Asn Asn Ser Leu Ala Lys Lys Leu Lys Leu Lys Glu
165 170 175

Asn Glu Asn Met Leu Glu Val Glu His Asp Gly Gln Gly Arg Gln Val
180 185 190

Glu Gln His Gln Ser Asn Gln Ala Ala His Asn Ser Ser Thr Leu Leu
195 200 205

Leu Met Pro Pro Pro Pro Pro Gln Pro Pro Ser Thr Pro Ala Leu Leu
210 215 220

Ala Ser Leu Thr Ile Gly Phe Ser Leu Ser Leu Ser Leu Ser Leu Ser
225 230 235 240

Leu Leu Met Ile Gln Leu Thr Asn Ile Trp Val Thr Cys Lys Lys Lys
245 250 255

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

Arg Gln Glu Glu Gly Trp Lys Met Val Met Ile Met Thr Glu Glu Leu
275 280 285

Lys Leu Gly Arg Pro Leu Leu Leu Thr His Ser Cys Gln Cys Gly Cys
290 295 300

Ile Ala Ile Ser Thr Asn Asn Gly Leu Ala Gly Arg Pro Ala Ile Leu
305 310 315 320

Lys

<210> 84
<211> 246
<212> PRT
<213> Prunus persica

<400> 84

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ser Ile
50 55 60

Leu Lys Thr Leu Glu Arg Tyr Gln Lys Cys Ser Tyr Gly Gln Val Glu
65 70 75 80

Val Asn Lys Pro Ala Lys Glu Leu Glu Gln Ser Ser Tyr Arg Glu Tyr
85 90 95

Leu Lys Leu Lys Gly Arg Phe Glu Ser Leu Gln Arg Thr Gln Arg Asn
100 105 110

Leu Leu Gly Glu Asp Leu Gly Pro Leu Asn Thr Lys Glu Leu Glu Gln
115 120 125

Leu Glu Arg Gln Leu Glu Ser Ser Leu Lys Gln Val Arg Ser Thr Lys

130

135

140

Thr Gln Tyr Met Leu Asp Gln Leu Ser Asp Leu Gln Asn Lys Glu Gln
145 150 155 160

Met Leu Ile Glu Ala Asn Arg Asp Leu Ser Leu Lys Leu Asp Asp Ile
165 170 175

Ser Ser Arg Asn Gln Ile Arg Gln Ser Trp Glu Gly Gly Asn Gln Gly
180 185 190

Gly Met Ala Tyr Gly Ser Gln His Ala Gln Ser Gln Gly Phe Phe Gln
195 200 205

Pro Leu Asp Cys Asn Pro Thr Leu Gln Ile Gly Tyr Ser Asn Val Gly
210 215 220

Ser Glu Gln Met Ser Ala Thr Thr His Ala Gln Gln Val Asn Gly Phe
225 230 235 240

Ile Pro Gly Trp Met Leu
245

<210> 85

<211> 243

<212> PRT

<213> Prunus persica

<400> 85

Met Ala Tyr Glu Asn Lys Ser Met Ser Leu Asp Ser Pro Gln Arg Lys
1 5 10 15

Leu Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
20 25 30

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
35 40 45

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
50 55 60

Ser Asn Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asn Ser Val Lys Glu
65 70 75 80

Thr Ile Glu Arg Tyr Lys Lys Ala Cys Ala Glu Ser Thr Asn Thr Gly
85 90 95

Ser Val Ser Glu Ala Ser Thr Gln Tyr Tyr Gln Gln Glu Ala Ala Lys
100 105 110

Leu Arg Ala Gln Ile Gly Asn Leu Gln Asn Ser Ser Arg His Met Met
115 120 125

Gly Glu Ser Leu Ser Ser Met Asn Met Lys Asp Leu Lys Asn Leu Glu
130 135 140

Ser Lys Leu Glu Lys Gly Ile Asn Arg Ile Arg Ser Lys Lys Asn Glu
145 150 155 160

Leu Leu Phe Ala Glu Ile Glu Tyr Met Gln Lys Arg Glu Ile Asp Leu
165 170 175

His Asn Asn Asn Gln Leu Leu Arg Ala Lys Ile Ala Glu Asn Glu Arg
180 185 190

Ser Gln Gln Asn Ile Asn Val Met Ala Gly Gly Gly Ser Tyr Glu Ile
195 200 205

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

Leu Gln Pro Asn His Gln Tyr Asn Ser Arg Gln Asp Pro Met Ala Leu
225 230 235 240

Gln Leu Val

<210> 86

<211> 218

<212> PRT

<213> Prunus persica

<400> 86

Met Val Arg Gly Lys Thr Gln Met Lys Arg Ile Glu Asn Ala Ala Ser
1 5 10 15

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

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Thr Arg Gly Lys Leu Tyr Glu Phe Ser Ser Ser Ile Ser Asn
50 55 60

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

Lys Ala Val Gln Val Asp Met Glu His Gly Lys Asp Asp Thr Cys Ser
85 90 95

Met Ala Lys Lys Ile Asp Phe Ile Glu Ala Ser Lys Gln Lys Leu Leu
100 105 110

Gly Asn Cys Leu Glu Ser Cys Ser Ile Glu Glu Leu Gln Gln Thr Glu
115 120 125

Asn Gln Leu Glu Arg Ser Leu Ser Lys Ile Arg Ala Arg Lys Thr Gln
130 135 140

Leu Leu Arg Glu Gln Ile Glu Lys Leu Lys Glu Glu Glu Lys Asn Leu
145 150 155 160

Phe Glu Gln Asn Ala Lys Leu Arg Glu Lys Cys Gly Met Gln Pro Leu
165 170 175

Gly Pro Pro Ser Lys Ile Lys Asp Gly Glu Asn Arg Ala Val Cys Gln
180 185 190

Pro Gln Thr Pro Asp Met Glu Asp Val Glu Thr Glu Leu Val Ile Gly
195 200 205

Pro Pro Glu Arg Arg Ser Gly Gln Asn Leu
210 215

<210> 87

<211> 202

<212> PRT

<213> Prunus persica

<400> 87

Met Gly Arg Gly Lys Val Glu Leu Lys Arg Ile Glu Asn Pro Thr Ser
1 5 10 15

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

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Ile Ile Ile Leu
35 40 45

Ser Pro Ser Gly Lys Ile Tyr Gln Phe Ala Ser His Asp Ile Asn Arg
50 55 60

Thr Ile Ala Met Tyr Arg Asn Gln Val Gly Leu Pro Glu Ser Asn Asn
65 70 75 80

Ser Ser Phe Arg Arg Asp Arg Thr Met Glu Phe Arg Arg Asn Asn Glu
85 90 95

Asn Glu Glu Leu Arg Arg Ser Ile Ala Asn Leu Glu Met Arg Leu Lys
100 105 110

Asn Leu Ala Gly Glu Glu Leu Asp Ile Leu Gly Met Gln Glu Leu Lys
115 120 125

Gln Leu Glu Arg Gln Leu Lys Thr Gly Val Glu Arg Ile Arg Ser Gln
130 135 140

Ile Gly Arg Val Ile Ser Glu Asn Ile Ser Ser Leu Lys Arg Lys His
145 150 155 160

Lys Ala Met Gln Glu Glu Asn Ser Arg Leu Gln Lys Arg Phe His Glu
165 170 175

Leu His His Tyr Ala Asp His Ala Ser Ser Ser Ile Leu Gly Pro Asn
180 185 190

Ala Tyr Met Gln Phe Phe Pro Ser Glu Phe
195 200

<210> 88
<211> 251
<212> PRT
<213> Prunus persica
<400> 88

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Ser Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Met Ser Met Leu
50 55 60

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

Asn Arg Pro Val Asn Glu Thr Gln Asn Ser Tyr Gln Glu Tyr Leu Lys
85 90 95

Leu Lys Ala Arg Val Glu Val Leu Gln Gln Ser Gln Arg Asn Leu Leu
100 105 110

Gly Glu Asp Leu Ala Pro Leu Asn Thr Lys Glu Leu Glu Gln Leu Glu
115 120 125

His Gln Leu Glu Ala Ser Leu Asn Gln Ile Arg Ser Thr Lys Thr Gln
130 135 140

Phe Met Leu Asp Gln Leu Cys Asp Leu Gln Asn Lys Glu Gln Met Leu
145 150 155 160

Val Glu Ala Asn Lys Ala Leu Arg Arg Lys Leu Glu Glu Thr Ser Gly
165 170 175

Gln Ala Pro Pro Leu Leu Ala Trp Glu Ala Ala Gly His Gly Asn Asn
180 185 190

Asn Val Gln His Thr Gly Leu Pro His His Pro His Ser Gln Gly Phe

195

200

205

Phe His Pro Leu Gly Asn Asn Ser Thr Ser Gln Ile Gly Tyr Thr Pro
 210 215 220

Leu Gly Ser Asp His His Glu Gln Met Asn Val Gly Asn His Gly Gln
 225 230 235 240

His Val Asn Gly Phe Ile Pro Gly Trp Met Leu
 245 250

<210> 89

<211> 255

<212> PRT

<213> Prunus persica

<400> 89

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

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
 20 25 30

Gln Glu Ile Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
 35 40 45

Ser Thr Lys Gly Lys Leu Phe Glu Tyr Ser Thr Asp Ser Cys Met Glu
 50 55 60

Arg Ile Leu Glu Arg Tyr Glu Arg Tyr Ser Tyr Ser Glu Lys Gln Leu
 65 70 75 80

Leu Ala Asn Asp His Glu Ser Thr Gly Ser Trp Thr Leu Glu His Ala
 85 90 95

Lys Leu Lys Ala Arg Val Glu Val Leu Gln Arg Asn Cys Ser His Phe
 100 105 110

Met Gly Glu Asp Leu Gln Ser Leu Ser Leu Lys Glu Leu Gln Asn Leu
 115 120 125

Glu Gln Gln Leu Asp Ser Ala Leu Lys His Ile Arg Ser Arg Lys Asn
 130 135 140

Gln Val Met Tyr Glu Ser Ile Ser Glu Leu Gln Lys Lys Asp Lys Ala
 145 150 155 160

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

Lys Ala Leu Ala Pro Gln Ala Glu Ser Trp Glu Gln Gln Val Gln Asn
 180 185 190

Gln Gly Leu Asp Cys Ser Ser Thr Leu Leu Pro Glu Ala Leu Gln Ser
195 200 205

Leu Asn Phe Gly Ser Gly Ser Asn Tyr Gln Gly Ile Arg Asn Asp Gly
210 215 220

Ser Gly Gly Asp His Glu Asp Glu Asn Glu Thr Pro Thr Ala Asn Arg
225 230 235 240

Pro Asn Thr Leu Leu Pro Pro Trp Met Leu Arg His Leu Asn Glu
245 250 255

<210> 90
<211> 257
<212> PRT
<213> Rubus occidentalis
<400> 90

Met Ala Tyr Glu Asn Lys Pro Asn Met Ser Leu Asp Ala Asp Val Gln
1 5 10 15

Arg Arg Leu Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr
20 25 30

Thr Asn Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys
35 40 45

Lys Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile
50 55 60

Val Phe Ser Asn Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser
65 70 75 80

Val Arg Glu Thr Ile Glu Arg Tyr Lys Lys Ala Cys Ala Asp Ser Ser
85 90 95

Asn Asn Gly Ser Val Ser Glu Ala Thr Thr Gln Tyr Tyr Gln Gln Glu
100 105 110

Ala Asn Lys Leu Arg Ala Gln Ile Thr Ala Leu Gln Asn Ser Asn Arg
115 120 125

Gly Tyr Met Ala Glu Gly Leu Ser Asn Met Ser Ile Lys Asp Leu Arg
130 135 140

Gly Val Glu Ser Lys Leu Glu Lys Ala Ile Ser Arg Ile Arg Ser Lys
145 150 155 160

Lys Asn Glu Leu Leu Phe Ala Glu Ile Glu Tyr Met Gln Lys Arg Glu
165 170 175

Leu Asp Leu His Asn Asn Asn Gln Leu Leu Arg Ala Lys Gly Gln Ile
180 185 190

Ala Glu Asn Glu Arg Gln Gln Gln Ser Ile Asn Ala Ile Ala Gly Ala
195 200 205

Gly His Gly Ser Tyr Glu Ile Met Gln Ser Ser Gln Gln Phe His Glu
210 215 220

Ala Arg Asn Tyr Phe Gln Val Asn Ala Leu Gln Pro Asn Leu Gln Tyr
225 230 235 240

Ser Arg His Asp Gln Ile Ser Leu Gln Leu Gln Tyr Gly Ser Lys Ile
245 250 255

Arg

<210> 91
<211> 243
<212> PRT
<213> Rubus occidentalis

<400> 91

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Leu Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Lys Leu Tyr Glu Phe Ala Ser Gly Pro Ser Met Glu
50 55 60

Lys Thr Ile Glu Arg Tyr Gln Arg Tyr Thr Tyr Ala Ala Leu Glu Ala
65 70 75 80

Asp Arg Pro Ala Gln Asp Glu Gln Ser Arg His Gln Asp Tyr Val Glu
85 90 95

Leu Lys Ala Lys Val Glu Val Leu Gln Arg Thr Gln Arg His Phe Leu
100 105 110

Gly Glu Glu Leu Asp His Leu Gly Ile Asn Asp Leu Gln Glu Leu Glu
115 120 125

Asn Gln Leu Asp Thr Ser Leu Lys Arg Val Arg Ser Thr Gln Asn Gln
130 135 140

His Met Leu Asp Gln Leu Ser Asp Leu Gln Thr Lys Glu Glu Met Leu
145 150 155 160

Leu Glu Ala Asn Asp Glu Leu Ser Arg Lys Leu Glu Glu Ser Asn Ala
165 170 175

Ala Leu Gln Arg Ser Trp Lys Ala Gln Glu Pro Asn Ile Pro Ile Ser
180 185 190

Leu Gln Ser Ser Thr Ala Gln Ser Asp Gln Gly Phe Phe Val Val Pro
195 200 205

Val Gln Cys Asn Asn Asn Thr Leu Gln Ile Gly His Ser Arg Glu Val
210 215 220

Thr Arg Glu Val Asn Val Ala Thr Ser Thr Gln Thr Arg Ser Ala Phe
225 230 235 240

Val Pro Gly

<210> 92
<211> 244
<212> PRT
<213> Rubus occidentalis

<400> 92

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ser Met Leu
50 55 60

Lys Thr Leu Glu Arg Tyr Gln Lys Cys Asn Tyr Gly Ala Pro Glu Thr
65 70 75 80

Asn Val Ser Thr Arg Glu Ala Leu Glu Leu Ser Ser Gln Gln Glu Tyr
85 90 95

Ile Lys Leu Lys Ala Arg Tyr Glu Gln Leu Gln Arg Asn Gln Arg Asn
100 105 110

Leu Leu Gly Glu Asp Leu Gly Pro Leu Ser Ser Lys Glu Leu Glu Ser
115 120 125

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

Thr Gln Cys Met Leu Asp Gln Leu Thr Asp Leu Gln Arg Lys Glu His
145 150 155 160

Met Leu Asn Glu Ala Asn Arg Thr Leu Lys Gln Arg Leu Phe Glu Gly

165

170

175

Tyr Asn Val Asn Pro Leu Gln Leu Asn Ala Ser Ala Glu Asp Val Gly
 180 185 190

Tyr Gly Arg Gln Gln Ala His Gln Pro His Gly Asp Gly Phe Phe His
 195 200 205

Pro Leu Glu Leu Glu Pro Thr Leu Gln Met Gly Ser Tyr His Gln Asn
 210 215 220

Asp Pro Ile Ser Val Val Thr Ala Gly Pro Ser Val Asn Tyr Met Gly
 225 230 235 240

Gly Trp Leu Pro

<210> 93
 <211> 183
 <212> PRT
 <213> Rubus occidentalis

<400> 93

Met Gly Arg Gly Lys Val Gln Leu Lys Arg Ile Glu Asp Lys Ile Arg
 1 5 10 15

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

Arg Glu Leu Ser Val Leu Cys Gly Val Glu Val Gly Leu Val Val Phe
 35 40 45

Ser Ala Lys Gly Arg Leu Tyr Glu Phe Cys Ser Gly Asp Ser Leu Gly
 50 55 60

Asn Val Leu Glu Arg Tyr Gln Ile His Asn Glu Glu Glu Val Ala Asn
 65 70 75 80

Pro Lys Asn Gly Lys Lys His His Leu Glu Ser Ser Gly Asn Gly Thr
 85 90 95

Gly Ala Asn Lys Ser Leu Lys Met Ile Gln Ser Glu Leu Glu Ala Gln
 100 105 110

Asn Ile Glu Asn Leu Asp Val Thr Glu Leu Thr Glu Leu Glu Thr Gln
 115 120 125

Leu Asp Ala Leu Leu Arg Gln Ile Arg Ser Arg Lys Thr Gln Leu Met
 130 135 140

Met Glu Thr Val Thr Ala Leu Ile Glu Lys Glu Lys Lys Leu Ile Glu
 145 150 155 160

Glu Asn Lys Tyr Leu Arg Glu Lys Glu Glu Pro His Cys Ser Thr Phe
165 170 175

Ile Ser Phe Val Ala Phe Lys
180

<210> 94
<211> 205
<212> PRT
<213> Rubus occidentalis

<400> 94

Met Gly Arg Gly Lys Val Glu Leu Lys Arg Ile Glu Asn Pro Ala Ser
1 5 10 15

Arg Lys Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Phe Glu Leu Ser Ile Leu Cys Asp Ala Gln Val Ala Leu Ile Ala Phe
35 40 45

Ser Pro Ser Gly Lys Val Tyr Gln Phe Ala Ser His Asp Ile Asn Arg
50 55 60

Thr Ile Ala Met Tyr Arg Arg Glu Val Gly Leu Pro Gln Ser Ser Ile
65 70 75 80

Pro Ala Cys Cys Thr Arg Thr Ala Thr Met Glu Phe Trp Arg Asn Glu
85 90 95

Thr Glu Glu Leu Arg Arg Ser Ile Gln Asn Leu Glu Met Arg Leu Lys
100 105 110

Asn Leu Ala Gly Ala Glu Leu Ser Met Leu Gly Met Gln Glu Leu Lys
115 120 125

Gln Leu Glu Arg Gln Leu Lys Thr Gly Ile Glu Arg Ile His Ser Lys
130 135 140

Met Arg Arg Val Ile Ser Glu Asn His Ser Ser Leu Lys Arg Lys Val
145 150 155 160

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

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

Ala Ala Val Met Pro Thr Val Gly Leu Glu Lys Ala Ile
195 200 205

<210> 95
<211> 294
<212> PRT

<213> Rubus occidentalis

<400> 95

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Gly Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Leu Ser Met Met
50 55 60

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

Asn Gln Thr Val Ser Glu Thr Gln Asn Ser Tyr Gln Glu Tyr Leu Lys
85 90 95

Leu Lys Ala Arg Val Glu Val Leu Gln Gln Ser Gln Arg Asn Leu Leu
100 105 110

Gly Glu Asp Leu Gly Pro Leu Asn Thr Lys Glu Leu Glu Gln Leu Glu
115 120 125

His Gln Leu Glu Ala Ser Leu Lys His Ile Arg Ser Thr Lys Thr Gln
130 135 140

Phe Met Leu Asp Glu Leu Ser Asp Leu Gln Asn Arg Glu Gln Met Leu
145 150 155 160

Ala Glu Thr Asn Lys Ala Leu Arg Arg Lys Leu Glu Glu Thr Ser Leu
165 170 175

Gln Gly Ala Ala Pro Leu Gln Leu Ala Trp Glu Gly Gly Tyr Gly His
180 185 190

Lys Ala His Asn Asn Ile Gln Gln His Asn Arg Leu Pro Pro Gln Ser
195 200 205

Gln Gly Phe Phe Gln Pro Leu His Gly Asn Asn Ser Ser Thr Leu Gln
210 215 220

Ile Gly Tyr Leu Ser Ile Phe Gln Ile His Ser Thr Gly Leu Arg Ser
225 230 235 240

Ser Ser Ser Pro Asp Glu Leu Gly Lys Ser Arg Pro Lys Cys Glu Trp
245 250 255

Ile His Ser Trp Val Asp Ala Leu Thr Ala Leu Val Phe Asn Lys Asp
260 265 270

Ala Trp Asn Asp Val Arg Ala Ser Ser Ser Arg Ile Asn Gln Glu Leu
275 280 285

Leu Ile Cys Phe Leu Thr
290

<210> 96
<211> 223
<212> PRT
<213> Rubus occidentalis
<400> 96

Met Val Arg Gly Lys Thr Gln Met Lys Arg Ile Glu Asn Ala Ala Ser
1 5 10 15

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

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Val Ile Ile Phe
35 40 45

Ser Thr Arg Gly Lys Leu Tyr Glu Phe Ser Ser Cys Ser Ser Leu Asn
50 55 60

Asn Thr Ile Asp Arg Phe Gln Lys Arg Met Lys Asp Gln Glu Gly Leu
65 70 75 80

Gly Gly Lys Ala Val Arg Asp His Asp His Met Glu His Val Asn Glu
85 90 95

Asp Asn Gly Ser Ile Ala Lys Arg Ile Glu Phe Ile Glu Ser Ser Lys
100 105 110

Arg Lys Leu Leu Gly Asp Gly Leu Glu Ser Cys Ser Ile Asp Glu Leu
115 120 125

His Gln Met Glu Asn Gln Leu Glu Gln Ser Leu Ser Lys Ile Arg Ala
130 135 140

Arg Lys Met Leu Arg Glu Gln Ile Glu Lys Leu Lys Gly Glu Glu Lys
145 150 155 160

Ser Leu Leu Glu Gln Asn Ala Lys Leu Met Glu Lys Cys Gly Met Gln
165 170 175

Leu Ile Gly Pro Pro Ser Asn Gly Glu Asp Asp Asp Asp Asp Asn Asp
180 185 190

Asp Val Glu Cys Glu Ser Pro Thr Glu Thr Met Glu Val Glu Thr Glu
195 200 205

Leu Phe Ile Gly Pro Pro Lys Arg Arg Ser Ala Lys Lys Thr Pro

210

215

220

<210> 97

<211> 245

<212> PRT

<213> *Rubus occidentalis*

<400> 97

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
 1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30

Tyr Glu Leu Ser Ile Leu Cys Glu Ala Glu Val Ala Leu Ile Val Phe
 35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
 50 55 60

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

Thr Thr Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
 85 90 95

Lys Leu Arg His Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
 100 105 110

Met Gly Asp Ser Leu Ser Asn Leu Thr Val Lys Glu Leu Lys Gln Leu
 115 120 125

Glu Asn Arg Leu Glu Arg Gly Leu Thr Arg Ile Arg Ser Lys Lys His
 130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Arg Glu Val Glu
 145 150 155 160

Leu Glu Asn Glu Asn Val Leu Val Arg Ala Lys Ile Ala Glu Leu Glu
 165 170 175

Arg Leu Gln His Ala Asp Met Val Ser Gly Asp Gln Asp Leu Glu Leu
 180 185 190

Asn Ala Ile Gln Ala Leu Val Ser Arg Asn Phe Phe Ala Ser Thr Met
 195 200 205

Ile Glu Gly Glu Ala Ser Tyr Ser Gln Pro Glu Lys Lys Phe Leu Asn
 210 215 220

Leu Gly Ala Gly Lys Gly Leu Val Lys Gln Gly Lys Thr Ser Ser Ser
 225 230 235 240

Phe Gly Tyr Val Leu
245

<210> 98
<211> 138
<212> PRT
<213> Rubus occidentalis

<400> 98

Met Pro Ser Glu Ala Lys Lys Glu Ile Asn Leu Leu Lys Gln Glu Ile
1 5 10 15

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

Gly Thr Gly Thr Met Ser Trp Asp Glu Leu Gln Val Leu Glu Lys His
35 40 45

Leu Glu Ile Trp Ile Phe Thr Thr Tyr Val Gln Gln Arg Tyr Pro Ile
50 55 60

Trp Leu Ile His Lys Gln Gln Met Asp Ile Leu Leu Gln Glu Ile Gln
65 70 75 80

Leu Leu Arg Asn Ser Glu Gly Ile Leu Thr Ala Ala Asn Lys Tyr Leu
85 90 95

Gln Asp Lys Ile Glu Glu Asn Ser Gly Val Thr Asn Leu Ile Pro Met
100 105 110

Ala Ser Asp Ser Pro Tyr Pro Leu Thr Ile Pro Ser Glu Asp Ile Asn
115 120 125

Ser Ile Leu Gly Ser Asn Phe Gly Leu Asn
130 135

<210> 99
<211> 211
<212> PRT
<213> Rubus occidentalis

<400> 99

Met Ala Arg Gly Lys Val Gln Met Lys Lys Ile Glu Asn Pro Val His
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Ala Gly Leu Leu Lys Lys Ala
20 25 30

Lys Glu Leu Ser Val Leu Cys Asp Ala Asp Ile Gly Val Leu Ile Tyr
35 40 45

Ser Ser His Gly Lys Leu Phe Glu Leu Ala Thr Lys Gly Thr Met Gln
50 55 60

Gly Leu Ile Glu Lys Tyr Met Lys Met Lys Pro Ala Arg Val Pro Gln
65 70 75 80

Ala Glu Thr Ala Met Glu Thr Gln Thr Val Glu Ala Lys Lys Glu Ile
85 90 95

Asn Leu Leu Lys Gln Glu Ile Glu Ile Leu Gln Lys Gly Leu Arg Tyr
100 105 110

Met Phe Gly Gly Gly Ala Gly Thr Met Ser Leu Asp Glu Leu Gln Val
115 120 125

Leu Glu Lys His Leu Glu Ile Trp Ile Tyr His Val Arg Ser Ala Lys
130 135 140

Met Asp Ile Leu Leu Gln Glu Ile Gln Leu Leu Arg Asn Ser Glu Gly
145 150 155 160

Ile Leu Thr Ala Ala Asn Lys Tyr Leu Gln Asp Lys Ile Glu Glu Asn
165 170 175

Ser Gly Val Thr Asn Leu Ile Pro Met Ala Ser Asp Ser Pro Tyr Pro
180 185 190

Leu Thr Ile Pro Ser Asp Asp Ile Asn Ser Ile Leu Gly Asn Asn Phe
195 200 205

Gly Leu Asn
210

<210> 100
<211> 201
<212> PRT
<213> Rubus occidentalis

<400> 100

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

Thr Phe Ser Lys Arg Arg Arg Gly Leu Phe Lys Lys Ala Arg Glu Leu
20 25 30

Ser Val His Cys Asp Ala Glu Val Ala Val Val Val Phe Ser Ala Thr
35 40 45

Gly Lys Pro Tyr Gly Ser Ser Ser Asn Ser Ser Met Glu Asp Val Ile
50 55 60

Ala Arg Tyr Lys Leu His Thr Lys Asp Val Glu Lys Leu Asp Gln Gln
65 70 75 80

Pro Cys Pro Glu Leu Gln Leu Glu Asn Asn Asp Gly Ile Arg Leu Asn
85 90 95

Lys Glu Leu Ala Asp Ser Ile Arg Glu Leu Arg Gln Met Glu Gly Gln
100 105 110

Asp Leu Glu Glu Leu Asn Ile Asp Glu Leu Gln Lys Leu Glu Asp Ala
115 120 125

Ile Glu Gly Gly Leu Ser Arg Val Leu Lys Thr Lys Asp Glu Arg Ile
130 135 140

Met Ser Gln Ile Met Ala Leu Glu Thr Lys Gly Ala Gly Leu Ile Glu
145 150 155 160

Ala Asn Asn Gln Leu Gln Gln Arg Ile Trp Met Leu Ser Asn Gly Ala
165 170 175

Ser Gly Val Ala Leu Glu Ser Glu Ile Ser Ser Ala Glu Glu Asp His
180 185 190

Gly Asp Tyr Met Asp Asn Thr Lys Asn
195 200

<210> 101
<211> 290
<212> PRT
<213> Rubus occidentalis

<400> 101

Met Asp Ala Val Asn Phe Phe Val Phe Ile Arg Arg Tyr Asp Glu Tyr
1 5 10 15

Thr Trp Arg Arg Glu Asp Ala Ser Tyr Ile Leu Asp Met Lys Leu Glu
20 25 30

Glu Gly Leu Asn Leu Gly Arg Glu Gly Glu Arg Glu Arg Glu Arg Glu
35 40 45

Arg Glu Arg Val Arg Gln Asn Ser Gln Leu Arg Val Thr Ala Phe Ile
50 55 60

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

Ile Met Gly Arg Gly Lys Val Gln Leu Lys Arg Ile Glu Asp Lys Ile
85 90 95

Arg Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Met Lys Lys
100 105 110

Ala Arg Glu Leu Ser Val Leu Cys Gly Val Glu Val Gly Leu Ile Ile
115 120 125

Phe Ser Ala Lys Gly Arg Leu Tyr Glu Phe Cys Ser Gly Asp Ser Leu
130 135 140

Gly Asn Val Leu Glu Arg Tyr Gln Ile His Asn Glu Glu Glu Val Ala
145 150 155 160

Asn Pro Lys Asn Gly Lys Lys His His Phe Glu Ser Ser Gly Asn Gly
165 170 175

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

Gln Asn Ile Glu Asn Leu Asp Val Thr Glu Leu Thr Gln Leu Glu Lys
195 200 205

Gln Leu Asp Val Val Leu Arg Gln Thr Arg Ser Arg Lys Thr Gln Leu
210 215 220

Met Met Glu Thr Ile Thr Gly Leu Ile Glu Lys Glu Lys Lys Leu Gly
225 230 235 240

Glu Glu Lys Asp Leu Met Glu Lys Lys Val Ala Glu Leu Met Arg Glu
245 250 255

Lys Glu Asn Ser Gln Glu Asp Pro Asp Ala His Ala Asp Glu Glu Val
260 265 270

Tyr Glu His Ser Ser Ser Cys Val Asn Thr Lys His Pro Val Leu Asn
275 280 285

Leu Phe
290

<210> 102
<211> 250
<212> PRT
<213> Rubus occidentalis
<400> 102

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ser Met Leu
50 55 60

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

Asn Asn Pro Ala Lys Glu Leu Glu Ser Ser Tyr Arg Glu Tyr Leu Lys

85

90

95

Leu Lys Thr Arg Cys Glu Ser Leu Gln Arg Thr Gln Arg Asn Leu Leu
 100 105 110

Gly Glu Glu Leu Asp Pro Leu Asn Thr Lys Glu Leu Glu Gln Leu Glu
 115 120 125

Arg Gln Leu Glu Ser Ser Leu Lys His Val Arg Ser Thr Lys Thr Gln
 130 135 140

Tyr Met Leu Asp Gln Leu Ser Asp Leu Gln Ser Lys Glu His Met Leu
 145 150 155 160

Lys Glu Thr Asn Arg Asp Leu Thr Met Lys Leu Asp Glu Ile Asn Ser
 165 170 175

Gly Asn Gln Leu Arg Gln Thr Trp Glu Ser Gly His Asp His Gln Arg
 180 185 190

Met Leu Tyr Glu Thr Gln His Ala Gln Thr Gln Leu Gly Leu Met Phe
 195 200 205

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

Gly Ser Gln Gln Gln Met Ala Ala Ala Thr Thr Thr His Ala Gln Gln
 225 230 235 240

Val Asn Gly Phe Ile Pro Gly Trp Met Leu
 245 250

<210> 103
 <211> 257
 <212> PRT
 <213> Rubus occidentalis

<400> 103

Met Val Glu Ser Thr Met Glu Phe Pro Lys Gln Ile Thr Pro Ala Asp
 1 5 10 15

Glu Pro Glu Arg Ser Ser Gln Lys Lys Leu Gly Arg Gly Lys Ile Glu
 20 25 30

Ile Lys Arg Ile Glu Asn Thr Thr Asn Arg Gln Val Thr Phe Cys Lys
 35 40 45

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

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

Glu Tyr Ala Asn Asn Ser Val Arg Ala Thr Ile Glu Arg Tyr Lys Lys
85 90 95

Ala Cys Asp Ser Ser Asn Thr Gly Ser Val Ala Glu Ala Asn Val Gln
100 105 110

Phe Tyr Gln Gln Glu Ala Ser Lys Leu Arg Arg Gln Ile Arg Glu Ile
115 120 125

Gln Asn Ser Asn Arg His Ile Leu Gly Glu Ala Leu Ser Thr Leu Asn
130 135 140

Val Lys Asp Leu Lys Asn Leu Glu Gly Arg Leu Glu Lys Gly Ile Ser
145 150 155 160

Arg Ile Arg Ser Lys Lys Asn Glu Met Leu Phe Ala Glu Ile Glu Tyr
165 170 175

Met Gln Lys Arg Glu Ile Glu Leu Gln Asn His Asn Asn Phe Leu Arg
180 185 190

Ala Lys Ile Ala Glu Thr Asp Arg Ala Gln Gln Gln Gln Thr Asn Met
195 200 205

Met Pro Gly Thr Ser Ser Ser Ala Tyr Asp Gln Ser Met Pro Pro Ser
210 215 220

Gln Ser Tyr Asp Arg Ser Phe Leu Pro Val Ile Leu Glu Ser Asn His
225 230 235 240

His Tyr Asn Arg Gln Asp Gln Asn Gln Thr Pro Leu Gln Leu Leu Lys
245 250 255

Cys

<210> 104
<211> 246
<212> PRT
<213> Rubus occidentalis

<400> 104

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

Arg Gln Val Thr Phe Ser Lys Arg Arg Thr Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

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

Trp Ser Asp Met Asn Asn Ile Leu Met Gln Lys Gly Arg Glu Ser Trp
65 70 75 80

Ser Met Glu Tyr Pro Lys Leu Ala Ala Arg Ile Glu Ile Leu Gln Arg
85 90 95

Lys Ile Arg Asn Tyr Thr Gly Glu Asp Leu Asp Pro Leu Ser Leu Arg
100 105 110

Glu Leu Gln Ser Leu Glu Gln Gln Ile Asp Thr Ala Leu Lys Arg Val
115 120 125

Arg Thr Arg Lys Asn Gln Leu Met His Glu Ser Ile Ser Glu Met Gln
130 135 140

Lys Lys His Lys Thr Leu Gln Glu Gln Asn Asn Ser Leu Thr Lys Lys
145 150 155 160

Leu Lys Glu Asn Glu Lys Val Arg Gln Ala Glu Pro Asn Asn Gln Gln
165 170 175

Pro Asn Ala Ser Thr Leu Met Leu Met Pro Pro Leu Arg Pro Pro Ser
180 185 190

Gln Pro Ser Pro Pro Thr Leu Leu Ser Ser Leu Thr Ile Gly Gly Ala
195 200 205

Val Gln Gly Arg Arg Glu Ala Met Asp Glu Asp Gly Glu Asp His Gln
210 215 220

Gly Arg Ala Gln Thr Arg Pro Thr Thr Asn Thr Leu Met Pro Pro Trp
225 230 235 240

Met Val Arg His Leu Asn
245

<210> 105
<211> 234
<212> PRT
<213> Rubus occidentalis

<400> 105

Met Val Arg Gly Lys Ile Glu Met Lys Arg Ile Glu Asn Val Thr Ser
1 5 10 15

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

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Val Ile Ile Phe
35 40 45

Ser Gln Lys Gly Arg Ile His Glu Phe Ser Ser Ser Asp Met Gln Gln
50 55 60

Thr Ile Lys Arg Tyr His Lys His Ala Lys Ala Val Gln Thr Asn Thr
65 70 75 80

Phe Glu Val Glu Lys Tyr Met Gln Val Arg Thr Glu Gln Tyr Thr Gln
85 90 95

Leu Lys Asn Glu Ser Ala Lys Met Ala Lys Gln Ile Glu Ile Leu Glu
100 105 110

Ala Ser Gln Arg Arg Leu Leu Gly His Asp Leu Asp Ser Cys Ser Ala
115 120 125

Gln Glu Leu His Gln Ile Ser Asp Gln Leu Glu Arg Ser Leu Arg Asn
130 135 140

Val Arg Glu Arg Lys Ala His Leu Leu Lys Glu Gln Ile Gln Gln Leu
145 150 155 160

Lys Glu Lys Gly Arg Leu Leu Leu Glu Glu Asn Ala Lys Leu His Ile
165 170 175

Glu Cys Cys Ala Arg Pro Trp Gln Gln His Leu Val Glu Glu Lys Gly
180 185 190

Gly Gly Gly Ala Ala Ala Ser Tyr Ser Arg Met Asn Ser Ser Gln Ser
195 200 205

Ser Ser Ser Gln Thr Ile Ser Asn Ser Asp Gln Leu Glu Thr Arg Leu
210 215 220

Phe Ile Gly Pro Pro Val Met Arg Cys Glu
225 230

<210> 106
<211> 247
<212> PRT
<213> Rubus occidentalis

<400> 106

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

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

Tyr Glu Leu Ser Val Leu Cys Glu Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Ser Arg Gly Lys Leu Tyr Glu Phe Ser Ser Ala Gly Met Thr Asn
50 55 60

Thr Leu Glu Arg Tyr Gln Arg Ser Ser Phe Ser Pro His Asp Asn Ala

Thr Ile Glu Arg Tyr Glu Lys His Thr Lys Asp Asn Gln Ala Asn Lys
65 70 75 80

Lys Ser Val Ser Thr Glu Gln Asn Glu Gln Gln Leu Lys Gln Glu Ala
85 90 95

Ser Gly Met Met Lys Gln Ile Glu His Leu Glu Val Ser Lys Arg Lys
100 105 110

Leu Leu Gly Glu Ser Val Gly Leu Cys Thr Ile Glu Glu Leu Gln Glu
115 120 125

Leu Glu Gln Gln Leu Glu Thr Ser Val His Arg Ile Arg Ala Arg Lys
130 135 140

Thr Gln Val Phe Lys Glu Gln Ile Glu Gln Leu Arg Glu Lys Glu Arg
145 150 155 160

Val Leu Ala Ala Glu Asn Glu Arg Leu Phe Glu Lys Cys Gly Ala Met
165 170 175

Gln Gln Arg Glu Pro Glu Thr Glu Gln Arg Glu Asn Leu Ala Ser Asn
180 185 190

Glu Ser Ser Gln Ser Ser Asp Val Glu Thr Glu Leu Leu His Leu Ala
195 200 205

Tyr Ile His Met Thr Arg
210

<210> 108
<211> 61
<212> PRT
<213> Solanum lycopersicum

<400> 108

Met Val Arg Gly Lys Thr Gln Met Arg Arg Ile Glu Asn Ala Thr Ser
1 5 10 15

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

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Gly Leu Ile Ile Phe
35 40 45

Ser Pro Arg Gly Lys Leu Tyr Glu Phe Ala Ser Ser Arg
50 55 60

<210> 109
<211> 252
<212> PRT
<213> Solanum lycopersicum

<400> 109

Met Gly Arg Gly Arg Val Glu Leu Lys Arg Ile Glu Asn Lys Ile Asn
 1 5 10 15
 Arg Gln Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30
 Tyr Glu Leu Ser Val Leu Cys Glu Ala Glu Val Ala Leu Ile Ile Phe
 35 40 45
 Ser Ser Arg Gly Lys Leu Tyr Glu Phe Gly Ser Ala Gly Ile Thr Lys
 50 55 60
 Thr Leu Glu Arg Tyr Gln Arg Cys Cys Leu Asn Pro Gln Asp Asn Cys
 65 70 75 80
 Gly Glu Arg Glu Thr Gln Ser Trp Tyr Gln Glu Val Ser Lys Leu Lys
 85 90 95
 Ala Lys Phe Glu Ala Leu Gln Arg Thr Gln Arg His Leu Leu Gly Glu
 100 105 110
 Asp Leu Gly Ala Leu Ser Val Lys Glu Leu Gln Asn Leu Glu Lys Gln
 115 120 125
 Leu Glu Gly Ala Leu Ala Gln Ala Arg Gln Arg Lys Thr Gln Ile Met
 130 135 140
 Met Glu Gln Met Glu Glu Leu Arg Arg Lys Glu Arg His Leu Gly Asp
 145 150 155 160
 Val Asn Lys Gln Leu Lys Ile Lys Val Ser Leu Glu Leu Ser Ser Phe
 165 170 175
 Glu Gly Glu Gly Gln Gly Val Pro Phe Pro Trp Ser Asn Cys Asn Ala
 180 185 190
 Ser Leu Asp Glu Ala Gly Ser Ser Thr Phe His Val His His Ser Gln
 195 200 205
 Ser Asn His Met Asp Cys Asp Leu Pro Asp Pro Val Leu Gln Ile Gly
 210 215 220
 Tyr His Gln Tyr Met Ala Ala Asp Gly Ala Ser Gly Ser Arg Asn Met
 225 230 235 240
 Ala Val Glu Ser Asn Ile Ile His Gly Trp Gly Leu
 245 250

<210> 110
 <211> 234
 <212> PRT
 <213> Solanum lycopersicum
 <400> 110

Met Gly Arg Gly Arg Val Glu Met Lys Arg Ile Glu Asn Lys Ile Ser
1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Thr
20 25 30

Asn Glu Ile Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Asn Gly Lys Leu Phe Glu Tyr Ser Thr Gln Ser Ser Met Glu
50 55 60

Asn Ile Leu Glu Arg Tyr Glu Asn Tyr Ser Tyr Glu Glu Met Asn Leu
65 70 75 80

Asn Thr Thr Tyr Lys Glu Asn Trp Thr Leu Glu Tyr Pro Lys Leu Met
85 90 95

Ala Arg Val Glu Leu Leu Gln Arg Asn Ile Arg His Phe Met Gly Glu
100 105 110

Asp Leu Asp Ala Phe Asn Leu Arg Glu Phe Arg Gly Leu Glu Lys Gln
115 120 125

Leu Asp Thr Ala Leu Lys Arg Val Arg Ser Lys Lys Asn Gln Leu Met
130 135 140

His Glu Ser Ile Ser Gln Leu Gln Lys Lys Glu Lys Glu Leu Gln Gln
145 150 155 160

Arg Asn Asn Leu Ile Ser Asn Lys Leu Lys Glu Asn Glu Lys Lys Gln
165 170 175

Ile Val Gln Thr Asn Pro Gly Gln Ser Ser Thr Met Thr Phe Leu Leu
180 185 190

Gln Ser Pro Thr Val Thr Asn Gln Thr Ile Gly Gly Pro Ser Gln Ala
195 200 205

Thr Asp Gln Ser Gln Asn Arg Asp Gly Tyr Asn Ser Leu Met Pro Pro
210 215 220

Trp Met Phe His His Val His Asn Lys Gly
225 230

<210> 111
<211> 248
<212> PRT
<213> Solanum lycopersicum

<400> 111

Met Asp Phe Gln Ser Asp Leu Thr Arg Glu Ile Ser Pro Gln Arg Lys
1 5 10 15

Leu Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
20 25 30

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
35 40 45

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Val Val Phe
50 55 60

Ser Asn Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asn Ser Val Lys Ala
65 70 75 80

Thr Ile Glu Arg Tyr Lys Lys Ala Cys Ser Asp Ser Ser Asn Thr Gly
85 90 95

Ser Val Ser Glu Ala Asn Ala Gln Tyr Tyr Gln Gln Glu Ala Ser Lys
100 105 110

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

Gly Glu Ala Leu Ala Gly Met Lys Leu Lys Glu Leu Lys Asn Leu Glu
130 135 140

Gln Arg Ile Glu Lys Gly Ile Ser Lys Ile Arg Ser Lys Lys Asn Glu
145 150 155 160

Leu Leu Phe Ala Glu Ile Glu Tyr Met Gln Lys Arg Glu Val Asp Leu
165 170 175

His Asn Asn Asn Gln Tyr Leu Arg Ala Lys Ile Ala Glu Thr Glu Arg
180 185 190

Ala Gln His Gln His Gln Gln Met Asn Leu Met Pro Gly Ser Ser Ser
195 200 205

Asn Tyr His Glu Leu Val Pro Pro Pro Gln Gln Phe Asp Thr Arg Asn
210 215 220

Tyr Leu Gln Val Asn Gly Leu Gln Thr Asn Asn His Tyr Pro Arg Gln
225 230 235 240

Asp Gln Pro Pro Ile Gln Leu Val
245

<210> 112
<211> 218
<212> PRT
<213> Solanum lycopersicum

<400> 112

Met Gly Arg Gly Arg Val Glu Leu Lys Arg Ile Glu Asn Lys Ile Asn

1	5	10	15
Arg Gln Val Thr	Phe Ala Lys Arg	Arg Asn Gly Leu Leu	Lys Lys Ala
	20	25	30
Tyr Glu Leu Ser	Val Leu Cys Asp	Ala Glu Val Ala	Leu Leu Val Phe
	35	40	45
Ser Asn Arg Gly	Lys Leu Tyr Glu	Phe Cys Ser Thr	Asn Asn Met Leu
	50	55	60
Lys Thr Leu Asp	Arg Tyr Gln Lys	Cys Ser Tyr Gly	Thr Leu Glu Val
65	70	75	80
Asn Arg Ser Ile	Lys Asp Asn Glu	Gln Ser Ser Tyr	Arg Glu Tyr Leu
	85	90	95
Lys Leu Lys Ala	Lys Tyr Glu Ser	Leu Gln Arg Tyr	Gln Arg His Leu
	100	105	110
Leu Gly Asp Glu	Leu Gly Pro Leu	Thr Ile Asp Asp	Leu Glu His Leu
	115	120	125
Glu Val Gln Leu	Asp Thr Ser Leu	Lys His Ile Arg	Ser Thr Arg Thr
	130	135	140
Gln Met Met Leu	Asp Gln Leu Ser	Asp Leu Gln Thr	Lys Glu Lys Leu
145	150	155	160
Trp Asn Glu Ala	Asn Lys Val Leu	Glu Arg Lys Met	Glu Glu Ile Tyr
	165	170	175
Ala Glu Asn Asn	Met Gln Gln Ala	Trp Gly Gly Gly	Glu Gln Ser Leu
	180	185	190
Asn Tyr Gly Gln	Gln Gln His Pro	Gln Ser Gln Gly	Phe Phe Gln Pro
	195	200	205
Leu Glu Cys Asn	Ser Ser Leu Gln	Ile Gly	
	210	215	
<210> 113			
<211> 164			
<212> PRT			
<213> Solanum lycopersicum			
<400> 113			
Met Gly Arg Gly	Arg Val Glu Leu	Lys Arg Ile Glu	Asn Lys Ile Ser
1	5	10	15
Arg Gln Val Thr	Phe Ser Lys Arg	Arg Ser Gly Leu	Leu Lys Lys Ala
	20	25	30

Asn Glu Ile Ser Val Leu Cys Asp Ala Asp Val Ala Leu Ile Val Phe
35 40 45

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

Ser Tyr Ala Glu Arg Gln Met Asn Ala Asn Asp Ser Asp Pro Lys Glu
65 70 75 80

Asn Trp Ser Val Glu Tyr Pro Lys Leu Met Ser Arg Ile Glu Leu Leu
85 90 95

Gln Arg Asn Ile Arg His Tyr Met Gly Gln Asp Leu Asp Pro Leu Ser
100 105 110

Leu Arg Glu Leu Gln Ser Ile Glu Gln Gln Ile Asp Thr Ser Leu Lys
115 120 125

Arg Ile Arg Ser Arg Lys Asn Gln Leu Met His Glu Ser Ile Ser Glu
130 135 140

Leu Gln Lys Lys Glu Lys Ala Leu Gln Glu Gln Asn Asn Leu Ile Thr
145 150 155 160

Lys Lys Ile Thr

<210> 114
<211> 229
<212> PRT
<213> Solanum lycopersicum

<400> 114

Met Val Arg Gly Lys Val Glu Met Lys Arg Ile Glu Asn Ser Thr Ser
1 5 10 15

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

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Phe Ile Ile Phe
35 40 45

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

Ile Ile Glu Arg Tyr Arg Gly Arg Ala Arg Glu Thr Thr Thr Val Asp
65 70 75 80

Lys Ser Thr Glu Leu Glu His Tyr Met Glu Asn Leu Lys His Glu Thr
85 90 95

Ala Asn Met Ala Lys Lys Ile Glu Ile Leu Glu Ile Ser Lys Arg Lys
100 105 110

Leu Met Gly Gln Gly Leu Gly Ser Cys Ser Met Asp Glu Leu Glu Asp
115 120 125

Ile Asp Ser Gln Leu Glu Arg Thr Leu Lys Ile Ile Arg Ala Arg Lys
130 135 140

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

Leu Leu Leu Gln Gln Asn Ala Ser Leu Arg Glu Lys Cys Gly Leu Arg
165 170 175

Pro Met Leu Ser Glu Ser Ala Ser Ala Pro Glu Pro Ile Pro Ala Pro
180 185 190

Pro Ser Thr Pro Pro Ala Gln Ser Lys Glu Arg Gly Asn Cys Ser Gln
195 200 205

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

Gln Thr Arg Cys Leu
225

<210> 115
<211> 179
<212> PRT
<213> Solanum lycopersicum

<400> 115

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

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

Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Leu Leu Phe
35 40 45

Ser Pro Ser Gly Lys Ala Tyr His Phe Ala Ser His Asp Ile Glu Arg
50 55 60

Thr Ile Leu Arg Tyr Lys Asn Glu Val Gly Leu Ser Lys Asn Ser Asp
65 70 75 80

Gln Gly Pro Arg Ala Met Glu Val Trp Arg Thr Lys Ile Asp Asp Met
85 90 95

Thr Arg Thr Ile His Glu Leu Glu Ala Arg Asp Lys His Phe Ala Gly
100 105 110

Glu Glu Leu Ser Asn Leu Gly Met Lys Glu Leu Lys Gln Leu Glu Arg
115 120 125

Gln Leu Arg Val Gly Val Glu Arg Ile Arg Ser Lys Lys His Lys Ile
130 135 140

Leu His Glu Glu Asn Ile His Leu Gln Lys Gln Val Lys Leu Tyr Glu
145 150 155 160

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

Ser Lys Gly

<210> 116
<211> 247
<212> PRT
<213> Solanum lycopersicum

<400> 116

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

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Glu Val Gly Leu Ile Val Phe
35 40 45

Ser Thr Lys Gly Lys Leu Phe Glu Tyr Ser Thr Asp Ser Cys Met Glu
50 55 60

Arg Ile Leu Glu Arg Tyr Glu Arg Tyr Ser Tyr Ala Glu Arg Gln Leu
65 70 75 80

Asn Ala Thr Asp Ile Ile Thr Pro Gly Ser Trp Thr Leu Glu His Ala
85 90 95

Lys Leu Lys Ala Arg Leu Glu Val Leu Gln Arg Asn Gln Lys His Tyr
100 105 110

Ala Gly Glu Glu Leu Asp Thr Leu Ser Met Lys Glu Leu Gln Asn Leu
115 120 125

Glu His Gln Leu Asp Ser Ala Leu Lys His Ile Arg Ser Arg Lys Asn
130 135 140

Gln Leu Met His Glu Ser Ile Ser Glu Leu Gln Lys Lys Asp Lys Ala
145 150 155 160

Leu Gln Glu Gln Asn Asn Asn Leu Ser Lys Gln Val Lys Glu Arg Glu
165 170 175

Lys Glu Met Ala Gln Gln Thr Pro Trp Glu Gln Gln Ser His Asp His

Ala Glu Ser Asn Arg Leu Leu Arg Arg Lys Leu Glu Glu Ser Val Ala
165 170 175

Gly Phe Pro Leu Arg Leu Cys Trp Glu Asp Gly Gly Asp His Gln Leu
180 185 190

Met His Gln Gln Asn Arg Leu Pro Asn Thr Glu Gly Phe Phe Gln Pro
195 200 205

Leu Gly Leu His Ser Ser Ser Pro His Phe Gly Tyr Asn Pro Val Asn
210 215 220

Thr Asp Glu Val Asn Ala Ala Ala Thr Ala His Asn Met Asn Gly Phe
225 230 235 240

Ile His Gly Trp Met Leu
245

<210> 118
<211> 238
<212> PRT
<213> Solanum lycopersicum

<400> 118

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Glu Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Thr Ser Ser Met Ser
50 55 60

Asp Thr Leu Glu Arg Tyr His Arg Cys Ser Tyr Gly Asp Leu Glu Thr
65 70 75 80

Gly Gln Ser Ser Lys Asp Ser Gln Asn Asn Tyr Gln Glu Tyr Met Lys
85 90 95

Leu Lys Ala Arg Val Glu Val Leu Gln Gln Ser Gln Arg His Ile Leu
100 105 110

Gly Glu Asp Leu Gly Gln Leu Asn Thr Lys Asp Leu Glu Gln Leu Glu
115 120 125

Arg Gln Leu Asp Ser Ser Leu Arg Leu Ile Arg Ser Arg Arg Thr Gln
130 135 140

Asn Met Leu Asp Gln Leu Ser Asp Leu Gln Gln Lys Glu Gln Ser Leu
145 150 155 160

Leu Glu Ile Asn Arg Ser Leu Lys Thr Lys Leu Glu Glu Asn Ser Val
165 170 175

Ala His Trp His Ile Thr Gly Glu Gln Asn Val Gln Phe Arg Gln Gln
180 185 190

Pro Ala Gln Ser Glu Gly Phe Phe Gln Pro Leu Gln Cys Asn Thr Asn
195 200 205

Ile Val Pro Asn Arg Tyr Asn Val Ala Pro Leu Asp Ser Ile Glu Pro
210 215 220

Ser Thr Gln Asn Ala Thr Gly Ile Leu Pro Gly Trp Met Leu
225 230 235

<210> 119
<211> 242
<212> PRT
<213> Solanum lycopersicum
<400> 119

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Ile Ala Leu Ile Ile Phe
35 40 45

Ser Ser Arg Gly Lys Leu Tyr Glu Phe Cys Ser Asn Ser Ser Met Ser
50 55 60

Lys Thr Leu Glu Arg Tyr His Arg Tyr Asn Tyr Gly Thr Leu Glu Gly
65 70 75 80

Thr Gln Thr Ser Ser Asp Ser Gln Asn Asn Tyr Gln Glu Tyr Leu Lys
85 90 95

Leu Lys Thr Arg Val Glu Met Leu Gln Gln Ser Gln Arg His Leu Leu
100 105 110

Gly Glu Asp Leu Gly Gln Leu Gly Thr Lys Asp Leu Glu Gln Leu Glu
115 120 125

Arg Gln Leu Asp Ser Ser Leu Arg Gln Ile Arg Ser Thr Lys Thr Gln
130 135 140

His Ile Leu Asp Gln Leu Ala Glu Leu Gln Gln Lys Glu Gln Ser Leu
145 150 155 160

Thr Glu Met Asn Lys Ser Leu Arg Ile Lys Leu Glu Glu Leu Gly Val
165 170 175

Thr Phe Gln Thr Ser Trp His Cys Gly Glu Gln Ser Val Gln Tyr Arg
180 185 190

His Glu Gln Pro Ser His His Glu Gly Phe Phe Gln His Val Asn Cys
195 200 205

Asn Asn Thr Leu Pro Ile Ser Tyr Gly Tyr Asp Asn Val Gln Pro Glu
210 215 220

Asn Ala Ala Pro Ser Thr His Asp Ala Thr Gly Val Val Pro Gly Trp
225 230 235 240

Met Leu

<210> 120
<211> 241
<212> PRT
<213> Solanum lycopersicum

<400> 120

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ser Met Leu
50 55 60

Lys Thr Leu Glu Arg Tyr Gln Lys Cys Asn Tyr Gly Ala Pro Glu Pro
65 70 75 80

Asn Ile Ser Thr Arg Glu Ala Leu Glu Ile Ser Ser Gln Gln Glu Tyr
85 90 95

Leu Lys Leu Lys Gly Arg Tyr Glu Ala Leu Gln Arg Ser Gln Arg Asn
100 105 110

Leu Leu Gly Glu Asp Leu Gly Pro Leu Asn Ser Lys Glu Leu Glu Ser
115 120 125

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

Thr Gln Leu Met Leu Asp Gln Leu Thr Asp Tyr Gln Arg Lys Glu His
145 150 155 160

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

Ser Gln Leu Asn Leu Gln Trp Gln Pro Asn Ala Gln Asp Val Gly Tyr

Lys Asp Lys Ile Val Glu Gln Gln Gly Glu Trp His Gln Gln Thr Asn
180 185 190

Gln Val Ser Thr Ser Thr Ser Phe Leu Leu Gln Pro His Gln Cys Leu
195 200 205

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

Asn Glu Leu Asp Leu Asn Leu Asp Ser Leu Tyr Pro Leu Tyr Asn Met
225 230 235 240

Asn Lys His Leu

<210> 122
<211> 138
<212> PRT
<213> Solanum lycopersicum

<400> 122

Met Val Arg Gly Lys Val Glu Met Lys Arg Ile Glu Asn Ala Thr Ser
1 5 10 15

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

Tyr Glu Leu Ser Val Leu Cys Asp Ala Gln Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Lys Gly Arg Leu Phe Gln Phe Ser Ser Ser Cys Met Gln Lys
50 55 60

Thr Ile Glu Arg Tyr Arg Glu Tyr Thr Lys Glu Thr Leu Ile Asn Ile
65 70 75 80

Asn Thr Phe Glu Val Glu Gln Gln Met Glu Arg Phe Pro Phe Leu Lys
85 90 95

Val Cys His Lys Ile Glu Phe Leu Thr Leu Asp Gly Cys Leu Val Cys
100 105 110

Ile His Leu Gln Thr Lys Val Val Asp Leu Asp Gly Lys Leu Ala Lys
115 120 125

Leu Leu Val Asn Ile Cys Thr Tyr Ser Ser
130 135

<210> 123
<211> 237
<212> PRT
<213> Solanum lycopersicum

<400> 123

Met Met Ile Leu Cys Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile
1 5 10 15

Glu Asn Asn Thr Asn Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly
20 25 30

Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu Cys Glu Ala Glu Ile
35 40 45

Ala Leu Ile Val Phe Ser Thr Arg Gly Arg Val Tyr Glu Tyr Ser Asn
50 55 60

Asn Asn Ile Lys Ala Thr Ile Glu Arg Tyr Lys Lys Ala Thr Ala Glu
65 70 75 80

Thr Ser Asn Ala Cys Thr Thr Gln Glu Leu Asn Ala Gln Phe Tyr Gln
85 90 95

Gln Glu Ser Lys Lys Leu Arg Gln Gln Ile Gln Met Met Gln Asn Ser
100 105 110

Asn Arg His Leu Val Gly Glu Gly Leu Ser Cys Leu Asn Val Arg Glu
115 120 125

Leu Lys Gln Leu Glu Asn Arg Leu Glu Arg Gly Ile Ser Arg Ile Arg
130 135 140

Ser Lys Lys His Glu Met Ile Leu Ala Glu Thr Glu Asn Leu Gln Lys
145 150 155 160

Arg Glu Ile Leu Leu Glu Gln Glu Asn Ala Phe Leu Arg Ser Lys Ile
165 170 175

Ala Glu Asn Glu Arg Leu Gln Glu Leu Ser Met Met Pro Ala Ala Gly
180 185 190

Gly Gln Asp Tyr Ser Ala Ile Gln Gln Tyr Leu Ala Arg Asn Met Leu
195 200 205

Gln Leu Asn Met Met Glu Gly Gln Gly Val Ser Ser Tyr Asp Pro Leu
210 215 220

Pro Pro Pro His His Asp Lys Lys Ser Leu Glu Leu Gln
225 230 235

<210> 124
<211> 245
<212> PRT
<213> Solanum lycopersicum

<400> 124

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

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Glu Val Gly Leu Ile Val Phe
35 40 45

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

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

Val Pro Thr Asp His Thr Ser Pro Val Ser Trp Thr Leu Glu His Ala
85 90 95

Lys Leu Lys Ala Arg Leu Glu Val Leu Gln Arg Asn Gln Lys His Tyr
100 105 110

Val Gly Glu Asp Leu Glu Ser Leu Ser Met Lys Glu Leu Gln Asn Leu
115 120 125

Glu His Gln Leu Asp Ser Ala Leu Lys His Ile Arg Ser Arg Lys Asn
130 135 140

Gln Leu Met His Glu Ser Ile Ser Val Leu Gln Lys Lys Asp Arg Ala
145 150 155 160

Leu Gln Glu Gln Asn Asn Gln Leu Ser Lys Lys Val Lys Glu Arg Glu
165 170 175

Lys Glu Val Ala Gln Gln Asn Gln Trp Glu Ile Asn Ser Ser Ser Phe
180 185 190

Val Leu Pro Gln Gln Leu Asp Ser Pro His Leu Gly Glu Ala Tyr Gln
195 200 205

Ser Thr Asn Val Ile Asp Asn Gly Glu Val Glu Gly Gly Ser Ser Ser
210 215 220

Gln Gln Gln Gly Ala Ala Asn Asn Thr Val Met Pro Gln Trp Met Leu
225 230 235 240

Arg His Leu Asn Asn
245

<210> 125
<211> 269
<212> PRT
<213> Solanum lycopersicum

<400> 125

Met Val Phe Pro Ile Asn Gln Glu Leu Leu Val Asp Glu Ser Ser Ser
1 5 10 15

Gln Leu Arg Lys Thr Ser Gly Gly Thr Gly Gly Gly Gly Arg Gly Lys
20 25 30

Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn Arg Gln Val Thr Phe
35 40 45

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

Leu Cys Asp Ala Glu Val Ser Leu Ile Val Phe Ser Ser Arg Gly Arg
65 70 75 80

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

Lys Lys His His Ala Asp Ser Thr Ser Thr Gly Ser Val Ser Glu Ala
100 105 110

Asn Thr Gln Tyr Tyr Gln Gln Glu Ala Ser Lys Leu Arg Arg Gln Ile
115 120 125

Arg Asp Ile Gln Thr Tyr Asn Arg Gln Ile Val Gly Glu Ala Leu Gly
130 135 140

Ser Leu Ser Pro Arg Asp Leu Lys Asn Leu Glu Gly Lys Leu Glu Lys
145 150 155 160

Ala Ile Gly Arg Val Arg Ser Lys Lys Asn Glu Leu Leu Phe Ser Glu
165 170 175

Ile Glu Leu Met Gln Lys Arg Glu Ile Glu Leu Gln Asn Ala Asn Met
180 185 190

Tyr Leu Arg Ala Lys Ile Ala Glu Val Glu Arg Ala Gln Glu Gln Met
195 200 205

Asn Leu Met Pro Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
210 215 220

Gly Ser Asp His Gln Tyr His His Gln Pro Asn Tyr Glu Asp Ala Arg
225 230 235 240

Asn Asn Phe Leu Pro Val Asn Leu Leu Glu Pro Asn Pro His Tyr Ser
245 250 255

Arg Arg Asp Asn Gly Asp Gln Thr Pro Leu Gln Leu Val
260 265

<210> 126
<211> 224
<212> PRT
<213> Solanum lycopersicum

<400> 126

Met Val Arg Gly Lys Thr Glu Leu Lys Arg Ile Glu Asn Ala Thr Ser
1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

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

Thr Ile Glu Arg Tyr Gln Lys Asn Glu Lys Ser Leu Gly Arg Leu Asn
65 70 75 80

Arg Lys Leu Thr Asp Gln Leu Thr Thr Glu His Leu Lys Glu Glu Val
85 90 95

Ala Thr Met Thr Arg Lys Leu Glu Phe Leu Glu Asp Ser Lys Arg Lys
100 105 110

Leu Leu Gly His Gly Leu Glu Ser Ser Thr Phe Asp Glu Leu Gln Lys
115 120 125

Val Glu Glu Gln Leu Glu Lys Ser Leu Ser Asn Ile Arg Ala Arg Lys
130 135 140

Asn Leu Leu Phe Lys Glu Gln Ile Ala Gln Leu Lys Glu Glu Glu Lys
145 150 155 160

Ile Leu Leu Lys Glu Asn Val Asp Leu Lys Lys Lys Cys Gln Val Leu
165 170 175

Pro Leu Thr Leu Thr Pro Val Pro Leu Val Glu Lys Asp Val Glu Arg
180 185 190

Gln Ile Met Glu Val Glu Thr Glu Leu Phe Ile Gly Leu Pro Glu Thr
195 200 205

Arg Lys Ser Ser Tyr Cys Pro Asn Leu Asn Thr Leu Pro Thr Leu Leu
210 215 220

<210> 127

<211> 61

<212> PRT

<213> Solanum lycopersicum

<400> 127

Met Val Arg Gly Lys Thr Glu Met Arg Arg Ile Glu Asn Ala Thr Ser
1 5 10 15

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

Phe Glu Leu Ser Val Leu Cys Asp Ala Gln Val Gly Leu Val Ile Leu
35 40 45

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

<210> 128
<211> 223
<212> PRT
<213> Solanum lycopersicum

<400> 128

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Asn Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Ile Ala Leu Ile Val Phe
35 40 45

Ser Thr Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Val Lys Ala
50 55 60

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

Thr Thr Gln Glu Leu Asn Ala Gln Phe Tyr Gln Gln Glu Ser Lys Lys
85 90 95

Leu Arg Gln Gln Ile Gln Met Met Gln Asn Thr Asn Arg His Leu Val
100 105 110

Gly Glu Gly Leu Ser Ser Leu Asn Val Arg Glu Leu Lys Gln Leu Glu
115 120 125

Asn Arg Leu Glu Arg Gly Ile Thr Arg Ile Arg Ser Lys Lys His Glu
130 135 140

Ala Ile Leu Ala Glu Thr Glu Asp Leu His Lys Arg Glu Ile Gln Leu
145 150 155 160

Glu Gln Glu Asn Ala Phe Leu Arg Ser Lys Ile Ala Glu Asn Glu Arg
165 170 175

Leu Gln Glu Leu Ser Met Met Pro Ser Gly Gly Glu Glu Tyr Asn Ala
180 185 190

Phe Gln Gln Tyr Leu Ala Arg Asn Met Leu Gln Leu Asn Met Met Glu
195 200 205

Thr Ala Leu Pro Ser Tyr Asp Pro Leu Ser Pro Asp His Lys Arg
210 215 220

<210> 129
<211> 201
<212> PRT
<213> Solanum lycopersicum

<400> 129

Met Ala Arg Gly Lys Val Gln Met Lys Arg Ile Glu Asn Pro Val His
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Ala Gly Leu Leu Lys Lys Ala
20 25 30

Lys Glu Leu Ser Val Leu Cys Asp Ala Glu Ile Gly Leu Phe Ile Phe
35 40 45

Ser Ala His Gly Lys Leu Tyr Glu Leu Ala Thr Lys Gly Ser Met Gln
50 55 60

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

Glu Glu Ala Lys Asp Thr Gln Pro Leu Asp Pro Lys Glu Glu Ile Asn
85 90 95

Met Leu Lys Asn Glu Ile Asp Val Leu Gln Lys Gly Leu Ser Tyr Met
100 105 110

Tyr Gly Gly Gly Ala Gly Thr Met Thr Leu Asp Glu Leu His Ser Leu
115 120 125

Glu Lys Tyr Leu Glu Ile Trp Met Tyr His Ile Arg Ser Ala Lys Met
130 135 140

Asp Ile Met Phe Gln Glu Ile Gln Leu Leu Lys Asn Lys Glu Gly Ile
145 150 155 160

Leu Glu Ala Ala Asn Lys Tyr Leu Gln Asp Lys Ile Asp Glu Gln Tyr
165 170 175

Thr Val Thr Asn Met Thr Gln Asn Leu Thr Asp Phe Gln Cys Pro Leu
180 185 190

Thr Val Gln Asn Glu Ile Phe Gln Phe
195 200

<210> 130
<211> 250
<212> PRT
<213> Solanum lycopersicum

<400> 130

Met Gly Arg Gly Arg Val Glu Leu Lys Arg Ile Glu Asn Lys Ile Asn
 1 5 10 15
 Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30
 Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
 35 40 45
 Ser Ser Arg Gly Lys Leu Tyr Glu Phe Ser Ser Ala Ser Ser Met Met
 50 55 60
 Thr Thr Leu Glu Lys Tyr Gln Gln Cys Ser Tyr Ala Ser Leu Asp Pro
 65 70 75 80
 Met Leu Pro Val Ser Asp Thr Gln Met Asn Tyr Asn Glu Tyr Val Arg
 85 90 95
 Leu Lys Ala Arg Val Glu Leu Leu Gln Arg Ser Gln Arg His Ile Leu
 100 105 110
 Gly Glu Asp Leu Gly Thr Leu Asn Ser Lys Glu Leu Glu Gln Leu Glu
 115 120 125
 His Gln Leu Asp Ala Ser Leu Lys Lys Val Arg Ser Lys Lys Thr Gln
 130 135 140
 Ser Met Leu Asp Gln Leu Ala Asp Leu Gln Glu Lys Glu Gln Met Leu
 145 150 155 160
 Glu Glu Ala Asn Lys Gln Leu Lys Asn Lys Leu Glu Glu Ser Ala Ala
 165 170 175
 Arg Ile Pro Leu Gly Leu Ser Trp Gly Asn Asn Gly Gly Gln Thr Met
 180 185 190
 Glu Tyr Asn Arg Leu Pro Pro Gln Thr Thr Ala Gln Pro Phe Phe Gln
 195 200 205
 Pro Leu Arg Leu Asn Ser Ser Ser Pro Gln Phe Gly Tyr Asn Pro Asn
 210 215 220
 Met Gly Ala Asn Asp His Glu Val Asn Ala Ala Thr Thr Ala His Asn
 225 230 235 240
 Ile Asn Gly Phe Ile Pro Gly Trp Met Leu
 245 250

<210> 131
 <211> 206
 <212> PRT
 <213> Solanum lycopersicum

<400> 131

Met Val Arg Gly Ile Thr Glu Met Lys Arg Ile Glu Asn Thr Thr Ser
1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Gly Gly Leu Leu Lys Lys Ala
20 25 30

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ser Leu Ile Ile Phe
35 40 45

Ser Gln Lys Gly Lys Leu Phe Glu Phe Ser Ser Ser Ser Thr Asn Lys
50 55 60

Thr Ile Glu Arg Tyr Gln Lys Asn Asp Lys Asn Leu Gly His Glu Asn
65 70 75 80

Ile Leu Leu Glu Gln Thr Thr Glu His Leu Lys Gly Glu Val Met Ser
85 90 95

Met Thr Arg Asn Leu Glu Val Leu Glu Ile Ser Lys Arg Arg Leu Leu
100 105 110

Gly Glu Asp Leu Glu Ser Cys Ser Ile Asp Glu Leu Glu Lys Val Glu
115 120 125

Gly Gln Leu Asp Gln Ser Leu Arg Asn Ile Arg Ala Lys Lys Asn Gln
130 135 140

Leu Phe Lys Glu Gln Ile Ser Leu Leu Lys Asp Glu Glu Lys Val Leu
145 150 155 160

Met Asn Lys Asn Ala Glu Leu Arg Glu Lys Tyr Glu Ala Arg Ser Leu
165 170 175

Pro Leu Phe Ile Asp Arg Arg Glu Asp Glu Ser Pro Gln Thr Gln Asn
180 185 190

Met Glu Val Asp Thr Gln Leu Phe Ile Gly Leu Pro Glu Arg
195 200 205

<210> 132

<211> 97

<212> PRT

<213> Solanum lycopersicum

<400> 132

Met Gly Arg Gly Lys Ile Leu Ile Arg Arg Ile Asp Asn Ser Thr Ser
1 5 10 15

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

Lys Glu Leu Ala Ile Leu Cys Asp Ala Glu Val Gly Val Ile Ile Phe

35

40

45

Ser Ser Thr Ser Lys Leu Tyr Asp Tyr Ala Asn Thr Arg Phe Ser Pro
 50 55 60

Pro Ile Ser His Thr Phe Phe Ala Cys Gln Met Leu Glu Leu Gln Phe
 65 70 75 80

Ile Phe Asn Phe Leu Glu Lys Asn Phe Leu Arg Val Phe Ser Phe Val
 85 90 95

Tyr

<210> 133
 <211> 70
 <212> PRT
 <213> Vitis vinifera

<400> 133

Met Gly Arg Gly Lys Ile Glu Ile Arg Arg Ile Asp Asn Thr Thr Ser
 1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Lys Gly Leu Leu Lys Lys Ala
 20 25 30

Lys Glu Leu Ala Ile Leu Cys Asp Ala Glu Val Gly Leu Ile Ile Phe
 35 40 45

Ser Ser Thr Gly Lys Leu Tyr Glu Phe Ala Ser Thr Arg Phe Ala Ala
 50 55 60

Ser Tyr His Leu Ile Ile
 65 70

<210> 134
 <211> 221
 <212> PRT
 <213> Vitis vinifera

<400> 134

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
 35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ser Met Leu
 50 55 60

Lys Thr Leu Glu Arg Tyr Gln Lys Cys Asn Tyr Gly Ala Pro Glu Thr

65					70						75				80
Asn	Val	Ser	Thr	Arg	Glu	Ala	Leu	Glu	Leu	Ser	Ser	Gln	Gln	Glu	Tyr
				85					90					95	
Leu	Lys	Leu	Lys	Ala	Arg	Tyr	Glu	Ala	Leu	Gln	Arg	Ser	Gln	Arg	Asn
			100					105					110		
Leu	Leu	Gly	Glu	Asp	Leu	Gly	Pro	Leu	Ser	Thr	Lys	Glu	Leu	Glu	Ser
		115					120					125			
Leu	Glu	Arg	Gln	Leu	Asp	Val	Ser	Leu	Lys	Gln	Ile	Arg	Ser	Thr	Arg
	130					135					140				
Thr	Gln	Tyr	Met	Leu	Asp	Gln	Leu	Thr	Asp	Leu	Gln	Arg	Lys	Glu	His
145					150					155					160
Met	Leu	Asn	Glu	Ala	Asn	Lys	Thr	Leu	Lys	Gln	Arg	Leu	Leu	Glu	Gly
				165					170					175	
Thr	Gln	Val	Asn	Gln	Leu	Gln	Trp	Asn	Pro	Asn	Ala	Gln	Asp	Val	Gly
			180					185					190		
Tyr	Gly	Arg	Gln	Gln	Ala	Gln	Pro	Gln	Gly	Asp	Gly	Phe	Phe	His	Pro
		195					200					205			
Leu	Glu	Cys	Glu	Pro	Thr	Leu	Gln	Ile	Gly	Pro	Ile	Gln			
	210					215					220				

<210> 135
 <211> 241
 <212> PRT
 <213> Vitis vinifera

<400> 135

Met	Gly	Arg	Gly	Arg	Val	Gln	Leu	Lys	Arg	Ile	Glu	Asn	Lys	Ile	Asn
1				5					10					15	
Arg	Gln	Val	Thr	Phe	Ser	Lys	Arg	Arg	Thr	Gly	Leu	Leu	Lys	Lys	Ala
			20					25					30		
His	Glu	Ile	Ser	Val	Leu	Cys	Asp	Ala	Glu	Val	Ala	Leu	Ile	Val	Phe
		35					40					45			
Ser	Thr	Lys	Gly	Lys	Leu	Phe	Glu	Tyr	Ser	Thr	Asp	Ser	Cys	Met	Glu
	50					55					60				
Lys	Ile	Leu	Asp	Arg	Tyr	Glu	Arg	Tyr	Ser	Tyr	Ala	Glu	Arg	Gln	Leu
65					70					75					80
Thr	Ala	Thr	Asp	Pro	Glu	Ser	Gln	Gly	Asn	Trp	Ser	Leu	Glu	Tyr	Ser
				85					90					95	

Lys Leu Lys Ala Lys Ile Glu Leu Leu Gln Arg Ser Gln Arg His Phe
100 105 110

Leu Gly Glu Asp Leu Asp Ser Leu Ser Leu Lys Glu Leu Gln Asn Leu
115 120 125

Glu Gln Gln Leu Asp Thr Ala Leu Lys His Ile Arg Ser Arg Lys Asn
130 135 140

Gln Leu Met Tyr Glu Ser Ile Ser Glu Leu Gln Arg Lys Glu Lys Ala
145 150 155 160

Met Gln Glu Gln Asn Asn Met Leu Ala Lys Glu Ile Lys Glu Lys Glu
165 170 175

Lys Thr Val Ala Gln Gln Thr His Trp Glu Gln Gln Asn His Gly Leu
180 185 190

Asn Thr Ser Ser Phe Leu Leu Pro Gln Gln Leu Pro Cys Leu Asn Met
195 200 205

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

Asp Leu Thr Leu Glu Pro Ile Tyr Pro Ser His Leu Gly Cys Phe Thr
225 230 235 240

Thr

<210> 136
<211> 243
<212> PRT
<213> Vitis vinifera

<400> 136

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Gly Ser Ser Met Pro
50 55 60

Glu Thr Leu Glu Arg Tyr Gln Arg Cys Ser Tyr Ser Ala Leu Glu Ala
65 70 75 80

Ser Gln Pro Ala Lys Glu Thr Gln Asn Ser Tyr Gln Glu Tyr Leu Lys
85 90 95

Leu Lys Ser Lys Val Glu Val Leu Gln Arg Thr Gln Arg Asn Phe Leu
100 105 110

Gly Glu Asp Leu Gly His Leu Gly Thr Lys Glu Leu Glu Gln Leu Glu
115 120 125

His Gln Leu Asp Lys Ser Leu Lys Gln Ile Arg Ser Thr Lys Thr Gln
130 135 140

Phe Met Leu Asp Gln Leu Ser Asp Leu Gln Arg Lys Glu Gln Ile Leu
145 150 155 160

Met Glu Ala Asn Asn Ala Leu Arg Arg Lys Leu Gly Glu Ser Ser Ala
165 170 175

Glu Ser Gly Leu Gly Ser Thr Trp Glu Ala Ala Ala His Asn Leu Pro
180 185 190

Tyr Asn Arg Glu Pro Val Gln Ser Glu Asp Phe Phe Glu Pro Leu Gln
195 200 205

Cys Asp Ser Thr Leu Gln Ile Gly Tyr Asn Pro Val Leu Arg Val Glu
210 215 220

Met Asn Gly Ala Ser Thr Thr Gln Asn Val Asn Gly Phe Ile Pro Gly
225 230 235 240

Trp Met Val

<210> 137
<211> 214
<212> PRT
<213> Vitis vinifera

<400> 137

Met Val Arg Gly Lys Thr Gln Met Lys Arg Ile Glu Asn Ala Ala Ser
1 5 10 15

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

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

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

Arg Gly Ala Pro Glu Asn Glu Gln His His Leu Glu Gly Glu Thr Val
85 90 95

Asp Leu Ala Lys Lys Ile Glu Leu Leu Glu Val Ser Lys Arg Arg Leu
100 105 110

Leu Gly Glu Cys Leu Asp Ser Cys Ser Ile Glu Glu Leu Gln Gln Ile
115 120 125

Glu Asn Glu Leu Glu Gln Ser Leu Ser Asn Ile Arg Ile Gln Lys Asn
130 135 140

His Leu Cys Lys Gly His Ile Glu Arg Leu Lys Glu Gln Glu Arg Ile
145 150 155 160

Leu Gly Glu Glu Asn Ala Lys Leu Arg Gly Lys Cys Gly Leu Gln Pro
165 170 175

Leu Gln Pro Ser Thr Lys His Gln Ser Val Pro Tyr Val Glu Ile Ser
180 185 190

Glu Val Glu Thr Glu Leu Phe Ile Gly Pro Pro Glu Arg Arg Thr Val
195 200 205

Arg Tyr Leu Ser Glu Thr
210

<210> 138
<211> 62
<212> PRT
<213> Vitis vinifera

<400> 138

Met Gly Arg Gly Lys Ile Val Ile Arg Arg Ile Asp Asn Ser Thr Ser
1 5 10 15

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

Lys Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Gly Leu Val Ile Phe
35 40 45

Ser Ser Thr Gly Lys Leu Tyr Asp Tyr Ala Asn Thr Arg Lys
50 55 60

<210> 139
<211> 226
<212> PRT
<213> Vitis vinifera

<400> 139

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asn Ser Val Lys Ser
50 55 60

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

Ser Val Ser Glu Ala Asn Ala Gln Phe Tyr Gln Gln Glu Ser Ser Lys
85 90 95

Leu His Gln Gln Ile Arg Asn Leu Gln Asn Ser Asn Arg His Met Leu
100 105 110

Gly Glu Ser Leu Gly Ser Leu Asn Phe Lys Asp Leu Lys Ser Leu Glu
115 120 125

Ile Arg Leu Glu Lys Gly Ile Ser Arg Ile Arg Ser Arg Lys Asn Glu
130 135 140

Leu Leu Phe Ala Glu Ile Glu Tyr Met Gln Lys Arg Glu Ile Asp Leu
145 150 155 160

His Asn Asp Asn Gln Tyr Leu Arg Ala Arg Ile Ala Glu Asn Glu Arg
165 170 175

Asn Glu Gln Gln Met Ser Leu Met Pro Gly Gly Ala Asn Tyr Glu Leu
180 185 190

Met Pro Ser Gln Gln Phe Asp Ser Arg Asn Tyr Phe Gln Leu Asn Gly
195 200 205

Leu Gln Pro Asn Gln Ser Tyr Ser Arg Gln Asp Gln Pro Ala Leu Gln
210 215 220

Leu Val
225

<210> 140
<211> 274
<212> PRT
<213> Vitis vinifera

<400> 140

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe

35

40

45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asn Ser Val Arg Thr
50 55 60

Thr Ile Glu Arg Tyr Lys Lys Val Cys Ser Asp Ser Ser Asn Thr Gly
65 70 75 80

Ser Val Ser Glu Ala Asn Ala Gln Phe Tyr Gln Gln Glu Ala Ser Lys
85 90 95

Leu Arg Arg Gln Ile Arg Asp Ile Gln Asn Leu Asn Arg His Ile Leu
100 105 110

Gly Glu Ala Leu Ser Ser Leu Asn Phe Lys Glu Leu Lys Asn Leu Glu
115 120 125

Thr Arg Leu Glu Lys Gly Ile Ser Arg Ile Arg Ser Lys Lys Asn Glu
130 135 140

Leu Leu Phe Ala Glu Ile Glu Tyr Met Gln Lys Arg Glu Ile Glu Leu
145 150 155 160

Gln Asn Ser Asn Leu Phe Leu Arg Ala Gln Ile Ala Glu Asn Glu Arg
165 170 175

Ala Gln Gln Gln Met Asn Leu Met Pro Gly Ser Gln Tyr Glu Ser Val
180 185 190

Pro Gln Gln Pro Tyr Asp Ser Gln Asn Leu Leu Pro Val Asn Leu Leu
195 200 205

Asp Pro Asn His His Tyr Ser Arg His Asp Gln Thr Ala Leu Gln Leu
210 215 220

Val Thr Ile Cys Leu Leu Tyr Leu Tyr Leu Lys Thr Tyr Phe Ser Ser
225 230 235 240

Ile Leu Lys Ile Asn Lys Leu Met Lys Tyr His Phe Ile Val Ala Leu
245 250 255

Ser Tyr Asn Gly Leu Val Arg Ser Gly Ala Val Phe Val Gly Leu Phe
260 265 270

Val Glu

<210> 141

<211> 247

<212> PRT

<213> Vitis vinifera

<400> 141

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

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Thr Lys Gly Lys Leu Phe Glu Tyr Ser Ser Asp Ser Ser Met Glu
50 55 60

Arg Ile Leu Glu Arg Tyr Glu Arg Tyr Ser Leu Ser Glu Arg Gln Leu
65 70 75 80

Leu Ser Thr Asp Pro Asp Pro Gln Gly Asn Trp Ser Met Asp Tyr Pro
85 90 95

Lys Leu Thr Ala Arg Ile Glu Val Leu Gln Arg Asn Leu Arg His Phe
100 105 110

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

Glu Gln Gln Leu Asp Thr Ala Leu Lys Arg Ile Arg Thr Arg Lys Asn
130 135 140

Gln Leu Met His Glu Ser Ile Ser Glu Leu Gln Lys Lys Glu Lys Ser
145 150 155 160

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

Lys Val Glu Gln Asn Asn Arg Ala Gln Trp Glu Gln Gln Asn Asn Ile
180 185 190

Gly Gln Asn Ser Ser Ala Tyr Val Val Pro Pro Pro Pro Leu Gln Leu
195 200 205

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

Asp Gly Ala Glu Ala Arg Pro Ser Pro Asn Thr Leu Met Pro Pro Trp
225 230 235 240

Met Leu Arg His Val Asn Glu
245

<210> 142
<211> 243
<212> PRT
<213> Vitis vinifera

<400> 142

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Thr Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ser Met Leu
50 55 60

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

Ser Arg Pro Ser Lys Glu Leu Glu Ser Ser Tyr Arg Glu Tyr Leu Lys
85 90 95

Leu Lys Ser Lys Phe Glu Ser Leu Gln Arg Thr Gln Arg Asn Leu Leu
100 105 110

Gly Glu Asp Leu Gly Pro Leu Asn Thr Lys Glu Leu Glu Gln Leu Glu
115 120 125

Arg Gln Leu Glu Thr Ser Leu Lys Gln Val Arg Ser Thr Lys Thr Gln
130 135 140

Phe Met Leu Asp Gln Leu Ser Asp Leu Gln Asn Lys Glu Gln Val Leu
145 150 155 160

Val Glu Ser Asn Lys Ala Leu Thr Arg Lys Leu Asp Glu Ile Ser Val
165 170 175

Lys Asn His Leu Gln Leu Ser Trp Glu Ser Gly Glu Gln Ser Met Pro
180 185 190

Tyr Gly His Gln Gln Ala Gln Ser Gln Gly Phe Phe Gln Pro Leu Glu
195 200 205

Cys Asn Pro Thr Leu Gln Ile Gly Tyr Asn Pro Ala Gly Ser Ser Gln
210 215 220

Leu Ser Ala Pro Ser Asn Ala Gln Asn Val Asn Gly Phe Ile Pro Gly
225 230 235 240

Trp Met Leu

<210> 143
<211> 61
<212> PRT
<213> Vitis vinifera

<400> 143

Met Val Arg Gly Lys Thr Gln Met Arg Arg Ile Glu Asn Ala Thr Ser
1 5 10 15

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

Phe Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Pro Arg Gly Lys Leu Tyr Glu Phe Ser Ser Ser Arg
50 55 60

<210> 144

<211> 244

<212> PRT

<213> Vitis vinifera

<400> 144

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

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

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45

Ser Ser Arg Gly Lys Leu Tyr Glu Phe Gly Ser Ala Gly Thr Thr Lys
50 55 60

Thr Leu Glu Arg Tyr Gln Arg Val Cys Tyr Thr Pro Gln Asp Asn Asn
65 70 75 80

Met Glu Cys Glu Thr Gln Ser Trp Tyr Gln Glu Val Ser Lys Leu Lys
85 90 95

Ala Lys Tyr Glu Ser Leu Gln Arg Thr Gln Arg His Leu Leu Gly Glu
100 105 110

Asp Leu Gly Pro Leu Ser Val Lys Glu Leu Gln Asn Leu Glu Lys Gln
115 120 125

Leu Glu Gly Ala Leu Ala Gln Ala Arg Gln Arg Lys Thr Gln Met Met
130 135 140

Ile Glu Gln Met Glu Asp Leu Arg Arg Lys Glu Arg Gln Leu Gly Asp
145 150 155 160

Leu Asn Lys Gln Leu Lys Leu Lys Leu Glu Ala Glu Gly Gln Ser Leu
165 170 175

Lys Ala Ile Gln Gly Ser Trp Asn Pro Ser Thr Ala Thr Ala Gly Asn

180

185

190

Ser Ser Phe Pro Val His Pro Ser Gln Ser Asn Pro Met Asp Cys Glu
195 200 205

Pro Glu Pro Ile Leu Gln Ile Gly Tyr His His Tyr Val Pro Ala Glu
210 215 220

Gly Pro Ser Val Ser Lys Ser Met Ala Gly Glu Ser Asn Phe Ile Gln
225 230 235 240

Gly Trp Val Leu

<210> 145
<211> 249
<212> PRT
<213> Vitis vinifera

<400> 145

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

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

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Cys Leu Ile Ile Phe
35 40 45

Ser Ser Arg Gly Lys Leu Phe Glu Phe Gly Ser Ser Gly Met Thr Lys
50 55 60

Thr Ile Glu Arg Tyr Arg Arg Cys Cys Tyr Ala Ser Arg Asp Asn Asn
65 70 75 80

Asp Ala Glu His Asp Arg Gln Ile Gly His Glu Glu Tyr Ser Lys Leu
85 90 95

Lys Ala Lys Tyr Glu Ser Leu Met Asp Ser Gln Arg His Leu Leu Gly
100 105 110

Glu Asp Leu Gly Leu Leu Ser Ile Lys Glu Leu Gln Asn Leu Glu Lys
115 120 125

Met Leu Glu Gly Thr Leu Ser Gln Ala Arg Gln Arg Lys Ala Gln Met
130 135 140

Met Leu Lys Gln Met Asp Glu Leu Lys Lys Lys Glu His Asp Leu Glu
145 150 155 160

Glu Met Asn Lys Gln Leu Thr Ser Lys Leu Glu Glu Leu Glu Glu Cys
165 170 175

Val Arg Val Ile Glu Ala Ser Trp Asp Ser Gly Thr Val Ala Gly Asn
180 185 190

Asp Ser Leu Asn Met His Ile Ser Gln Pro Asn Gln Ile Gln Pro Gln
195 200 205

Pro Gln Pro Gln Pro Gln Pro Ser Leu Pro Met Gly Phe His Glu Phe
210 215 220

Val Pro Pro Glu Gly Ala Ala Ile Ala Arg Asn Val Gly Asn Ala Arg
225 230 235 240

Asn Gly Leu Ala Gln Gly Trp Leu Val
245

<210> 146
<211> 79
<212> PRT
<213> Vitis vinifera

<400> 146

Met Val Arg Gly Lys Ile Gln Met Arg Arg Ile Glu Asn Ala Thr Ser
1 5 10 15

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

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Val Ile Ile Phe
35 40 45

Ser Gln Lys Gly Arg Leu Tyr Glu Phe Ser Ser Ser Lys Trp Arg Ile
50 55 60

Phe Lys Cys His Ser Arg Ser Ile Gln Gly Gly Ser Asn Trp Pro
65 70 75

<210> 147
<211> 235
<212> PRT
<213> Vitis vinifera

<400> 147

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

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

Phe Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Leu Ile Phe
35 40 45

Ser Pro Ser Gly Lys Ala Tyr Gln Phe Ala Ser His Asp Met Asp Arg
50 55 60

Ser Ile Ala Arg Tyr Arg Asn Glu Val Gly Leu Met Glu Phe Asn Asn
65 70 75 80

Tyr Gln Arg Ser Arg Thr Ile Glu Phe Trp Met Ser Glu Ile Asp Asn
85 90 95

Leu Arg Arg Thr Ile Asp Thr Leu Glu Ala Lys His Lys His Leu Ala
100 105 110

Gly Glu Asp Leu Ser Thr Leu Gly Met Lys Glu Leu Lys Gln Leu Glu
115 120 125

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

Ile Ile Ser Glu His Ile Ser Leu Leu Lys Lys Arg Gln Arg Ala Leu
145 150 155 160

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

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

Arg Ala Val Ala Ala Val Val Leu Ala Val His Met Thr Gly Pro Gly
195 200 205

Tyr Glu Lys Asp Gly Gln Met Gly Ser Lys Ser His His Gln Thr Ala
210 215 220

Arg Met Leu Ala Asp Gln Asp Gly Gly Asp Pro
225 230 235

<210> 148
<211> 243
<212> PRT
<213> Vitis vinifera

<400> 148

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

Arg Gln Val Thr Phe Ser Lys Arg Arg Ser Gly Leu Leu Lys Lys Ala
20 25 30

His Glu Ile Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Thr Lys Gly Lys Leu Tyr Glu Tyr Ser Thr Asp Ser Cys Met Glu
50 55 60

Arg Ile Leu Glu Arg Tyr Glu Arg Tyr Ala Tyr Ala Gln Ser Gln Leu
65 70 75 80

Ile Ala Thr Asp Leu Glu Ser Gln Gly Ser Trp Thr Leu Glu Tyr Ala
85 90 95

Lys Leu Lys Ala Arg Met Glu Val Leu Gln Lys Ser Gln Arg Asn Phe
100 105 110

Met Gly Glu Asp Leu Asp Ser Leu Ser Leu Lys Glu Leu Gln Asn Leu
115 120 125

Glu Gln Gln Leu Asp Asn Ser Leu Lys Ser Thr Arg Thr Arg Lys Asn
130 135 140

Gln Leu Met Tyr Glu Ser Leu Ser Glu Leu His Lys Lys Gly Lys Ala
145 150 155 160

Leu Gln Glu Glu His Asp Leu Leu Thr Ala Lys Val Gln Glu Lys Glu
165 170 175

Lys Glu Gln Ala Glu Gln Ala Gln Trp Asn Gln Gln Asn Gln Asp Leu
180 185 190

Asp Ser Pro Ser Phe Leu Leu Gln Gln Pro Leu His Ala Leu Asn Ile
195 200 205

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

Pro Gln Asn Arg Thr Asn Thr Pro Leu Pro Ala Trp Met Leu Arg His
225 230 235 240

Val Asn Lys

<210> 149
<211> 246
<212> PRT
<213> Vitis vinifera

<400> 149

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

Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Lys Leu Tyr Glu Phe Cys Ser Gly Pro Ser Met Ala
50 55 60

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

Ser Gln Pro Val Tyr Glu Leu Thr Gln Ser Ser Tyr Gln Glu Tyr Leu
85 90 95

Lys Leu Lys Thr Arg Val Glu Val Leu Gln Arg Ser Gln Arg His Leu
100 105 110

Leu Gly Glu Asp Leu Asp Pro Leu Asn Thr Lys Glu Leu Glu Gln Leu
115 120 125

Glu His Gln Leu Glu Met Ser Leu Lys Gln Ile Arg Ser Thr Lys Thr
130 135 140

Gln Asn Met Leu Asp Gln Leu Ala Asp Leu Gln Asn Lys Glu His Met
145 150 155 160

Leu Ile Glu Ala Asn Asn Ala Leu Arg Arg Lys Leu Glu Glu Ser Asn
165 170 175

Gly Lys His Pro Leu Gln Gln Ser Trp Glu Ala Ala Gly Asn Ser Ala
180 185 190

Leu Tyr Ser Arg Leu Pro Ala Gln Ser Glu Gly Phe Phe Gln Pro Leu
195 200 205

Glu Arg Asn Ser Thr Leu Glu Met Gly Tyr Asn Ala Ala Gly Ser Asn
210 215 220

Glu Ile Thr Leu Ala Ala Pro Ser Gln Asn Asp Asn Gly Phe Gly Pro
225 230 235 240

Gly Trp Met Leu Trp Ile
245

<210> 150
<211> 223
<212> PRT
<213> Vitis vinifera

<400> 150

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Val Tyr Glu Tyr Ser Asn Asn Asn Ile Lys Ser
50 55 60

Thr Ile Asp Arg Tyr Lys Lys Ala Ser Ser Asp Ser Thr Asn Gly Gly

65		70		75		80									
Ser	Thr	Met	Glu	Ile	Asn	Ala	Gln	Tyr	Tyr	Gln	Gln	Glu	Ser	Ala	Lys
				85					90					95	
Leu	Arg	Gln	Gln	Ile	Gln	Met	Leu	Gln	Asn	Ser	Asn	Arg	His	Leu	Met
			100					105					110		
Gly	Asp	Ser	Leu	Ala	Ser	Leu	Thr	Val	Lys	Glu	Leu	Lys	Gln	Leu	Glu
		115					120					125			
Asn	Arg	Leu	Glu	Arg	Gly	Ile	Thr	Arg	Ile	Arg	Ser	Lys	Lys	His	Glu
	130					135					140				
Leu	Leu	Leu	Ala	Glu	Ile	Glu	Tyr	Leu	Gln	Lys	Arg	Glu	Ile	Glu	Leu
145					150					155					160
Glu	Asn	Glu	Ser	Val	Tyr	Leu	Arg	Thr	Lys	Ile	Ala	Glu	Val	Glu	Arg
				165					170					175	
Leu	Gln	Gln	Ala	Asn	Met	Val	Ser	Thr	His	Glu	Phe	Asn	Ala	Ile	Gln
			180					185					190		
Ala	Leu	Val	Ser	Arg	Asn	Phe	Phe	Gln	Pro	Asn	Met	Ile	Glu	Gly	Gly
		195					200					205			
Ser	Thr	Gly	Tyr	Pro	Leu	Pro	Asp	Lys	Lys	Val	Leu	His	Leu	Gly	
	210					215					220				

<210> 151
 <211> 198
 <212> PRT
 <213> Vitis vinifera
 <400> 151

Met	Ala	Arg	Gly	Lys	Ile	Gln	Met	Lys	Arg	Ile	Glu	Asn	Pro	Val	His
1				5					10					15	
Arg	Gln	Val	Thr	Phe	Cys	Lys	Arg	Arg	Ala	Gly	Leu	Leu	Lys	Lys	Ala
			20					25					30		
Lys	Glu	Leu	Ser	Val	Leu	Cys	Asp	Ala	Glu	Ile	Gly	Ile	Phe	Ile	Phe
		35					40					45			
Ser	Ala	His	Gly	Lys	Leu	Tyr	Glu	Leu	Ala	Thr	Lys	Gly	Thr	Met	Gln
	50					55					60				
Gly	Leu	Ile	Glu	Lys	Tyr	Met	Lys	Ser	Ser	Cys	Gly	Ser	Gln	Asp	Asp
65					70					75				80	
Gln	Ala	Lys	Glu	Ala	Gln	Leu	Leu	Asp	Thr	Lys	Glu	Glu	Ile	Asn	Met
				85					90					95	

Leu Lys His Glu Ile Glu Leu Leu Gln Lys Gly Leu Arg Tyr Met Leu
100 105 110

Gly Gly Gly Ala Gly Thr Met Thr Leu Asp Glu Leu His Ile Phe Glu
115 120 125

Lys His Leu Glu Ile Trp Ile Tyr Asn Ile Arg Ser Ala Lys Met Glu
130 135 140

Ile Met Phe Gln Glu Ile Gln Leu Leu Lys Asn Lys Glu Gly Ile Leu
145 150 155 160

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

Ile Thr Asn Ile Ala Pro Met Ile Asn Pro Tyr Pro Leu Thr Thr Gln
180 185 190

Asn Glu Ile Phe Gln Thr
195

<210> 152
<211> 225
<212> PRT
<213> Género Rubus

<400> 152

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Glu Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
50 55 60

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

Thr Thr Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
85 90 95

Lys Leu Arg His Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
100 105 110

Met Gly Asp Ser Leu Ser Ser Leu Thr Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Leu Thr Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Arg Glu Val Glu
145 150 155 160

Leu Glu Asn Glu Asn Val Leu Val Arg Ala Lys Ile Ala Asp Leu Glu
165 170 175

Arg Leu Gln His Ala Asp Met Val Ser Gly Asp Gln Asp Leu Glu Leu
180 185 190

Asn Ala Ile Gln Ala Leu Val Ser Arg Asn Phe Phe Thr Ser Thr Met
195 200 205

Ile Glu Gly Glu Ala Ser Tyr Ser Gln Pro Glu Lys Lys Phe Leu His
210 215 220

Leu
225

<210> 153
<211> 677
<212> ADN
<213> Género Rubus

<400> 153
atggggagag gaaagattga gataaagagg attgagaaca ccacaaaccg tcaagtgacc 60
ttctgcaaaa gaagaaatgg actgttgaag aaagcttatg agctttccat tctctgtgag 120
gctgaagttg ccctcattgt cttctctagc cgtggccgcc tctacgagta ctctaacaac 180
aacagcataa gaaacacaat agagaggtac aagaagacat gttcagatag ctcaggtgca 240
accactatta cagaaatcaa tgctcaatat taccagcagg aatcggcaaa gctgaggcac 300
caaattcaaa tgctgcagaa ttctaacagg cacttaatgg gagattcctt gagtagtctg 360
actgtgaaag aactaaagca actggagaat aggcttgaac gaggccttac tagaatcagg 420
tccaagaagc atgaaatgtt gcttgctgaa attgaatact tgcagaaaag ggagggttgag 480
ctggaaaacg agaatgtttt agttcgagct aagatagcag accttgagag gcttcagcac 540
gcagacatgg tttctgggga tcaagatcta gagttgaatg caatccaggc gttagtatct 600
cgcaatttct tcacatccac tatgattgag ggtgaggctt catactcaca gccagagaag 660
aaatttctcc atctggg 677

<210> 154
<211> 225
<212> PRT
<213> Género Rubus

<400> 154

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Glu Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
50 55 60

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

Thr Thr Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
85 90 95

Lys Leu Arg His Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
100 105 110

Met Gly Asp Ser Leu Ser Ser Leu Thr Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Leu Thr Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Arg Glu Val Glu
145 150 155 160

Leu Glu Asn Glu Asn Val Leu Val Arg Ala Lys Ile Ala Glu Leu Glu
165 170 175

Arg Leu Gln His Ala Asp Met Val Ser Gly Asp Gln Asp Leu Glu Leu
180 185 190

Asn Ala Ile Gln Ala Leu Val Ser Arg Asn Phe Phe Thr Ser Thr Met
195 200 205

Ile Glu Gly Glu Ala Ser Tyr Ser Gln Pro Glu Lys Lys Phe Leu His
210 215 220

Leu
225

<210> 155
<211> 677
<212> ADN
<213> Género Rubus

<400> 155
atggggagag gaaagattga gataaagagg attgagaaca ccacaaaccg tcaagtgacc 60
ttctgcaaaa gaagaaatgg actgttgaag aaagcttatg agctttccat tctctgcgag 120
gctgaagttg ccctcattgt cttctctagc cgtggccgcc tctacgagta ctctaacaac 180
aacagcataa gaaacactat agagaggtac aagaagacat gttcagatag ctcaggtgca 240
accactatta cagaaatcaa tgctcaatat taccagcagg aatcggcgaa gctgaggcac 300
caaattcaaa tgctgcagaa ttctaacagg cacttaatgg gagattcctt gagtagtctg 360

actgtgaaag aactaaagca actggagaat agacttgaac gaggccttac tagaatcagg	420
tccaagaagc atgaaatggt gcttgctgaa attgaatact tgcagaaaag ggagggttgag	480
ctggaaaacg agaatgtttt agttcgagct aagatagcag aacttgagag gcttcagcac	540
gcagacatgg tttctgggga tcaagatcta gagttgaatg caatccaggc gttagtatct	600
cgcaatttct tcacatccac tatgattgag ggtgaggctt cataactcaca gccagagaag	660
aaatttctcc atctggg	677

<210> 156
 <211> 225
 <212> PRT
 <213> Género Rubus
 <400> 156

Met	Gly	Arg	Gly	Lys	Ile	Glu	Ile	Lys	Arg	Ile	Glu	Asn	Thr	Thr	Asn
1				5					10					15	

Arg	Gln	Val	Thr	Phe	Cys	Lys	Arg	Arg	Asn	Gly	Leu	Leu	Lys	Lys	Ala
			20					25					30		

Tyr	Glu	Leu	Ser	Ile	Leu	Cys	Glu	Ala	Glu	Val	Ala	Leu	Ile	Val	Phe
		35					40					45			

Ser	Ser	Arg	Gly	Arg	Leu	Tyr	Glu	Tyr	Ser	Asn	Asn	Asn	Ser	Ile	Arg
	50					55					60				

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

Thr	Thr	Ile	Thr	Glu	Ile	Asn	Ala	Gln	Tyr	Tyr	Gln	Gln	Glu	Ser	Ala
				85					90					95	

Lys	Leu	Arg	His	Gln	Ile	Gln	Met	Leu	Gln	Asn	Ser	Asn	Arg	His	Leu
			100					105					110		

Met	Gly	Asp	Ser	Leu	Ser	Asn	Leu	Thr	Val	Lys	Glu	Leu	Lys	Gln	Leu
		115					120					125			

Glu	Asn	Arg	Leu	Glu	Arg	Gly	Leu	Thr	Arg	Ile	Arg	Ser	Lys	Lys	His
	130					135					140				

Glu	Met	Leu	Leu	Ala	Glu	Ile	Glu	Tyr	Leu	Gln	Lys	Arg	Glu	Val	Glu
145					150					155					160

Leu	Glu	Asn	Glu	Asn	Val	Leu	Val	Arg	Ala	Lys	Ile	Ala	Glu	Leu	Glu
				165					170					175	

Arg	Leu	Gln	His	Ala	Asp	Met	Val	Ser	Gly	Asp	Gln	Asp	Leu	Glu	Leu
			180					185					190		

Asn	Ala	Ile	Gln	Ala	Leu	Val	Ser	Arg	Asn	Phe	Phe	Ala	Ser	Thr	Met
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

195

200

205

Ile Glu Gly Glu Ala Ser Tyr Ser Gln Pro Glu Lys Lys Phe Leu Asn
 210 215 220

Leu
 225

<210> 157
 <211> 677
 <212> ADN
 <213> Género Rubus

<400> 157
 atggggagag gaaagattga gataaagagg attgagaaca ccacaaaccg tcaagtgacc 60
 ttctgcaaaa gaagaaatgg actgttgaag aaagcttatg agctttccat tctctgtgag 120
 gctgaagttg ccctcattgt cttctctagc cgtggccgcc tctatgagta ctctaacaac 180
 aacagcataa gaaacactat agagaggtac aagaaggcat gttcagatag ctcagggtgca 240
 acaactatta cagaaatcaa tgctcaatat taccagcagg aatcggcaaa gctgaggcac 300
 caaattcaaa tgctgcagaa ttctaacagg cacttaatgg gagattcctt gagtaatctg 360
 actgtgaaag aactgaagca gctggagaat aggcttgaac gaggccttac tagaatcagg 420
 tccaagaagc atgaaatgtt gcttgctgaa attgaatact tgcagaaaag ggagggttgag 480
 ctggaaaacg agaatgtttt agttcgagct aagatagcag aacttgagag gcttcagcac 540
 gcagacatgg tttctgggga tcaagatcta gagttgaatg caatccaggc gttagtatct 600
 cgcaatttct tcgcatccac tatgattgag ggtgaggctt catactcaca gccagagaag 660
 aaatttctca atctggg 677

<210> 158
 <211> 225
 <212> PRT
 <213> Género Rubus

<400> 158

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
 1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30

Tyr Glu Leu Ser Ile Leu Cys Glu Ala Glu Val Ala Leu Ile Val Phe
 35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
 50 55 60

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

Thr Thr Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala

85

90

95

Lys Leu Arg His Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
 100 105 110

Met Gly Asp Ser Leu Ser Asn Leu Thr Val Lys Glu Leu Lys Gln Leu
 115 120 125

Glu Asn Arg Leu Glu Arg Gly Leu Thr Arg Ile Arg Ser Lys Lys His
 130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Arg Glu Val Glu
 145 150 155 160

Leu Glu Asn Glu Asn Val Leu Val Arg Ala Lys Ile Ala Glu Leu Glu
 165 170 175

Arg Leu Gln Gln Ala Asp Met Ile Ser Gly Asp Gln Asp Leu Glu Leu
 180 185 190

Asn Ala Ile Gln Ala Leu Val Ser Arg Asn Phe Phe Ala Ser Thr Met
 195 200 205

Ile Glu Gly Glu Ala Ser Tyr Ser Gln Pro Glu Lys Lys Phe Leu Asn
 210 215 220

Leu
 225

<210> 159
 <211> 677
 <212> ADN
 <213> Género Rubus

<400> 159
 atggggagag gaaagattga gataaagagg attgagaaca ccacaaaccg tcaagtgacc 60
 ttctgcaaaa gaagaaatgg actgttgaag aaagcttatg agctttccat tctctgtgag 120
 gctgaagttg ccctcattgt cttctctagc cgtggccgcc tctatgagta ctctaacaac 180
 aacagcataa gaaacactat agagaggtac aagaaggcat gttcagatag ctcaggtgca 240
 acaactatta cagaaatcaa tgctcaatat taccagcagg aatcggcaaa gctgaggcac 300
 caaattcaaa tgctgcagaa ttctaacagg cacttaatgg gagattcctt gagtaatctg 360
 actgtgaaag aactgaagca gctggagaat aggcttgaac gaggccttac tagaatcagg 420
 tccaagaagc atgaaatggt gcttgctgaa attgaatact tgcagaaaag ggagggttgag 480
 ctggaaaacg agaatgtttt agttcgagct aagatagcag aacttgagag gcttcagcaa 540
 gcagacatga tttctgggga tcaagatcta gagttgaatg caatccaggc gttagtatct 600
 cgcaatttct tcgcatccac tatgattgag ggtgaggctt catactcaca gccagagaag 660
 aaatttctca atctggg 677

<210> 160
<211> 225
<212> PRT
<213> Género Rubus

<400> 160

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Glu Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
50 55 60

Asn Thr Ile Glu Arg Tyr Lys Lys Thr Cys Ser Val Ser Ser Gly Ala
65 70 75 80

Thr Thr Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
85 90 95

Lys Leu Arg His Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
100 105 110

Met Gly Asp Ser Leu Ser Ser Leu Thr Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Leu Thr Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Arg Glu Val Glu
145 150 155 160

Leu Glu Asn Glu Asn Val Leu Val Arg Ala Lys Ile Ala Glu Leu Glu
165 170 175

Arg Leu Gln His Ala Asp Met Val Ser Gly Asp Gln Asp Leu Glu Leu
180 185 190

Asn Ala Ile Gln Ala Leu Val Ser Arg Asn Phe Phe Ala Ser Thr Met
195 200 205

Ile Glu Gly Glu Ala Ser Tyr Ser Gln Pro Glu Lys Lys Phe Leu His
210 215 220

Leu
225

<210> 161
<211> 677
<212> ADN

<213> Género Rubus

<400> 161
atggggagag gaaagattga gataaagagg attgagaaca ccacaaaccg tcaagtgacc 60
ttctgcaaaa gaagaaatgg actgttgaag aaagcttatg agctttccat tctctgtgag 120
gctgaagttg ccctcattgt cttctctagc cgtggccgcc tctacgagta ctctaacaac 180
aacagcataa gaaacactat agagaggtac aagaagacat gttcagttag ctcagggtgca 240
accactatta cagaaatcaa tgctcaatat taccagcagg aatcggcaaa gctgaggcac 300
caaattcaaa tgctgcagaa ttctaacagg cacttaatgg gagattcctt gagtagtctg 360
actgtgaaag aactaaagca actggagaat aggcttgaac gaggccttac tagaatcagg 420
tccaagaagc atgaaatggt gcttgctgaa attgaatact tgcagaaaag ggagggttgag 480
ctggaaaacg agaatgtttt agttcgagct aagatagcag aacttgagag gcttcagcac 540
gcagacatgg tttctgggga tcaagatcta gagttgaatg caatccaggc gttagtatct 600
cgcaatttct tcgcatccac catgattgag ggtgaggcctt catactcaca gccagagaag 660
aaatttctcc atctggg 677

<210> 162
<211> 225
<212> PRT
<213> Rubus ulmifolius

<400> 162
Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15
Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30
Tyr Glu Leu Ser Ile Leu Cys Glu Ala Glu Val Ala Leu Ile Val Phe
35 40 45
Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
50 55 60
Asn Thr Ile Glu Arg Tyr Lys Lys Thr Cys Ser Asp Ser Ser Gly Ala
65 70 75 80
Thr Thr Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
85 90 95
Lys Leu Arg His Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
100 105 110
Met Gly Asp Ser Leu Ser Ser Leu Thr Val Lys Glu Leu Lys Gln Leu
115 120 125
Glu Asn Arg Leu Glu Arg Gly Leu Thr Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Arg Glu Val Glu
145 150 155 160

Leu Glu Asn Glu Asn Val Leu Val Arg Ala Lys Ile Ala Glu Leu Glu
165 170 175

Arg Leu Gln His Ala Asp Met Val Ser Gly Asp Gln Asp Leu Glu Leu
180 185 190

Asn Ala Ile Gln Ala Leu Val Ser Arg Asn Phe Phe Thr Ser Thr Met
195 200 205

Ile Glu Gly Glu Ala Ser Tyr Ser Gln Pro Glu Lys Lys Phe Leu His
210 215 220

Leu
225

<210> 163
<211> 677
<212> ADN
<213> Rubus ulmifolius

<400> 163
atggggagag gaaagattga gataaagagg attgagaaca ccacaaaccg tcaagtgacc 60
ttctgcaaaa gaagaaatgg actgttgaag aaagcttatg agctttccat tctctgtgag 120
gctgaagttg ccctcattgt cttctctagc cgtggccgcc tctacgagta ctctaacaac 180
aacagcataa gaaacactat agagaggtac aagaagacat gttcagatag ctcaggtgca 240
accactatta cagaaatcaa tgctcaatat taccagcagg aatcggcaaa gctgaggcac 300
caaattcaaa tgctgcagaa ttctaacagg cacttaatgg gggattcctt gagtagtctg 360
actgtgaaag aactaaagca gctggagaat aggcttgaac gaggccttac tagaatcagg 420
tccaagaagc atgaaatggt gcttgctgaa attgaatact tgcagaaaag ggagggttgag 480
ctggaaaacg agaatgtttt agttcgagct aagatagcag aacttgagag gcttcagcac 540
gcagacatgg tttctgggga tcaagatcta gagttgaatg caatccaggc gttagtatct 600
cgcaatttct tcacatccac tatgattgag ggtgaggctt catactcaca gccagagaag 660
aaatttctcc atctggg 677

<210> 164
<211> 225
<212> PRT
<213> Rubus idaeus

<400> 164

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

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

Leu
 225

<210> 165
 <211> 677
 <212> ADN
 <213> Rubus idaeus

<400> 165
 atggggagag gaaagattga gataaagagg attgagaaca ccacaaaccg tcaagtgacc 60
 ttctgcaaaa gaagaaatgg actgttgaag aaagcttatg agctttccat tctctgtgag 120
 gctgaagttg ccctcattgt cttctctagc cgtggccgcc tctatgagta ctctaacaac 180
 aacagcataa gaaacactat agagaggtac aagaaggcat gttcagatag ctcaggtgca 240
 acaactatta cagaaatcaa tgctcaatat taccagcagg aatcggcaaa gctgaggcac 300
 caaattcaaa tgctgcagaa ttctaacagg cacttaatgg gagattcctt gagtaatctg 360

actgtgaaag aactaaagca gctggagaat aggcttgaac gaggccttac tagaatcagg	420
tccaagaagc atgaaatggt gcttgctgaa attgaatact tgcagaaaag ggagggttgag	480
ctggaaaacg agaatgtttt agttcgagct aagatagcag aacttgagag gcttcagcac	540
gcagacatgg tttctgggga tcaagatcta gagttgaatg caatccaggc gttagtatct	600
cgcaatttct tcgcatccac tatgattgag ggtgaggctt cataactcaca gccagagaag	660
aaatttctca atctggg	677

<210> 166
 <211> 222
 <212> PRT
 <213> Prunus avium
 <400> 166

Met	Gly	Arg	Gly	Lys	Ile	Glu	Ile	Lys	Arg	Ile	Glu	Asn	Thr	Thr	Asn
1				5					10					15	

Arg	Gln	Val	Thr	Phe	Cys	Lys	Arg	Arg	Asn	Gly	Leu	Leu	Lys	Lys	Ala
			20					25					30		

Tyr	Glu	Leu	Ser	Ile	Leu	Cys	Asp	Ala	Glu	Val	Ala	Leu	Ile	Val	Phe
		35					40					45			

Ser	Ser	Arg	Gly	Arg	Leu	Tyr	Glu	Tyr	Ser	Asn	Asn	Lys	Ser	Ile	Arg
	50					55					60				

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

Thr	Ser	Ile	Thr	Glu	Ile	Asn	Ala	Gln	Tyr	Tyr	Gln	Gln	Glu	Ser	Ala
				85					90					95	

Lys	Leu	Arg	Gln	Gln	Ile	Gln	Met	Leu	Gln	Asn	Ser	Asn	Arg	His	Leu
			100					105					110		

Met	Gly	Asp	Ala	Leu	Ser	Thr	Leu	Ser	Val	Lys	Glu	Leu	Lys	Gln	Leu
		115					120					125			

Glu	Asn	Arg	Leu	Glu	Arg	Gly	Ile	Asn	Arg	Ile	Arg	Ser	Lys	Lys	His
	130					135					140				

Glu	Met	Leu	Leu	Ala	Glu	Ile	Glu	Tyr	Leu	Gln	Lys	Lys	Glu	Ile	Glu
145					150					155					160

Leu	Glu	Asn	Glu	Asn	Val	Cys	Leu	Arg	Thr	Lys	Ile	Ser	Glu	Val	Glu
				165					170					175	

Arg	Leu	Gln	Gln	Ala	Asn	Met	Val	Gly	Pro	Glu	Leu	Asn	Ala	Ile	Gln
			180					185					190		

Ala	Leu	Ala	Ser	Arg	Asn	Phe	Phe	Ser	Gln	Asn	Met	Met	Glu	Gly	Gly
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

195

200

205

Ala Thr Tyr Pro Gln Gln Asp Lys Lys Ile Leu His Leu Gly
 210 215 220

<210> 167
 <211> 222
 <212> PRT
 <213> Prunus avium

<400> 167

Met Gly Gly Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
 1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30

Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
 35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
 50 55 60

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

Thr Ser Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
 85 90 95

Lys Leu Arg Gln Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
 100 105 110

Met Gly Asp Ala Leu Ser Thr Leu Ser Val Lys Glu Leu Lys Gln Leu
 115 120 125

Glu Asn Arg Leu Glu Arg Gly Ile Asn Arg Ile Arg Ser Lys Lys His
 130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Lys Glu Ile Glu
 145 150 155 160

Leu Glu Asn Glu Asn Val Cys Leu Arg Thr Lys Ile Ser Glu Val Glu
 165 170 175

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

Ala Leu Ala Ser Arg Asn Phe Phe Ser Gln Asn Met Met Glu Gly Gly
 195 200 205

Ala Thr Tyr Pro Gln Gln Asp Lys Lys Ile Leu His Leu Gly
 210 215 220

<210> 168
<211> 222
<212> PRT
<213> Prunus cerasus

<400> 168

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
50 55 60

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

Thr Ser Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
85 90 95

Lys Leu Arg Gln Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
100 105 110

Met Gly Asp Ala Leu Ser Thr Leu Ser Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Ile Asn Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Phe Gln Lys Lys Glu Ile Glu
145 150 155 160

Leu Glu Asn Glu Asn Val Cys Leu Arg Thr Lys Ile Ser Glu Val Glu
165 170 175

Arg Leu Gln Gln Ala Asn Met Val Gly Pro Glu Leu Asn Ala Ile Gln
180 185 190

Ala Leu Ala Ser Arg Asn Phe Phe Ser Gln Asn Met Met Glu Gly Gly
195 200 205

Ala Thr Tyr Pro Gln Gln Asp Lys Lys Ile Leu His Leu Gly
210 215 220

<210> 169
<211> 222
<212> PRT
<213> Prunus serrulata

<400> 169

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
50 55 60

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

Thr Ser Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
85 90 95

Lys Leu Arg Gln Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
100 105 110

Met Gly Asp Ala Leu Ser Thr Leu Ser Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Ile Asn Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Lys Glu Ile Glu
145 150 155 160

Leu Glu Asn Glu Asn Val Cys Leu Arg Thr Lys Ile Ser Glu Val Glu
165 170 175

Arg Leu Gln Gln Ala Asn Met Val Gly Pro Glu Leu Asn Ala Ile Gln
180 185 190

Ala Leu Val Ser Arg Asn Phe Phe Ser Gln Asn Ile Met Glu Gly Gly
195 200 205

Ala Thr Tyr Pro Gln Gln Asp Lys Lys Ile Leu His Leu Gly
210 215 220

<210> 170
<211> 222
<212> PRT
<213> Prunus mume

<400> 170

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
50 55 60

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

Thr Ser Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
85 90 95

Lys Leu Arg Gln Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
100 105 110

Met Gly Asp Ala Leu Ser Thr Leu Ser Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Ile Asn Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Lys Glu Ile Glu
145 150 155 160

Leu Glu Asn Glu Asn Val Cys Leu Arg Thr Lys Ile Ser Glu Val Glu
165 170 175

Arg Leu Gln Gln Ala Asn Met Val Gly Pro Glu Leu Asn Ala Ile Gln
180 185 190

Ala Leu Ala Ser Arg Asn Phe Phe Ser Gln Thr Met Met Glu Gly Gly
195 200 205

Ala Thr Tyr Pro Gln Gln Asp Lys Lys Ile Leu His Leu Gly
210 215 220

<210> 171
<211> 222
<212> PRT
<213> Prunus dulcis

<400> 171

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
50 55 60

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

Thr Ser Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
85 90 95

Lys Leu Arg Gln Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
100 105 110

Met Gly Asp Ala Leu Ser Thr Leu Ser Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Ile Asn Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Lys Glu Ile Glu
145 150 155 160

Leu Glu Asn Glu Asn Val Cys Leu Arg Thr Lys Ile Ser Glu Val Glu
165 170 175

Arg Leu Gln Gln Ala Asn Met Val Gly Pro Glu Leu Asn Ala Ile Gln
180 185 190

Ala Leu Ala Ser Arg Asn Phe Phe Ser Gln Asn Met Met Glu Gly Gly
195 200 205

Ala Thr Tyr Thr Gln Gln Asp Lys Lys Ile Leu His Leu Gly
210 215 220

<210> 172
<211> 56
<212> ADN
<213> Género Rubus

<400> 172
tggggatcaa gatctagagt tgaatgcaat ccaggcggtta gtatctcgca atttct 56

<210> 173
<211> 96
<212> ADN
<213> Género Rubus

<400> 173
cagcacgcag acatggtttc tggggatcaa gatctagagt tgaatgcaat ccaggcggtta 60
gtatctcgca atttcttcac atccactatg attgag 96

<210> 174
<211> 76
<212> ADN
<213> Género Rubus

<400> 174
acatggtttc tggggatcaa gatctagagt tgaatgcaat ccaggcggtta gtatctcgca 60

atttcttcac atccac

76

<210> 175
<211> 23
<212> ADN
<213> Género Rubus

<400> 175
ggcgtagta tctcgcaatt tct

23

<210> 176
<211> 23
<212> ADN
<213> Género Rubus

<400> 176
tggggatcaa gatctagagt tga

23

<210> 177
<211> 4
<212> PRT
<213> Género Rubus

<400> 177
Tyr Gln Gln Glu
1

<210> 178
<211> 13
<212> PRT
<213> Artificial

<220>
<223> motif

<220>
<221> MISC_FEATURE
<222> (6)..(6)
<223> wherein Xaa can be A, K or T

<220>
<221> MISC_FEATURE
<222> (10)..(10)
<223> wherein Xaa can be Q or H

<400> 178
Tyr Gln Gln Glu Ser Xaa Lys Leu Arg Xaa Gln Ile Gln
1 5 10

<210> 179
<211> 13
<212> PRT
<213> Malus domestica

<400> 179
Tyr Gln Gln Glu Ser Ala Lys Leu Arg Gln Gln Ile Gln
1 5 10

<210> 180
<211> 13

<212> PRT
<213> Fragaria vesca
<400> 180

Tyr Gln Gln Glu Ser Thr Lys Leu Arg His Gln Ile Gln
1 5 10

<210> 181
<211> 13
<212> PRT
<213> Género Rubus
<400> 181

Tyr Gln Gln Glu Ser Ala Lys Leu Arg His Gln Ile Gln
1 5 10

<210> 182
<211> 13
<212> PRT
<213> Solanum lycopersicum
<400> 182

Tyr Gln Gln Glu Ser Lys Lys Leu Arg Gln Gln Ile Gln
1 5 10

<210> 183
<211> 42
<212> PRT
<213> Género Rubus
<400> 183

Asn Val Leu Val Arg Ala Lys Ile Ala Asp Leu Glu Arg Leu Gln His
1 5 10 15

Ala Asp Met Val Ser Gly Asp Gln Asp Leu Glu Leu Asn Ala Ile Gln
20 25 30

Ala Leu Val Ser Arg Asn Phe Phe Thr Ser
35 40

<210> 184
<211> 20
<212> ADN
<213> Género Rubus
<400> 184
ccgcaatcat agagcggttaa

20

<210> 185
<211> 21
<212> ADN
<213> Género Rubus
<400> 185
cgcaatcata gagcggttaa g

21

<210> 186
<211> 20

<212> ADN
<213> Género Rubus

<400> 186
cgcaatttct tcacatccac

20

<210> 187
<211> 49
<212> PRT
<213> Género Rubus

<400> 187

Arg Leu Gln His Ala Asp Met Val Ser Gly Asp Gln Asp Leu Glu Leu
1 5 10 15

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

Ile Glu Gly Glu Ala Ser Tyr Ser Gln Pro Glu Lys Lys Phe Leu His
35 40 45

Leu

<210> 188
<211> 41
<212> PRT
<213> Género Rubus

<400> 188

Ala Asp Met Val Ser Gly Asp Gln Asp Leu Glu Leu Asn Ala Ile Gln
1 5 10 15

Ala Leu Val Ser Arg Asn Phe Phe Thr Ser Thr Met Ile Glu Gly Glu
20 25 30

Ala Ser Tyr Ser Gln Pro Glu Lys Lys
35 40

<210> 189
<211> 21
<212> PRT
<213> Género Rubus

<400> 189

Glu Leu Asn Ala Ile Gln Ala Leu Val Ser Arg Asn Phe Phe Thr Ser
1 5 10 15

Thr Met Ile Glu Gly
20

<210> 190
<211> 301
<212> ADN
<213> Artificial

<220>

<223> 7x CArG Promotor reportero

<400> 190
ggggtggcctt tccttttttg gtaaattttg gatccggagt ggcattcctt ttttggtaca 60
tcttggttcc gaggtggcta tccttttttg gtcaattctg gaaccgggct gcctttcctt 120
ttttggtaat tttagcatcc gcggtcgcta tccttttttg gttaatattg gaaccggcgt 180
cgcatcctt ttttggtata ttatggttcc gtggtagctc tccttttttg gttaaatttc 240
gatccggcgt ttactatggg aggtctatat aagcagagct cgttttagtga accgtcagat 300
c 301

<210> 191
<211> 756
<212> ADN
<213> Arabidopsis thaliana

<400> 191
atggggcgagg gcagggtcga gctgaagcgc attgaaaaca agatcaaccg ccagggttact 60
ttcgctaagc ggcggaatgg cctgttgaaa aaagcttacg agctctccgt cctctgtgac 120
gctgaggtcg ccctcattat cttttccaac cgcggaagc tctacgaatt ctgttcttcc 180
tcaagtatgc tgcgcaccct ggaaagatac caaaaatgca actatggagc gccagagcct 240
aatgtgcca gcagggaagc attggctgtc gagctgtcta gccaacagga gtatttgaag 300
ttaaaggaga ggtatgacgc cctgcagcgt acacagagga atctcctggg cgaggatctc 360
ggcccactgt caactaagga actggaaagt ctcgagagac agctcgattc ctctctgaag 420
cagatccgtg cactgcgcac acagttcatg ctggaccagc tcaacgacct tcagagtaaa 480
gaaagaatgc tgaccgagac taacaaaact ctcagactgc gcctggccga tggttatcag 540
atgcctctcc agtcaaccc caaccaagaa gaggtcgatc attacggctg tcaccaccac 600
caacagcagc agcattcaca ggctttcttc caaccctgg agtgtgaacc catcctgcag 660
atcgggtacc aaggctagca ggacggcatg ggggccggcc ctagcgtgaa taattacatg 720
ctgggctggt tgccgtacga cacaaactca atataa 756

<210> 192
<211> 251
<212> PRT
<213> Arabidopsis thaliana

<400> 192
Met Gly Arg Gly Arg Val Glu Leu Lys Arg Ile Glu Asn Lys Ile Asn
1 5 10 15
Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30
Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Ile Phe
35 40 45
Ser Asn Arg Gly Lys Leu Tyr Glu Phe Cys Ser Ser Ser Ser Met Leu
50 55 60

Arg Thr Leu Glu Arg Tyr Gln Lys Cys Asn Tyr Gly Ala Pro Glu Pro
65 70 75 80

Asn Val Pro Ser Arg Glu Ala Leu Ala Val Glu Leu Ser Ser Gln Gln
85 90 95

Glu Tyr Leu Lys Leu Lys Glu Arg Tyr Asp Ala Leu Gln Arg Thr Gln
100 105 110

Arg Asn Leu Leu Gly Glu Asp Leu Gly Pro Leu Ser Thr Lys Glu Leu
115 120 125

Glu Ser Leu Glu Arg Gln Leu Asp Ser Ser Leu Lys Gln Ile Arg Ala
130 135 140

Leu Arg Thr Gln Phe Met Leu Asp Gln Leu Asn Asp Leu Gln Ser Lys
145 150 155 160

Glu Arg Met Leu Thr Glu Thr Asn Lys Thr Leu Arg Leu Arg Leu Ala
165 170 175

Asp Gly Tyr Gln Met Pro Leu Gln Leu Asn Pro Asn Gln Glu Glu Val
180 185 190

Asp His Tyr Gly Arg His His His Gln Gln Gln Gln His Ser Gln Ala
195 200 205

Phe Phe Gln Pro Leu Glu Cys Glu Pro Ile Leu Gln Ile Gly Tyr Gln
210 215 220

Gly Gln Gln Asp Gly Met Gly Ala Gly Pro Ser Val Asn Asn Tyr Met
225 230 235 240

Leu Gly Trp Leu Pro Tyr Asp Thr Asn Ser Ile
245 250

<210> 193
<211> 942
<212> ADN
<213> Arabidopsis thaliana

<400> 193
atgggtcgag ggagggtcga actcaaacgg atcgagaata aaatcaatag acaggtgaca 60
tttgctaaaa ggagaaacgg cctgctgaag aaggcctacg aactgagtgt gttgtgcat 120
gccgaagtgg ctctgattat atttagcaac aggggcaaac tgtacgagtt ttgctcatct 180
tcttccatgt tgcgaaccct tgaacgatac cagaaatgta actacggagc tcccgaaccg 240
aatgtgcctt cacgcgaggc actggcagtg gagctttctt ctcagcagga gtatctgaag 300
ttgaaggagc gctatgatgc cctgcagcgc actcaacgta acctgctggg agaggacttg 360
ggtccactga gcactaaaga gctggagtcc ctggagagggc agttggactc cagtttaaag 420

caaatacgcg ccctgcggac ccaatttatg cttgatcaac tcaatgatct ccagtccaaa	480
gagcggatgc tgaccgaaac aaacaagaca cttcgcttac ggtagccga cggctaccag	540
atgccacttc aactgaatcc caatcaggaa gaggtggacc attatggaag gcaccaccac	600
cagcagcagc agcattctca ggcttttttc cagcctctgg agtgtgaacc catcctgcag	660
ataggatatc agggccagca agatgggatg ggggctggac ctagcgtaa caactacatg	720
ctgggatggc ttccctatga tacaaatagt atcggatcta gcggtggcag ctcagggggc	780
agctctggtg acgccctgga cgatttcgac ctcgatatgc tcggttccga cgctctggat	840
gattttgatc ttgatatgct ggggtctgac gccctggacg attttgatct cgacatgtta	900
ggttcagatg cactcgatga ctttgacctg gatatgctgt ga	942

<210> 194
 <211> 313
 <212> PRT
 <213> Arabidopsis thaliana

<400> 194

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

Arg	Gln	Val	Thr	Phe	Ala	Lys	Arg	Arg	Asn	Gly	Leu	Leu	Lys	Lys	Ala
			20					25					30		

Tyr	Glu	Leu	Ser	Val	Leu	Cys	Asp	Ala	Glu	Val	Ala	Leu	Ile	Ile	Phe
		35					40					45			

Ser	Asn	Arg	Gly	Lys	Leu	Tyr	Glu	Phe	Cys	Ser	Ser	Ser	Ser	Met	Leu
	50					55					60				

Arg	Thr	Leu	Glu	Arg	Tyr	Gln	Lys	Cys	Asn	Tyr	Gly	Ala	Pro	Glu	Pro
65					70					75					80

Asn	Val	Pro	Ser	Arg	Glu	Ala	Leu	Ala	Val	Glu	Leu	Ser	Ser	Gln	Gln
				85					90					95	

Glu	Tyr	Leu	Lys	Leu	Lys	Glu	Arg	Tyr	Asp	Ala	Leu	Gln	Arg	Thr	Gln
			100					105					110		

Arg	Asn	Leu	Leu	Gly	Glu	Asp	Leu	Gly	Pro	Leu	Ser	Thr	Lys	Glu	Leu
		115					120					125			

Glu	Ser	Leu	Glu	Arg	Gln	Leu	Asp	Ser	Ser	Leu	Lys	Gln	Ile	Arg	Ala
	130					135					140				

Leu	Arg	Thr	Gln	Phe	Met	Leu	Asp	Gln	Leu	Asn	Asp	Leu	Gln	Ser	Lys
145					150					155					160

Glu	Arg	Met	Leu	Thr	Glu	Thr	Asn	Lys	Thr	Leu	Arg	Leu	Arg	Leu	Ala
				165					170					175	

Asp Gly Tyr Gln Met Pro Leu Gln Leu Asn Pro Asn Gln Glu Glu Val
180 185 190

Asp His Tyr Gly Arg His His His Gln Gln Gln Gln His Ser Gln Ala
195 200 205

Phe Phe Gln Pro Leu Glu Cys Glu Pro Ile Leu Gln Ile Gly Tyr Gln
210 215 220

Gly Gln Gln Asp Gly Met Gly Ala Gly Pro Ser Val Asn Asn Tyr Met
225 230 235 240

Leu Gly Trp Leu Pro Tyr Asp Thr Asn Ser Ile Gly Ser Ser Gly Gly
245 250 255

Ser Ser Gly Gly Ser Ser Gly Asp Ala Leu Asp Asp Phe Asp Leu Asp
260 265 270

Met Leu Gly Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly
275 280 285

Ser Asp Ala Leu Asp Asp Phe Asp Leu Asp Met Leu Gly Ser Asp Ala
290 295 300

Leu Asp Asp Phe Asp Leu Asp Met Leu
305 310

<210> 195
<211> 771
<212> ADN
<213> Arabidopsis thaliana

<400> 195
atgctgttcc ctcacgaaag gaaaaaagaa aaggagcggc ctcaagggtt ttatttggtg 60
accaggctcc ggatcagaat gggtcgtggc aagatcgaga ttaaacggat agaaaattcc 120
acgaaccgtc aggtgacatt ctgtaagcgg cgcaacggct tgctcaagaa ggcctatgaa 180
ttgtcagtat tgtgtgacgc cgaagtggca ctgatcgtct ttagcacaag aggacgcctg 240
tatgaatatg ctaacaataa tattcgctcc actatcgaaa gatataaaaa ggcctgcagt 300
gatagcacta acactagtag tgtgcaagag atcaacgccg catattatca acaggagagt 360
gcaaagctgc ggcagcagat ccaaactatt cagaactcca atcggaactt aatggggggac 420
agtctgagca gcttatccgt caaggagctt aagcaggtgg aaaatcgcct cgagaaagcc 480
atctccagaa tccgctctaa gaagcacgaa ctgcttcttg tcgaaattga aaacgcacaa 540
aagagagaaa tcgagctgga caacgagaac atttatctga gaaccaaggt tgctgaagtg 600
gagcgctacc agcagcacca tcaccagatg gttagcggaa gtgagatcaa cgctatcgaa 660
gctctcgctt cccggaatta ttttgacac agcataatga ccgctgggtc tggatccgga 720
aacggaggat catactccga ccctgataaa aaaatcctgc acttgggata a 771

<210> 196

<211> 256
 <212> PRT
 <213> Arabidopsis thaliana
 <400> 196

Met Leu Phe Pro His Glu Arg Lys Lys Glu Lys Glu Arg Ser Gln Gly
1 5 10 15

Phe Tyr Leu Val Thr Arg Leu Arg Ile Arg Met Gly Arg Gly Lys Ile
20 25 30

Glu Ile Lys Arg Ile Glu Asn Ser Thr Asn Arg Gln Val Thr Phe Cys
35 40 45

Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu
50 55 60

Cys Asp Ala Glu Val Ala Leu Ile Val Phe Ser Thr Arg Gly Arg Leu
65 70 75 80

Tyr Glu Tyr Ala Asn Asn Asn Ile Arg Ser Thr Ile Glu Arg Tyr Lys
85 90 95

Lys Ala Cys Ser Asp Ser Thr Asn Thr Ser Thr Val Gln Glu Ile Asn
100 105 110

Ala Ala Tyr Tyr Gln Gln Glu Ser Ala Lys Leu Arg Gln Gln Ile Gln
115 120 125

Thr Ile Gln Asn Ser Asn Arg Asn Leu Met Gly Asp Ser Leu Ser Ser
130 135 140

Leu Ser Val Lys Glu Leu Lys Gln Val Glu Asn Arg Leu Glu Lys Ala
145 150 155 160

Ile Ser Arg Ile Arg Ser Lys Lys His Glu Leu Leu Leu Val Glu Ile
165 170 175

Glu Asn Ala Gln Lys Arg Glu Ile Glu Leu Asp Asn Glu Asn Ile Tyr
180 185 190

Leu Arg Thr Lys Val Ala Glu Val Glu Arg Tyr Gln Gln His His His
195 200 205

Gln Met Val Ser Gly Ser Glu Ile Asn Ala Ile Glu Ala Leu Ala Ser
210 215 220

Arg Asn Tyr Phe Ala His Ser Ile Met Thr Ala Gly Ser Gly Ser Gly
225 230 235 240

Asn Gly Gly Ser Tyr Ser Asp Pro Asp Lys Lys Ile Leu His Leu Gly
245 250 255

<210> 197
 <211> 771
 <212> ADN
 <213> Arabidopsis thaliana

<400> 197
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 accaggctcc ggatcagaat gggtcgtggc aagatcgaga ttaaaccgat agaaaattcc 120
 acgaaccgtc aggtgacatt ctgtaagcgg cgcaacggct tgctcaagaa ggcctatgaa 180
 ttgtcagtat tgtgtgacgc cgaagtggca ctgatcgtct ttagcacaag aggacgcctg 240
 tatgaatatg ctaacaataa tattcgctcc actatcgaaa gatataaaaa ggcctgcagt 300
 gatagcacta acactagtag tgtgcaagag atcaacgccg catattatca acaggagagt 360
 gcaaagctgc ggcagcagat ccaaactatt cagaactcca atcggaactt aatggggggac 420
 agtctgagca gcttatccgt caaggagctt aagcaggtgg aaaatcgctt cgagaaagcc 480
 atctccagaa tccgctctaa gaagcacgaa ctgcttcttg tcgaaattga aaacgcacaa 540
 aagagagaaa tcgagctgga caacgagaac atttatctga gaaccaaggt tgctgaagtg 600
 gagcgctacc agcagcacca tcaccagatg gttagcggaa gtgagatcaa cgctatcgaa 660
 gctctcgctt cccacaatta ttttgacac agcataatga ccgctgggtc tggatccgga 720
 aacggaggat catactccga ccctgataaa aaaatcctgc acttgggata a 771

<210> 198
 <211> 256
 <212> PRT
 <213> Arabidopsis thaliana

<400> 198
 Met Leu Phe Pro His Glu Arg Lys Lys Glu Lys Glu Arg Ser Gln Gly
 1 5 10 15
 Phe Tyr Leu Val Thr Arg Leu Arg Ile Arg Met Gly Arg Gly Lys Ile
 20 25 30
 Glu Ile Lys Arg Ile Glu Asn Ser Thr Asn Arg Gln Val Thr Phe Cys
 35 40 45
 Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu
 50 55 60
 Cys Asp Ala Glu Val Ala Leu Ile Val Phe Ser Thr Arg Gly Arg Leu
 65 70 75 80
 Tyr Glu Tyr Ala Asn Asn Asn Ile Arg Ser Thr Ile Glu Arg Tyr Lys
 85 90 95
 Lys Ala Cys Ser Asp Ser Thr Asn Thr Ser Thr Val Gln Glu Ile Asn
 100 105 110
 Ala Ala Tyr Tyr Gln Gln Glu Ser Ala Lys Leu Arg Gln Gln Ile Gln
 115 120 125

Thr Ile Gln Asn Ser Asn Arg Asn Leu Met Gly Asp Ser Leu Ser Ser
130 135 140

Leu Ser Val Lys Glu Leu Lys Gln Val Glu Asn Arg Leu Glu Lys Ala
145 150 155 160

Ile Ser Arg Ile Arg Ser Lys Lys His Glu Leu Leu Leu Val Glu Ile
165 170 175

Glu Asn Ala Gln Lys Arg Glu Ile Glu Leu Asp Asn Glu Asn Ile Tyr
180 185 190

Leu Arg Thr Lys Val Ala Glu Val Glu Arg Tyr Gln Gln His His His
195 200 205

Gln Met Val Ser Gly Ser Glu Ile Asn Ala Ile Glu Ala Leu Ala Ser
210 215 220

His Asn Tyr Phe Ala His Ser Ile Met Thr Ala Gly Ser Gly Ser Gly
225 230 235 240

Asn Gly Gly Ser Tyr Ser Asp Pro Asp Lys Lys Ile Leu His Leu Gly
245 250 255

<210> 199
<211> 771
<212> ADN
<213> Arabidopsis thaliana

<400> 199
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acgaaccgtc aggtgacatt ctgtaagcgg cgcaacggct tgctcaagaa ggcctatgaa 180
ttgtcagtat tgtgtgacgc cgaagtggca ctgatcgtct ttagcacaag aggacgcctg 240
tatgaatatg ctaacaataa tattcgctcc actatcgaaa gatataaaaa ggcctgcagt 300
gatagcacta acactagtag tgtgcaagag atcaacgccg catattatca acaggagagt 360
gcaaagctgc ggcagcagat ccaaactatt cagaactcca atcggaactt aatgggggac 420
agtctgagca gcttatccgt caaggagctt aagcaggtgg aaaatcgcct cgagaaagcc 480
atctccagaa tccgctctaa gaagcacgaa ctgcttcttg tcgaaattga aaacgcacaa 540
aagagagaaa tcgagctgga caacgagaac atttatctga gaaccaaggt tgctgaagtg 600
gagcgctacc agcagcacca tcaccagatg gttagcggaa gtgagatcaa cgctatcgaa 660
gctctcgctt ccctgaatta ttttgacac agcataatga ccgctgggtc tggatccgga 720
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<210> 200
<211> 256
<212> PRT

<213> Arabidopsis thaliana

<400> 200

Met Leu Phe Pro His Glu Arg Lys Lys Glu Lys Glu Arg Ser Gln Gly
1 5 10 15

Phe Tyr Leu Val Thr Arg Leu Arg Ile Arg Met Gly Arg Gly Lys Ile
20 25 30

Glu Ile Lys Arg Ile Glu Asn Ser Thr Asn Arg Gln Val Thr Phe Cys
35 40 45

Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu
50 55 60

Cys Asp Ala Glu Val Ala Leu Ile Val Phe Ser Thr Arg Gly Arg Leu
65 70 75 80

Tyr Glu Tyr Ala Asn Asn Asn Ile Arg Ser Thr Ile Glu Arg Tyr Lys
85 90 95

Lys Ala Cys Ser Asp Ser Thr Asn Thr Ser Thr Val Gln Glu Ile Asn
100 105 110

Ala Ala Tyr Tyr Gln Gln Glu Ser Ala Lys Leu Arg Gln Gln Ile Gln
115 120 125

Thr Ile Gln Asn Ser Asn Arg Asn Leu Met Gly Asp Ser Leu Ser Ser
130 135 140

Leu Ser Val Lys Glu Leu Lys Gln Val Glu Asn Arg Leu Glu Lys Ala
145 150 155 160

Ile Ser Arg Ile Arg Ser Lys Lys His Glu Leu Leu Leu Val Glu Ile
165 170 175

Glu Asn Ala Gln Lys Arg Glu Ile Glu Leu Asp Asn Glu Asn Ile Tyr
180 185 190

Leu Arg Thr Lys Val Ala Glu Val Glu Arg Tyr Gln Gln His His His
195 200 205

Gln Met Val Ser Gly Ser Glu Ile Asn Ala Ile Glu Ala Leu Ala Ser
210 215 220

Leu Asn Tyr Phe Ala His Ser Ile Met Thr Ala Gly Ser Gly Ser Gly
225 230 235 240

Asn Gly Gly Ser Tyr Ser Asp Pro Asp Lys Lys Ile Leu His Leu Gly
245 250 255

<210> 201

<211> 591

<212> ADN
<213> Arabidopsis thaliana

<400> 201
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acgaaccgtc aggtgacatt ctgtaagcgg cgcaacggct tgctcaagaa ggcctatgaa 180
ttgtcagtat tgtgtgacgc cgaagtggca ctgatcgtct ttagcacaag aggacgcctg 240
tatgaatatg ctaacaataa tattcgctcc actatcgaaa gatataaaaa ggcctgcagt 300
gatagcacta acactagtac tgtgcaagag atcaacgccg catattatca acaggagagt 360
gcaaagctgc ggcagcagat ccaaactatt cagaactcca atcggaactt aatggggggac 420
agtctgagca gcttatccgt caaggagctt aagcaggtgg aaaatcgcct cgagaaagcc 480
atctccagaa tccgctctaa gaagcacgaa ctgcttcttg tcgaaattga aaacgcacaa 540
aagagagaaa tcgagctgga caacgagaac atttatctga gaaccaagta a 591

<210> 202
<211> 196
<212> PRT
<213> Arabidopsis thaliana

<400> 202
Met Leu Phe Pro His Glu Arg Lys Lys Glu Lys Glu Arg Ser Gln Gly
1 5 10 15
Phe Tyr Leu Val Thr Arg Leu Arg Ile Arg Met Gly Arg Gly Lys Ile
20 25 30
Glu Ile Lys Arg Ile Glu Asn Ser Thr Asn Arg Gln Val Thr Phe Cys
35 40 45
Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala Tyr Glu Leu Ser Val Leu
50 55 60
Cys Asp Ala Glu Val Ala Leu Ile Val Phe Ser Thr Arg Gly Arg Leu
65 70 75 80
Tyr Glu Tyr Ala Asn Asn Asn Ile Arg Ser Thr Ile Glu Arg Tyr Lys
85 90 95
Lys Ala Cys Ser Asp Ser Thr Asn Thr Ser Thr Val Gln Glu Ile Asn
100 105 110
Ala Ala Tyr Tyr Gln Gln Glu Ser Ala Lys Leu Arg Gln Gln Ile Gln
115 120 125
Thr Ile Gln Asn Ser Asn Arg Asn Leu Met Gly Asp Ser Leu Ser Ser
130 135 140
Leu Ser Val Lys Glu Leu Lys Gln Val Glu Asn Arg Leu Glu Lys Ala
145 150 155 160

Ile Ser Arg Ile Arg Ser Lys Lys His Glu Leu Leu Leu Val Glu Ile
165 170 175

Glu Asn Ala Gln Lys Arg Glu Ile Glu Leu Asp Asn Glu Asn Ile Tyr
180 185 190

Leu Arg Thr Lys
195

<210> 203
<211> 738
<212> ADN
<213> Rubus occidentalis

<400> 203
atgggtagag gcaagattga gatcaagcgc atcgagaaca ccacaaaccg gcaagttact 60
ttctgcaaac ggagaaatgg gctgcttaag aaagcttatg agctttccat actctgtgag 120
gcagaagtgg ccctcattgt cttctctagc cgaggtcggc tgtatgagta ctcaaacaac 180
aacagcatcc gaaacaccat agagaggtac aagaaggcct gtagtgatag ttccggcgca 240
actacaataa cggaaatcaa tgcccaatat taccagcagg aaagtgctaa gctccgacac 300
caaatccaaa tgctgcagaa ttctaaccgg cacctgatgg gcgattccct gtccaatctg 360
actgttaaag aactcaagca gctggagaat cgccttgaac ggggacttac tcgaatccga 420
agtaagaagc atgaaatgct tcttgccgaa attgaatact tgcagaaacg agaggtcgag 480
ctggaaaacg agaatgttct gggtcgggct aagatagctg aactggagcg attgcagcac 540
gctgacatgg tttctgggga tcaagatctc gagctgaatg ctatccaggc tctcgtctct 600
cgtaacttct tcgcatccac catgattgag ggagaggcca gctactccca gccagaaaag 660
aaatttctta atcttggggc tgggaaaggt cttgtgaagc agggcaaaac aagcagctca 720
ttcggatatg tcctttaa 738

<210> 204
<211> 245
<212> PRT
<213> Rubus occidentalis

<400> 204

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Ile Leu Cys Glu Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
50 55 60

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

Thr Thr Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala
85 90 95

Lys Leu Arg His Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
100 105 110

Met Gly Asp Ser Leu Ser Asn Leu Thr Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Leu Thr Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Met Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Arg Glu Val Glu
145 150 155 160

Leu Glu Asn Glu Asn Val Leu Val Arg Ala Lys Ile Ala Glu Leu Glu
165 170 175

Arg Leu Gln His Ala Asp Met Val Ser Gly Asp Gln Asp Leu Glu Leu
180 185 190

Asn Ala Ile Gln Ala Leu Val Ser Arg Asn Phe Phe Ala Ser Thr Met
195 200 205

Ile Glu Gly Glu Ala Ser Tyr Ser Gln Pro Glu Lys Lys Phe Leu Asn
210 215 220

Leu Gly Ala Gly Lys Gly Leu Val Lys Gln Gly Lys Thr Ser Ser Ser
225 230 235 240

Phe Gly Tyr Val Leu
245

<210> 205
<211> 726
<212> ADN
<213> Rubus occidentalis

<400> 205	
atgggtagag gcaagattga gatcaagcgc atcgagaaca ccacaaaccg gcaagttact	60
ttctgcaaac ggagaaatgg gctgcttaag aaagcttatg agctttccat actctgtgag	120
gcagaagtgg ccctcattgt cttctctagc cgaggctcggc tgtatgagta ctcaaacaac	180
aacagcatcc gaaacacat agagaggtag aagaaggcct gtagtgatag ttccggcgca	240
actacaataa cggaatcaa tgcccaatat taccagcagg aaagtgctaa gctccgacac	300
caaatccaaa tgctgcagaa ttctaaccgg cacctgatgg gcgattccct gtccaatctg	360
actgttaaag aactcaagca gctggagaat cgccttgaac ggggacttac tcgaatccga	420
agtaagaagc atgaaatgct tcttgccgaa attgaatact tgcagaaacg agaggtcgag	480

ctggaaaacg agaatgttct ggttcgggct aagatagctg aactggagcg attgcagcac	540
gctgacatgg tttctgggga tcaagatctc atccaggctc tcgtctctcg taacttcttc	600
gcatccacca tgattgaggg agaggccagc tactcccagc cagaaaagaa atttcttaat	660
cttgggggctg ggaaaggtct tgtgaagcag ggcaaaacaa gcagctcatt cggatatgtc	720
ctttaa	726

<210> 206
 <211> 241
 <212> PRT
 <213> Artificial

<400> 206

Met	Gly	Arg	Gly	Lys	Ile	Glu	Ile	Lys	Arg	Ile	Glu	Asn	Thr	Thr	Asn
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Arg	Gln	Val	Thr	Phe	Cys	Lys	Arg	Arg	Asn	Gly	Leu	Leu	Lys	Lys	Ala
			20					25					30		

Tyr	Glu	Leu	Ser	Ile	Leu	Cys	Glu	Ala	Glu	Val	Ala	Leu	Ile	Val	Phe
		35					40					45			

Ser	Ser	Arg	Gly	Arg	Leu	Tyr	Glu	Tyr	Ser	Asn	Asn	Asn	Ser	Ile	Arg
	50					55					60				

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

Thr	Thr	Ile	Thr	Glu	Ile	Asn	Ala	Gln	Tyr	Tyr	Gln	Gln	Glu	Ser	Ala
				85					90					95	

Lys	Leu	Arg	His	Gln	Ile	Gln	Met	Leu	Gln	Asn	Ser	Asn	Arg	His	Leu
			100					105					110		

Met	Gly	Asp	Ser	Leu	Ser	Asn	Leu	Thr	Val	Lys	Glu	Leu	Lys	Gln	Leu
		115					120					125			

Glu	Asn	Arg	Leu	Glu	Arg	Gly	Leu	Thr	Arg	Ile	Arg	Ser	Lys	Lys	His
	130					135					140				

Glu	Met	Leu	Leu	Ala	Glu	Ile	Glu	Tyr	Leu	Gln	Lys	Arg	Glu	Val	Glu
145					150					155					160

Leu	Glu	Asn	Glu	Asn	Val	Leu	Val	Arg	Ala	Lys	Ile	Ala	Glu	Leu	Glu
				165					170					175	

Arg	Leu	Gln	His	Ala	Asp	Met	Val	Ser	Gly	Asp	Gln	Asp	Leu	Ile	Gln
			180					185					190		

Ala	Leu	Val	Ser	Arg	Asn	Phe	Phe	Ala	Ser	Thr	Met	Ile	Glu	Gly	Glu
		195					200					205			

Ala Ser Tyr Ser Gln Pro Glu Lys Lys Phe Leu Asn Leu Gly Ala Gly
 210 215 220

Lys Gly Leu Val Lys Gln Gly Lys Thr Ser Ser Phe Gly Tyr Val
 225 230 235 240

Leu

<210> 207
 <211> 672
 <212> ADN
 <213> Vitis vinifera

<400> 207
 atgggccgag gcaaaattga aattaaacgg attgagaata ctacaaatag acaagtgacg 60
 ttttgtaaac ggcgaaacgg actcctgaag aaagcctacg agctgagcgt attgtgcgac 120
 gccgaggtcg cgctgatagt gtttagctcc cgagggagag tgtacgaata ttctaataat 180
 aatatcaagt ccactatcga ccgttataag aaagcatcct ctgacagcac gaacgggtgga 240
 agtactatgg aaattaacgc acagtattat caacaggagt ccgccaaact ccggcaacag 300
 atccaaatgc tccaaaacag caatagacat ttgatgggtg acagccttgc aagccttacc 360
 gttaaagaac tgaacaact ggaaaatcgc ctggagcgtg ggataaccg catacgatcc 420
 aagaaacacg aactcttgct ggcggaaata gaatatcttc aaaagagaga gatcgaattg 480
 gagaacgaga gtgtctacct gcggacaaag atcgccgagg ttgaacggtt gcaacaggct 540
 aatatggtct ctaccacga atttaacgcg attcaagcgc tggtcagcag gaacttcttc 600
 caaccaaaaca tgatcgaagg cggctcaact ggatatactc tgcccgcaca gaaagtgctg 660
 cacctgggct ga 672

<210> 208
 <211> 223
 <212> PRT
 <213> Vitis vinifera

<400> 208
 Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
 1 5 10 15
 Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30
 Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
 35 40 45
 Ser Ser Arg Gly Arg Val Tyr Glu Tyr Ser Asn Asn Asn Ile Lys Ser
 50 55 60
 Thr Ile Asp Arg Tyr Lys Lys Ala Ser Ser Asp Ser Thr Asn Gly Gly
 65 70 75 80

Ser Thr Met Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala Lys
85 90 95

Leu Arg Gln Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu Met
100 105 110

Gly Asp Ser Leu Ala Ser Leu Thr Val Lys Glu Leu Lys Gln Leu Glu
115 120 125

Asn Arg Leu Glu Arg Gly Ile Thr Arg Ile Arg Ser Lys Lys His Glu
130 135 140

Leu Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Arg Glu Ile Glu Leu
145 150 155 160

Glu Asn Glu Ser Val Tyr Leu Arg Thr Lys Ile Ala Glu Val Glu Arg
165 170 175

Leu Gln Gln Ala Asn Met Val Ser Thr His Glu Phe Asn Ala Ile Gln
180 185 190

Ala Leu Val Ser Arg Asn Phe Phe Gln Pro Asn Met Ile Glu Gly Gly
195 200 205

Ser Thr Gly Tyr Pro Leu Pro Asp Lys Lys Val Leu His Leu Gly
210 215 220

<210> 209
<211> 672
<212> ADN
<213> Vitis vinifera

<400> 209
atgggccgag gcaaaattga aattaaacgg attgagaata ctacaaatag acaagtgacg 60
ttttgtaaac ggcgaaacgg actcctgaag aaagcctacg agctgagcgt attgtgcgac 120
gccgaggtcg cgctgatagt gtttagctcc cgagggagag tgtacgaata ttctaataat 180
aatatcaagt ccactatcga ccgttataag aaagcatctt ctgacagcac gaacggtgga 240
agtactatgg aaattaacgc acagtattat caacaggagt ccgccaaact ccggcaacag 300
atccaaatgc tccaaaacag caatagacat ttgatgggtg acagccttgc aagccttacc 360
gttaaagaac tgaacaact ggaaaatcgc ctggagcgtg ggataaccg catacgatcc 420
aagaaacacg aactcttgct ggcggaaata gaatatcttc aaaagagaga gatcgaattg 480
gagaacgaga gtgtctacct gcggacaaag atcgccgagg ttgaacgggt gcaacaggct 540
aatatggtct ctaccacga atttaacgcg attcaagcgc tggtcagcct gaacttcttc 600
caaccaaca tgatcgaagg cggctcaact ggatatactc tgcccgacaa gaaagtgctg 660
cacctgggct ga 672

<210> 210
<211> 223
<212> PRT

<213> Vitis vinifera

<400> 210

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Asn
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Val Tyr Glu Tyr Ser Asn Asn Asn Ile Lys Ser
50 55 60

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

Ser Thr Met Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala Lys
85 90 95

Leu Arg Gln Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu Met
100 105 110

Gly Asp Ser Leu Ala Ser Leu Thr Val Lys Glu Leu Lys Gln Leu Glu
115 120 125

Asn Arg Leu Glu Arg Gly Ile Thr Arg Ile Arg Ser Lys Lys His Glu
130 135 140

Leu Leu Leu Ala Glu Ile Glu Tyr Leu Gln Lys Arg Glu Ile Glu Leu
145 150 155 160

Glu Asn Glu Ser Val Tyr Leu Arg Thr Lys Ile Ala Glu Val Glu Arg
165 170 175

Leu Gln Gln Ala Asn Met Val Ser Thr His Glu Phe Asn Ala Ile Gln
180 185 190

Ala Leu Val Ser Leu Asn Phe Phe Gln Pro Asn Met Ile Glu Gly Gly
195 200 205

Ser Thr Gly Tyr Pro Leu Pro Asp Lys Lys Val Leu His Leu Gly
210 215 220

<210> 211

<211> 717

<212> ADN

<213> Elaeis guineensis

<400> 211

atgggacgtg gcaaaataga aataaaacgc atagagaata caactagtcg gcaagtaaca 60

ttttgcaaga gacgcaacgg gcttctgaag aaggcatatg aattgagcgt cttgtgtgat 120

gccgagggtt cattgatcgt gttcagcagt agaggccgcc tgtatgagta tgctaataac 180
 agcatccggt ccactataga cagatacaag aaggcttgcg caaatcctc aaattccggt 240
 gcaacaatcg agattaatag tcaacaatac tatcagcagg aatccgctaa gcttagacat 300
 caaatcaaa tattgcagaa tgccaaccgc cacctcatgg gtgaagcact tagcactctt 360
 actgtgaagg aacttaaaca actggagaat cgcctcgaga gaggcacac aagaattcgc 420
 agtaagaaac atgagctctt gtttgcgga attgagtata tgcagaagcg ggaagtcgaa 480
 ttgcaaacg acaatatgta tctgagagct aaaattgcag aaaatgagcg ggcccaacaa 540
 gctgggatag ttccggccgg accagacttc gacgctttgc ctacttttga tacgcgaaac 600
 tattatcatg tgaatatgct ggaagctgcg caacattatt ctcaccatca agaccaaacc 660
 accctgcacc tgggggtatga aatgaaagcc gatcccgag ctaagaacct gctctga 717

<210> 212
 <211> 238
 <212> PRT
 <213> Elaeis guineensis

<400> 212

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Ser
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asn Ser Ile Arg Ser
50 55 60

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

Ala Thr Ile Glu Ile Asn Ser Gln Gln Tyr Tyr Gln Gln Glu Ser Ala
85 90 95

Lys Leu Arg His Gln Ile Gln Ile Leu Gln Asn Ala Asn Arg His Leu
100 105 110

Met Gly Glu Ala Leu Ser Thr Leu Thr Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Ile Thr Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Leu Leu Phe Ala Glu Ile Glu Tyr Met Gln Lys Arg Glu Val Glu
145 150 155 160

Leu Gln Asn Asp Asn Met Tyr Leu Arg Ala Lys Ile Ala Glu Asn Glu
165 170 175

Arg Ala Gln Gln Ala Gly Ile Val Pro Ala Gly Pro Asp Phe Asp Ala
180 185 190

Leu Pro Thr Phe Asp Thr Arg Asn Tyr Tyr His Val Asn Met Leu Glu
195 200 205

Ala Ala Gln His Tyr Ser His His Gln Asp Gln Thr Thr Leu His Leu
210 215 220

Gly Tyr Glu Met Lys Ala Asp Pro Ala Ala Lys Asn Leu Leu
225 230 235

<210> 213
<211> 717
<212> ADN
<213> Elaeis guineensis

<400> 213
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ttttgcaaga gacgcaacgg gcttcccaag aaggcatatg aattgagcgt cttgtgtgat 120
gccgaggttg cattgatcgt gttcagcagt agaggccgcc tgtatgagta tgctaataac 180
agcatccggt ccactataga cagatacaag aaggcttgcg caaatcctc aaattccggt 240
gcaacaatcg agattaatag tcaacaatac tatcagcagg aatccgctaa gcttagacat 300
caaattcaaa tattgcagaa tgccaaccgc cacctcatgg gtgaagcact tagcactctt 360
actgtgaagg aacttaaaca actggagaat cgcctcgaga gaggcacac aagaattcgc 420
agtaagaaac atgagctctt gtttgcggaa attgagtata tgcagaagcg ggaagtcgaa 480
ttgcaaaacg acaatatgta tctgagagct aaaattgcag aaaatgagcg ggcccaacaa 540
gctgggatag ttccggccgg accagacttc gacgctttgc ctacttttga tacgcgaaac 600
tattatcatg tgaatatgct ggaagctgcg caacattatt ctcaccatca agaccaaacc 660
accctgcacc tgggggatga aatgaaagcc gatcccgag ctaagaacct gctctga 717

<210> 214
<211> 238
<212> PRT
<213> Elaeis guineensis

<400> 214

Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr Ser
1 5 10 15

Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Pro Lys Lys Ala
20 25 30

Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val Phe
35 40 45

Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ala Asn Asn Ser Ile Arg Ser
50 55 60

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

Ala Thr Ile Glu Ile Asn Ser Gln Gln Tyr Tyr Gln Gln Glu Ser Ala
85 90 95

Lys Leu Arg His Gln Ile Gln Ile Leu Gln Asn Ala Asn Arg His Leu
100 105 110

Met Gly Glu Ala Leu Ser Thr Leu Thr Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Ile Thr Arg Ile Arg Ser Lys Lys His
130 135 140

Glu Leu Leu Phe Ala Glu Ile Glu Tyr Met Gln Lys Arg Glu Val Glu
145 150 155 160

Leu Gln Asn Asp Asn Met Tyr Leu Arg Ala Lys Ile Ala Glu Asn Glu
165 170 175

Arg Ala Gln Gln Ala Gly Ile Val Pro Ala Gly Pro Asp Phe Asp Ala
180 185 190

Leu Pro Thr Phe Asp Thr Arg Asn Tyr Tyr His Val Asn Met Leu Glu
195 200 205

Ala Ala Gln His Tyr Ser His His Gln Asp Gln Thr Thr Leu His Leu
210 215 220

Gly Tyr Glu Met Lys Ala Asp Pro Ala Ala Lys Asn Leu Leu
225 230 235

<210> 215
<211> 750
<212> ADN
<213> Fragaria vesca

<400> 215
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ttctgtaaac gaaggaacgg ccttcttaag aaggcatatcg aactgagcat cctctgcgaa 120
gccgaggtgg cgctgatcgt atttagctca cgagggcgtt tgtacgaata cagtaataat 180
aattccattc gcaataccat cgaacgttat aagaaagcgt cctcagacaa ctccggcgcg 240
actacaataa ctgagataaa cgcccagtat tatcagcaag agtcaaccaa attgcgccat 300
cagatccaga tgttgcaaaa ctcaaatcgt catctcatgg gtgactccct ctctaacctt 360
acagtaaagg agctgaaaca attggagaac cgactggagc gtggtctcac ccgatacgg 420
tctaagaagg tgaatataga cgagaaggag tgcgagtctt atgagaacgc gtgtatgcac 480
tttaccacca aaacagaaca gcagcagcac gagatgctgc tcgcagagat agaatatctg 540

caaaagcgcg aaatcgaact cgagaatgaa aacgtcttga tacggggccaa aattgccgag	600
gtcgaacggc tgcaacaggc tgatctcgtg agcggagcgg agctcaacgc tattcaagcc	660
ctggccagca ggaacttctt cgaaagcaca atgatggaag gcgaaacgag ctatttctcaa	720
cctgagaaga agctgctgca ccttggtga	750

<210> 216
 <211> 249
 <212> PRT
 <213> *Fragaria vesca*

<400> 216

Met	Gly	Arg	Gly	Lys	Ile	Glu	Ile	Lys	Arg	Ile	Glu	Asn	Thr	Thr	Asn	1	5	10	15
Arg	Gln	Val	Thr	Phe	Cys	Lys	Arg	Arg	Asn	Gly	Leu	Leu	Lys	Lys	Ala	20	25	30	
Tyr	Glu	Leu	Ser	Ile	Leu	Cys	Glu	Ala	Glu	Val	Ala	Leu	Ile	Val	Phe	35	40	45	
Ser	Ser	Arg	Gly	Arg	Leu	Tyr	Glu	Tyr	Ser	Asn	Asn	Asn	Ser	Ile	Arg	50	55	60	
Asn	Thr	Ile	Glu	Arg	Tyr	Lys	Lys	Ala	Ser	Ser	Asp	Asn	Ser	Gly	Ala	65	70	75	80
Thr	Thr	Ile	Thr	Glu	Ile	Asn	Ala	Gln	Tyr	Tyr	Gln	Gln	Glu	Ser	Thr	85	90	95	
Lys	Leu	Arg	His	Gln	Ile	Gln	Met	Leu	Gln	Asn	Ser	Asn	Arg	His	Leu	100	105	110	
Met	Gly	Asp	Ser	Leu	Ser	Asn	Leu	Thr	Val	Lys	Glu	Leu	Lys	Gln	Leu	115	120	125	
Glu	Asn	Arg	Leu	Glu	Arg	Gly	Leu	Thr	Arg	Ile	Arg	Ser	Lys	Lys	Val	130	135	140	
Asn	Ile	Asp	Glu	Lys	Glu	Cys	Glu	Ser	Tyr	Glu	Asn	Ala	Cys	Met	His	145	150	155	160
Phe	Thr	Thr	Lys	Thr	Glu	Gln	Gln	Gln	His	Glu	Met	Leu	Leu	Ala	Glu	165	170	175	
Ile	Glu	Tyr	Leu	Gln	Lys	Arg	Glu	Ile	Glu	Leu	Glu	Asn	Glu	Asn	Val	180	185	190	
Leu	Ile	Arg	Ala	Lys	Ile	Ala	Glu	Val	Glu	Arg	Leu	Gln	Gln	Ala	Asp	195	200	205	
Leu	Val	Ser	Gly	Ala	Glu	Leu	Asn	Ala	Ile	Gln	Ala	Leu	Ala	Ser	Arg	210	215	220	

Asn Phe Phe Glu Ser Thr Met Met Glu Gly Glu Thr Ser Tyr Ser Gln
 225 230 235 240

Pro Glu Lys Lys Leu Leu His Leu Gly
 245

<210> 217
 <211> 690
 <212> ADN
 <213> Fragaria vesca

<400> 217
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 gccgaggtgg cgctgatcgt atttagctca cgagggcggtt tgtacgaata cagtaataat 180
 aattccattc gcaataccat cgaacgttat aagaaagcgt cctcagacaa ctccggcgcg 240
 actacaataa ctgagataaa cgcccagtat tatcagcaag agtcaaccaa attgcgccat 300
 cagatccaga tggtgcaaaa ctcaaatcgt catctcatgg gtgactccct ctctaacctt 360
 acagtaaagg agctgaaaca attggagaac cgactggagc gtggtctcac ccggatacgg 420
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 caaaagcgcg aaatcgaact cgagaatgaa aacgtcttga tacggggccaa aattgccgag 600
 gtcgaacggc tgcaacaggc tgatctctgt agcggagcgg agctcaactt caagccctgg 660
 ccagcaggaa cttcttcgaa agcacaatga 690

<210> 218
 <211> 229
 <212> PRT
 <213> Fragaria vesca

<400> 218
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 Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
 20 25 30
 Tyr Glu Leu Ser Ile Leu Cys Glu Ala Glu Val Ala Leu Ile Val Phe
 35 40 45
 Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Asn Ser Ile Arg
 50 55 60
 Asn Thr Ile Glu Arg Tyr Lys Lys Ala Ser Ser Asp Asn Ser Gly Ala
 65 70 75 80
 Thr Thr Ile Thr Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Thr
 85 90 95

Lys Leu Arg His Gln Ile Gln Met Leu Gln Asn Ser Asn Arg His Leu
100 105 110

Met Gly Asp Ser Leu Ser Asn Leu Thr Val Lys Glu Leu Lys Gln Leu
115 120 125

Glu Asn Arg Leu Glu Arg Gly Leu Thr Arg Ile Arg Ser Lys Lys Val
130 135 140

Asn Ile Asp Glu Lys Glu Cys Glu Ser Tyr Glu Asn Ala Cys Met His
145 150 155 160

Phe Thr Thr Lys Thr Glu Gln Gln Gln His Glu Met Leu Leu Ala Glu
165 170 175

Ile Glu Tyr Leu Gln Lys Arg Glu Ile Glu Leu Glu Asn Glu Asn Val
180 185 190

Leu Ile Arg Ala Lys Ile Ala Glu Val Glu Arg Leu Gln Gln Ala Asp
195 200 205

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

Ser Ser Lys Ala Gln
225