

# SEQUENCE LISTING

<110> Ludwig-Maximilians-Universität München

<120> Improvement of photosynthesis rate

<130> U30281PCT

<160> .. 72

<170> PatentIn version 3.5

<210> 1

<211> 388

<212> PRT

<213> Arabidopsis thaliana

<400> 1

Met Ala Leu Leu Arg Pro His Leu His Arg Phe His Ser Asn Thr Leu  
1 5 10 15

Arg His Ser Ala Tyr Pro Ser Ala Asp Ala Gly Gly Gly Leu Val Val  
20 25 30

Tyr Pro Thr Tyr Gly Arg His Arg Cys Ser Ala Ile Ala Ile Asp Ala  
35 40 45

Pro Ser Ser Leu Thr Gly Val Thr Pro Ile Arg Trp Gly Tyr Thr Ser  
50 55 60

Val Gln Gly Phe Arg Asp Glu Met Glu Asp Asp Ile Val Ile Arg Ser  
65 70 75 80

Asp Ala Val Asp Ser Phe Ser Tyr Ala Ala Val Phe Asp Gly His Ala  
85 90 95

Gly Ser Ser Ser Val Lys Phe Leu Arg Glu Glu Leu Tyr Lys Glu Cys  
100 105 110

Val Gly Ala Leu Gln Ala Gly Ser Leu Leu Asn Gly Gly Asp Phe Ala  
115 120 125

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

Leu Leu Lys Trp Leu Glu Ala Asn Gly Asp Glu Glu Asp Glu Ser Gly  
145 150 155 160

Ser Thr Ala Thr Val Met Ile Ile Arg Asn Asp Val Ser Phe Ile Ala  
165 170 175

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

Glu Leu Thr Asp Tyr His Arg Pro Tyr Gly Ser Ser Arg Ala Ala Ile  
195 200 205

Gln Glu Val Lys Arg Val Lys Glu Ala Gly Gly Trp Ile Val Asn Gly  
210 215 220

Arg Ile Cys Gly Asp Ile Ala Val Ser Arg Ala Phe Gly Asp Ile Arg  
225 230 235 240

Phe Lys Thr Lys Lys Asn Asp Met Leu Lys Lys Gly Val Asp Glu Gly  
245 250 255

Arg Trp Ser Glu Lys Phe Val Ser Arg Ile Glu Phe Lys Gly Asp Met  
260 265 270

Val Val Ala Thr Pro Asp Ile Phe Gln Val Pro Leu Thr Ser Asp Val  
275 280 285

Glu Phe Ile Ile Leu Ala Ser Asp Gly Leu Trp Asp Tyr Met Lys Ser  
290 295 300

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

Val Gln Leu Ala Cys Glu Ser Leu Ala Gln Val Ala Leu Asp Arg Arg  
325 330 335

Ser Gln Asp Asn Ile Ser Ile Ile Ile Ala Asp Leu Gly Arg Thr Glu  
340 345 350

Trp Lys Asn Leu Pro Ala Gln Arg Gln Asn Val Val Val Glu Leu Val  
355 360 365

Gln Ala Ala Thr Thr Ile Gly Leu Val Thr Val Gly Ile Trp Met Ser  
370 375 380

Ser His Leu Ser  
385

<210> 2  
<211> 386  
<212> PRT  
<213> Vitis vinifera

<400> 2

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| Met | Ala | Leu | Leu | Ser | Gln | Gln | Leu | Gln | Arg | Phe | Phe | Leu | Thr | Thr | Leu |  |  |  |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |  |
| Asn | Cys | Thr | Ser | Asn | Leu | Lys | Ala | Thr | Lys | Lys | Asn | Asn | Ser | Val | Ala |  |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |  |
| Leu | Lys | Glu | Arg | Ala | Arg | Cys | Cys | Ser | Ala | Ile | Ala | Ile | Asp | Ala | Pro |  |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |  |
| Ser | Phe | Ser | Gly | Val | Ala | Gly | Ile | Arg | Trp | Gly | Leu | Cys | Arg | Leu | Gln |  |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |  |
| Gly | Pro | Arg | Glu | Glu | Met | Glu | Asp | Glu | Ala | Val | Val | Arg | Ser | Asp | Gly |  |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |  |
| Leu | Asp | Gly | Phe | Ser | Phe | Ala | Ala | Val | Phe | Asp | Gly | His | Ala | Gly | Phe |  |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |  |
| Ser | Ser | Val | Lys | Phe | Leu | Arg | Asp | Glu | Leu | Tyr | Lys | Asp | Cys | Val | Ala |  |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |  |
| Ala | Leu | Gln | Gly | Gly | Leu | Leu | Leu | Ser | Gly | Lys | Asn | Phe | Asn | Ile | Ile |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |
| Arg | Glu | Ala | Leu | Glu | Lys | Ala | Phe | Glu | Ser | Ala | Asp | Ala | Lys | Leu | Leu |  |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |
| Asn | Trp | Leu | Glu | Thr | Thr | Gly | Glu | Asp | Val | Glu | Ser | Gly | Ser | Thr | Ala |  |  |  |
| 145 |     |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |  |  |  |
| Thr | Val | Leu | Leu | Ile | Gly | Asp | Asp | Met | Val | Phe | Ile | Ser | His | Val | Gly |  |  |  |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |  |
| Asp | Ser | Cys | Val | Val | Leu | Ser | Arg | Ser | Gly | Lys | Ala | Glu | Glu | Leu | Thr |  |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |  |
| Asn | Pro | His | Arg | Pro | Tyr | Gly | Ser | Asn | Lys | Ser | Ser | Leu | Glu | Glu | Ile |  |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |  |
| Arg | Arg | Ile | Arg | Glu | Ala | Gly | Gly | Trp | Ile | Val | Asn | Gly | Arg | Ile | Cys |  |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |  |
| Gly | Asp | Ile | Ala | Val | Ser | Arg | Ser | Phe | Gly | Asp | Met | Arg | Phe | Lys | Thr |  |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |  |
| Lys | Lys | Asn | Glu | Met | Leu | Glu | Lys | Gly | Leu | Glu | Glu | Gly | Arg | Trp | Ser |  |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |  |

Gln Lys Phe Val Ser Arg Val Gln Phe Thr Gly Asp Leu Val Val Ala  
260 265 270

Ser Pro Asp Val Phe Gln Val Ala Leu Gly Ser Asp Ala Glu Phe Leu  
275 280 285  
|

Leu Leu Ala Ser Asp Gly Leu Trp Asp Tyr Met Asn Ser Ser Glu Ala  
290 295 300

Val Thr Phe Val Arg Asn Glu Leu Arg Gln His Gly Asp Val Gln Val  
305 310 315 320

Ala Ser Glu Ala Leu Ala Arg Ala Ala Leu Asp Arg Arg Thr Gln Asp  
325 330 335

Asn Val Ser Ile Ile Ile Ala Asp Leu Gly Arg Thr Asp Trp Gln Ser  
340 345 350

Leu Pro Leu Gln Gln Gln Asn Leu Phe Leu Glu Leu Val Gln Ala Leu  
355 360 365

Gly Thr Ile Gly Ile Val Thr Leu Gly Ile Trp Met Ser Ser Gln Phe  
370 375 380

Ser Leu  
385

<210> 3  
<211> 389  
<212> PRT  
<213> Oryza sativa

<400> 3

Met Ala Leu Leu Ser Pro Arg Val Pro Arg Leu Pro Leu Ala Ser Ala  
1 5 10 15

Ser Ala Ala Gly Ala Gly Leu Arg Cys Cys Val Ser Gly Gly Arg Ala  
20 25 30

Gly Ser Ala Ala Trp Cys His Ala Ser Ala Ala Gly Ser Val Ala Ser  
35 40 45

Ser Ser Ser Glu Leu Glu Ala Ile Arg Trp Gly Thr Ala Lys Leu Gln  
50 55 60

Gly Ala Arg Asp Glu Met Glu Asp Glu Val Val Leu Arg Pro Gly Ser  
65 70 75 80

Leu Leu Asp Gly Phe Ser Phe Ala Ala Val Phe Asp Gly His Ala Gly  
85 90 95

Phe Ser Ala Val Glu Phe Leu Arg Asp Glu Leu Tyr Lys Glu Cys Ala  
100 105 110

Ala Ala Leu Asp Gly Gly Ala Val Leu Ser Thr Lys Asn Leu Asp Ala  
115 120 125

Ile Thr Asp Ser Ile Gln Arg Ala Phe Ala Thr Val Asp Ala Asn Leu  
130 135 140

Ser Thr Trp Leu Glu Gln Met Asp Lys Glu Asp Glu Ser Gly Ala Thr  
145 150 155 160

Ala Thr Ala Met Phe Leu Arg Asn Asp Val Leu Val Val Ser His Ile  
165 170 175

Gly Asp Ser Cys Leu Gln Val Val Ser Arg Gly Gly Arg Pro Gln Ala  
180 185 190

Val Thr Asn Phe His Arg Pro Tyr Gly Asn Lys Lys Ala Ser Leu Glu  
195 200 205

Glu Val Lys Arg Ile Arg Ala Ala Gly Gly Trp Ile Val Asp Gly Arg  
210 215 220

Ile Cys Gly Glu Ile Ser Val Ser Arg Ala Phe Gly Asp Ile Arg Phe  
225 230 235 240

Lys Thr Arg Lys Asn Glu Met Leu Val Lys Gly Val Lys Glu Gly Arg  
245 250 255

Trp Thr Glu Lys Phe Ile Ser Arg Ile Asn Phe Lys Gly Asp Leu Ile  
260 265 270

Val Ser Ser Pro Asp Val Ser Leu Val Glu Leu Gly Pro Asp Val Glu  
275 280 285

Phe Val Leu Leu Ala Thr Asp Gly Leu Trp Asp Tyr Ile Lys Ser Ser  
290 295 300

Glu Ala Val Ala Leu Val Arg Asp Gln Leu Arg Gln His Gly Asp Val  
305 310 315 320

Gln Val Ala Cys Glu Ala Leu Gly Gln Ile Ala Leu Asp Arg Arg Ser  
325 330 335

Gln Asp Asn Ile Ser Ile Val Ile Ala Asp Leu Gly Arg Thr Asn Trp  
340 345 350

Lys Glu Leu Pro Ala Gln Arg Pro Asn Leu Phe Leu Glu Leu Thr Gln  
355 360 365

Ala Val Ala Thr Val Gly Ala Val Ser Leu Gly Ile Tyr Ile Ser Ser  
370 375 380

Leu Leu Ala Leu Gln  
385

<210> 4  
<211> 393  
<212> PRT  
<213> Hordeum vulgare

<400> 4

Glu Phe Gly Thr Arg Leu Ser Pro Arg Val Pro Arg Leu Pro Leu Ala  
1 5 10 15

Ala His Cys Ala Gly Ala Gly Ala Gly Ile Leu Arg Cys Cys Gly Arg  
20 25 30

Leu Ala Ala Ser Ala Ala Arg Cys Gln Val Thr Ala Ser Gly Ser Val  
35 40 45

Ala Ala Gly Ser Ser Ser Ser Ser Glu Leu Glu Ala Ile Arg Trp Gly  
50 55 60

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

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

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

Phe Lys Glu Cys Ala Ala Ala Leu Asp Gly Gly Ala Val Leu Asn Thr  
115 120 125

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

Val Asp Ala Asn Leu Ser Thr Trp Leu Gln Gln Met Asp Lys Glu Asp  
145 150 155 160

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

Val Val Ser His Ile Gly Asp Ser Cys Leu Val Ile Ser Arg Gly Gly  
180 185 190

Arg Pro Gln Ser Leu Thr Asn Phe His Arg Pro Tyr Gly Asn Asn Lys  
195 200 205

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

His Asp Gly Arg Ile Cys Gly Asp Ile Ser Val Ser Arg Ala Phe Gly  
225 230 235 240

Asp Ile Arg Phe Lys Thr Arg Lys Asn Glu Met Leu Val Lys Gly Val  
245 250 255

Lys Glu Gly Arg Trp Thr Glu Lys Phe Val Ser Arg Ile Lys Phe Asn  
260 265 270

Gly Asp Leu Ile Ile Ser Ser Pro Asp Val Ser Leu Val Glu Leu Gly  
275 280 285

Pro Asp Ala Glu Phe Val Leu Val Ala Thr Asp Gly Leu Trp Asp Tyr  
290 295 300

Ile Lys Ser Thr Glu Ala Val Ala Phe Val Arg Asp Gln Leu Arg Gln  
305 310 315 320

His Gly Asp Val Gln Arg Ala Cys Glu Ala Leu Gly Glu Lys Ala Leu  
325 330 335

Asp Arg Arg Ser Gln Asp Asn Ile Ser Ile Val Ile Ala Asp Leu Gly  
340 345 350

Arg Thr Asn Trp Gln Glu Leu Ala Val Pro Arg Pro Asn Val Leu Leu  
355 360 365

Glu Leu Ser Gln Ala Ile Ala Thr Val Gly Ala Val Ser Val Gly Ile  
370 375 380

Trp Ile Ser Trp Leu Leu Thr Leu Gln  
385 390

<211> 394  
 <212> PRT  
 <213> Lycopersicon esculentum

<400> 5

Met Ala Leu Ser Ser Pro His Leu Gln Lys Val Leu Leu Asn Lys Ile  
 1 5 10 15

Cys Ser Tyr Lys Ile Thr Ser Lys Lys Ser Ile Ile Gln Lys Pro Leu  
 20 25 30

Gly Gly Gly Gly Gly Gly Gly Gly Glu Gly Arg Gly Arg Cys Cys Ser  
 35 40 45

Ala Ile Ala Ile Asp Ala Pro Ala Pro Phe Thr Ser Val Ser Gly Ile  
 50 55 60

Arg Trp Gly Ser Thr Met Val Gln Gly Pro Arg Glu Glu Met Glu Asp  
 65 70 75 80

Asp Ala Val Ile Val Gln Ser Asp Asp Leu Asp Gly Phe Thr Tyr Ala  
 85 90 95

Ala Val Phe Asp Gly His Ala Gly Phe Ser Ser Val Lys Phe Leu Arg  
 100 105 110

Glu Glu Leu Tyr Lys Glu Cys Val Leu Ala Leu Gln Gly Gly Leu Leu  
 115 120 125

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

Phe Glu Asn Ala Asp Arg Lys Leu Leu Asn Trp Leu Glu Ser Ser Glu  
 145 150 155 160

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

Asp Thr Leu Ile Ile Ala His Val Gly Asp Ser Ser Val Val Leu Ser  
 180 185 190

Arg Ser Gly Lys Thr Glu Ile Leu Thr Asn Ser His Arg Pro Tyr Gly  
 195 200 205

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

Gly Trp Ile Val Asn Gly Arg Ile Cys Asn Asp Ile Ser Val Ser Arg

|       |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     |
|-------|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|-----|
| 225   |          |     |     |     |     | 230 |     |     |     |     |     | 235 |     |     |     |  |  | 240 |
| Ala   | Phe      | Gly | Asp | Met | Arg | Phe | Lys | Thr | Lys | Lys | Lys | Glu | Met | Leu | Glu |  |  |     |
|       |          |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |     |
| Lys   | Gly      | Val | Lys | Glu | Arg | Arg | Trp | Ser | Glu | Lys | Phe | Ile | Ser | Arg | Ile |  |  |     |
|       |          |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |     |
| Gln   | Phe      | Arg | Gly | Asp | Leu | Val | Ile | Ala | Ser | Pro | Asp | Val | Leu | Gln | Val |  |  |     |
|       |          | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |  |  |     |
| Asn   | Leu      | Gly | Ser | Asp | Ala | Glu | Phe | Val | Leu | Leu | Ala | Ser | Asp | Gly | Leu |  |  |     |
|       | 290      |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |  |  |     |
| Trp   | Asp      | Tyr | Met | Lys | Ser | Asp | Glu | Ile | Val | Asp | Phe | Val | Arg | Asn | Gln |  |  |     |
| 305   |          |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |  |  |     |
| Leu   | Arg      | Glu | His | Gly | Asp | Val | Gln | Ile | Ala | Cys | Glu | Ala | Leu | Ala | Leu |  |  |     |
|       |          |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |  |  |     |
| Leu   | Ala      | Leu | Asp | Arg | Arg | Thr | Gln | Asp | Asn | Val | Ser | Ile | Val | Ile | Ala |  |  |     |
|       |          |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |  |  |     |
| Asp   | Leu      | Gly | Arg | Thr | Asp | Trp | Arg | Asn | Leu | Pro | Val | Lys | Lys | Gln | Asn |  |  |     |
|       |          | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |  |  |     |
| Val   | Val      | Leu | Glu | Leu | Gly | Gln | Ala | Leu | Val | Thr | Ile | Ser | Phe | Val | Ser |  |  |     |
|       |          | 370 |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |  |  |     |
| Ile   | Gly      | Ile | Trp | Leu | Ser | Thr | Met | Ile | Ser |     |     |     |     |     |     |  |  |     |
| 385   |          |     |     |     | 390 |     |     |     |     |     |     |     |     |     |     |  |  |     |
| <210> | 6        |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     |
| <211> | 378      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     |
| <212> | PRT      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     |
| <213> | Zea mays |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     |
| <400> | 6        |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |     |
| Met   | Ala      | Leu | Leu | Ser | Pro | Arg | Val | Pro | Arg | Leu | Pro | Pro | Ser | Thr | Phe |  |  |     |
| 1     |          |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |  |  |     |
| Thr   | Ser      | Val | Ala | Gly | Ala | Arg | Cys | Phe | Gly | Pro | Ala | Ala | Arg | Cys | Gln |  |  |     |
|       |          |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |     |
| Ala   | Thr      | Ala | Ala | Gly | Gly | Val | Ala | Ala | Ala | Gly | Pro | Pro | Ser | Ser | Glu |  |  |     |
|       |          | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |     |
| Leu   | Glu      | Ala | Ile | Arg | Trp | Gly | Ser | Ala | Lys | Leu | Gln | Gly | Ala | Arg | Asp |  |  |     |

|                                                                 |     |     |     |         |
|-----------------------------------------------------------------|-----|-----|-----|---------|
| 50                                                              |     | 55  |     | 60      |
| Glu Met Glu Asp Glu Val Leu Leu Arg Pro Gly Ser Leu Leu Asp Gly |     |     |     |         |
| 65                                                              |     | 70  |     | 75 80   |
| Phe Ser Phe Ala Ala Val Leu Asp Gly His Ala Gly Phe Ser Ala Val |     |     |     |         |
|                                                                 | .85 |     | .90 | .95     |
| Gln Phe Leu Arg Asp Glu Leu Tyr Lys Glu Cys Ala Ala Ala Leu Asp |     |     |     |         |
|                                                                 | 100 |     | 105 | 110     |
| Gly Gly Ala Val Leu Ser Thr Lys Asn Leu Asp Ala Ile Thr Ala Ser |     |     |     |         |
|                                                                 | 115 |     | 120 | 125     |
| Ile Gln Arg Ala Phe Ala Ala Val Asp Ala Lys Leu Ser Thr Trp Leu |     |     |     |         |
|                                                                 | 130 |     | 135 | 140     |
| Glu Gln Thr Asp Lys Asp Asp Ser Gly Ala Thr Ala Thr Val Met Phe |     |     |     |         |
| 145                                                             |     | 150 |     | 155 160 |
| Leu Arg Ser Asp Val Leu Val Val Ser His Ile Gly Asp Ser Cys Leu |     |     |     |         |
|                                                                 | 165 |     | 170 | 175     |
| Val Ile Ser Arg Gly Gly Arg Ser Glu Ala Leu Thr Gly Ser His Arg |     |     |     |         |
|                                                                 | 180 |     | 185 | 190     |
| Pro Tyr Gly Asn Asn Lys Thr Ser Leu Glu Glu Val Lys Arg Ile Arg |     |     |     |         |
|                                                                 | 195 |     | 200 | 205     |
| Ala Ala Gly Gly Trp Ile Val Asp Gly Arg Ile Cys Gly Asp Ile Ser |     |     |     |         |
|                                                                 | 210 |     | 215 | 220     |
| Val Ser Arg Ala Phe Gly Asp Ile Arg Phe Lys Thr Gln Lys Asn Glu |     |     |     |         |
| 225                                                             |     | 230 |     | 235 240 |
| Met Leu Val Lys Gly Val Lys Gln Gly Arg Trp Thr Asp Lys Phe Ile |     |     |     |         |
|                                                                 | 245 |     | 250 | 255     |
| Ser Arg Ile Gln Phe Lys Asp Asp Ile Val Ile Ser Ser Pro Asp Val |     |     |     |         |
|                                                                 | 260 |     | 265 | 270     |
| Ser Leu Val Glu Leu Gly Pro Asp Val Glu Phe Val Leu Leu Ala Asn |     |     |     |         |
|                                                                 | 275 |     | 280 | 285     |
| Gly Leu Trp Asp Tyr Ile Lys Ser Ser Glu Ala Val Ala Phe Val Arg |     |     |     |         |
|                                                                 | 290 |     | 295 | 300     |

Asp Gln Leu Arg Gln His Gly Asp Val Gln Leu Ala Cys Glu Ala Leu  
305 310 315 320

Gly Gln Lys Ala Leu Asp Gln Arg Ser Gln Asp Asn Ile Ser Ile Val  
325 330 335

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

Pro Asn Leu Phe Leu Leu Ser Gln Ala Val Ala Thr Val Gly Val Val  
355 360 365

Ser Ile Gly Ile Trp Val Ser Ser Phe Leu  
370 375

<210> 7  
<211> 348  
<212> PRT  
<213> Triticum aestivum

<400> 7

Ile Arg Trp Gly Ser Ala Lys Leu Gln Gly Ala Arg Glu Glu Met Glu  
1 5 10 15

Asp Glu Val Val Leu Arg Pro Asp Ser Leu Leu His Gly Phe Ser Phe  
20 25 30

Ala Ala Val Leu Asp Gly His Ala Gly Phe Ser Thr Val Gln Phe Leu  
35 40 45

Arg Asp Glu Leu Phe Lys Glu Cys Ala Ala Ala Leu Asp Gly Gly Ala  
50 55 60

Val Leu Asn Thr Lys Asn Leu Glu Ala Ile Thr Asp Ser Ile Arg Arg  
65 70 75 80

Ala Phe Ala Thr Met Asp Ala Asn Leu Ser Thr Trp Leu Gln Gln Met  
85 90 95

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

Asn Asp Val Leu Val Val Ser His Ile Gly Asp Ser Cys Leu Val Ile  
115 120 125

Ser Arg Gly Gly Arg Pro Gln Ser Leu Thr Asn Phe His Arg Pro Tyr  
130 135 140

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

Gly Gly Trp Ile Arg Asp Gly Arg Val Cys Gly Asp Ile Ser Val Ser  
165 170 175

Arg Ala Phe Gly Asp Ile Arg Phe Lys Thr Arg Lys Asn Glu Phe Val  
180 185 190

Met Leu Val Lys Gly Val Asn Glu Gly Arg Trp Thr Glu Lys Phe Val  
195 200 205

Ser Arg Gly Arg Trp Cys Thr Val Arg Leu Phe Leu Ile Met Gln Pro  
210 215 220

Val Thr Cys Arg Ile Lys Phe Lys Gly Asp Leu Ile Ile Ser Ser Pro  
225 230 235 240

Asp Val Ser Leu Val Glu Leu Gly Pro Asp Val Glu Phe Val Leu Val  
245 250 255

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

Phe Val Arg Asp Gln Leu Cys Gln His Gly Asp Val Gln Val Cys Ser  
275 280 285

Leu Ser Leu Leu Lys Asp Arg Arg Ser Gln Asp Asn Ile Ser Ile Val  
290 295 300

Ile Ala Asp Leu Gly Arg Thr Asn Trp Gln Glu Leu Pro Val Pro Thr  
305 310 315 320

Pro Asn Val Leu Leu Glu Leu Ser Gln Ala Val Ala Thr Val Gly Ala  
325 330 335

Val Ser Val Gly Ile Trp Ile Ser Ser Leu Leu Thr  
340 345

<210> 8  
<211> 388  
<212> PRT  
<213> Sorghum bicolor

<400> 8

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| Thr | Phe | Thr | Phe | Ala | Ala | Ala | Ala | Gly | Ala | Pro | Cys | Phe | Gly | Arg | Ala |  |  |  |  |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |  |  |  |  |
| Ala | Arg | Cys | Gln | Ala | Thr | Ala | Ala | Gly | Gly | Val | Ala | Ala | Ala | Gly | Pro |  |  |  |  |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |  |  |  |  |
| Pro | Ser | Ser | Glu | Leu | Glu | Ala | Val | Gln | Trp | Gly | Ser | Ala | Lys | Leu | Gln |  |  |  |  |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |  |  |  |  |
| Gly | Val | Arg | Asp | Glu | Met | Glu | Asp | Glu | Ile | Leu | Leu | Arg | Pro | Gly | Ser |  |  |  |  |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |  |  |  |  |
| Leu | Leu | Asp | Gly | Phe | Ser | Phe | Ala | Ala | Val | Leu | Asp | Gly | His | Ala | Gly |  |  |  |  |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |  |  |  |  |
| Phe | Ser | Ala | Val | Gln | Phe | Leu | Arg | Asp | Glu | Leu | Tyr | Lys | Glu | Cys | Ala |  |  |  |  |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |  |  |  |  |
| Ala | Ala | Leu | Asp | Gly | Gly | Ala | Val | Leu | Ser | Thr | Lys | Asn | Leu | Asp | Ala |  |  |  |  |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |  |  |  |  |
| Ile | Thr | Val | Ser | Ile | Gln | Arg | Ala | Phe | Ala | Ala | Val | Asp | Ala | Lys | Leu |  |  |  |  |
|     | 130 |     |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |  |  |  |  |
| Ser | Thr | Trp | Leu | Glu | Gln | Ala | Asp | Lys | Asp | Asp | Asp | Ser | Gly | Ala | Thr |  |  |  |  |
| 145 |     |     |     |     | 150 |     |     |     | 155 |     |     |     |     |     | 160 |  |  |  |  |
| Ala | Thr | Ala | Met | Phe | Leu | Arg | Asn | Asp | Val | Leu | Val | Val | Ser | His | Ile |  |  |  |  |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |  |  |  |  |
| Gly | Asp | Ser | Cys | Leu | Val | Ile | Ser | Arg | Gly | Gly | Arg | Pro | Glu | Ala | Leu |  |  |  |  |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |  |  |  |  |
| Thr | Ser | Ser | His | Arg | Pro | Tyr | Gly | Asn | Asn | Lys | Thr | Ser | Leu | Glu | Glu |  |  |  |  |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |  |  |  |  |
| Val | Lys | Arg | Ile | Arg | Ala | Ala | Gly | Gly | Trp | Ile | Val | Asp | Gly | Arg | Ile |  |  |  |  |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |  |  |  |  |
| Cys | Gly | Asp | Ile | Ser | Val | Ser | Arg | Ala | Phe | Gly | Asp | Ile | Arg | Phe | Lys |  |  |  |  |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |  |  |  |  |
| Thr | Arg | Lys | Asn | Glu | Met | Leu | Val | Lys | Gly | Val | Lys | Glu | Gly | Arg | Trp |  |  |  |  |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |  |  |  |  |
| Thr | Asp | Lys | Phe | Ile | Ser | Arg | Ile | Lys | Phe | Lys | Asp | Asp | Leu | Ile | Ile |  |  |  |  |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |  |  |  |  |

Ser Ser Pro Asp Val Ser Leu Val Glu Leu Gly Pro Asp Val Glu Phe  
275 280 285

Val Leu Leu Ala Thr Asp Gly Leu Trp Asp Tyr Ile Lys Ser Ser Glu  
290 295 300

Ala Val Ala Phe Val Arg Asp Gln Leu Arg Gln His Gly Asp Val Gln  
305 310 315 320

Leu Ala Cys Glu Ala Leu Gly Gln Lys Ala Leu Asp Gln Arg Ser Lys  
325 330 335

Asp Asn Ile Ser Ile Val Ile Ala Asp Leu Gly Arg Thr Asn Trp Lys  
340 345 350

Ala Leu Pro Asp Glu Arg Pro Asn Met Phe Leu Glu Leu Ser Gln Ala  
355 360 365

Val Ala Thr Val Gly Val Val Ser Ile Gly Ile Trp Phe Ser Ser Phe  
370 375 380

Leu Gly Leu Gln  
385

<210> 9  
<211> 384  
<212> PRT  
<213> Populus balsamifera subsp. trichocarpa  
<400> 9

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

Ala Thr Arg Pro Lys Ser Gln Cys Ser Ala Ile Ala Ile Asp Ala Pro  
35 40 45

Ser Ser Leu Thr Asp Val Ala Gly Ile Arg Trp Gly Ser Ala Ser Leu  
50 55 60

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

Gly Leu Glu Gly Phe Ser Phe Ala Ala Val Phe Asp Gly His Ala Gly  
85 90 95

Phe Ser Ser Val Lys Phe Leu Arg Asp Glu Leu Tyr Lys Glu Cys Val  
100 105 110

Ala Ala Leu Gln Gly Gly Leu Leu Asn Gly Lys Asp Phe Asn Ala  
115 120 125

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

Leu Asp Trp Tyr Ala Cys Arg Asp Gly Val Gln Asp Glu Ser Gly Ser  
145 150 155 160

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

Ile Gly Asp Ser Ser Val Val Leu Ser Arg Ser Gly Lys Met Glu Val  
180 185 190

Leu Thr Asp Ala His Arg Pro Tyr Gly Ser Asn Lys Ile Ser Leu Gln  
195 200 205

Glu Ile Lys Arg Ile Arg Glu Ala Gly Gly Trp Ile Val Asn Gly Arg  
210 215 220

Ile Cys Gly Asp Ile Ala Val Ser Arg Ala Phe Gly Asp Met Arg Phe  
225 230 235 240

Lys Thr Lys Lys Asn Glu Met Leu Glu Lys Gly Val Lys Glu Gly Arg  
245 250 255

Trp Ser Glu Lys Phe Ser Ser Arg Val Gln Phe Asn Gly Asp Leu Val  
260 265 270

Ile Ala Ser Pro Glu Val Tyr Gln Ile Ala Phe Gly Ser Asp Ala Glu  
275 280 285

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

Asp Ala Ala Ala Phe Val Arg Asn Gln Leu Gln Lys His Gly Asp Val  
305 310 315 320

Gln Leu Ala Cys Glu Glu Leu Ala Arg Lys Ala Ile Asp Arg Arg Thr  
325 330 335

Gln Asp Asn Val Ser Ile Ile Ile Ala Asp Leu Gly Arg Thr Asp Trp  
340 345 350

Gln Asn Leu Pro Leu Gln Gln Gln Asn Val Val Leu Glu Leu Gly Gln  
355 360 365

Ala Phe Ala Thr Ile Gly Ile Val Thr Leu Gly Ile Trp Met Ser Ser  
370 375 380

<210> 10  
<211> 390  
<212> PRT  
<213> Ricinus communis

<400> 10

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

His Tyr Gly Ser Ser Asn Phe Lys Thr Thr Ser Thr Lys Asn Leu Asn  
20 25 30

Asn Phe Val Pro Val Arg Pro Ile Ser Gln Cys Ser Ala Ile Ala Ile  
35 40 45

Asp Ala Pro Ser Ser Leu Thr Asp Val Ala Gly Val Arg Trp Gly Ser  
50 55 60

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

Arg Ser Asp Gly Leu Asp Gly Tyr Ser Phe Ala Gly Val Phe Asp Gly  
85 90 95

His Gly Gly Ile Ser Ser Val Glu Phe Leu Arg Asp Glu Leu Tyr Lys  
100 105 110

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

Phe Asn Ala Thr Arg Lys Ala Leu Thr Glu Ala Phe Glu Asn Val Asp  
130 135 140

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

Gly Ser Thr Ala Thr Val Met Phe Ile Gly Asn Asn Met Leu Ile Val  
165 170 175

Ser His Ile Gly Asp Ser Cys Leu Val Leu Ser Arg Ser Gly Lys Ala  
180 185 190

Glu Val Leu Thr Glu Ser His Arg Pro Tyr Gly Ser Asn Lys Val Ser  
195 200 205

Leu Gln Glu Ile Lys Arg Ile Arg Glu Ala Gly Gly Trp Ile Ser Asn  
210 215 220

Gly Arg Ile Cys Gly Asp Ile Ala Val Ser Arg Ala Phe Gly Asp Ile  
225 230 235 240

Arg Phe Lys Thr Lys Lys Asn Glu Met Leu Gln Lys Gly Val Lys Glu  
245 250 255

Gly Arg Trp Ser Glu Lys Phe Ile Ser Arg Val Gln Phe Asn Gly Asp  
260 265 270

Leu Met Thr Ala Ser Pro Asp Val Phe Gln Val Ala Leu Gly Ser Asp  
275 280 285

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

Ser Ser Asp Ala Val Ser Phe Val Arg Asn Gln Leu Arg Gln His Gly  
305 310 315 320

Asp Val Gln Leu Ala Cys Glu Glu Leu Ala Gln Ala Ala Leu Asp Leu  
325 330 335

Arg Ser Gln Asp Asn Val Ser Ile Ile Ile Ala Asp Leu Gly Gln Thr  
340 345 350

Asp Trp Arg Asn Leu Pro Leu Gln Lys Gln Asn Ile Leu Leu Glu Phe  
355 360 365

Gly Gln Ala Ile Ala Thr Ile Gly Val Val Ser Leu Gly Ile Trp Leu  
370 375 380

Ser Ser Gln Leu Ser Leu  
385 390

<210> 11  
<211> 399  
<212> PRT  
<213> Picea sitchensis

<400> 11

Met Glu Leu Leu Ser Leu Val Tyr Tyr Asn Thr Phe Met Pro Asn Cys  
1 5 10 15

Ser Gly Val Cys Val Asn Lys Cys Thr Val Gln Arg Arg Ser Ser Met  
20 25 30

Glu Cys Arg Lys Arg Gly Gly Val Gln Val Ala Gly Val Ala Ala Arg  
35 40 45

Pro Val Gln Val Asp Leu Ser Ala Ser Asp Thr Ser Lys Glu Gly Ser  
50 55 60

Ile Lys Trp Gly Trp Val Gly Ile Gln Gly Pro Arg Thr Glu Met Glu  
65 70 75 80

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

Ala Val Phe Asp Gly His Ala Gly Phe Ala Ser Ala Lys Phe Leu Lys  
100 105 110

Asp Glu Leu Tyr Lys Glu Cys Ala Ile Ala Leu Gln Asp Gly Leu Leu  
115 120 125

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

Phe Ile Glu Thr Asp Arg Lys Leu Ile Ser Trp Leu Glu Glu Val Asn  
145 150 155 160

Asp Gly Val Asp Ser Gly Ser Thr Ala Thr Val Met Phe Val Gly Gly  
165 170 175

Gly Arg Leu Ile Ile Ser His Ile Gly Asp Ser Ser Val Val Leu Ser  
180 185 190

Arg Ser Gly Lys Pro Met Glu Ile Thr Ser Ala His Arg Pro Tyr Gly  
195 200 205

Asn Ser Lys Val Ser Leu Asp Glu Ile Arg Arg Ile Lys Ala Ala Gly  
210 215 220

Gly Trp Val Thr Asn Gly Arg Ile Cys Gly Asp Ile Ser Val Ser Arg  
225 230 235 240

Ala Phe Gly Asp Met Arg Phe Lys Thr Lys Met Lys Asp Met Leu Glu  
245 250 255

Glu Gly Ile Arg Glu Gly Lys Trp Thr Gly Lys Phe Ala Ser Arg Ile

|                                                                        |     |     |
|------------------------------------------------------------------------|-----|-----|
| 260                                                                    | 265 | 270 |
| Lys Leu Asn Gly Asp Trp Val Thr Ala Ile Pro Asp Ile Tyr His Ala<br>275 | 280 | 285 |
| Asp Leu Gly Pro Asp Ile Glu Phe Ile Ile Val Ala Ser Asp Gly Leu<br>290 | 295 | 300 |
| Trp Asp Cys Met Asn Ser Ser Asp Ala Val Lys Phe Val Arg Ser Gln<br>305 | 310 | 315 |
| Leu Arg Gln His Arg Asp Val Gln Cys Ala Cys Glu Ala Leu Ala Asn<br>325 | 330 | 335 |
| Ala Ala Leu Lys Arg Asn Thr Gln Asp Asn Val Ser Ile Ile Ile Ala<br>340 | 345 | 350 |
| Asp Phe Gly Arg Val Pro Gln Glu Asp Gly Pro Glu Lys Glu Gln Asn<br>355 | 360 | 365 |
| Phe Gly Ser Glu Ile Val Gln Ala Thr Ala Thr Val Gly Ile Val Thr<br>370 | 375 | 380 |
| Leu Gly Ile Trp Leu Ser Ser Leu Val Gly Gln Glu Leu Gly Arg<br>385     | 390 | 395 |

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 <211> 1167  
 <212> DNA  
 <213> Arabidopsis thaliana

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 tgctccgcca ttgcgatcga cgtccgctcg tctctgactg gcgtgacgcc gattcgtttg 180  
 ggttacacga gtgttcaagg attccgagat gagatggaag acgacatcgt aatccgttct 240  
 gatgctgtcg atagcttctc ctacgcagcg gtcttcgacg gccacgctgg gtcgtcctct 300  
 gtcaaattcc tcagggaaga gctgtataaa gagtgtgttg gtgcattgca agctggatcg 360  
 ttgttgaatg gaggcgattt cgcagcaatc aaggaagctt tgattaaggc ctttgaaagc 420  
 gttgaccgca atttgctcaa atggctagaa gctaaccggtg acgaagaaga tgaatcaggt 480  
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attgtcaatg gaaggatttg tggagacata gctgtatctc gtgcttttgg tgacatccgg 720  
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aagtttgttt ccagaatcga gtttaaaggg gacatgggtg tggcgactcc agatatcttc 840  
caagtacctc tgacatctga tgtggaattc attatttttag cttctgatgg attatgggac 900  
tacatgaaga gctcagatgt ggtagttat gttagggatc agctccggaa acatgggaat 960  
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attagcatca ttattgctga tctaggaaga acagagtggg agaattctcc cgcgagcgga 1080  
caaaacgtag tgggtgaact ggttcaggct gcaacgacta tcggtttagt tactgttggc 1140  
atatggatgt cttcacatct atcttaa 1167

<210> 13  
<211> 1161  
<212> DNA  
<213> *Vitis vinifera*

<400> 13  
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tcagccatag ccattgatgc cccttctttt tcgggtgtgg cggaatcag gtgggggttg 180  
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cttgatgggt tctcctttgc cgcggttttt gacggtcatg ccggcttttc ttctgtcaag 300  
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gcaaaattat tgaattggct tgagacgact ggggaggatg tcgagtctgg ttcaacagcc 480  
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gttctctctc gctctggaaa agcagaagaa ttgaccaatc ctcataggcc ttatggaagc 600  
aacaaaagtt cgcttgaaga aatcagaaga atcagagaag caggtggatg gattgtcaat 660  
ggaaggattt gcggagacat tgctgtgtcc cgctcttttg gtgacatgag gttcaagaca 720  
aagaagaacg agatgctgga gaagggttg gaggaaggga gatgggtcca aaaatttggt 780  
tctcgtgtac aattcactgg agacttggtc gttgcatctc ctgatgtttt ccaagtagct 840  
cttgatcag atgcagaatt ttactgtta gcatctgatg gcttatggga ttatatgaac 900  
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<213> Oryza sativa

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tcggcgcccg gcagcgtggc gtcgtcgtcg tcggagctgg aggccatccg gtgggggacc 180  
gccaagctgc agggcgcgcg cgacgagatg gaggacgagg tcgtcctccg ccccggtccc 240  
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gagttcctca gggacgagct gtacaaggaa tgcgcggcgg cgttggacgg cgccgcgggtg 360  
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gacgccaaac tctccacctg gctcgagcag atggacaagg aagatgagtc cgccgccacg 480  
gccacggcca tgttcctcag gaacgatgtc cttgttgtct cgacattgg cgactcctgc 540  
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gttgatggac gcatatgtgg agaaatttct gtgtctcgtg cttttggaga cattagattt 720  
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attaaaagct ctgaagcagt agcattagtt agggatcaac tacggcaaca tggggatgtc 960  
caggttgctt gtgaggcact tggtcagata gctctggatc gtcggtcgca agacaacatt 1020  
agtatagtca tagctgactt ggggaggaca aactggaagg agctgcctgc tcaaaggcca 1080  
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<210> 15  
<211> 1182  
<212> DNA  
<213> Hordeum vulgare

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caagttacgg cgtcggaag cgtggcgggc ggctcctcgt cgtcgtcgga gctggaggcc 180  
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ctccgccccg agtccctcct ccacggcttc tcattcgccg ccgtcctcga cggccacgcc 300  
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catcgaccat acgggaacaa caaaacatcc cttgaagagg tcaagcggat tagggcagca 660  
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catggagatg tccagcgggc ttgtgaggcg cttggggaga aagctctgga tcggcgggtca 1020  
caagacaata ttagcatagt catagctgac ttgggaagga caaactggca ggagttggcc 1080  
gttccaaggc caaacgtgtt gttggagcta agtcaagcaa ttgcgactgt aggggctgta 1140  
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<210> 16  
<211> 1388  
<212> DNA  
<213> Lycopersicon esculentum

<400> 16  
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tctagtcccc acttgcaaaa agttctttta aacaaaattt gcagttacaa aattacatcc 120  
aaaaagagca taatacagaa gcctcttgga ggaggtggag gtggaggtgg tgagggcaga 180  
ggaagatgct gctctgcaat tgcaatcgac gcgccagctc catttaccag tgtttctggc 240  
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atcgttcaat cggatgatct tgatggcttc acttatgctg ctgtttttga tggccatgct 360  
ggcttctcct ctgtcaagtt ccttagggaa gagctgtata aagaatgtgt tctagcttta 420  
caaggagggc tgctattgaa cagaaaggac ctaaattgcaa tcaggaaggc actacaagaa 480  
gcttttgaaa atgcggatag gaaactcttg aactggcttg agagtagcga gaaggaagat 540  
gaatctggtg cgacagctac tgctctatct gttgggaatg atacattgat catcgccat 600  
gttggagatt catctgtggt gttgtcccga tctggaaaaa cagagatact aaccaattca 660  
cacaggccgt atggaaacaa caaggtttct ctccaagaaa tcagaagaat aatgaagca 720

|                                                                    |      |
|--------------------------------------------------------------------|------|
| ggatgatgga ttgtcaatgg aagaatttgt aatgatattt cagtatcccg tgcttttgg   | 780  |
| gatatgagat ttaagacaaa gaagaaagag atgctggaga aaggggttaa agaacgcaga  | 840  |
| tggtctgaaa agttcatttc acggattcag ttcaggggag acttggttat agcatctcca  | 900  |
| gatgttttac aggtgaatct tggatcagat gccgaatttg tactattagc atctgatgga  | 960  |
| ttatgggatt acatgaaaag cgatgaaata gtagatttcg ttaggaacca gcttcgagag  | 1020 |
| catggatgatg ttcagatagc atgtgaagct cttgcactgt tagccttgga tcgacggaca | 1080 |
| caagataatg tcagcattgt cattgctgat ttggggagga cggattggcg aaatttacca  | 1140 |
| gtaaagaaac agaattgtgt gttagaactg ggacaagcct tagtgacaat cagttttgtg  | 1200 |
| tcaattggaa tatggctgtc aacaatgatt tccccttaga agtttgatag taatattagt  | 1260 |
| taattgtata tagtattttt gtatgaaaag gaacataaag tttcaattat gccttgatca  | 1320 |
| tttacctgtc aaggtaatta agttatgtag catttttagat agtatattct aaaaaaaaaa | 1380 |
| aaaaaaaaa                                                          | 1388 |

<210> 17  
 <211> 1389  
 <212> DNA  
 <213> Zea mays

|                                                                    |     |
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| <400> 17                                                           |     |
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| gcgtgccgcg gctgccgcc tccacctca cctccgttgc cggcgcccg tgctttggcc     | 120 |
| ctgccgcgag gtgccaggcg acggcggcgg gcggcggtgg gccgcgggg ccccgctgt    | 180 |
| cggagctgga ggccatccgg tggggcagcg ccaagctgca gggcgctcgc gacgagatgg  | 240 |
| aggatgaggt cttgctccgc ccgggctccc tctcagatgg cttctccttc gccgcgtct   | 300 |
| tggatggaca cgccggcttc tccgccgtcc agttcctcag ggatgagctg tacaaggagt  | 360 |
| gcgcagctgc gttggacggc ggcgcggtgc tcagcactaa gaatctcgac gctatcacgg  | 420 |
| cctccatcca gcgtgccttc gccgctgtcg acgccaagct ctccacctgg ctgagcaaaa  | 480 |
| cggacaagga cgactctggt gctacggcca ctgtcatgtt tctcaggagc gatgtgcttg  | 540 |
| ttgtctcgca cattggggac tcttgcttgg tgatatcacg tggtggaaga tctgaagctt  | 600 |
| tgactggctc tcatcgaccg tatgggaaca acaaacgct ccttgaagag gtcaagagga   | 660 |
| tcagagcagc aggtggatgg attgttgatg ggcgcatatg tggagacata tctgtatctc  | 720 |
| gtgcttttgg ggacataaga ttttaagacac aaaagaatga aatgctggtg aaaggagtta | 780 |
| aacaaggaag gtggactgat aagttcatct cacgaataca atttaaagat gatatagtaa  | 840 |
| tctcgtcacc tgatgtatct ctggtagagc ttggaccaga cgtggaattt gttctgttgg  | 900 |
| caatggctct tgggactaca taaaagctc tgaagctgta gcttttgtca gagatcaact   | 960 |

|                                                                     |      |
|---------------------------------------------------------------------|------|
| ccgtcagcat ggtgatgtcc agttggcctg cgaggcactt ggtcagaaag ctctggatca   | 1020 |
| acggtcccaa gacaatatta gcatagtcac agctgacttg gggaggacaa actggaaggc   | 1080 |
| gttgcccgat gaaaggccga acttgttctt gtaactaagt caagcagtcg cgactgtagg   | 1140 |
| ggttgtctca ataggaatth ggggtctcgtc gttccttggg ttacagtaga actagctact  | 1200 |
| ccgtccggat gtgtatatatta cctactgagt ttacatcttt ctgctagcag tagcagctgc | 1260 |
| aaaatatatg tatattcgta tatagtgtgt gaattgatag ggtaaatctgt ttgggtaata  | 1320 |
| ctgagtgaac gtgtgaagta ctaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aacaaaaaaaa | 1380 |
| aaaaaaaaa                                                           | 1389 |

<210> 18  
 <211> 3120  
 <212> DNA  
 <213> Triticum aestivum

|                                                                    |      |
|--------------------------------------------------------------------|------|
| <400> 18                                                           |      |
| ggctgagccc gcgtgttccg cggctgccgc tcgccgccc ctcgcgcggc gccggcgccg   | 60   |
| gatccctccg gtgctgcggc cgggttgctg cctccgctgc gcgatgccaa gtgacggcgt  | 120  |
| cgggaagcgt gccggcgggc tcctcgctgt cgtcggagct ggaggccatc cgggtggggca | 180  |
| gcgccaagct gcaggagct cgcgaggaga tggaggacga ggtcgtcttc cgcgccgact   | 240  |
| ccctcctcca cggcttctcc tcgccgcgcg tcctcgacgg ccacgcgggt ttctccaccg  | 300  |
| tccagttcct gagggacgag ttgttcaagg aatgcgcggc cgcgttggac gggggcgcg   | 360  |
| tgcttaacac caagaatctc gaggccatca cggactcgat caggcgtgcc tttgccacca  | 420  |
| tggacgccaa cctctccacc tggcttcagc aaatggataa ggaagacgac tctggtgcc   | 480  |
| cggccacggc cttgtttctg aggaacgatg tccttggtgt ctcgcacatt ggtgactcct  | 540  |
| gcttggtcat atcgcgtggt ggaagacctc aatctctgac aaattttcat cgaccatacg  | 600  |
| ggaacaacaa aacatccctt gaagaggctc agcggattag ggcagcagggt ggatggattc | 660  |
| gtgatggacg cgtatgtgga gacatttctg tatctcgtgc ttttgagac ataagattta   | 720  |
| aaacacggaa gaatgagttc gtctctccta ctccctgctc ttttacacac aattaatcac  | 780  |
| tccatctgtc acattattcc caaataacat tcctgctatt tttaacatct cgtggtgtta  | 840  |
| tgcaggatgc tagtaaaagg agttaacgaa ggaagatgga ctgaaaaatt cgtttcacgg  | 900  |
| tatagcgtg aataaagtta tgttctttgt tattttctta actgcctgtg ttttcatttc   | 960  |
| cttgtttttg tatcaataaa ttaaattctc aaacaaacca agttaggctt ttctgaaaca  | 1020 |
| ataaggctat ttgttttagg agtgtttttg ctttcaatta tgtgcaaaaa cttttttggg  | 1080 |
| tggaatatgt ccaaaaacac gctctttcag tagtttctac tttcatgcaa agctgaaacc  | 1140 |
| tttgtatact ggtttcatct ctaaaggggg ggactagcag ttgaatccgt atctattaag  | 1200 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| tgcacctact ttcaaacgac cttacatttt tttccactgt tgacaaatat aactgtgctc  | 1260 |
| ccttttcaat tttttcctgg tggatgaaat ctaatgtttc cataatttgg cagatttgct  | 1320 |
| tggaattttt tttggcttct atcttgaaca tgtaattgct cattattcaa aacctctctc  | 1380 |
| taccatgctt gatagtagtt gctaattagc agctgaatcc gtatctatta agtgcagcta  | 1440 |
| ctttccaacg accttcatt tttctccact gttgacaaat ataactgtgc tttttttttt   | 1500 |
| cttttcctgg tggatgaaat gtagtgtttc caaaatttgg caggtttgct tgtttttttt  | 1560 |
| ttgacttcta tacggctcat tgttcacaac ctctttcttg aagtttcaat aaaaaaaact  | 1620 |
| cttgcttgaa ggtttgcacg agattttata atagctcatc gtttgctgga ccacagatga  | 1680 |
| tttgcttata tgaggagagt aagctttctg ttgaaacatt cttttttcga tctgataaaa  | 1740 |
| tattttatct gcaccttgag ttcttgttat aactggaatg atcattttat gatcagggat  | 1800 |
| ttgatgaaaa ttttcatta ttatggttga aaactatcct gaattatata ttctcaatag   | 1860 |
| ttatctgctt atccccacac atttaatgta tatccaactt ctgtacatgc ttttggttgc  | 1920 |
| tactgcacag tatgagatga ctggtataat aagaaacgac atgtccaatt gtgtacctta  | 1980 |
| atatcctaca acaaattaca cagataacat taccatgtta gatggtgaat attatagttt  | 2040 |
| caaccataac tcttgccatg aaatatcatg tcgccaaagc tgagcctact gtggtttaca  | 2100 |
| gcacttttgg tagatggtgt actgtacgtt aaactttttt gattatgcaa cctgttacgt  | 2160 |
| gcagaataaa atttaaaggg gatctaataa tctcttcacc tgacgtatct ctggtggagc  | 2220 |
| ttggaccgga tgtggaattt gttttggtag caacogatgg tctttgggat tacattaaaa  | 2280 |
| gcactgaagc tgtagcattt gtcagagatc aactatgtca acatggagat gtccaggat   | 2340 |
| gcagtctctc tctgcttaaa taaatgatac tcaactatag ccttttacag tacagtacat  | 2400 |
| ttttgtatgc ttgctttttt ctcat ttggt tgtttgtagc gggcctgtga ggcgcttggg | 2460 |
| gagaaagctc tggatattgtt gtttgccacc ttcatatctt ccattcattg tttcctttcc | 2520 |
| acctttatat tcggcgttta ttaaacctca ttacaataaa ctatgttctg attttccctt  | 2580 |
| aaaaaaattg attacaggat cggcggtcac aagacaatat tagcatagtc atagctgact  | 2640 |
| tggggaggac aaactggcag gagttgcccg ttccaacgcc aaacgtgttg ttggagctaa  | 2700 |
| gtcaagcagt tgcgactgta ggggctgtat cagtaggaat ttggatttca tcgcttctca  | 2760 |
| ctttgcaata ggcctagtta aggtcggggg tgtacat ttt cacatcttcg gctccagctg | 2820 |
| caaatatata tgtatatcct tataggtaat tagtttctctg attaaactgt tcagtggtat | 2880 |
| ctggactgat gaaaagaaga agaaaaactt gtgctccagc tgctatctgg cagcgtaacta | 2940 |
| ggatagggac ctgtgagacg cccgtctaaa ctttcccttt ctctttcccg ttttattggg  | 3000 |
| ggatataaaa ctttatattt ggcacgcgac cggcaacatt tgataccatc actcctttct  | 3060 |

aaaatgaggc acttctaaat tttgcggcaa aaaaaaaaaa caaaaaaaaa aaaaaaacga 3120

<210> 19  
<211> 1167  
<212> DNA  
<213> Sorghum bicolor

<400> 19  
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ggcggcgtgg cggccgcggg gccccgctcg tcggagctgg aggccgtcca gtggggcagc 180  
gccaagctgc agggcgcttcg cgacgagatg gaggatgaga tcttgctccg cccgggctcc 240  
ctcctcgacg gcttctcctt cgcgcgcgtc ttggatggac acgccggctt ctccgcgcgtc 300  
cagttcctca gggacgagct gtacaaggag tgcgcagccg cgttggacgg cggcgcggtg 360  
ctcagcacta agaacctcga cgctatcacg gtctccatcc agcgtgcctt cgcgcgtgctc 420  
gacgccaagc tctccacctg gctcgagcaa gcggacaagg acgacgactc tggtgctacg 480  
gccactgcca tgttttctcag gaacgatgtc cttgttgtct cgcacattgg ggactcttgc 540  
ttggtgatat cagcggtgg aagacctgaa gctttgacca gctctcatcg accatatggg 600  
aacaacaaaa cgtcccttga agaggtcaag aggatcagag cagcaggtgg atggattggt 660  
gatgggcgca tatgtggaga catatctgta tctcgtgctt ttggggacat aagatttaag 720  
acgcgaaaga atgaaatgct ggtgaaagga gttaaagagg gaaggtggac tgataagttc 780  
atctcacgaa taaaatttaa agatgatcta ataatctcgt cacctgatgt atctctggta 840  
gagcttggac cagatgtgga atttgttcta ttagcaactg atggtctttg ggattacata 900  
aaaagctctg aagctgtagc ttttgtcaga gatcaactac gtcaacatgg tgatgtccag 960  
ttggcctgtg aggcacttgg tcagaaagct ctggatcaac ggtcaaaaga caatattagc 1020  
atagtcatag ctgacttggg gaggacaaat tggaaggcgt tgcccgatga aagaccaaac 1080  
atgttcttgg aactaagtca agcagtcgcg actgtagggg ttgtctcaat aggaatttgg 1140  
ttttcgtcgt tccttgatt acagtag 1167

<210> 20  
<211> 1152  
<212> DNA  
<213> Populus balsamifera subsp. trichocarpa

<400> 20  
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tccagtacca aaacccccgc taaaaacttc ttttttgcta ctaggcctaa aagccagtgt 120  
tctgctatag caatagatgc cccatcttct ttaactgatg ttgctgggat ccggtgggg 180  
tctgcaagct tgcaaggcgc acgtgaagag atggaggatg acatcataat tcgatcagat 240

ggccttgaag gattctcctt tgctgctggt tttgatggcc atgctgggtt ctcttctgtg 300  
aagttcctca gggatgagtt gtacaaggag tgtgtagctg ctttacaagg cgggttgcta 360  
ttgaatggaa aagatttcaa tgctattaga aaagcattag aagaggcttt tgaaagggtt 420  
gatgcaaaat tgctagattg gtatgcctgt agagatgggtg tgcaagacga atctggttcg 480  
acagcgactg ctatgttcat tggaaacgaa aagctagtca tttcgcacat tggtgattca 540  
tctgtgggtcc tttctcgttc tggaaaaatg gaagtgttga ctgatgctca tcgaccttat 600  
ggaagcaaca aaatctctct tcaagaaatc aaaagaatca gagaagcagg tggatggatt 660  
gtcaatggaa ggatttgtgg agacatagcc gtatctcgtg cttttgggtga catgcgggtc 720  
aagacaaaaa agaatgagat gctggagaaa ggagtcaagg aaggagatg gtctgaaaaa 780  
tttagttctc gagtacaatt caatggggac ttggtcattg catctccaga agtttaccaa 840  
atagcatttg gatcagatgc agagtttgta attctagcat ctgatgggtt atgggattac 900  
atgaacagct tagatgcagc tgcttttgtc aggaaccaac ttcaaaaaca tggagatggt 960  
cagctagctt gcgaagaact tgcacggaaa gctattgacc ggcgacaca agacaatgtt 1020  
agcattatca ttgctgattt agggcggaca gactggcaaa atctgcctct ccagcaacaa 1080  
aatgttgtgc ttgaactggg ccaagctttt gctaccattg gtattgtcac acttgggaata 1140  
tggatgtcat cc 1152

<210> 21  
<211> 1173  
<212> DNA  
<213> Ricinus communis

<400> 21  
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tccaacttta aaaccactag taccaagaac ttgaacaact ttgttccagt gagaccaata 120  
agtcaatgct ctgccattgc aatagacgca ccatcgtctc taactgatgt tgctggggtc 180  
cgttgggggt ctgcgagctt gcagggcgca cgtgaagaga tggagatta tattattgtt 240  
cggtcagatg gccttgatgg gtactctttt gctgggggtt ttgatggaca tggtggtatc 300  
tcttctgtcg aattcctcag ggatgagctg tacaaggagt gtgttgcagc tttacaagg 360  
ggcttgctat tgagtggaaa agatttcaat gccacaagaa aagcattaac agaggctttt 420  
gaaaatgtgg ataaaaagtt gttaaattgg cttgaaacaa ttggtgagga agatgaatca 480  
ggttcaacag ccaccgttat gttcattgga aacaatatgc ttatcgtttc gcatattggt 540  
gactcatgcc tggttctgtc tcgttctgga aaagctgaag ttttgactga atcccatcga 600  
ccttatggga gcaacaaggt ttctcttcaa gaaatcaaaa gaatcaggga agcaggtggc 660  
tggatcagca atggaagaat ctgtggagat atagctgtat cacgtgcttt cggagatata 720

|                                                                   |      |
|-------------------------------------------------------------------|------|
| aggttcaaga caaagaaaaa cgagatgctg cagaaaggag ttaaggaagg gagatggtct | 780  |
| gaaaaattta tttctagagt gcaattcaat ggggacttga tgactgcac tccagatgta  | 840  |
| tttcaagtag ctctgggttc agatgctgaa tttataatgt tagcatctga cggtttatgg | 900  |
| gattacatga acagctcaga tgcagtttct tttgtcagga accaacttcg gcaacatgga | 960  |
| gatgttcagc tagcttgcca agaacttgca caagcagctt tggatctacg ttcacaagac | 1020 |
| aatgttagca tcattattgc tgatttaggg caaacggatt ggcgaaattt gccactacag | 1080 |
| aaacaaaata tattgctcga gttcggccaa gctattgcca ccatcggtgt tgtgtcactt | 1140 |
| ggaatttggt tgtcatctca gctttcttta .taa                             | 1173 |

<210> 22  
 <211> 1200  
 <212> DNA  
 <213> Picea sitchensis

|                                                                    |      |
|--------------------------------------------------------------------|------|
| <400> 22                                                           |      |
| atggaattat taagcctcgt ttattataat actttcatgc caaattgttc aggagtttgt  | 60   |
| gtgaacaaat gcacggttca gaggagaagt tccatggaat gcagaaaacg aggcggtgta  | 120  |
| caggtggctg gagtagcagc gagaccogta caggtggatc tttcagcgtc tgacacgtca  | 180  |
| aaagaaggaa gcattaaatg gggatgggtt ggaattcaag gccccagaac agagatggaa  | 240  |
| gatgccatcg ttttacgagt ggacgggctt aataatttca cttacgcagc agtctttgac  | 300  |
| ggccatgctg gattcgcttc tgctaaattt ttgaaggatg aattgtacaa agaatgtgca  | 360  |
| atagctttac aagatggctt acttttgagg tccaacgact tgggtgctac aaggagggca  | 420  |
| ttaaggaaag cttttataga aactgatagg aagctgatat cctggctcga agaagtaaat  | 480  |
| gatgggggtg actcgggctc aacagcaact gttatgtttg taggaggtgg cagattgata  | 540  |
| atttcacata ttggtgattc ttctgtggta ctttcccggt caggaaagcc aatggagatt  | 600  |
| acgagtgtc accgcccata tggaaatagc aaagtttccc ttgatgaaat acggcgtata   | 660  |
| aaagcagcag gtggttgggt tacaaatggt cgaatttgtg gagacatatc tgtttcacgt  | 720  |
| gcatttgggg atatgcgatt caagacaaag atgaaagata tgttgaggga aggtattcga  | 780  |
| gaagggaat ggacaggga atttgcatct agaatcaagc ttaatggtga ctgggttact    | 840  |
| gccatacctg acatttatca tgcagatttg ggccctgata tcgagtttat tatagttgcc  | 900  |
| tctgatggcc tttgggattg catgaacagt tcggatgcag taaagtttgt taggagtcaa  | 960  |
| cttcgacaac atcgtgatgt gcagtgtgct tgtgaagcac ttgccaatgc tgctctgaag  | 1020 |
| agaaatacac aggataatgt tagtattatc atcgcagact ttgggagagt tccccaggag  | 1080 |
| gatggaccag agaaagagca aaattttgga agtgaaattg tgcaagctac tgcaacagtt  | 1140 |
| ggtattgtaa ccttaggaat ttggctatca tctctagttg gccaaagagct tggcagataa | 1200 |

<210> 23  
<211> 387  
<212> PRT  
<213> Cucumis sativus

<400> 23

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

His His Val Ser Ala Ser Lys Pro Thr Lys Ala Thr Lys Leu Thr Leu  
20 25 30

Arg Lys Asn Ser Arg Cys Cys Ser Ala Ile Ala Ile Asp Ala Pro Ser  
35 40 45

Ser Leu Thr Asp Ala Ala Gly Ile Arg Trp Gly Ser Thr Thr Phe Gln  
50 55 60

Gly Leu Arg Glu Glu Met Glu Asp Asp Ala Val Val Arg Ser Asp Gly  
65 70 75 80

Phe Asn Asp Phe Leu Phe Ala Ala Val Phe Asp Gly His Gly Gly Tyr  
85 90 95

Ser Ser Val Lys Phe Leu Arg Glu Glu Leu Tyr Lys Asp Cys Val Ala  
100 105 110

Ala Leu Gln Gly Gly Gln Leu Leu Asn Gly Gly Asp Phe Glu Val Ile  
115 120 125

Lys Ala Ala Leu Glu Lys Ala Phe Asp Asp Thr Asp Lys Arg Leu Leu  
130 135 140

Leu Leu Leu Glu Ala Ala Gly Glu Glu Asp Glu Ser Gly Ala Thr Ala  
145 150 155 160

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

Asp Ser Cys Val Val Leu Ser Arg Ser Gly Gly Ala Gln Val Leu Thr  
180 185 190

Ser Ser His Arg Pro Tyr Gly Asn Asn Ser Thr Ser Leu Gln Glu Ile  
195 200 205

Arg Arg Ile Arg Glu Ala Gly Gly Trp Ile Val Asn Gly Arg Ile Cys  
210 215 220

Gly Asp Ile Ser Val Ser Arg Ala Phe Gly Asp Ile Arg Phe Lys Thr  
225 230 235 240

Lys Lys Ser Glu Met Leu Gln Lys Gly Val Glu Glu Gly Arg Trp Ser  
245 250 255

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

Ser Pro Glu Ile Phe Gln Val Thr Leu Gly Ser Asn Ala Glu Phe Val  
275 280 285

Leu Met Ala Ser Asp Gly Leu Trp Asp Tyr Met Asn Ser Ser Asp Ala  
290 295 300

Val Met Phe Val Arg Asn Glu Leu Arg Gln His Gly Asp Val Gln Leu  
305 310 315 320

Ala Cys Glu Ala Leu Ala Gln Ala Ala Leu Asp Lys Gly Ser Gln Asp  
325 330 335

Asn Val Ser Ile Ile Met Ala Asp Leu Gly Arg Thr Asp Trp Gln Asn  
340 345 350

Leu Pro Leu Gln Gln Asp Asn Val Ile Phe Glu Leu Ala Gln Ala Leu  
355 360 365

Ala Thr Met Gly Leu Val Ser Leu Gly Ile Trp Trp Ala Ser Ser Ser  
370 375 380

Phe Ser Leu  
385

<210> 24  
<211> 301  
<212> PRT  
<213> Brassica rapa

<400> 24

Ser Phe Ala Ala Val Phe Asp Gly His Ala Gly Ser Ser Pro Val Lys  
1 5 10 15

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

Gly Ser Leu Leu Lys Gly Gly Asp Phe Gly Ala Ile Lys Gly Ala Leu  
35 40 45

Val Lys Ala Phe Glu Ser Val Asp Gln Asn Leu Leu Lys Trp Leu Glu  
50 55 60

Thr Lys Gly Glu Glu Asp Glu Ser Gly Ser Thr Ala Thr Val Met Leu  
65 70 75 80

Ile Arg Asn Asp Val Ser Tyr Phe Ala His Ile Gly Asp Ser Cys Ala  
85 90 95

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

Pro Tyr Gly Ser Ser Lys Ala Ala Val Gln Glu Met Lys Arg Ile Lys  
115 120 125

Asp Ala Gly Gly Trp Ile Val Asn Gly Arg Ile Cys Gly Asp Ile Ala  
130 135 140

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

Met Leu Lys Lys Gly Val Asp Glu Gly Arg Trp Ser Glu Lys Phe Val  
165 170 175

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

Tyr Gln Val Pro Leu Thr Ser Asp Val Glu Phe Ile Ile Leu Ala Ser  
195 200 205

Asp Gly Leu Trp Asp Tyr Met Lys Ser Lys Asp Val Val Ser Phe Val  
210 215 220

Arg Glu Gln Leu Arg Glu His Gly Asn Val Gln Leu Ala Cys Glu Ala  
225 230 235 240

Leu Ala Gln Val Ala Leu Asp Arg Arg Ser Glu Asp Asn Ile Ser Ile  
245 250 255

Ile Ile Ala Asp Leu Gly Arg Thr Glu Trp Lys Lys Leu Pro Val Gln  
260 265 270

Arg Gln Asn Met Val Val Glu Leu Val Gln Ala Ala Ala Thr Val Gly  
275 280 285

Ile Val Thr Val Gly Ile Trp Met Thr Ser Leu Leu Ser

290 295 300

<210> 25  
 <211> 220  
 <212> PRT  
 <213> Brassica napus

<400> ..25

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

Thr Pro Ile Arg Trp Gly Tyr Thr Ser Val Gln Gly Phe Arg Glu Glu  
 20 25 30

Met Glu Asp Asp Ile Val Ile Arg Ser Glu Ala Leu Asp Ser Phe Ser  
 35 40 45

Phe Ala Ala Val Phe Asp Gly His Ala Gly Ser Ser Ser Val Lys Phe  
 50 55 60

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

Ser Leu Leu Lys Gly Gly Asp Phe Gly Ala Ile Lys Gly Ala Leu Val  
 85 90 95

Glu Ala Phe Glu Ser Val Asp Gln Ser Leu Leu Lys Trp Leu Glu Thr  
 100 105 110

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

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

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

Tyr Gly Ser Ser Lys Ala Ala Val Gln Glu Met Lys Arg Ile Lys Asp  
 165 170 175

Ala Gly Gly Trp Ile Val Asn Gly Arg Ile Cys Gly Asp Ile Ala Val  
 180 185 190

Ser Arg Ala Phe Gly Asp Ile Arg Phe Lys Thr Lys Lys His Glu Met  
 195 200 205

Leu Lys Lys Gly Val Asp Glu Gly Arg Trp Ser Glu

| 210                                                             | 215                                                 | 220 |
|-----------------------------------------------------------------|-----------------------------------------------------|-----|
| <210> 26                                                        |                                                     |     |
| <211> 288                                                       |                                                     |     |
| <212> PRT                                                       |                                                     |     |
| <213> Nicotiana tabacum                                         |                                                     |     |
| <400> .26                                                       |                                                     |     |
| Pro Leu Arg                                                     | Pro Gly Glu Glu Leu Tyr Lys Glu Cys Ile Thr Ala Leu |     |
| 1                                                               | 5 10 15                                             |     |
| Gln Gly Gly Leu Leu Leu Glu Lys Arg Asp Leu Asn Ala Ile Gln Lys |                                                     |     |
|                                                                 | 20 25 30                                            |     |
| Ala Leu Gln Glu Ala Phe Glu Asn Ala Asp Arg Lys Leu Leu Asn Trp |                                                     |     |
|                                                                 | 35 40 45                                            |     |
| Leu Glu Ser Ser Gly Lys Glu Asp Glu Ser Gly Ser Thr Ala Thr Val |                                                     |     |
|                                                                 | 50 55 60                                            |     |
| Leu Phe Val Gly Asn Asp Thr Leu Ile Ile Ala His Val Gly Asp Ser |                                                     |     |
| 65                                                              | 70 75 80                                            |     |
| Ser Val Val Leu Ser Arg Ser Gly Lys Met Glu Val Leu Thr Asn Ala |                                                     |     |
|                                                                 | 85 90 95                                            |     |
| His Arg Pro Tyr Gly Ser Asn Lys Val Ser Leu Gln Glu Ile Arg Arg |                                                     |     |
|                                                                 | 100 105 110                                         |     |
| Ile Asn Glu Ala Gly Gly Trp Ile Val Asn Gly Arg Ile Cys Gly Asp |                                                     |     |
|                                                                 | 115 120 125                                         |     |
| Ile Ser Val Ser Arg Ala Phe Gly Asp Met Arg Phe Lys Thr Lys Lys |                                                     |     |
|                                                                 | 130 135 140                                         |     |
| Asn Glu Met Leu Glu Lys Gly Ile Glu Glu Gly Arg Trp Ser Glu Lys |                                                     |     |
| 145                                                             | 150 155 160                                         |     |
| Phe Val Ser Arg Ile Gln Phe Lys Gly Asp Leu Val Thr Ala Ser Pro |                                                     |     |
|                                                                 | 165 170 175                                         |     |
| Asp Val Leu Gln Val Ala Leu Gly Ser Asp Thr Glu Phe Val Leu Leu |                                                     |     |
|                                                                 | 180 185 190                                         |     |
| Ala Ser Asp Gly Leu Trp Asp Tyr Met Lys Ser Ala Glu Val Val Asp |                                                     |     |
|                                                                 | 195 200 205                                         |     |
| Phe Val Arg Asn Gln Leu Arg Glu His Gly Asp Val Gln Val Ala Cys |                                                     |     |

|                                                                 |     |     |     |         |
|-----------------------------------------------------------------|-----|-----|-----|---------|
| 210                                                             |     | 215 |     | 220     |
| Glu Ala Leu Ala Arg Thr Ala Met Asp Arg Arg Thr Gln Asp Asn Val |     |     |     |         |
| 225                                                             |     | 230 |     | 235 240 |
| Ser Ile Val Ile Ala Asp Leu Gly Arg Thr Asp Trp Arg Asn Leu Pro |     |     |     |         |
|                                                                 | 245 |     | 250 | 255     |
| Val Gln Lys Gln Asn Ile Val Phe Glu Leu Gly Gln Ala Leu Ile Thr |     |     |     |         |
|                                                                 | 260 |     | 265 | 270     |
| Ile Ser Phe Val Ser Leu Gly Ile Trp Leu Thr Thr Val Ile Ser Pro |     |     |     |         |
|                                                                 | 275 |     | 280 | 285     |
| <210> 27                                                        |     |     |     |         |
| <211> 234                                                       |     |     |     |         |
| <212> PRT                                                       |     |     |     |         |
| <213> Raphanus sativus                                          |     |     |     |         |
| <400> 27                                                        |     |     |     |         |
| Asn Thr Leu His Gln Ser Ala Pro His Thr Lys Pro Ile Ser Asp Ala |     |     |     |         |
| 1                                                               | 5   |     | 10  | 15      |
| Gly Gly Gly Gly Leu Val Val Tyr Pro Thr Tyr Gly Arg Arg Arg Arg |     |     |     |         |
|                                                                 | 20  |     | 25  | 30      |
| His His Arg Cys Ser Ala Ile Ala Ile Asp Ala Pro Ser Ser Leu Ala |     |     |     |         |
|                                                                 | 35  |     | 40  | 45      |
| Gly Val Thr Pro Ile Arg Trp Gly Tyr Thr Ser Val Gln Gly Phe Arg |     |     |     |         |
|                                                                 | 50  |     | 55  | 60      |
| Asp Glu Met Glu Asp Asp Ile Val Ile Arg Ser Glu Ala Ile Asp Ser |     |     |     |         |
| 65                                                              |     | 70  | 75  | 80      |
| Phe Ser Phe Ala Ala Val Phe Asp Gly His Ala Gly Ser Ser Ser Val |     |     |     |         |
|                                                                 | 85  |     | 90  | 95      |
| Lys Phe Leu Arg Glu Glu Leu Tyr Lys Glu Cys Val Gly Ala Leu Gln |     |     |     |         |
|                                                                 | 100 |     | 105 | 110     |
| Val Gly Ser Leu Leu Ser Gly Gly Asp Phe Val Ala Val Lys Glu Ala |     |     |     |         |
|                                                                 | 115 |     | 120 | 125     |
| Leu Val Lys Ala Phe Glu Ser Val Asp Gln Ser Leu Leu Lys Trp Leu |     |     |     |         |
|                                                                 | 130 |     | 135 | 140     |
| Glu Thr Lys Gly Glu Glu Asp Glu Ser Gly Ser Thr Ala Thr Val Met |     |     |     |         |

145 150 155 160

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

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

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

Lys Asp Ala Gly Gly Trp Ile Val Asn Gly Lys Ile Cys Gly Asp Ile  
210 215 220

Ala Val Ser Arg Ala Phe Gly Asp Ile Trp  
225 230

<210> 28  
<211> 251  
<212> PRT  
<213> Citrus sinensis

<400> 28

Phe Glu Asn Val Asp Met Lys Leu Leu Asn Arg Leu Glu Met Asn Ala  
1 5 10 15

Glu Glu Asp Glu Ser Gly Ala Thr Ala Thr Val Met Phe Ile Gly Arg  
20 25 30

Asp Ile Leu Phe Ile Ser His Val Gly Asp Cys Cys Val Val Leu Ser  
35 40 45

Arg Thr Gly Lys Ala Asp Val Leu Thr Asn Pro His Arg Pro Tyr Gly  
50 55 60

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

Gly Trp Ile Ser Asn Gly Arg Ile Cys Gly Asp Ile Ala Val Ser Arg  
85 90 95

Ala Phe Gly Asp Ile Arg Phe Lys Thr Lys Lys Asn Glu Met Leu Lys  
100 105 110

Lys Gly Val Asn Glu Gly Arg Trp Ser Glu Lys Phe Val Ser Arg Val  
115 120 125

Gln Leu Asn Lys Asp Leu Val Ile Ala Ser Pro Asp Ile Phe Gln Val

|                                                                 |                   |     |     |     |
|-----------------------------------------------------------------|-------------------|-----|-----|-----|
| 130                                                             |                   | 135 |     | 140 |
| Ser Leu Gly Ser Asp Ala Glu Phe Val Leu Leu Ala Ser Asp Gly Leu |                   |     |     |     |
| 145                                                             |                   | 150 |     | 155 |
|                                                                 |                   |     |     | 160 |
| Trp Asp Tyr Met Asn Ser Ser Asp Ala Val Lys Phe Val Arg Asn Gln |                   |     |     |     |
|                                                                 | 165               |     | 170 | 175 |
| Leu Gln Gln His Gly Asp Val Gln Leu Ala Cys Glu Ala Leu Ala Gln |                   |     |     |     |
|                                                                 | 180               |     | 185 | 190 |
| Ala Ala Leu Asp Gln His Ser Gln Asp Asn Ile Ser Ile Val Ile Ala |                   |     |     |     |
|                                                                 | 195               |     | 200 | 205 |
| Asp Leu Gly Gln Thr Asp Trp Arg Asn Leu Pro Leu Gln Gln Gln Asn |                   |     |     |     |
|                                                                 | 210               |     | 215 | 220 |
| Val Val Cys Glu Leu Ala Gln Ala Phe Ala Thr Ile Gly Ile Val Ser |                   |     |     |     |
|                                                                 | 225               |     | 230 | 235 |
|                                                                 |                   |     |     | 240 |
| Leu Gly Ile Trp Met Ser Ser Leu Leu Ser Val                     |                   |     |     |     |
|                                                                 | 245               |     | 250 |     |
| <br>                                                            |                   |     |     |     |
| <210>                                                           | 29                |     |     |     |
| <211>                                                           | 264               |     |     |     |
| <212>                                                           | PRT               |     |     |     |
| <213>                                                           | Cichorium intybus |     |     |     |
| <br>                                                            |                   |     |     |     |
| <400>                                                           | 29                |     |     |     |
| Gly Glu Ser Phe Gln Glu Cys Val Lys Ala Leu Gln Gly Gly Ile Leu |                   |     |     |     |
| 1                                                               | 5                 |     | 10  | 15  |
| Leu Ser Lys Lys Asp Thr Thr Gly Ile Glu Lys Ala Leu Gln Glu Ala |                   |     |     |     |
|                                                                 | 20                |     | 25  | 30  |
| Phe Glu Asn Ala Asp Thr Lys Leu Leu Asn Trp Leu Glu Met Asn Gly |                   |     |     |     |
|                                                                 | 35                |     | 40  | 45  |
| Glu Asp Asp Glu Ser Gly Ala Thr Ala Thr Thr Met Phe Leu Gly Asn |                   |     |     |     |
|                                                                 | 50                |     | 55  | 60  |
| Asn Met Met Phe Ile Ser His Val Gly Asp Ser Cys Ala Val Leu Ser |                   |     |     |     |
| 65                                                              | 70                |     | 75  | 80  |
| Gln Ser Gly Lys Ala Gln Glu Leu Thr Asp Ser His Arg Pro Tyr Gly |                   |     |     |     |
|                                                                 | 85                |     | 90  | 95  |
| Arg Ser Lys Val Ser Leu Gln Glu Ile Lys Arg Ile Arg Glu Ala Gly |                   |     |     |     |

|                                                                 |     |     |
|-----------------------------------------------------------------|-----|-----|
| 100                                                             | 105 | 110 |
| Gly Trp Ile Ser Asp Gly Arg Ile Cys Gly Asp Ile Ser Val Ser Arg |     |     |
| 115                                                             | 120 | 125 |
| Ala Phe Gly Asp Met Arg Phe Lys Thr Lys Lys Lys Glu Met Leu Glu |     |     |
| 130                                                             | 135 | 140 |
| Lys Gly Val Ala Glu Gly Arg Trp Ser Glu Lys Phe Val Ser Arg Val |     |     |
| 145                                                             | 150 | 155 |
| Arg Phe Val Gly Asp Leu Val Ile Ala Thr Pro Asp Ile Tyr Gln Val |     |     |
|                                                                 | 165 | 170 |
| Ala Leu Gly Pro Glu Ala Glu Phe Val Leu Leu Ala Thr Asp Gly Leu |     |     |
|                                                                 | 180 | 185 |
| Trp Asp Tyr Ile Lys Ser Ser Asp Ala Val Asn Phe Val Arg Asn Gln |     |     |
|                                                                 | 195 | 200 |
| Leu Arg Glu His Gly Asp Val Gln Ala Ala Ser Glu Ala Leu Ala Gln |     |     |
|                                                                 | 210 | 215 |
| Met Ala Leu Asp Gln Tyr Ser Gln Asp Asn Val Thr Ile Val Ile Ala |     |     |
| 225                                                             | 230 | 235 |
| Asp Leu Gly Arg Thr Asp Trp Gln Asn Leu Pro Ile Gln Gln Gln Asn |     |     |
|                                                                 | 245 | 250 |
| Phe Val Tyr Glu Leu Ile Gln Ala                                 |     |     |
|                                                                 | 260 |     |

<210> 30  
 <211> 197  
 <212> PRT  
 <213> Raphanus raphanistrum

<400> 30

|                                                                 |
|-----------------------------------------------------------------|
| Thr Lys Gly Glu Glu Asp Glu Ser Gly Ser Thr Ala Thr Val Met Leu |
| 1 5 10 15                                                       |
| Ile Arg Asn Asp Val Ser Tyr Phe Ala His Ile Gly Asp Ser Cys Ala |
| 20 25 30                                                        |
| Val Leu Ser Arg Ser Gly Gln Ile Glu Glu Leu Thr Asp Ser His Arg |
| 35 40 45                                                        |
| Pro Tyr Gly Ser Thr Lys Ala Ala Val Gln Glu Met Lys Arg Ile Lys |

|                         |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |  |  |  |  |  |    |  |  |  |
|-------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--|--|--|--|--|--|----|--|--|--|
| 50                      |            |            |            |            |            |            |            |            |            |            | 55         |            |            |            |            |  |  |  |  |  |  | 60 |  |  |  |
| Asp<br>65               | Ala        | Gly        | Gly        | Trp        | Ile<br>70  | Val        | Asn        | Gly        | Arg        | Ile<br>75  | Cys        | Gly        | Asp        | Ile        | Ala<br>80  |  |  |  |  |  |  |    |  |  |  |
| Val                     | Ser        | Arg        | Ala        | Phe<br>85  | Gly        | Asp        | Ile        | Arg        | Phe<br>90  | Lys        | Thr        | Lys        | Lys        | His<br>95  | Glu        |  |  |  |  |  |  |    |  |  |  |
| Met                     | Leu        | Lys        | Lys<br>100 | Gly        | Val        | Asp        | Glu        | Gly<br>105 | Arg        | Trp        | Ser        | Glu        | Lys<br>110 | Phe        | Val        |  |  |  |  |  |  |    |  |  |  |
| Ser                     | Arg        | Ile<br>115 | Glu        | Phe        | Lys        | Gly        | Asp<br>120 | Met        | Val        | Val        | Ala        | Thr<br>125 | Pro        | Asp        | Ile        |  |  |  |  |  |  |    |  |  |  |
| Tyr                     | Gln<br>130 | Val        | Pro        | Leu        | Thr        | Ser<br>135 | Asp        | Val        | Glu        | Phe        | Ile<br>140 | Ile        | Leu        | Ala        | Ser        |  |  |  |  |  |  |    |  |  |  |
| Asp<br>145              | Gly        | Leu        | Trp        | Asp        | Tyr<br>150 | Met        | Lys        | Ser        | Lys        | Asp<br>155 | Val        | Val        | Ser        | Phe        | Val<br>160 |  |  |  |  |  |  |    |  |  |  |
| Arg                     | Glu        | Gln        | Leu        | Arg<br>165 | Glu        | His        | Gly        | Asn        | Val<br>170 | Gln        | Phe        | Ala        | Cys        | Glu<br>175 | Ala        |  |  |  |  |  |  |    |  |  |  |
| Leu                     | Ala        | Gln        | Val<br>180 | Ala        | Leu        | Asp        | Arg        | Arg<br>185 | Ser        | Glu        | Asp        | Asn        | Ile<br>190 | Ser        | Ile        |  |  |  |  |  |  |    |  |  |  |
| Ile                     | Ile        | Ala        | Gly        | Leu<br>195 |            |            |            |            |            |            |            |            |            |            |            |  |  |  |  |  |  |    |  |  |  |
| <210> 31                |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |  |  |  |  |  |    |  |  |  |
| <211> 253               |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |  |  |  |  |  |    |  |  |  |
| <212> PRT               |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |  |  |  |  |  |    |  |  |  |
| <213> Solanum tuberosum |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |  |  |  |  |  |    |  |  |  |
| <400> 31                |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |  |  |  |  |  |  |    |  |  |  |
| Glu<br>1                | Ala        | Phe        | Glu        | Asn<br>5   | Ala        | Asp        | Arg        | Lys        | Leu<br>10  | Leu        | Asn        | Arg        | Leu        | Glu<br>15  | Ser        |  |  |  |  |  |  |    |  |  |  |
| Ser                     | Glu        | Lys        | Glu        | Asp        | Glu        | Ser        | Gly        | Ala        | Thr        | Ala        | Thr        | Ala        | Val        | Phe        | Val        |  |  |  |  |  |  |    |  |  |  |
|                         |            |            | 20         |            |            |            | 25         |            |            |            | 30         |            |            |            |            |  |  |  |  |  |  |    |  |  |  |
| Gly                     | Asn        | Asp<br>35  | Thr        | Leu        | Ile        | Ile        | Ala<br>40  | His        | Val        | Gly        | Asp        | Ser<br>45  | Ser        | Val        | Val        |  |  |  |  |  |  |    |  |  |  |
| Leu                     | Ser        | Arg        | Ser        | Gly        | Lys        | Ala<br>55  | Glu        | Ile        | Leu        | Thr        | Asn<br>60  | Ser        | His        | Arg        | Pro        |  |  |  |  |  |  |    |  |  |  |
|                         |            |            | 50         |            |            |            | 55         |            |            |            | 60         |            |            |            |            |  |  |  |  |  |  |    |  |  |  |
| Tyr                     | Gly        | Asn        | Asn        | Lys        | Val        | Ser        | Leu        | Gln        | Glu        | Ile        | Arg        | Arg        | Ile        | Asn        | Glu        |  |  |  |  |  |  |    |  |  |  |

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

<210> 32  
 <211> 257  
 <212> PRT  
 <213> Aquilegia sp.

<400> 32

|                 |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|
| Asn Ala Leu Glu | Glu Ala Phe Met | Asn Ala Asp Ser | Lys Leu Ile Asn |
| 1               | 5               | 10              | 15              |
| Trp Leu Glu Glu | Thr Gly Lys Gln | Thr Glu Ser Gly | Ser Thr Ala Thr |
|                 | 20              | 25              | 30              |
| Val Met Phe Ala | Asn Asn Glu Met | Leu Ile Ile Ser | His Val Gly Asp |

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

<210> 33  
 <211> 289  
 <212> PRT  
 <213> Citrus clementina

<220>

<221> misc\_feature

<222> (206)..(206)

<223> Xaa can be any naturally occurring amino acid

<400> 33

Leu Asn Gln Gln Leu Gln Arg Cys Leu Leu Thr Arg Leu Asn Tyr Asn  
1 5 10 15

Phe Lys Pro Thr Val Lys Asn Asn Phe Val Asn Thr Thr Thr Ala Arg  
20 25 30

Ala Lys Ser Gln Cys Tyr Cys Ser Ala Ile Ala Ile Asp Ala Pro Ser  
35 40 45

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

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

Leu Asp Gly Phe Ser Phe Ala Ala Val Phe Asp Gly His Gly Gly Val  
85 90 95

Ser Thr Val Lys Phe Leu Arg Asp Glu Leu Tyr Lys Glu Cys Val Ala  
100 105 110

Ala Leu Gln Gly Gly Leu Leu Leu Ser Gly Lys Asp Phe Asp Ala Ile  
115 120 125

Lys Lys Ala Leu Gln Glu Ala Phe Glu Asn Val Asp Met Lys Leu Leu  
130 135 140

Asn Arg Leu Glu Met Asn Ala Glu Glu Asp Glu Ser Gly Ala Thr Ala  
145 150 155 160

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

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

Asn Pro His Arg Pro Tyr Gly Ser Gly Gln Val Ser Leu Xaa Glu Ile  
195 200 205

Arg Arg Ile Arg Glu Ala Gly Gly Trp Ile Ser Asn Gly Arg Ile Cys  
210 215 220

Gly Asp Ile Ala Val Ser Arg Ala Phe Gly Asp Ile Arg Phe Lys Thr  
225 230 235 240

Lys Lys Asn Glu Met Leu Lys Lys Gly Val Asn Glu Arg Arg Trp Ser  
245 250 255

Glu Lys Phe Val Ser Arg Val Gln Leu Asn Arg Asp Leu Val Asn Gly  
260 265 270

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

Trp

<210> 34  
<211> 290  
<212> PRT  
<213> Phaseolus vulgaris

<400> 34

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

Ser Lys Thr Thr His Lys Asn Thr Phe Thr Thr Thr Thr Arg Gly Arg  
20 25 30

Cys Cys Ser Ala Ile Ala Ile Asp Ala Pro Ser Ser Leu Thr Glu Val  
35 40 45

Pro Gly Val Arg Trp Gly Ser Ile Ala Leu Gln Gly Leu Arg Glu Glu  
50 55 60

Met Glu Asp Asp Ile Ile Val Arg Pro Asp Gly Leu Gln Gly Phe Ser  
65 70 75 80

Phe Ala Ala Val Phe Asp Gly His Gly Gly Phe Ser Ser Val Glu Phe  
85 90 95

Leu Arg Asp Glu Leu Tyr Lys Glu Cys Val Glu Ala Leu Gln Gly Gly  
100 105 110

Leu Leu Leu Val Gln Lys Asp Phe Lys Ala Ala Lys Gly Ala Leu Gln  
115 120 125

Glu Ala Phe Leu Lys Ala Asp Thr Arg Leu Leu Lys Arg Leu Glu Met  
130 135 140

Asn Gly Glu Glu Asp Glu Ser Gly Ala Thr Ala Thr Ala Val Phe Ile  
145 150 155 160

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

Leu Cys Arg Ser Gly Lys Ala Glu Val Leu Thr Ser Pro His Arg Pro  
180 185 190

Tyr Gly Ser Asn Lys Thr Ser Leu Asn Glu Ile Arg Arg Ile Arg Glu  
195 200 205

Ala Gly Gly Trp Ile Ser Asn Gly Arg Ile Cys Gly Asp Ile Ala Val  
210 215 220

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

Leu Gln Lys Gly Val Gln Glu Gly Lys Trp Ser Ala Lys Phe Ile Ser  
245 250 255

Arg Val Gln Leu Asn Asn Asp Leu Val Val Ala Tyr Pro Asp Ile Tyr  
260 265 270

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

Gly Leu  
290

<210> 35  
<211> 230  
<212> PRT  
<213> Vigna unguiculata

<400> 35

Gly Ala Thr Ala Thr Ala Ile Phe Ile Gly Asp Asp Glu Leu Leu Ile  
1 5 10 15

Ser His Ile Gly Asp Ser Ser Ala Val Leu Cys Arg Ser Gly Lys Ala  
20 25 30

Glu Val Leu Thr Ser Pro His Arg Pro Tyr Gly Ser Asn Lys Thr Ser  
35 40 45

Leu Asp Glu Ile Arg Arg Ile Arg Glu Ala Gly Gly Trp Ile Ser Asn  
50 55 60

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

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

Gly Lys Trp Ser Ala Lys Phe Ile Ser Arg Val Gln Leu Asn Asn Asp  
100 105 110

Leu Val Val Ala Tyr Pro Asp Ile Tyr Gln Val Ala Leu Gly Ser Asp  
115 120 125

Ala Glu Phe Val Val Leu Ala Thr Asp Gly Leu Trp Asp Tyr Met Ser  
130 135 140

Ser Ser Glu Ala Val Ser Phe Val Arg Asp Gln Leu Arg Lys His Gly  
145 150 155 160

Asn Ile Gln Leu Ala Cys Glu Ser Leu Ala Glu Ala Ala Leu Asp Arg  
165 170 175

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

Asp Trp Gln Asn Val Pro Leu Glu Arg Gln Asn Thr Ile Val Glu Leu  
195 200 205

Val Gln Ala Leu Ala Thr Ile Gly Ile Val Ser Phe Gly Ile Trp Phe  
210 215 220

Ser Ser Gln Leu Ser Leu  
225 230

<210> 36  
<211> 237  
<212> PRT  
<213> Triphysaria pusilla

<400> 36

Gln Leu Val Arg Glu Asp Glu Ser Gly Ser Thr Ala Thr Thr Ile Phe  
1 5 10 15

Leu Cys Asp Asp Val Leu Val Val Ser His Val Gly Asp Ser Cys Val  
20 25 30

Val Leu Ser Arg Asp Gly Lys Val Glu Val Leu Thr Asp Ser His Arg  
35 40 45

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

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

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

Met Val Ala Lys Gly Val Glu Glu Gly Arg Trp Pro Ala Lys Phe Ala  
100 105 110

Ser Arg Leu Lys Leu Lys Gly Asp Leu Val Thr Ala Cys Pro Asp Val  
115 120 125

Phe Gln Val Ser Ile Gly Ser Asp Ala Glu Phe Ile Val Leu Ala Ser  
130 135 140

Asp Gly Leu Trp Asp Tyr Ile Asn Ser Ser Asp Thr Val Lys Phe Ile  
145 150 155 160

Arg Asn His Leu Arg Gln Tyr Gly Asp Val Gln Met Ala Ser Glu Ala  
165 170 175

Leu Ala Gln Met Ala Leu Asn Gln Asn Ser Gln Asp Asn Ile Ser Ile  
180 185 190

Ile Ile Ala Asp Leu Gly Arg Thr Asp Trp Lys Lys Leu Pro Val Gln  
195 200 205

Gln Gln Asn Ile Ala Val Glu Leu Val Gln Ala Leu Asn Thr Leu Ser  
210 215 220

Leu Val Ser Leu Gly Ile Trp Ile Ser Ser Leu Leu Ser  
225 230 235

<210> 37  
<211> 268  
<212> PRT  
<213> Carthamus tinctorius

<400> 37

Gly Asp Asp Ala Val Ile Val Ala Ser Ser Ser Ser Asn Asn Asp Leu  
1 5 10 15

Asp Gly Phe His Phe Ala Ala Val Phe Asp Gly Tyr Ala Gly Phe Ser  
20 25 30

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

Leu Gln Gly Gly Leu Leu Leu Ser Lys Lys Val Thr Glu Ile Glu Lys  
50 55 60

Ala Leu Gln Glu Ala Phe Met Asn Ala Asp Ala Lys Leu Leu Asn Trp  
65 70 75 80

Leu Glu Met Ser Gly Lys Asp Asp Glu Ser Gly Ala Thr Ala Thr Thr  
85 90 95

Met Phe Val Gly Asn Asp Met Leu Phe Ile Ser His Val Gly Asp Ser  
100 105 110

Cys Ala Val Leu Ser Glu Ser Gly Lys Pro Glu Val Leu Thr Asn Ser  
115 120 125

His Arg Pro Tyr Gly Arg His Lys Val Ser Leu Gln Glu Ile Lys Arg  
130 135 140

Val Arg Glu Ala Gly Gly Trp Ile Val Asp Gly Arg Ile Cys Gly Asp  
145 150 155 160

Ile Ser Ile Ser Arg Ala Phe Gly Asp Ile Arg Phe Lys Thr Lys Lys  
165 170 175

Thr Glu Met Leu Glu Lys Gly Val Glu Glu Gly Arg Trp Thr Gln Lys  
180 185 190

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

Gly Ile Tyr His Val Thr Thr Gly Ser Asp Ala Glu Phe Val Leu Leu  
210 215 220

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

Phe Val Arg Asn Gln Leu Arg Glu His Gly Asp Val Gln Ala Ala Ser  
245 250 255

Glu Ala Leu Ala Gln Met Ala Leu Asp Gln Tyr Ser  
260 265

<211> 259  
<212> PRT  
<213> Citrus reticulata

<220>  
<221> misc\_feature  
<222> (229)..(229)  
<223>...Xaa can be any naturally occurring amino acid

<400> 38

His Ala Ser Gly Tyr Cys Ser Ala Ile Ala Ile Asp Ala Pro Ser Ser  
1 5 10 15

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

Leu Arg Glu Glu Met Glu Asp Gly Ala Val Ile Gln Ser Asp Gly Leu  
35 40 45

Asp Gly Phe Ser Phe Ala Ala Val Phe Asp Gly His Gly Gly Val Ser  
50 55 60

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

Leu Gln Gly Gly Leu Leu Leu Ser Gly Lys Asp Phe Asp Ala Ile Lys  
85 90 95

Lys Gly Leu Gln Glu Ala Phe Glu Asn Ala Asp Met Lys Leu Leu Asn  
100 105 110

Trp Leu Glu Met Asn Ala Glu Glu Asp Glu Ser Gly Ala Thr Ala Thr  
115 120 125

Val Val Phe Ile Gly Arg Asp Ile Leu Phe Ile Ser His Ile Gly Asp  
130 135 140

Cys Cys Val Val Leu Ser Arg Thr Gly Lys Ala Asp Val Leu Thr Asn  
145 150 155 160

Pro His Arg Pro Tyr Gly Ser Ser Gln Val Ser Leu Gln Glu Ile Arg  
165 170 175

Arg Ile Arg Glu Ala Gly Gly Trp Ile Ser Asn Gly Arg Ile Cys Gly  
180 185 190

Asp Ile Ala Val Ser Arg Ala Phe Gly Asp Phe Arg Phe Lys Asn Lys  
195 200 205

Lys Asn Glu Met Leu Lys Lys Gly Val Asn Glu Gly Arg Trp Ser Glu  
210 215 220

Lys Ile Cys Ser Xaa Ser Ala Leu Tyr Lys Asp Leu Val Ile Ala Ser  
225 230 235 240

Pro Asp Ile Phe Gln Val Ser Leu Gly Val Arg Cys Arg Ile Cys Thr  
245 250 255

Val Tyr Leu

<210> 39  
<211> 319  
<212> PRT  
<213> Lactuca sativa

<220>  
<221> misc\_feature  
<222> .(272)...(272.)  
<223> Xaa can be any naturally occurring amino acid

<400> 39

Gly Phe Ser Ala Thr His Leu Leu Ser Ser Met Ala Leu Trp Ser Pro  
1 5 10 15

Arg Leu Gln Arg Phe Leu Leu Asn Asn Asn Val Ser Lys Ile Asp Leu  
20 25 30

Lys Lys Thr Asn Ser Cys Asn Ser Asn Asn His Ile Ile Met Arg Lys  
35 40 45

Trp Ser Arg Glu Gly Ser Pro Arg Cys Cys Ser Ala Ile Ala Ile Asp  
50 55 60

Ala Pro Ser Ser Leu Ser Asp Gly Leu Gly Ser Gly Ile Arg Trp Gly  
65 70 75 80

Ser Ala Lys Leu Gln Gly Ala Arg Glu Glu Met Glu Asp Asp Ala Val  
85 90 95

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

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

Glu Glu Leu Tyr Lys Glu Cys Val Lys Ala Leu Gln Gly Gly Leu Leu

|                                                                 |     |             |
|-----------------------------------------------------------------|-----|-------------|
| 130                                                             | 135 | 140         |
| Leu Ser Lys Lys Asp Thr Ile Gly Ile Glu Lys Ala Leu Gln Glu Ala |     |             |
| 145                                                             | 150 | 155 160     |
| Phe Gln Asn Ala Asp Ala Lys Leu Leu Asn Trp Leu Glu Met Asn Gly |     |             |
|                                                                 | 165 | 170 175     |
| Glu Asp Asp Glu Ser Gly Ala Thr Ala Thr Thr Met Phe Leu Gly Asn |     |             |
|                                                                 | 180 | 185 190     |
| Asn Met Leu Phe Ile Ser His Val Gly Asp Ser Cys Ala Val Leu Ser |     |             |
|                                                                 | 195 | 200 205     |
| Gln Ser Gly Lys Ala Gln Glu Leu Thr Asn Ser His Arg Pro Tyr Gly |     |             |
|                                                                 | 210 | 215 220     |
| Arg Asn Lys Val Ser Leu Gln Glu Ile Lys Arg Ile Arg Glu Ala Gly |     |             |
|                                                                 | 225 | 230 235 240 |
| Gly Trp Ile Ser Asp Gly Arg Ile Cys Gly Asp Ile Ser Val Ser Arg |     |             |
|                                                                 | 245 | 250 255     |
| Ala Phe Gly Asp Met Arg Phe Lys Thr Lys Lys Lys Glu Met Leu Xaa |     |             |
|                                                                 | 260 | 265 270     |
| Lys Gly Val Ala Glu Ser Arg Trp Ser Glu Lys Phe Val Ser Arg Met |     |             |
|                                                                 | 275 | 280 285     |
| Arg Phe Phe Gly Asp Leu Val Ile Ala Thr Pro Asp Ile Tyr Gln Val |     |             |
|                                                                 | 290 | 295 300     |
| Thr Leu Gly Pro Glu Ala Glu Phe Cys Met Val Ala Thr Asp Gly     |     |             |
|                                                                 | 305 | 310 315     |

<210> 40  
 <211> 230  
 <212> PRT  
 <213> Gossypium hirsutum

<220>  
 <221> misc\_feature  
 <222> (220)..(220)  
 <223> Xaa can be any naturally occurring amino acid

<400> 40

|                                                                 |
|-----------------------------------------------------------------|
| Asp Asp Glu Ser Gly Ser Thr Ala Thr Val Met Leu Ile Gly Asn Glu |
| 1 5 10 15                                                       |

Val Leu Phe Ile Ser His Val Gly Asp Ser Cys Val Val Leu Ser Cys  
20 25 30

Ala Gly Lys Val Gln Val Leu Thr Asp Ser His Arg Pro Tyr Gly Ser  
35 40 45

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

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

Phe Gly Asp Thr Arg Phe Lys Thr Lys Lys Asn Glu Met Leu Lys Lys  
85 90 95

Gly Val Glu Glu Lys Arg Trp Ser Glu Lys Phe Ile Ser Arg Val Val  
100 105 110

Phe Asn Asp Asp Leu Val Ile Ala Ser Pro Asp Thr Phe Lys Val Ala  
115 120 125

Leu Gly Ser Asp Ala Glu Phe Val Leu Leu Ala Ser Asp Gly Leu Trp  
130 135 140

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

Arg Glu His Gly Asp Val Gln Val Ala Cys Asp Val Leu Ala Gln Ala  
165 170 175

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

Phe Gly His Thr Glu Trp Gln Lys Leu Pro Val Glu Gln Gln Asn Phe  
195 200 205

Leu Phe Glu Phe Gly Gln Ala Ile Ala Thr Val Xaa Val Val Ser Leu  
210 215 220

Gly Ile Trp Leu Ser Ser  
225 230

<210> 41  
<211> 235  
<212> PRT  
<213> Helianthus annuus

<400> 41

Phe Ser Ser Val Asn Phe Leu Arg Glu Glu Leu Tyr Lys Glu Cys Val  
1 5 10 15

Lys Ala Leu Gln Gly Gly Gln Leu Leu Asp Asn Lys Asp Phe Ile Gly  
20 25 30

Ile Lys Asn Ala Leu Gln Glu Ala Phe His Asn Ala Asp Ala Lys Leu  
35 40 45

Leu Asn Trp Leu Glu Met Thr Ser Glu Glu Asp Gly Glu Ser Gly Ala  
50 55 60

Thr Ala Thr Ala Ile Phe Ile Gly Asn Asp Met Leu Tyr Ile Ser His  
65 70 75 80

Val Gly Asp Ser Cys Ala Val Leu Ser Gln Ser Gly Asn Ala Glu Glu  
85 90 95

Leu Thr Asn Ser His Arg Pro Tyr Gly Arg Asn Lys Val Ser Leu Gln  
100 105 110

Glu Ile Lys Arg Ile Arg Glu Ala Gly Gly Trp Ile Ser Asp Gly Arg  
115 120 125

Ile Cys Gly Asp Ile Ser Val Ser Arg Ala Phe Gly Asp Ile Arg Phe  
130 135 140

Lys Thr Lys Lys Asn Glu Met Leu Lys Lys Gly Val Glu Glu Gly Arg  
145 150 155 160

Trp Ser Glu Lys Phe Ala Ser Arg Met Lys Phe Phe Glu Asp Leu Val  
165 170 175

Ile Ala Thr Pro Asp Ile Tyr Gln Val Ala Leu Gly Pro Asp Ala Glu  
180 185 190

Phe Val Leu Leu Ala Thr Asp Gly Leu Trp Asp Tyr Ile Lys Ser Ser  
195 200 205

Asp Ala Val Ser Phe Ile Arg Asn Gln Leu Arg Glu His Gly Asp Val  
210 215 220

Gln Val Ala Ser Glu Ala Leu Ala Gln Met Ala  
225 230 235

<210> 42  
<211> 252

<212> PRT

<213> Glycine max

<400> 42

Lys Asp Glu Leu Tyr Lys Glu Cys Val Glu Ala Leu Gln Gly Gly Leu  
1 5 10 15

Leu Leu Val Glu Lys Asp Phe Lys Ala Ile Lys Arg Ala Leu Gln Glu  
20 25 30

Ala Phe Leu Lys Ala Asp Ala Arg Leu Leu Lys Arg Leu Glu Met Asn  
35 40 45

Gly Glu Glu Asp Glu Ser Gly Ala Thr Ser Thr Ala Val Phe Ile Gly  
50 55 60

Asp Asp Glu Leu Leu Ile Ser His Ile Gly Asp Ser Ser Ala Val Leu  
65 70 75 80

Cys Arg Ser Gly Lys Ala Glu Val Leu Thr Ser Pro His Arg Pro Ile  
85 90 95

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

Gly Gly Trp Ile Asn Asn Gly Arg Ile Cys Gly Asp Ile Ala Val Ser  
115 120 125

Arg Ala Phe Gly Asp Val Arg Phe Lys Thr Lys Lys Asn Glu Met Leu  
130 135 140

Gln Lys Gly Val Gln Glu Gly Arg Trp Ser Ala Lys Phe Ile Ser Arg  
145 150 155 160

Val Gln Leu Asn Asn Asp Leu Val Val Ala Tyr Pro Asp Ile Tyr Gln  
165 170 175

Val Thr Leu Gly Ser Asp Ala Glu Phe Val Val Leu Ala Ser Asp Gly  
180 185 190

Leu Trp Asp Tyr Met Ser Ser Ser Glu Ala Val Ser Leu Val Arg Asp  
195 200 205

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

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

Ala Asp Phe Gly Arg Thr Asp Trp Gln Asn Ala Pro  
245 250

<210> 43  
<211> 252  
<212> PRT  
<213> Avena barbata  
  
<400> 43

Leu Asp Gly Gly Ala Val Leu Asn Thr Lys Asn Leu Glu Ala Ile Thr  
1 5 10 15

Glu Ser Ile Arg Arg Ala Phe Ala Thr Val Asp Ala Asn Leu Ser Thr  
20 25 30

Trp Leu Glu Lys Met Asp Lys Glu Asp Glu Ser Gly Ala Thr Ala Thr  
35 40 45

Ala Leu Phe Leu Arg Lys Asp Val Leu Val Val Ser His Ile Gly Asp  
50 55 60

Ser Cys Leu Gln Val Val Ser Arg Gly Gly Arg Pro Gln Ser Leu Thr  
65 70 75 80

Asn Phe His Arg Pro Tyr Gly His Asn Lys Thr Ser Leu Glu Glu Val  
85 90 95

Lys Arg Ile Arg Ala Ala Gly Gly Trp Ile Leu Asp Gly Arg Ile Cys  
100 105 110

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

Arg Lys Asn Glu Met Leu Val Lys Gly Val Lys Glu Gly Arg Trp Thr  
130 135 140

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

Ser Pro Asp Val Ser Leu Val Glu Leu Gly Pro Asp Val Glu Phe Val  
165 170 175

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

Val Ala Phe Val Arg Asp Gln Leu Arg Gln His Gly Asp Val Gln Arg  
195 200 205

Ala Cys Glu Ala Leu Gly Glu Lys Ala Leu Asp Gln Arg Ser Gln Asp  
210 215 220

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

Ser Cys Pro Tyr Gln Gly Gln Thr Cys Ser Trp Ser  
245 250

<210> 44  
<211> 258  
<212> PRT  
<213> Panicum virgatum

<400> 44

Leu Asp Gly Gly Ala Val Leu Ser Thr Lys Asn Leu Glu Ala Ile Thr  
1 5 10 15

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

Trp Leu Glu Gln Met Asp Lys Asp Asp Asp Ser Gly Ala Thr Ala Thr  
35 40 45

Ala Met Phe Leu Arg Asn Asp Val Leu Val Val Ser His Ile Gly Asp  
50 55 60

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

Ser His Arg Pro Tyr Gly Asn Asn Lys Thr Ser Leu Glu Glu Val Lys  
85 90 95

Arg Ile Arg Ala Ala Gly Gly Trp Ile Val Asp Gly Arg Ile Cys Gly  
100 105 110

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

Lys Asp Glu Met Leu Val Lys Gly Val Lys Glu Gly Arg Trp Thr Glu  
130 135 140

Lys Phe Ile Ser Arg Ile Lys Phe Lys Glu Asp Ile Ile Ile Ser Ser  
145 150 155 160

Pro Asp Val Ser Leu Val Glu Leu Gly Pro Asp Val Glu Phe Leu Ile  
165 170 175

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

Ala Phe Val Arg Asp Gln Leu Arg Gln His Gly Asp Val Gln Leu Ala  
195 200 205

Cys Glu Ala Leu Gly Gln Lys Ala Leu Asp Glu Arg Ser Gln Asp Asn  
210 215 220

Ile Ser Ile Val Ile Ala Asp Leu Gly Arg Thr Asn Trp Lys Ala Leu  
225 230 235 240

Pro Val Glu Arg Pro Asn Leu Phe Leu Gly Thr Lys Ser Ser Ser Cys  
245 250 255

Asp Leu

<210> 45  
<211> 213  
<212> PRT  
<213> Artemisia annua

<400> 45

His Ile Gly Asp Ser Ser Ala Val Leu Ser Leu Ser Gly Lys Ala Glu  
1 5 10 15

Glu Leu Thr Asp Ser His Arg Pro Tyr Gly Arg Ser Lys Ala Ser Leu  
20 25 30

Gln Glu Ile Lys Arg Ile Arg Glu Ala Gly Gly Trp Ile Ser Asp Gly  
35 40 45

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

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

Arg Trp Ser Glu Lys Phe Val Ser Arg Ile Lys Phe Val Gly Asp Leu  
85 90 95

Val Ile Ala Thr Pro Asp Ile Tyr His Val Thr Leu Gly Pro Asp Ala  
100 105 110

Glu Phe Val Leu Leu Ala Thr Asp Gly Leu Trp Asp Tyr Ile Lys Ser  
115 120 125

Ser Glu Ala Val Asn Phe Val Arg Asn Gln Leu Arg Glu His Gly Asp  
130 135 140

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

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

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

Gln Ala Phe Ala Thr Ile Gly Ile Val Thr Ile Gly Ile Trp Met Ser  
195 200 205

Ser Asn Ala Ser Phe  
210

<210> 46  
<211> 234  
<212> PRT  
<213> Allium cepa

<400> 46

Ser Glu Met Glu Asp Asp Val Val Met Arg Leu Asp Gly Leu Asp Gly  
1 5 10 15

Phe Ala Phe Ala Ala Val Phe Asp Gly His Ala Gly Phe Ser Ser Val  
20 25 30

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

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

Ile Ala Lys Ala Phe Arg Thr Val Asp Ile Lys Leu Ser Ser Trp Leu  
65 70 75 80

Glu Gln Val Gly Lys Asp Ala Asp Ser Gly Ala Thr Ala Thr Ala Met  
85 90 95

Phe Leu Gly Lys Asp Val Leu Ile Ile Ser His Val Gly Asp Ser Ser  
100 105 110

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

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

Arg Ala Ala Gly Gly Trp Ile Ile Asp Gly Arg Ile Cys Gly Asp Ile  
145 150 155 160

Ser Val Ser Arg Ala Phe Gly Asp Ile Arg Phe Lys Ala Lys Lys Asn  
165 170 175

Glu Met Leu Arg Lys Gly Val Glu Glu Gly Arg Trp Thr Glu Lys Phe  
180 185 190

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

Val Phe Gln Leu Glu Leu Gly Ser Asp Val Glu Phe Val Leu Leu Ala  
210 215 220

Ser Asp Gly Leu Trp Asp Tyr Ile Arg Ser  
225 230

<210> 47  
<211> 201  
<212> PRT  
<213> Arachis hypogaea

<400> 47

Val Leu Ser Arg Ala Gly Lys Ala Glu Met Leu Thr Ser Pro His Arg  
1 5 10 15

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

Glu Ala Gly Gly Trp Ile Val Asn Gly Arg Ile Cys Gly Asp Ile Ala  
35 40 45

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

Met Leu Gln Lys Gly Val Gln Glu Gly Arg Trp Ser Glu Lys Phe Ile  
65 70 75 80

Ser Arg Val Arg Leu Asn Asn Asp Leu Val Val Ala Tyr Pro Asp Ile  
85 90 95

Tyr Gln Val Asp Leu Gly Ser Asp Ala Glu Phe Ile Val Leu Ala Ser  
100 105 110

Asp Gly Leu Trp Asp Tyr Met Ser Ser Ser Asp Ala Val Ser Phe Val  
115 120 125

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

Leu Ala Gln Ala Ala Met Asp Arg Arg Thr Gln Asp Asn Val Ser Ile  
145 150 155 160

Ile Ile Ala Asp Leu Gly Lys Thr Asp Trp Glu Asn Val Ala Val Gln  
165 170 175

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

Ile Val Ser Ile Gly Ile Trp Phe Ser  
195 200

<210> 48  
<211> 1164  
<212> DNA  
<213> Cucumis sativus

<400> 48  
atggcctttgc tgagtcctcg attgcataga ttccggctaa ctaagcttca ccatgtctcc 60  
gcctccaaac ccaccaaagc aactaagctc actctcagaa aaaattccag atgctgctct 120  
gccatagcta ttgatgctcc atcttcttta acagatgctg cggaataag atgggggttc 180  
actacttttc aaggcttgcg ggaggaaatg gaagacgatg ctgttggtcg gtctgatggt 240  
ttcaatgact tcttggttgc tgcagtgttc gatggccatg gtggctattc ctctgtcaag 300  
ttcctaaggg aggagctgta caaagactgc gtggcagcct tgcagggcgg ccaactattg 360  
aatggagggg attttgaagt gataaaagcg gctttagaga aggcttttga tgatactgat 420  
aagagactac tcctattgct tgaggcagct ggggaggaag atgaatctgg tgccactgca 480  
accgttgcat tcattcgaaa tgatgtgctg ttcatctcac atcttggtga ctcttggtt 540  
gtgttatctc gttctggagg agcacagggtg ttgactagtt ctcatcggcc ttatggaaat 600  
aacagcacat cactgcaaga gattagaaga attagagaag cagggtgatg gattgttaat 660  
gggagaatct gtggggacat ctctgtatca cgtgcatttg gtgacatacg attcaagaca 720  
aagaaaagcg agatgctaca gaaaggagtt gaagaaggaa gatggtcaga aaaatttatt 780  
tctcgtgtac agttcaatgg agatttggtt actgcatcac cagaaatttt ccaagtcaca 840  
ctcggatcaa atgccgagtt tgtactgatg gcacgggatg gcctatggga ttacatgaat 900  
agctctgatg cggttatggt tgttcggaat gaacttagac agcatggcga cggttcagcta 960

|                                                                    |      |
|--------------------------------------------------------------------|------|
| gcttgtgaag ccctcgccca agcagccttg gacaaagggc cacaagacaa tgtcagcatt  | 1020 |
| atcatggctg atttagggcg gacagattgg caaaatttgc cccttcagca agacaatgtc  | 1080 |
| atatttgaac tggctcaagc tttggctacg atgggactcg tttcttttagg tatttgggtg | 1140 |
| gcacccctta gtttctctct ttaa                                         | 1164 |

<210> 49  
 <211> 923  
 <212> DNA  
 <213> Brassica rapa

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| <400> 49                                                           |     |
| tctccttcgc cgcggttttc gacggccacg ctggatcctc ccctgttaag ttcctcaggg  | 60  |
| aggagctgta caagggatgt gttgaggcgt tgcaagttgg atctttgttg aaaggtggtg  | 120 |
| actttggtgc gatcaaggga gctttggtca aggcctttga gagcgtggat cagaatctgc  | 180 |
| tcaaattggct agaaacaaaa ggtgaagaag atgagtctgg ttcaacggct actgtgatgc | 240 |
| tcattagaaa tgatgtttcc tactttgcac atattgggga ttcttgcgct gtcttatctc  | 300 |
| gatctggaca aatcgaggag ttgactgatt ctcatcgccc atatggaagc agtaaggcag  | 360 |
| ctgttcagga aatgaagagg atcaaagatg caggtggatg gattgtcaat ggaaggattt  | 420 |
| gtggagacat agctgtatct cgtgcttttg gtgacatccg gttcgagaca aagaagcatg  | 480 |
| agatgttaaa gaaggggtgc gatgaaggaa gatggtccga gaagtttgtc tcgagaatcg  | 540 |
| agtttaaaagg ggacatggtt gtcgcaactc cggatatcta ccaagtgcc cttacatcag  | 600 |
| atgtggagtt tattatttta gcttctgatg gactgtggga ctacatgaag agcaaagatg  | 660 |
| tggttagctt cgtaaggga cagctccgag aacatggaaa tgtccagctt gcttgtgaag   | 720 |
| ctcttgcgca agttgctttg gaccggagat cagaggacaa catcagcatc atcatagctg  | 780 |
| atctaggaag aacagagtgg aagaagctcc cgggtgcagcg gcaaaacatg gtggttgaac | 840 |
| tggttcaggc ggcagccact gtgggaatag tcaactgttg catatggatg acttctcttc  | 900 |
| tctcttaaag taaatggaac atc                                          | 923 |

<210> 50  
 <211> 807  
 <212> DNA  
 <213> Brassica napus

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| <400> 50                                                          |     |
| cgttgctccg cgattgcgat cgacgctccg tcgtctctcg cgggcgtgac gcctatccgg | 60  |
| tgggggtaca cgagcgttca agggtttagg gaggagatgg aggacgacat cgtcatccgc | 120 |
| tcggaagctc tcgacagctt ctcttcgcc gcggttttcg acggccacgc tggatcctcc  | 180 |
| tctgttaagt tcctcagga ggagctgtac aagggatgcg ttgaggcgtt gcaagttgga  | 240 |

|                                                                        |     |
|------------------------------------------------------------------------|-----|
| tctttgttga aaggtggtga ctttgggtgcg atcaagggag ctttgggtcga ggcttttgag    | 300 |
| agcgtggatc agagtttgct caaatggcta gaaacaaaag gtgaagaaga tgagtctggt      | 360 |
| tcaacggcta ctgtgatgct cattagaaat gatgtttcct actttgcaca tattggtgat      | 420 |
| tcttgcgctg tcttatctcg atctggacaa atagaggagt tgactgattc tcatcgtcca      | 480 |
| tatggaagca .gtaaggcagc .tggttcaggaa .atgaaaagga. tcaaagatgc aggtggatgg | 540 |
| attgtcaatg gaaggatttg cggagacata gctgtatctc gtgctttcgg tgacatccga      | 600 |
| ttcaagacaa agaagcatga gatgttgaag aaggggtgctg atgaaggaag atgggtccgag    | 660 |
| aagtttgtat ccagaatcga gtttaaaggg gacatgggtg tcgcaactcc ggatatctac      | 720 |
| caagtacctc tcacatcgga cgtggaggtc attatttttag cttctgatgg attatgggac     | 780 |
| tacatgaaga gcaaagacgt ggtagt                                           | 807 |

<210> 51  
 <211> 904  
 <212> DNA  
 <213> Nicotiana tabacum

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| <400> 51                                                           |     |
| ggccattacg gccgggggag gagctgtata aagaatgtat tacagcatta caaggcgggc  | 60  |
| tgctattgga aaaaaggagc ctaaacgcaa tccagaaggc actacaagaa gcttttgaaa  | 120 |
| atgcggatag aaaactcttg aactggcttg agagtagcgg gaaagaagat gaatctggtt  | 180 |
| caacagctac tgttctatct gttgggaatg acacattgat cattgcacat gttggagatt  | 240 |
| catctgtggt gttgtcacga tctggaaaaa tggagggtatt aacaaatgca cacaggccct | 300 |
| atggaagcaa caaggtttct ctccaagaaa tcagaagaat caatgaagca ggtggatgga  | 360 |
| ttgtcaatgg aagaatttgt ggagatatct cagtatcccg tgcttttggc gatatgagat  | 420 |
| ttaagacaaa gaagaatgag atgctggaga aagggttgga agaaggcaga tggagtgaaa  | 480 |
| agtttgtttc gcggattcag ttcaaggag acttggttac agcatctcca gatgttttac   | 540 |
| aggtggctct tggatcagat actgaatttg tactattagc atctgatgga ttatgggact  | 600 |
| acatgaaaag tgctgaagta gtagattttg ttaggaacca gcttcgagag catggagatg  | 660 |
| ttcaggtagc ttgtgaagct cttgcacgga cggccatgga ccgacggaca caagataatg  | 720 |
| ttagcattgt catagctgat ttggggagaa cggactggcg aaatttacct gtgcagaaac  | 780 |
| aaaatattgt gtttgaacta ggacaagctt taatcacaat cagttttgtg tcaactggga  | 840 |
| tatggctgac taccgtgatt tccccttaga aatttgattt ttgttagttg tatatatatta | 900 |
| tata                                                               | 904 |

<210> 52  
 <211> 706  
 <212> DNA

<213> *Raphanus sativus*

<400> 52

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| ggaacactct ccaccaatca gccccctcata ctaaaccaat ctccgacgcc ggcggcggtg | 60  |
| gacttgctgt ctatcccact tacggctgtc gtogctgtca ccacogttgc tccgcgattg  | 120 |
| cgatcgacgc tccgtcgtct ctgcggggcg taacgcctat ccggtggggg tacacgagcg  | 180 |
| ttcaaggggt cagggatgag atggaggacg acatcgtcac ccgttcggag gctatagata  | 240 |
| gotttctcct cgccgcgggtc ttgcacggac acgctggatc ctctctgtt aaattcctca  | 300 |
| gggaagagct gtacaaggag tgtgttgagg cattacaagt tggatccttg ttgagtggag  | 360 |
| gcgatttctg ggcgggtcaag gaagcttttg tgaaggcctt tgagagcgtg gatcagagtt | 420 |
| tgctcaaatt gctagaaaca aagggtgaag aagatgaatc ggggttcaac gctactgtga  | 480 |
| tgctaattcag aaatgatgtt tctactttg cacatattgg tgattcttgt gcagtcttat  | 540 |
| ctcgatctgg acaaatagag gaattgactg attctcatcg tccatatgga agtactaagg  | 600 |
| cagctgttca ggaaatgaaa agaataaaag atgctggtgg atggatcgtc aatggaaaga  | 660 |
| tttgtggaga catagctgta tcccgtgctt tcgggtgacat ctggtt                | 706 |

<210> 53

<211> 914

<212> DNA

<213> *Citrus sinensis*

<400> 53

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| tttttttgaa taaaatgaga accagtttat tgttatgtgg agattcttct tagttaacta  | 60  |
| attgactatt atgggtgctat actaagaatg attacatgat gtagaagaaa gcgttcaatt | 120 |
| ctgtgtgatt atatacattt ccagagacat ttcatctcat actgaaagca gagatgacat  | 180 |
| ccatattcca agtgacacaa tgccaatcgt agcaaagcc tgggccaatt cgcacacaac   | 240 |
| atattgttgc tgaagtggca aatttctcca gtcagtctgc cctaaatcgg caatcacaat  | 300 |
| gctgatatta tcttggaat gttggtccaa agcagcttgt gccagtgtt cacaagctag    | 360 |
| ctgtacatct ccatgttggt ggagctgatt cctgacgaat ttaactgcat ctgagctatt  | 420 |
| catgtaatcc catagtccat cagatgctaa cagtacaaat tctgcatctg acccaagaga  | 480 |
| tacttgaaaa atatctggtg atgcaataac caggctccttg ttaagttgca ctctagaaac | 540 |
| aaatttttct gaccatcttc cttcattaac acccttcttc agcatctcat ttttctttgt  | 600 |
| cttgaaccgg atgtcaccaa aagcacgaga tacagcaatg tcaccacata tcttaccatt  | 660 |
| ggaaatccat ccacctgctt ctctgattct tctaatttcc tgaagtgaga cctggccgct  | 720 |
| tccataaggc cgatgaggat tagtcaatac atctgctttt ccagtacgag atagaaccac  | 780 |
| acaacagtca ccaacatgtg agatgaacaa aatatccctt ccaatgaaca taacagtagc  | 840 |
| ggttgcaccg gattcgtcct cctccgcatt catttcaagc ctattcaaca atttcatatc  | 900 |

aacatttttca aaag 914

<210> 54  
<211> 795  
<212> DNA  
<213> Cichorium intybus

<400> 54  
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ggacaccact ggaatcgaaa aggcatttaca agaggctttc gagaacgccg atacgaaact 120  
tctaaattgg cttgagatga acggagagga cgatgaatct ggtgcaacag ccactacat 180  
gttcctagga aacaatatga tgttcatctc tcatgttggt gattcatgtg cggttctttc 240  
acagtctgga aaagcacaag aattgaccga ttctcacagg ccctatggaa gaagcaaggt 300  
ttcccttcaa gaaatcaagc ggatcagaga agcagggtgga tggatttcgg atggaagaat 360  
ttgtggagat atttctgtat ccogtgcttt tggtgacatg cggtttaaaa caaagaagaa 420  
agagatgctg gaaaaggagag ttgcagaagg cagatggtct gaaaaatttg tatcccggt 480  
acggtttggt ggagacttgg ttattgctac tctgatatt tatcaagttg cactggggcc 540  
tgaagcagaa tttgtattgt tagcaactga tggcttatgg gattacataa aaagctcgga 600  
tgcagtcaac tttgtcagaa accaacttcg ggaacatgga gatgtgcagg ctgcatctga 660  
agctctagct caaatggcct tggaccaata ttctcaagat aatgtaacca ttgtcatcgc 720  
tgatttgggg cggacagatt ggcaaaattt acctatacag caacaaaact ttgtgtatga 780  
actgatccaa gcttt 795

<210> 55  
<211> 594  
<212> DNA  
<213> Raphanus raphanistrum

<400> 55  
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atgtttccta ctttgcacat attggtgatt cttgtgcagt tttatctcga tctggacaaa 120  
tcgaggaatt gactgattct catcgccat atggaagtac taaggcagct gttcaggaaa 180  
tgaaaagaat caaagatgct ggtggatgga ttgtcaatgg aaggatttgt ggagacatag 240  
ctgtatctcg tgctttcggg gacatccggg tcaagacaaa gaagcatgag atgttgaaga 300  
agggtgtcga tgaaggaaga tgggccgaga agtttgtgtc aagaatcgag tttaaagggg 360  
acatggttgt cgcaacaccg gatataatcc aagtacctct tacatcggat gtggagttca 420  
ttatttttagc ttctgatgga ttgtgggact acatgaagag caaagatgtc gttagtttcg 480  
taagggaaca gctccgagaa catggaaatg tccagtttgc ttgtgaagct cttgcgcaag 540

ttgcttttga cggagatca gaggataaca tcagcatcat catcgctggt ctag 594

<210> 56  
<211> 927  
<212> DNA  
<213> *Solanum tuberosum*

<400> 56  
caacagttaa atttggaatt ttccataatt ttagaatata ctatctaaaa tgctacataa 60  
cataattacc ttgacaagca aatgtacaag gtataattga agctttatgt tccttttcat 120  
acaaaaatac tatatacaat taactaatat tactatcaaa ctcttaaggg aaaatcattg 180  
ttgatagcca tattccaatt gacacaaaac tgattgtcac taaagcttgt .cccagttcta 240  
acacaacatt ctgtttcttt actggtaaatt tttgccaatc cgctctcccc aaatcagcta 300  
tgacaatgct gacattatct tgtgtccgtc gatccaaggc taaccgtgca agagcttcac 360  
aagctatctg aacatcacca tgctctcgaa gctggttcct aacgaaatct actatttcat 420  
cacttttcat gtaatcccat aatccatcag atgctaatag tacaaattcg gtatctgac 480  
caagattcac ctgtaaaaca tctggagatg ctataaccaa .gtctccctg aactgaatcc 540  
gagaaatgaa cttttcagac catctgcgtt ctttaacccc tttctccagc atctctttct 600  
tcttcgtctt aaatctcata tcaccaaag cacgggatac tgaaatatca ttacaaattc 660  
ttccattgac .aatccatcca .cctgcttcat .ttattcttct .gatttcttgg .agagaaacct 720  
tgttggttcc atagggcctg tgtgaattgg ttagtatctc tgcttttcca gatcgggaca 780  
acaccacaga tgaatctcca .acatgcgcga .taatcagtgt atcattccca .acaaatacag 840  
cagtagctgt cgcaccagat tcattcttct tctcgtact ctcaagccgg ttcaagagtt 900  
tcctatccgc attttcaaaa gcttctt 927

<210> 57  
<211> 867  
<212> DNA  
<213> *Aquilegia sp.*

<400> 57  
tgacagtaat atgatgtaag gcacaagtat ttacaagtta tacacgatgt cttgtttata 60  
tgtatttaca catctgagag acattttcca ctttaaagag aaagaaaaga tgatgccccaa 120  
attcctagtg agactagagc taaagttcca aacgcttggc ttacttccca taaaaattt 180  
tgttgctggg gcggtaaact ctcccagttt gtctcccta aatcagctat gatgatgcta 240  
atattatctt ctgagcgccg atccagagct gtttgtgcca gcgcttcaca agcacgctga 300  
acattgccat gttgtcgaag ttgattccta acaaatgata ccgcatccaa actgtttaca 360  
taatcccata agccatcaga tgctaataat ataaattctg catctgatgc aagagcaact 420  
tgataaatgt ctggagaagc tataacaagg tcgtctttga actgcactcg agaacaat 480

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| tttgcagaaa atcttccttc ctcaactcct tgcgccaaca tttcgttctt ctttgtcttg   | 540 |
| aatcgcatgt caccaaaagc acgagataca gagatatccc cacaaatcct tccattgaca   | 600 |
| atccatccac ctgcttctct gatcctcctg atttcttgaa gagagacctt gttgttccca   | 660 |
| tacggctctat gcggggttggc caatatttct gcttttccag aacaggacaa aaccacactt | 720 |
| gagtcaccaa catgtgaaat gattagcatc tcattattag caaacataac tgtagctgtg   | 780 |
| gaacctgatt cagtttgctt cccagtctct tcaagccaat tgattaactt cgaatcagca   | 840 |
| ttcataaaaag cctcctctaa tgcattt                                      | 867 |

<210> 58  
 <211> 893  
 <212> DNA  
 <213> Citrus clementina

<220>  
 <221> misc\_feature  
 <222> (620)..(620)  
 <223> n is a, c, g, or t

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| <400> 58                                                            |     |
| tgctgaacca acagttacag aggtgtctct taacaaggct caactataac ttcaagccca   | 60  |
| ccgtcaaaaa caactttgtc aatacaacaa cagcaagagc taaaagccag tgctactgct   | 120 |
| cggcgattgc aatagacgcg ccgtcttcgt tgagtgggtg tgccggaatc cgatgggggt   | 180 |
| ctgtaagttt acagggccta cgtgaggaaa tggaggatgg tgctgttatt caatcggatg   | 240 |
| gccttgatgg gttctctttt gcagctgttt ttgatggcca tgggtggagtc tccactgtca  | 300 |
| agtttcttag ggatgagcta tacaagaat gtgttgacgc tttaacaagga ggattgctgt   | 360 |
| tgagtggaaa agattttgat gccattaaga aggcattaca ggaggctttt gaaaatgttg   | 420 |
| atatgaaatt gttgaatagg cttgaaatga atgcggagga ggacgaatcc ggtgcaaccg   | 480 |
| ctactgttat gttcattgga agggatattt tgttcatctc acatgttggt gactgttggtg  | 540 |
| tggttctatc tcgtactgga aaagcagatg tattgactaa tcctcatcgg ccttatggaa   | 600 |
| gcggccaggt ctacttcan gaaattagaa gaatcagaga agcaggtgga tggatttcca    | 660 |
| atggtaggat atgtggtgac attgctgtat ctcgtgcttt tggtgacatc cggttcaaga   | 720 |
| caaagaaaaa tgagatgctg aagaaggggtg ttaatgaaag aagatgggtca gaaaaatttg | 780 |
| tttctagagt gcaacttaac agggacctgg ttaatggctc accgaaaatt ttcaagtatc   | 840 |
| tcttgggtca aatgcaaaat ttgtactggt agcctctgat ggaatatggg aat          | 893 |

<210> 59  
 <211> 874  
 <212> DNA  
 <213> Phaseolus vulgaris

<400> 59  
ctccacacat gcaaagattc ctcttatgca agctccatac tcgctccacc tctaagacca 60  
cacacaaaaa caccttcacc accaccacca ggggcccgtg ctgctctgcc atagccatcg 120  
atgctccatc gtctttgact gaggtgcccg gtgtgagatg ggggtccata gccttgccagg 180  
gtcttcgtga agagatggag .gacgacatca ttgttcgacc cgatggcctt cagggcttct 240  
ctttcgccgc tgtcttcgat ggccatggag ggttttcttc tgtcgagttc ctcagggatg 300  
agctgtacaa ggagtgtgtt gaagctttac aaggtggatt actattagtg cagaaagatt 360  
tcaaagccgc taaaggagca ttgcaggagg catttctcaa ggcagacacg aggttactaa 420  
aacggcttga aatgaatgga gaggaggatg aatcaggtgc tacagcaact gccgttttca 480  
tcggaggtga tgagcttcta atttcacaca tcggtgactc ctcagcgggt ctatgcagat 540  
ctggaaaagc agaagttctg actagtcctc accgtccata tgggagcaac aaaacttctc 600  
ttaatgaaat tagaagaatc agagaagcag gtggatggat tagcaatggg agaatttgtg 660  
gagacattgc tgtatctcgt gcatttgggg acatgcgatt caaaacgaag aagaatgaga 720  
tgctgcaaaa aggagttcag gaaggaaaat ggtcagcaaa gttcatctct cgtgtacagc 780  
tcaacaatga cttggttgta gcataccctg atatttatca ggtagctctt ggctctgatg 840  
cagaatttat agtattagca accgatggct tatg 874

<210> 60  
<211> 700  
<212> DNA  
<213> Vigna unguiculata

<400> 60  
gaggtgctac agcaactgcc attttcatcg gagatgatga gctttctaatt tcacatatcg 60  
gtgactcttc tgcggttcta tgcagatctg gaaaagcaga agttctgacc agtcctcacc 120  
gtccatatgg gagcaacaaa acttctcttg atgaaattag aagaataaga gaagcaggtg 180  
gatggattag caatggtaga atttgtggag acattgctgt atctcgtgca tttggggaag 240  
tgcgattcaa aacgaagaag aatgagatgc tgcaaaaagg agttcaggaa ggaaaatggt 300  
cagcaaagtt catctctcgt gtacagctca acaatgactt ggtcgtagca taccctgata 360  
tttatcaggt agctcttggc tcagatgcag aatttgtagt attagcaacc gatggcttat 420  
gggattacat gagcagctca gaagcagttt cttttgttag ggatcaacta cgaaaacatg 480  
gaaacattca gctagcatgt gaatcgcttg cagaagccgc tttggaccga cgtacacagg 540  
ataatgtcag catcataatt gctgatttag ggccaacaga ctggcagaat gtgccactgg 600  
agcgacaaaa tactatagtc gagctgggtc aagctcttgc taccattgga attgtgtctt 660  
ttggaatctg gttttcatca cagctttctc tatagatgca 700

<210> 61  
 <211> 715  
 <212> DNA  
 <213> *Triphysaria pusilla*

<400> 61  
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 atgtattggg tgtttctcac gttgggtgatt cgtgcggtgt tctttcacgc gatggaaaag 120  
 ttgaagtctt gactgattct catcgggcct acggaaataa caaagcctct ttacaagaaa 180  
 tcaggcgaat tcgagaggct ggtggatgga ttgtaaatgg aaggatttgt ggtgacatat 240  
 ctgtatcgcg tgcttttggg gatatacgat ttaaaactaa gaaaaatgaa atgggtggcg 300  
 aaggagtcga ggaaggccga tggccggcaa aatttgcttc tcgcttaaaa ttgaaaggag 360  
 acttggttac tgcattgtcc gatgtttttc aagtttctat aggatctgat gccgaattta 420  
 tagtattagc atctgatggg ttgtgggact acataaacag ctgggatact gttaaattca 480  
 ttagaaatca ccttcgacaa tatggagatg ttcagatggc ttctgaagct ctgctcaaaa 540  
 tggctttgaa ccaaaattca caagataaca tcagcattat tattgcagat ctcggaagaa 600  
 cggattggaa aaaattgcct gtgcagcagc aaaatatcgc cgttgagttg gttcaagctc 660  
 taaacactct cagtttagta tcacttggaa tatggatata gaggttgctt tcaac 715

<210> 62  
 <211> 806  
 <212> DNA  
 <213> *Carthamus tinctorius*

<400> 62  
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 ttttgcgtgct gttttcgatg gctatgccgg attctcttcc gtgcacttcc tcaggaggga 120  
 gctatacaag gagggtgtga aggccttcca aggggggcta ttgttgagta aaaaagtgc 180  
 cgaaattgaa aaggcggtgc aagaggcctt catgaacgct gatgcaaac ttctgaactg 240  
 gcttgagatg agcgggaagg acgacgaatc tggtgcaacg gctactacta tgtttgtagg 300  
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 agaaattaaa cgagtcagag aagcaggtgg atggattgtg gatggaagaa tttgtggaga 480  
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 ggaaaagggt gtcaggaag gaagatggac caaaaattt atatcacgca ttcggttttc 600  
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 gtttgtactg ttagcaactg atggcttatg ggattacatt aacagttcag atgctgtcaa 720  
 ctttgtcaga aaccaactta gggaacatgg agatgttcag gctgcatctg aagctctagc 780

tcaaattggca ctggaccaat attctc

806

<210> 63  
<211> 801  
<212> DNA  
<213> Citrus reticulata

<220>  
<221> misc\_feature  
<222> (687)..(687)  
<223> n is a, c, g, or t

<400> 63  
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tgctgttatt caatcggatg gccttgatgg gttctctttt gcagctgttt ttgatggcca 180  
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ggatgaatct ggtgcaaccg ctactgttgt gttcattgga agggatattt tgttcatctc 420  
acatattggt gactgttgtg tggttctatc tcgtactgga aaagcagatg tattgactaa 480  
tcctcatcgg ctttatggaa gcagccaggt ctacttcag gaaattagaa gaatcagaga 540  
agcgggcgga tggatttcca atggtaggat atgtggtgac attgctgtat ctctgtcttt 600  
tggtgacttc cggttcaaga acaagaaaaa tgagatgctg aagaaagggtg ttaatgaagg 660  
aagatggtca gaaaaaattt gttctanaag tgcactttac aaagacctgg ttattgcac 720  
accagatatt tttcaagtat ctcttggggg cagatgcaga atttgtactg tttacctctg 780  
atggactatg ggattaccta a 801

<210> 64  
<211> 960  
<212> DNA  
<213> Lactuca sativa

<220>  
<221> misc\_feature  
<222> (818)..(818)  
<223> n is a, c, g, or t

<400> 64  
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gatttctact caacaacaac gtttagtaaga tcgacttgaa gaagactaat agttgtaata 120  
gcaataatca tataattatg agaaagtgga gtagagaagg cagcccccg tgctgttcgg 180

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cgattgcaat cgacgctcct tcttctctct ctgatggcct tggctctggg atcagatggg      240
gttccgccaa attacaaggt gcccgcgagg agatggaaga cgatgctgtt atagtccggt      300
catcgctca taacgagctt gatggtttct ttttcgctgc cgttttcgat ggtcacgcgg      360
gtttctcttc tgttaagttc ctcagggagg agctatacaa ggagtgtgtg aaggctctac      420
aagggggggct attgttgagt aaaaaggaca ccattggaat cgagaaagca ctgcaggagg      480
ctttccagaa tgctgatgcc aaactttctaa actggcttga gatgaacgga gaggacgatg      540
aatctgggtgc aacagccaca actatgttcc taggaaacaa tatgctgttc atctctcatg      600
tcggtgattc atgtgogggt ctttcacaat ctggaaaggc acaagaattg accaattctc      660
acagacccta tggaagaaac aaggtttccc ttcaagagat caagcgaatc agagaagcag      720
gtggatggat ttcggatgga agaactctgt gagatatttc tgtatcccgt gcctttggtg      780
acatgcggtt taaaacaaag aagaaagaga tgctgganaa gggagttgcc gaaagcagat      840
ggctctgaaaa atttgtatcc cgcattcggt tctttgggga cttggttatt gctactcctg      900
atatttatca agttacactt gggcctgaag cagaattttg tatggtagcg accgatggct      960

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<210> 65
<211> 693
<212> DNA
<213> Gossypium hirsutum

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<220>
<221> misc_feature
<222> (660)..(660)
<223> n is a, c, g, or t

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```

<400> 65
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ctgattctca tcgaccctat ggcagcaaca aggctctttt gcaagaaatt agaagaatca      180
gagaagcagg tggatggatt agcaatggta ggatttgtgg tgacatagct gtatcccgtg      240
cttttggcga cactcgattt aaaacgaaga agaacgaaat gctgaagaag ggagttgaag      300
aaaagagatg gtctgaaaaa tttatttctc gtgtagtggt caatgatgac ttgggtcatag      360
catctccaga cacttttaaa gtagctcttg gatcagatgc agaatttgtc ctgttggcat      420
ctgatgggtt atgggattac ataaacagtt cagacgcagt tgcttttgtt cgaaatcaat      480
tacgagaaca tggagatggt caggtagcat gtgatgtact tgcacaagcc gctctggata      540
aaggctcaga agacaatgtc agcattatca tagctgattt cgggcatact gaatggcaga      600
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<210> 66  
<211> 707  
<212> DNA  
<213> Helianthus annuus

<400> 66  
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atggtccgaa aagtttgcac cccgaatgaa gttttttgaa gacttggtta ttgctactcc 540  
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<210> 67  
<211> 759  
<212> DNA  
<213> Glycine max

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<210> 68  
<211> 827  
<212> DNA  
<213> Avena barbata

<400> 68  
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<210> 69  
<211> 792  
<212> DNA  
<213> Panicum virgatum

<400> 69  
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<210> 70  
<211> 743  
<212> DNA  
<213> Artemisia annua

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accgcgcttg agtcaccaat atg 743

<210> 71  
<211> 703  
<212> DNA  
<213> Allium cepa

<400> 71  
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|                                                                   |     |
|-------------------------------------------------------------------|-----|
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| aaaaggagtt gaagagggga gatggacaga aaaatttgtc tccagaatac gattcaaagg | 600 |
| tgacttggtg acttcttccc ctgatgtctt tcaacttgaa ttgggatctg atgtggaatt | 660 |
| tgtattgctt gcatctgatg ggttatggga ctatattagg agc                   | 703 |

<210> 72  
<211> 607  
<212> DNA  
<213> *Arachis hypogaea*

|                                                                               |     |
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| atggtagaat ttgtggagac attgctgtat ctgctgcatt cggggactta cgatacaaaa             | 180 |
| caaagaagaa tgagatgcta caaaaaggag ttcaagaagg acgatgggtca gaaaagtta             | 240 |
| tctctcgggt acggctcaac aatgatttag ttgttgcata cctgatatt tatcaagtag              | 300 |
| atcttggtc agatgctgag tttatagtat tagcgtcaga tggcttatgg gattatatga              | 360 |
| gcagctcaga tgcagtttcc tttgtgaggg aacagttaca aaagcatgga aacattcagg             | 420 |
| tagcctgtga agcacttgca caagcagcta tggaccgtag aacacaggat aatgtgagca             | 480 |
| ttataattgc tgatttaggg aagacagatt gggagaatgt ggcagtgcag caacaaaata             | 540 |
| tggatttggg gctggttcaa gcccttgcta ccattggtat tgtgtccatt ggaatttgg              | 600 |
| tttcgtc                                                                       | 607 |