

## SEQUENCE LISTING

<110> University of Oulu  
 <120> A new pharmaceutical product  
 <130> OULU17  
 <160> 56  
 <170> PatentIn version 3.4  
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 <211> 243  
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 <213> Sus scrofa  
  
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 <220>  
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 Gly Gln Glu Thr Thr Glu Lys Pro Gly Ala Leu Leu Pro Met Pro Lys  
 20 25 30  
 Gly Ala Cys Ala Gly Trp Met Ala Gly Ile Pro Gly His Pro Gly His  
 35 40 45  
 Asn Gly Thr Pro Gly Arg Asp Gly Arg Asp Gly Val Pro Gly Glu Lys  
 50 55 60  
 Gly Glu Lys Gly Xaa Thr Gly Leu Thr Xaa Pro Lys Gly Asp Thr Gly  
 65 70 75 80  
 Glu Ser Gly Val Thr Gly Val Glu Gly Pro Arg Gly Phe Pro Gly Ile  
 85 90 95  
 Pro Gly Arg Lys Gly Glu Pro Gly Glu Ser Ala Tyr Val Tyr Arg Ser  
 100 105 110  
 Ala Phe Ser Val Gly Leu Glu Thr Arg Val Thr Val Pro Asn Met Pro  
 115 120 125  
 Ile Arg Xaa Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp Val  
 130 135 140  
 Thr Thr Gly Lys Phe His Cys Asn Ile Pro Gly Leu Tyr Tyr Phe Ser  
 145 150 155 160  
 Phe His Val Thr Val Tyr Leu Lys Asp Val Lys Val Ser Leu Tyr Lys  
 165 170 175  
 Lys Asp Lys Ala Val Leu Phe Thr Tyr Asp Gln Tyr Gln Asp Lys Asn  
 180 185 190  
 Val Asp Gln Ala Ser Gly Ser Val Leu Leu Tyr Leu Glu Lys Gly Asp  
 195 200 205

OULU17\_ST25.txt

Gln Val Trp Leu Gln Ala Tyr Gly Asp Glu Glu Asn Asn Gly Val Tyr  
210 215 220

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

Asn Ile Glu

<210> 2  
<211> 225  
<212> PRT  
<213> Sus scrofa

<400> 2

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

Gly Gln Glu Thr Thr Glu Lys Pro Gly Ala Leu Leu Pro Met Pro Lys  
20 25 30

Gly Ala Cys Ala Gly Trp Met Ala Gly Ile Pro Gly His Pro Gly His  
35 40 45

Asn Gly Thr Pro Gly Arg Asp Asp Arg Asp Gly Val Pro Gly Glu Lys  
50 55 60

Gly Glu Lys Gly Asp Thr Gly Leu Thr Gly Pro Lys Gly Asp Thr Gly  
65 70 75 80

Glu Ser Gly Val Thr Gly Val Glu Gly Pro Arg Gly Phe Pro Gly Ile  
85 90 95

Pro Gly Arg Lys Gly Glu Pro Gly Glu Ser Ala Tyr Val Tyr Arg Ser  
100 105 110

Ala Phe Ser Val Gly Leu Glu Thr Arg Val Thr Val Pro Asn Met Pro  
115 120 125

Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp Val  
130 135 140

Thr Thr Gly Lys Phe His Cys Asn Ile Pro Gly Leu Tyr Tyr Phe Ser  
145 150 155 160

Phe His Ile Thr Val Tyr Leu Lys Asp Ala Arg Val Ser Leu Tyr Lys  
165 170 175

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

Val Asp Gln Ala Ser Gly Ser Val Leu Leu Tyr Leu Glu Lys Gly Asp  
195 200 205

Gln Val Trp Leu Gln Ala Tyr Gly Asp Glu Glu Asn Asn Gly Val Tyr  
210 215 220

Ala  
225

<210> 3  
<211> 145  
<212> PRT  
<213> Sus scrofa

<400> 3

OULU17\_ST25.txt

Pro Lys Gly Ala Cys Ala Gly Trp Met Ala Gly Ile Pro Gly His Pro  
1 5 10 15

Gly His Asn Gly Thr Pro Gly Arg Asp Gly Arg Asp Gly Val Pro Gly  
20 25 30

Glu Lys Gly Glu Lys Gly Asp Thr Gly Leu Thr Gly Pro Lys Gly Asp  
35 40 45

Thr Gly Glu Ser Gly Val Thr Gly Val Glu Gly Pro Arg Gly Phe Pro  
50 55 60

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

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

Met Pro Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr  
100 105 110

Asp Val Thr Thr Gly Lys Phe His Cys Asn Ile Pro Gly Leu Tyr Tyr  
115 120 125

Phe Ser Phe His Ile Thr Val Tyr Leu Lys Asp Val Lys Val Ser Leu  
130 135 140

Phe  
145

<210> 4  
<211> 144  
<212> PRT  
<213> Sus scrofa

<400> 4

Asp Gly Arg Asp Gly Val Pro Gly Glu Lys Gly Glu Lys Gly Asp Thr  
1 5 10 15

Gly Leu Thr Gly Pro Lys Gly Asp Thr Gly Glu Ser Gly Val Thr Gly  
20 25 30

Val Glu Gly Pro Arg Gly Phe Pro Gly Ile Pro Gly Arg Lys Gly Glu  
35 40 45

Pro Gly Gly Ser Ala Tyr Val Tyr Arg Ser Ala Phe Ser Val Gly Leu  
50 55 60

Glu Thr Arg Val Thr Val Pro Asn Met Pro Ile Arg Phe Thr Lys Ile  
65 70 75 80

Phe Tyr Asn Gln Gln Asn His Tyr Asp Val Thr Thr Gly Lys Phe His  
85 90 95

Cys Asn Ile Pro Gly Leu Tyr Tyr Phe Ser Phe His Ile Thr Val Tyr  
100 105 110

Leu Lys Asp Val Lys Val Ser Leu Tyr Lys Lys Asp Lys Ala Val Leu  
115 120 125

Phe Thr Tyr Asp Gln Tyr Gln Asp Lys Asn Val Asp Gln Ala Ser Gly  
130 135 140

<210> 5  
<211> 244

OULU17\_ST25.txt

<212> PRT

<213> *Oryctolagus cuniculus*

<400> 5

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

Gly Gln Asp Ser Thr Thr Glu Ser Pro Gly Val Leu Ile Pro Ala Pro
 20          25          30

Lys Gly Ala Cys Ala Gly Trp Ile Ala Gly Ile Pro Gly His Pro Gly
 35          40          45

His Asn Gly Thr Pro Gly Arg Asp Gly Arg Asp Gly Thr Pro Gly Glu
 50          55          60

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

Gly Glu Thr Gly Val Thr Gly Ala Glu Gly Pro Arg Gly Phe Pro Gly
 85          90          95

Ser Pro Gly Arg Lys Gly Glu Pro Gly Glu Gly Ala Tyr Val Tyr Arg
100         105         110

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

Pro Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp
130         135         140

Ser Thr Thr Gly Lys Phe Arg Cys Asn Ile Pro Gly Leu Tyr Tyr Phe
145         150         155         160

Ser Tyr His Ile Thr Val Tyr Met Lys Asp Val Lys Val Ser Leu Phe
165         170         175

Lys Lys Asp Lys Ala Met Leu Phe Thr Tyr Asp Gln Tyr Gln Asp Lys
180         185         190

Asn Val Asp Gln Ala Ser Gly Ser Val Leu Leu His Leu Gln Val Asp
195         200         205

Asp Gln Val Trp Leu Gln Val Tyr Gly Asp Gly Asp His Asn Gly Leu
210         215         220

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

His Asp Thr Asn

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<210> 6

<211> 244

<212> PRT

<213> *Homo sapiens*

<400> 6

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Met Leu Leu Leu Gly Ala Val Leu Leu Leu Leu Ala Leu Pro Gly His
 1          5          10          15

Asp Gln Glu Thr Thr Thr Gln Gly Pro Gly Val Leu Leu Pro Leu Pro
 20          25          30

Lys Gly Ala Cys Thr Gly Trp Met Ala Gly Ile Pro Gly His Pro Gly
 35          40          45

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OULU17\_ST25.txt

His Asn Gly Ala Pro Gly Arg Asp Gly Arg Asp Gly Thr Pro Gly Glu  
50 55 60

Lys Gly Glu Lys Gly Asp Pro Gly Leu Ile Gly Pro Lys Gly Asp Ile  
65 70 75 80

Gly Glu Thr Gly Val Pro Gly Ala Glu Gly Pro Arg Gly Phe Pro Gly  
85 90 95

Ile Gln Gly Arg Lys Gly Glu Pro Gly Glu Gly Ala Tyr Val Tyr Arg  
100 105 110

Ser Ala Phe Ser Val Gly Leu Glu Thr Tyr Val Thr Ile Pro Asn Met  
115 120 125

Pro Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp  
130 135 140

Gly Ser Thr Gly Lys Phe His Cys Asn Ile Pro Gly Leu Tyr Tyr Phe  
145 150 155 160

Ala Tyr His Ile Thr Val Tyr Met Lys Asp Val Lys Val Ser Leu Phe  
165 170 175

Lys Lys Asp Lys Ala Met Leu Phe Thr Tyr Asp Gln Tyr Gln Glu Asn  
180 185 190

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

Asp Gln Val Trp Leu Gln Val Tyr Gly Glu Gly Glu Arg Asn Gly Leu  
210 215 220

Tyr Ala Asp Asn Asp Asn Asp Ser Thr Phe Thr Gly Phe Leu Leu Tyr  
225 230 235 240

His Asp Thr Asn

<210> 7  
<211> 245  
<212> PRT  
<213> Anser anser

<400> 7

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

Pro Cys Cys Thr Glu Val Ala Ala Pro Asp Pro Gln Pro Asp Pro Lys  
20 25 30

Thr Pro Cys Ala Asn Trp Met Gly Gly Ala Pro Gly Tyr Pro Gly His  
35 40 45

Asn Gly Leu Pro Gly Arg Asp Gly Lys Asp Gly Lys Asp Gly Leu Lys  
50 55 60

Gly Glu Lys Gly Glu Gln Gly Leu Gln Gly Ser Lys Gly Asp Gln Gly  
65 70 75 80

Glu Lys Gly Thr Pro Gly Pro Glu Gly Pro Arg Gly Phe Pro Gly Tyr  
85 90 95

Pro Gly Leu Lys Gly Asp Lys Gly Glu Gly Ala Tyr Val Tyr Arg Ser

100

105

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

<210> 8  
<211> 244  
<212> PRT  
<213> Canis lupus  
<400> 8

Met Leu Leu Leu Arg Ala Val Leu Leu Leu Leu Val Leu Pro Ala His  
1 5 10 15  
Gly Gln Asp Ser Val Ala Glu Gly Pro Gly Val Leu Leu Pro Leu Pro  
20 25 30  
Lys Gly Ala Cys Pro Gly Trp Met Ala Gly Ile Pro Gly His Pro Gly  
35 40 45  
His Asn Gly Thr Pro Gly Arg Asp Gly Arg Asp Gly Thr Pro Gly Glu  
50 55 60  
Lys Gly Glu Lys Gly Asp Ala Gly Leu Val Gly Pro Lys Gly Asp Thr  
65 70 75 80  
Gly Glu Thr Gly Val Thr Gly Val Glu Gly Pro Arg Gly Phe Pro Gly  
85 90 95  
Thr Pro Cys Arg Lys Gly Glu Pro Gly Glu Ser Ala Tyr Val His Arg  
100 105 110  
Ser Ala Phe Ser Val Gly Leu Glu Ser Arg Ile Thr Val Pro Asn Val  
115 120 125  
Pro Ile Arg Phe Thr Lys Ile Phe Tyr Asn Leu Gln Asn His Tyr Asp  
130 135 140  
Gly Thr Thr Gly Lys Phe His Cys Asn Ile Pro Gly Leu Tyr Tyr Phe  
145 150 155 160

Ser Tyr His Ile Thr Val Tyr Leu Lys Asp Val Lys Val Ser Leu Tyr  
165 170 175

Lys Lys Asp Lys Ala Met Leu Phe Thr Tyr Asp Gln Tyr Gln Glu Lys  
180 185 190

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

Asp Gln Val Trp Leu Gln Val Tyr Gly Asp Gly Asp Ser Tyr Gly Ile  
210 215 220

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

His Asp Thr Asn

<210> 9  
<211> 243  
<212> PRT  
<213> Macaca fuscata

<400> 9

Met Leu Leu Gly Ala Val Leu Leu Leu Leu Ala Leu Pro Ser His Gly  
1 5 10 15

Gln Asp Thr Thr Thr Gln Gly Pro Gly Val Leu Leu Pro Leu Pro Lys  
20 25 30

Gly Pro Cys Thr Gly Trp Met Ala Gly Ile Pro Gly His Pro Gly His  
35 40 45

Asn Gly Val Pro Gly Arg Asp Gly Arg Asp Gly Thr Ala Gly Glu Lys  
50 55 60

Gly Glu Lys Gly Asp Pro Gly Leu Ile Gly Pro Lys Gly Asp Thr Gly  
65 70 75 80

Glu Thr Gly Val Thr Gly Ala Glu Gly Pro Arg Gly Phe Pro Gly Ile  
85 90 95

Gln Gly Arg Lys Gly Glu Pro Gly Glu Gly Ala Tyr Val Tyr Arg Ser  
100 105 110

Ala Phe Ser Val Gly Leu Glu Thr Tyr Val Thr Val Pro Asn Met Pro  
115 120 125

Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp Gly  
130 135 140

Ser Thr Gly Lys Phe His Cys Asn Ile Pro Gly Leu Tyr Tyr Phe Ala  
145 150 155 160

Tyr His Ile Thr Val Tyr Met Lys Asp Val Lys Val Ser Leu Phe Lys  
165 170 175

Lys Asp Lys Ala Met Leu Phe Thr Tyr Asp Gln Tyr Gln Glu Asn Asn  
180 185 190

Val Asp Gln Ala Ser Gly Ser Val Leu Leu His Leu Glu Val Gly Asp  
195 200 205

Gln Val Trp Leu Gln Val Tyr Gly Glu Gly Glu Arg Asn Gly Leu Tyr  
210 215 220

OULU17\_ST25.txt

Ala Asp Asn Asp Asn Asp Ser Thr Phe Thr Gly Phe Leu Leu Tyr His  
225 230 235 240

Asp Thr Asn

<210> 10  
<211> 243  
<212> PRT  
<213> Macaca mulatta

<400> 10

Met Leu Leu Gly Ala Val Leu Leu Leu Leu Ala Leu Pro Ser His Gly  
1 5 10 15

Gln Asp Thr Thr Thr Gln Gly Pro Gly Val Leu Leu Pro Leu Pro Lys  
20 25 30

Gly Ala Cys Thr Gly Trp Met Ala Gly Ile Pro Gly His Pro Gly His  
35 40 45

Asn Gly Val Pro Gly Arg Asp Gly Arg Asp Gly Thr Pro Gly Glu Lys  
50 55 60

Gly Glu Lys Gly Asp Pro Gly Leu Ile Gly Pro Lys Gly Asp Thr Gly  
65 70 75 80

Glu Thr Gly Val Thr Gly Ala Glu Gly Pro Arg Gly Phe Pro Gly Ile  
85 90 95

Gln Gly Arg Lys Gly Glu Pro Gly Glu Gly Ala Tyr Val Tyr Arg Ser  
100 105 110

Ala Phe Ser Val Gly Leu Glu Thr Tyr Val Thr Val Pro Asn Met Pro  
115 120 125

Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp Gly  
130 135 140

Ser Thr Gly Lys Phe His Cys Asn Ile Pro Gly Leu Tyr Tyr Phe Ala  
145 150 155 160

Tyr His Ile Thr Val Tyr Met Lys Asp Val Lys Val Ser Leu Phe Lys  
165 170 175

Lys Asp Lys Ala Met Leu Phe Thr Tyr Asp Gln Tyr Gln Glu Asn Asn  
180 185 190

Val Asp Gln Ala Ser Gly Ser Val Leu Leu His Leu Glu Val Gly Asp  
195 200 205

Gln Val Trp Leu Gln Val Tyr Gly Glu Gly Glu Arg Asn Gly Leu Tyr  
210 215 220

Ala Asp Asn Asp Asn Asp Ser Thr Phe Thr Gly Phe Leu Leu Tyr His  
225 230 235 240

Asp Thr Asn

<210> 11  
<211> 244  
<212> PRT  
<213> Gallus gallus

<400> 11



OULU17\_ST25.txt

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

Ser Gly Thr Glu Met Ala Asp Gln Ala Asp Gln Ser Asp Pro Lys Met  
20 25 30

Ser Cys Ala Asn Trp Met Gly Gly Ala Pro Gly His Pro Gly His Asn  
35 40 45

Gly Leu Pro Gly Arg Asp Gly Lys Asp Gly Lys Asp Gly Gln Lys Gly  
50 55 60

Asp Lys Gly Glu Pro Gly Leu Gln Gly Val Lys Gly Gly Thr Gly Glu  
65 70 75 80

Lys Gly Ala Thr Gly Ala Glu Gly Pro Arg Gly Phe Pro Gly His Met  
85 90 95

Gly Met Lys Gly Gln Lys Gly Glu Ser Ser Tyr Val Tyr Arg Ser Ala  
100 105 110

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

Arg Phe Thr Lys Ile Phe Tyr Asn Glu Gln Asn His Tyr Asp Ser Ser  
130 135 140

Thr Gly Lys Phe Leu Cys Ser Ile Pro Gly Thr Tyr Phe Phe Ala Tyr  
145 150 155 160

His Leu Thr Val Tyr Met Thr Asp Val Lys Val Ser Leu Tyr Lys Lys  
165 170 175

Asp Lys Ala Val Ile Phe Thr Tyr Asp Gln Phe Gln Glu Asn Asn Val  
180 185 190

Asp Gln Ala Ser Gly Ser Val Leu Leu His Leu Ser Leu Gly Asp Glu  
195 200 205

Val Trp Leu Gln Val Tyr Gly Glu Gly Asn Asn Asn Gly Val Tyr Ala  
210 215 220

Asp Asn Ile Asn Asp Ser Thr Phe Met Gly Phe Leu Leu Tyr Pro Asp  
225 230 235 240

Thr Asp Asp Arg

<210> 12  
<211> 244  
<212> PRT  
<213> Felis catus

<400> 12

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

Gly Gln Asp Ser Glu Thr Glu Gly Pro Gly Val Val Val Pro Leu Pro  
20 25 30

Lys Gly Ala Cys Thr Gly Trp Met Ala Gly Ile Pro Gly His Pro Gly  
35 40 45

His Asn Gly Thr Pro Gly Arg Asp Gly Arg Asp Gly Thr Pro Gly Glu  
50 55 60

OULU17\_ST25.txt

Lys Gly Glu Lys Gly Asp Pro Gly Leu Val Gly Pro Lys Gly Asp Thr  
65 70 75 80

Gly Glu Thr Gly Val Thr Gly Ile Glu Gly Pro Arg Gly Phe Pro Gly  
85 90 95

Ile Pro Gly Arg Lys Gly Glu Pro Gly Glu Ser Ala Tyr Val Tyr Arg  
100 105 110

Ser Ala Phe Ser Val Gly Leu Glu Ser Arg Val Thr Val Pro Asn Val  
115 120 125

Pro Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp  
130 135 140

Val Thr Thr Arg Lys Phe His Cys Asn Ile Pro Gly Leu Tyr Tyr Phe  
145 150 155 160

Ser Tyr His Ile Thr Val Tyr Leu Lys Asp Val Lys Val Ser Leu Tyr  
165 170 175

Lys Arg Asp Lys Ala Met Leu Phe Thr Tyr Asp Gln Tyr Gln Glu Lys  
180 185 190

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

Asp Glu Val Trp Leu Gln Val Tyr Gly Asp Gly Asp Tyr Asn Gly Leu  
210 215 220

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

Tyr Asp Thr Val

<210> 13  
<211> 165  
<212> PRT  
<213> Felis catus

<400> 13

Pro Gly Val Leu Leu Pro Leu Pro Lys Gly Ala Cys Thr Gly Trp Met  
1 5 10 15

Ala Gly Ile Pro Gly His Pro Gly His Asn Gly Thr Pro Gly Arg Asp  
20 25 30

Gly Arg Asp Gly Thr Pro Gly Glu Lys Gly Glu Lys Gly Asp Pro Gly  
35 40 45

Leu Val Gly Pro Lys Gly Asp Thr Gly Glu Thr Gly Val Thr Gly Ile  
50 55 60

Glu Gly Pro Arg Gly Phe Pro Gly Ile Pro Gly Arg Lys Gly Glu Pro  
65 70 75 80

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

Ser Arg Val Thr Val Pro Asn Val Pro Ile Arg Phe Thr Lys Ile Phe  
100 105 110

Tyr Asn Gln Gln Asn His Tyr Asp Val Thr Thr Gly Lys Phe His Cys  
sivu 10

115

120

Asn Ile Pro Gly Leu Tyr Tyr Phe Ser Tyr His Ile Thr Val Tyr Leu  
130 135 140

Lys Asp Val Lys Val Ser Leu Tyr Lys Arg Asp Lys Ala Met Leu Phe  
145 150 155 160

Thr Tyr Asp Gln Tyr  
165

<210> 14  
<211> 106  
<212> PRT  
<213> Felis catus

<400> 14

Thr Gly Val Thr Gly Ile Glu Gly Pro Arg Gly Phe Pro Gly Ile Pro  
1 5 10 15

Gly Arg Lys Gly Glu Pro Gly Glu Ser Ala Tyr Val Tyr Arg Ser Ala  
20 25 30

Phe Ser Val Gly Leu Glu Ser Arg Val Thr Val Pro Asn Val Pro Ile  
35 40 45

Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp Val Thr  
50 55 60

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

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

Asp Lys Ala Met Leu Phe Thr Tyr Asp Gln  
100 105

<210> 15  
<211> 245  
<212> PRT  
<213> Anas platyrhynchos

<400> 15

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

Pro His Cys Thr Glu Val Ala Ala Gln Asp Pro Gln Pro Asp Pro Lys  
20 25 30

Thr Pro Cys Ala Asn Trp Met Gly Gly Ala Pro Gly Tyr Pro Gly His  
35 40 45

Asn Gly Leu Pro Gly Arg Asp Gly Lys Asp Gly Lys Asp Gly Leu Lys  
50 55 60

Gly Glu Lys Gly Glu Gln Gly Leu Gln Gly Ser Lys Gly Asp Gln Gly  
65 70 75 80

Ala Met Gly Ser Ala Gly Pro Glu Gly Pro Arg Gly Phe Pro Gly Gln  
85 90 95

Pro Gly Leu Lys Gly Asp Lys Gly Glu Gly Ala Tyr Val Tyr Arg Ser  
100 105 110

Ala Phe Ser Val Gly Leu Thr Glu Arg Ala Pro His Pro Asn Val Pro  
sivu 11

115

120

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

<210> 16  
<211> 229  
<212> PRT  
<213> vulpes vulpes

<400> 16

Leu Leu Leu Val Leu Pro Ala His Gly Gln Asp Ser Val Ala Glu Gly  
1 5 10 15  
Pro Gly Val Leu Leu Pro Leu Pro Lys Gly Ala Cys Pro Gly Trp Met  
20 25 30  
Ala Gly Ile Pro Gly His Pro Gly His Asn Gly Thr Pro Gly Arg Asp  
35 40 45  
Gly Arg Asp Gly Thr Pro Gly Glu Lys Gly Glu Lys Gly Asp Pro Gly  
50 55 60  
Leu Val Gly Pro Lys Gly Asp Thr Gly Glu Thr Gly Ile Thr Gly Val  
65 70 75 80  
Glu Gly Pro Arg Gly Phe Pro Gly Thr Pro Gly Arg Lys Gly Glu Pro  
85 90 95  
Gly Glu Ser Ala Tyr Val His Arg Ser Ala Phe Ser Val Gly Leu Glu  
100 105 110  
Ser Arg Ile Thr Val Pro Asn Val Pro Ile Arg Phe Thr Lys Ile Phe  
115 120 125  
Tyr Asn Leu Gln Asn His Tyr Asp Gly Thr Thr Gly Lys Phe His Cys  
130 135 140  
Asn Ile Pro Gly Leu Tyr Tyr Phe Ser Tyr His Ile Thr Val Tyr Leu  
145 150 155 160  
Lys Asp Val Lys Val Ser Leu Tyr Lys Lys Asp Lys Ala Met Leu Phe  
165 170 175

Thr Tyr Asp Gln Tyr Gln Glu Lys Asn Val Asp Gln Ala Ser Gly Ser  
180 185 190

Val Leu Leu His Leu Glu Val Gly Asp Gln Val Trp Leu Gln Val Tyr  
195 200 205

Gly Asp Gly Asp Ser Tyr Gly Ile Tyr Ala Asp Asn Val Asn Asp Ser  
210 215 220

Thr Phe Thr Gly Phe  
225

<210> 17  
<211> 229  
<212> PRT  
<213> Alopex lagopus

<400> 17

Leu Leu Leu Val Leu Pro Ala His Gly Gln Asp Ser Val Ala Glu Gly  
1 5 10 15

Pro Gly Val Leu Leu Pro Leu Pro Lys Gly Ala Cys Pro Gly Trp Met  
20 25 30

Ala Gly Ile Pro Gly His Pro Gly His Asn Gly Thr Pro Gly Arg Asp  
35 40 45

Gly Arg Asp Gly Thr Pro Gly Glu Lys Gly Glu Lys Gly Asp Pro Gly  
50 55 60

Leu Val Gly Pro Lys Gly Asp Thr Gly Glu Thr Gly Ile Thr Gly Val  
65 70 75 80

Glu Gly Pro Arg Gly Phe Pro Gly Thr Pro Gly Arg Lys Gly Glu Pro  
85 90 95

Gly Glu Ser Ala Tyr Val His Arg Ser Ala Phe Ser Val Gly Leu Glu  
100 105 110

Ser Arg Ile Thr Val Pro Asn Val Pro Ile Arg Phe Thr Lys Ile Phe  
115 120 125

Tyr Asn Leu Gln Asn His Tyr Asp Gly Thr Thr Gly Lys Phe His Cys  
130 135 140

Asn Ile Pro Gly Leu Tyr Tyr Phe Ser Tyr His Ile Thr Val Tyr Leu  
145 150 155 160

Lys Asp Val Lys Val Ser Leu Tyr Lys Lys Asp Lys Ala Met Leu Phe  
165 170 175

Thr Tyr Asp Gln Tyr Gln Glu Lys Asn Val Asp Gln Ala Ser Gly Ser  
180 185 190

Val Leu Leu His Leu Glu Val Gly Asp Gln Val Trp Leu Gln Val Tyr  
195 200 205

Gly Asp Gly Asp Ser Tyr Gly Ile Tyr Ala Asp Asn Val Asn Asp Ser  
210 215 220

Thr Phe Thr Gly Phe  
225

<210> 18  
<211> 229  
<212> PRT

&lt;213&gt; Nyctereutes procyonoides

&lt;400&gt; 18

Leu Leu Leu Val Leu Pro Ala His Gly Gln Asp Ser Val Ala Glu Gly  
 1 5 10 15

Pro Gly Val Leu Leu Pro Leu Pro Lys Gly Ala Cys Pro Gly Trp Met  
 20 25 30

Ala Gly Ile Pro Gly His Pro Gly His Asn Gly Thr Pro Gly Arg Asp  
 35 40 45

Gly Arg Asp Gly Thr Pro Gly Glu Lys Gly Glu Lys Gly Asp Pro Gly  
 50 55 60

Leu Val Gly Pro Lys Gly Asp Thr Gly Glu Thr Gly Ile Thr Gly Val  
 65 70 75 80

Glu Gly Pro Arg Gly Phe Pro Gly Thr Pro Gly Arg Lys Gly Glu Pro  
 85 90 95

Gly Glu Ser Ala Tyr Val His Arg Ser Ala Phe Ser Val Gly Leu Glu  
 100 105 110

Ser Arg Ile Thr Val Pro Asn Val Pro Ile Arg Phe Thr Lys Ile Phe  
 115 120 125

Tyr Asn Leu Gln Asn His Tyr Asp Gly Thr Thr Gly Lys Phe His Cys  
 130 135 140

Asn Ile Pro Gly Leu Tyr Tyr Phe Ser Tyr His Ile Thr Val Tyr Leu  
 145 150 155 160

Lys Asp Val Lys Val Ser Leu Tyr Lys Lys Asp Lys Ala Met Leu Phe  
 165 170 175

Thr Tyr Asp Gln Tyr Gln Glu Lys Asn Val Asp Gln Ala Ser Gly Ser  
 180 185 190

Val Leu Leu His Leu Glu Val Gly Asp Gln Val Trp Leu Gln Val Tyr  
 195 200 205

Gly Asp Gly Asp Ser Tyr Gly Ile Tyr Ala Asp Asn Val Asn Asp Ser  
 210 215 220

Thr Phe Thr Gly Phe  
 225

&lt;210&gt; 19

&lt;211&gt; 244

&lt;212&gt; PRT

&lt;213&gt; Rattus norvegicus

&lt;400&gt; 19

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

Glu Gly Ile Thr Ala Thr Glu Gly Pro Gly Ala Leu Val Pro Pro Pro  
 20 25 30

Lys Glu Thr Cys Ala Gly Trp Met Ala Gly Ile Pro Gly Tyr Pro Gly  
 35 40 45

His Asn Gly Ile Pro Gly Arg Asp Gly Arg Asp Gly Thr Pro Gly Glu  
 50 55 60

OULU17\_ST25.txt

Lys Gly Glu Lys Gly Asp Ala Gly Val Leu Gly Pro Lys Gly Asp Pro  
65 70 75 80

Gly Asp Ala Gly Met Thr Gly Ala Glu Gly Pro Arg Gly Phe Pro Gly  
85 90 95

Thr Pro Gly Arg Lys Gly Glu Pro Gly Glu Ala Ala Tyr Met Tyr His  
100 105 110

Ser Ala Phe Ser Val Gly Leu Glu Thr Arg Val Thr Val Pro Asn Val  
115 120 125

Pro Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp  
130 135 140

Gly Ser Thr Gly Lys Phe His Cys Asn Ile Pro Gly Leu Tyr Tyr Phe  
145 150 155 160

Ser Tyr His Ile Thr Val Tyr Met Lys Asp Val Lys Val Ser Leu Phe  
165 170 175

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

Asn Val Asp Gln Ala Ser Gly Ser Met Leu Leu His Leu Glu Val Gly  
195 200 205

Asp Gln Val Trp Leu Gln Val Tyr Gly Glu Gly Asp Asn Asn Gly Leu  
210 215 220

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

His Asp Thr Asn

<210> 20  
<211> 247  
<212> PRT  
<213> Mus musculus

<400> 20

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

Ala Glu Asp Asp Val Thr Thr Thr Glu Glu Leu Ala Pro Ala Leu Val  
20 25 30

Pro Pro Pro Lys Gly Thr Cys Ala Gly Trp Met Ala Gly Ile Pro Gly  
35 40 45

His Pro Gly His Asn Gly Thr Pro Gly Arg Asp Gly Arg Asp Gly Thr  
50 55 60

Pro Gly Glu Lys Gly Glu Lys Gly Asp Ala Gly Leu Leu Gly Pro Lys  
65 70 75 80

Gly Glu Thr Gly Asp Val Gly Met Thr Gly Ala Glu Gly Pro Arg Gly  
85 90 95

Phe Pro Gly Thr Pro Gly Arg Lys Gly Glu Pro Gly Glu Ala Ala Tyr  
100 105 110

Val Tyr Arg Ser Ala Phe Ser Val Gly Leu Glu Thr Arg Val Thr Val  
115 120 125

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Pro Asn Val Pro Ile Arg Phe Thr Lys Ile Phe Tyr Asn Gln Gln Asn  
130 135 140

His Tyr Asp Gly Ser Thr Gly Lys Phe Tyr Cys Asn Ile Pro Gly Leu  
145 150 155 160

Tyr Tyr Phe Ser Tyr His Ile Thr Val Tyr Met Lys Asp Val Lys Val  
165 170 175

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

Gln Glu Lys Asn Val Asp Gln Ala Ser Gly Ser Val Leu Leu His Leu  
195 200 205

Glu Val Gly Asp Gln Val Trp Leu Gln Val Tyr Gly Asp Gly Asp His  
210 215 220

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

Leu Leu Tyr His Asp Thr Asn  
245

<210> 21  
<211> 240  
<212> PRT  
<213> Bos taurus

<400> 21

Met Leu Leu Gln Gly Ala Leu Leu Leu Leu Leu Ala Leu Pro Ser His  
1 5 10 15

Gly Glu Asp Asn Met Glu Asp Pro Pro Leu Pro Lys Gly Ala Cys Ala  
20 25 30

Gly Trp Met Ala Gly Ile Pro Gly His Pro Gly His Asn Gly Thr Pro  
35 40 45

Gly Arg Asp Gly Arg Asp Gly Thr Pro Gly Glu Lys Gly Glu Lys Gly  
50 55 60

Asp Pro Gly Leu Val Gly Pro Lys Gly Asp Thr Gly Glu Thr Gly Ile  
65 70 75 80

Thr Gly Ile Glu Gly Pro Arg Gly Phe Pro Gly Thr Pro Gly Arg Lys  
85 90 95

Gly Glu Pro Gly Glu Ser Ala Tyr Val Tyr Arg Ser Ala Phe Ser Val  
100 105 110

Gly Leu Glu Arg Gln Val Thr Val Pro Asn Val Pro Ile Arg Phe Thr  
115 120 125

Lys Ile Phe Tyr Asn Gln Gln Asn His Tyr Asp Gly Thr Thr Gly Lys  
130 135 140

Phe Leu Cys Asn Ile Pro Gly Leu Tyr Tyr Phe Ser Tyr His Ile Thr  
145 150 155 160

Val Tyr Leu Lys Asp Val Lys Val Ser Leu Tyr Lys Asn Asp Lys Ala  
165 170 175

Leu Leu Phe Thr His Asp Gln Phe Gln Asp Lys Asn Val Asp Gln Ala  
sivu 16



180

185

Ser Gly Ser Val Leu Leu Tyr Leu Glu Lys Gly Asp Gln Val Trp Leu  
195 200 205

Gln Val Tyr Glu Gly Glu Asn His Asn Gly Val Tyr Ala Asp Asn Val  
210 215 220

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

<210> 22  
<211> 275  
<212> PRT  
<213> Danio rerio

<400> 22

Met Ser Leu Leu Arg Thr Ile Ile Leu Gly Ile Ile Leu Thr Gly His  
1 5 10 15

Leu Cys Gly Gly Gln Asp Glu Leu Leu Glu Asp Ser Leu Glu Thr Ala  
20 25 30

Val Asp Glu Val Ala Thr Glu Gly Ile Glu Glu Leu Glu Glu Pro Glu  
35 40 45

Glu Glu Gly Leu Asp Leu Ser Pro Pro Asp Asp Arg Gln Pro Cys Ala  
50 55 60

Met Trp Met Gly Gly Val Pro Gly Thr Pro Gly His Ser Gly Lys Pro  
65 70 75 80

Gly Arg Asp Gly Arg Asp Gly Arg Asp Gly Pro Arg Gly Glu Lys Gly  
85 90 95

Asp Gln Gly Glu Ala Gly Glu Lys Gly Asp Pro Gly Glu Lys Gly Asp  
100 105 110

Ile Gly Asn Ala Gly Pro Arg Gly Phe Pro Gly Asn Pro Gly Leu Lys  
115 120 125

Gly Ala Arg Gly Glu Ser Ala Ser Ser Tyr His Ser Ala Phe Ser Val  
130 135 140

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

Lys Phe Phe Tyr Asn Asp Gln His His Tyr Asp Asp Val Ser Gly Lys  
165 170 175

Phe Arg Cys Val Leu Pro Gly Val Tyr Phe Phe Thr Tyr His Leu Thr  
180 185 190

Val Tyr Thr Lys Asp Ala Lys Val Ser Leu Tyr Lys Asn Asp Lys Ala  
195 200 205

Ile Met Phe Thr Tyr Asp Gln Tyr Gln Glu Thr Asn Val Asp Gln Ala  
210 215 220

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

Gln Val Tyr Gly Asp Glu Thr Val Gly Gly Val Tyr Ala Asp Asn Thr  
245 250 255

Asn Asp Ser Thr Phe Ser Gly Phe Leu Leu Tyr Pro Val Asn Pro Ala  
 260 265 270

Glu Arg Arg  
 275

<210> 23  
 <211> 220  
 <212> PRT  
 <213> Danio rerio

<400> 23

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

Arg Glu Pro Cys Ala Arg Trp Met Arg Gly Val Ser Gly Thr Pro Gly  
 20 25 30

Phe Gly Gly Ile Pro Gly Arg Asp Gly Arg Asp Gly Arg Glu Gly Glu  
 35 40 45

Lys Gly Asp Asn Gly Glu Pro Gly Pro Lys Gly Pro Thr Gly Glu Pro  
 50 55 60

Gly Lys Pro Gly Asp Glu Gly Phe Pro Gly Lys Arg Gly Phe Pro Gly  
 65 70 75 80

Asn Pro Gly Leu Lys Gly Glu Ser Gly Glu Ala Ser Phe Pro Tyr His  
 85 90 95

Ser Ala Phe Ser Met Gly Leu Thr Asp Lys Val Ser Pro Ala Ser Gly  
 100 105 110

Ser Pro Ile Arg Phe Thr Lys Thr Phe Tyr Asn Glu Gln His His Tyr  
 115 120 125

Asp Asp Ile Ser Gly Lys Phe Arg Cys Ala Ile Pro Gly Ile Tyr Tyr  
 130 135 140

Phe Thr Tyr His Leu Thr Ile Asn Gly Lys Glu Thr Lys Val Ala Met  
 145 150 155 160

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

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

Gly Asp Glu Val Trp Leu Gln Leu Tyr Asp Asp Ile Phe Asp Glu Gly  
 195 200 205

Ile Tyr Val Asp Tyr Asn Asn Asp Ser Thr Phe Ser  
 210 215 220

<210> 24  
 <211> 200  
 <212> PRT  
 <213> Danio rerio

<400> 24

Pro Cys Ala Met Trp Met Gly Gly Val Pro Gly Thr Pro Gly His Ser  
 1 5 10 15

Gly Lys Pro Gly Arg Asp Gly Arg Asp Gly Arg Asp Gly Gln Arg Gly  
 20 25 30

Glu Lys Gly Asp Gln Gly Glu Ala Gly Glu Lys Gly Asp Pro Gly Glu  
 35 40 45  
 Lys Gly Asp Ile Gly Asn Ala Gly Pro Arg Gly Phe Pro Gly Asn Pro  
 50 55 60  
 Gly Leu Lys Gly Ala Arg Gly Glu Ser Ala Ser Ser Tyr His Ser Ala  
 65 70 75 80  
 Phe Ser Val Gly Leu Ser Glu Ile Val Ser Ala Thr Asn Val Pro Ile  
 85 90 95  
 Arg Phe Asn Lys Phe Phe Tyr Asn Asp Gln His His Tyr Asp Asp Val  
 100 105 110  
 Ser Gly Lys Phe Arg Cys Val Leu Pro Gly Val Tyr Phe Phe Thr Tyr  
 115 120 125  
 His Leu Thr Val Tyr Thr Lys Asp Ala Lys Val Ser Leu Tyr Lys Asn  
 130 135 140  
 Asp Lys Ala Ile Met Phe Thr Tyr Asp Gln Tyr Gln Glu Thr Asn Val  
 145 150 155 160  
 Asp Gln Ala Ser Gly Ser Val Ile Leu Arg Leu Glu Ala Gly Asp Glu  
 165 170 175  
 Val Trp Leu Gln Val Tyr Gly Asp Glu Thr Val Gly Gly Val Tyr Ala  
 180 185 190  
 Asp Asn Thr Asn Asp Ser Thr Phe  
 195 200  
 <210> 25  
 <211> 484  
 <212> PRT  
 <213> Danio rerio  
 <400> 25  
 Met Thr Leu Arg Phe Arg Phe Val Ala Phe Glu Cys Ile Phe Glu Trp  
 1 5 10 15  
 Glu Ser Met Gly Gly Lys Ala Gln Cys Asp Arg Cys Leu Lys Leu Ile  
 20 25 30  
 Pro Leu Val Arg Glu His Ile Gln Glu Arg Ser Lys Ile Gly Glu Gly  
 35 40 45  
 Ser Gly Cys Arg Leu Gly Ala Val Glu Ser Val Leu His Pro Met Leu  
 50 55 60  
 Phe Asn Val Leu Thr Asn Pro Thr Arg His Ser Val Val Ser Leu Ile  
 65 70 75 80  
 Ser Leu Ala Val Leu Ser Tyr Glu Arg Tyr Cys Thr Met Met Gly Ser  
 85 90 95  
 Thr Gln Ala Asp Ser Thr Asn Tyr Arg Lys Val Val Ile Gly Ile Ala  
 100 105 110  
 Phe Ser Trp Ile Tyr Ser Met Val Trp Thr Leu Pro Pro Leu Phe Gly  
 115 120 125  
 Trp Ser Cys Tyr Gly Pro Glu Gly Pro Gly Thr Thr Cys Ser Val Asn  
 130 135 140

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Trp Ala Ala Arg Thr Pro Asn Asn Val Ser Tyr Ile Val Cys Leu Phe  
 145 150 155 160  
 Val Phe Cys Leu Ile Leu Pro Phe Ile Val Ile Val Tyr Ser Tyr Gly  
 165 170 175  
 Arg Leu Leu Gln Ala Ile Thr Gln Leu Leu Arg Leu Ser Gly Gln Ile  
 180 185 190  
 Phe Leu Gly Met Thr Ser Arg Glu Glu Thr Arg Thr Gln Gly Gln Arg  
 195 200 205  
 Ser Thr Ser Tyr Gln Tyr Thr Gln Lys Asp Pro Leu Leu Met Asn Ser  
 210 215 220  
 Leu Thr Tyr Arg Leu Leu Leu Pro Leu Met Ser Ser Ala Trp Ile Val  
 225 230 235 240  
 Val Val Cys Val Ala Met Val Ala Arg Leu Gly Phe Ser Gln Ile Asp  
 245 250 255  
 Leu Ala Glu Gln Asn Ser Arg Glu Pro Cys Ala Arg Trp Met Arg Gly  
 260 265 270  
 Val Ser Gly Thr Pro Gly Phe Gly Gly Ile Pro Gly Arg Asp Gly Arg  
 275 280 285  
 Asp Gly Arg Glu Gly Glu Lys Gly Asp Asn Gly Glu Pro Gly Pro Lys  
 290 295 300  
 Gly Pro Thr Gly Glu Pro Gly Lys Pro Gly Asp Glu Gly Phe Pro Gly  
 305 310 315 320  
 Lys Arg Gly Phe Pro Gly Asn Pro Gly Leu Lys Gly Glu Ser Gly Glu  
 325 330 335  
 Ala Ser Phe Pro Tyr His Ser Ala Phe Ser Met Gly Leu Thr Asp Lys  
 340 345 350  
 Val Ser Pro Ala Ser Gly Ser Pro Ile Arg Phe Thr Lys Thr Phe Tyr  
 355 360 365  
 Asn Glu Gln His His Tyr Asp Asp Ile Ser Gly Lys Phe Arg Cys Ala  
 370 375 380  
 Ile Pro Gly Ile Tyr Tyr Phe Thr Tyr His Leu Thr Ile Asn Gly Lys  
 385 390 395 400  
 Glu Thr Lys Val Ala Ile Phe Arg Asn Gly Arg Thr Val Ala Phe Thr  
 405 410 415  
 Leu Asp Gln Phe His Ser Gly Asn Leu Asp Gln Ala Ser Gly Gly Val  
 420 425 430  
 Ile Leu Asn Leu Ser Ser Gly Asp Glu Val Trp Leu Gln Leu Tyr Asp  
 435 440 445  
 Asp Ile Phe Asp Glu Gly Ile Tyr Val Asp Tyr Asn Asn Asp Ser Thr  
 450 455 460  
 Phe Ser Gly Phe Leu Leu Thr Pro Lys Val Leu Ser Asn Ser Phe Asp  
 465 470 475 480  
 Asn Arg Lys Arg

<210> 26  
 <211> 249  
 <212> PRT  
 <213> *Ornithorhynchus anatinus*

<400> 26

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

<210> 27  
 <211> 738  
 <212> PRT  
 <213> *Homo sapiens*

<220>  
 <221> SIGNAL  
 <222> (1)..(24)  
 <223> signal sequence

<400> 27

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Met Thr Ser Ser Gly Pro Gly Pro Arg Phe Leu Leu Leu Leu Pro Leu  
1 5 10 15

Leu Leu Pro Pro Ala Ala Ser Ala Ser Asp Arg Pro Arg Gly Arg Asp  
20 25 30

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

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

Thr Val Arg Thr Leu Gly Leu Gly Glu Glu Trp Arg Gly Gly Asp Val  
65 70 75 80

Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg Trp Leu Lys Lys Glu  
85 90 95

Met Glu Lys Tyr Ala Asp Arg Glu Asp Met Ile Ile Met Phe Val Asp  
100 105 110

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

Phe Val Gln Ser Gly Ser Arg Leu Leu Phe Ser Ala Glu Ser Phe Cys  
130 135 140

Trp Pro Glu Trp Gly Leu Ala Glu Gln Tyr Pro Glu Val Gly Thr Gly  
145 150 155 160

Lys Arg Phe Leu Asn Ser Gly Gly Phe Ile Gly Phe Ala Thr Thr Ile  
165 170 175

His Gln Ile Val Arg Gln Trp Lys Tyr Lys Asp Asp Asp Asp Gln  
180 185 190

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

Ser Leu Asn Leu Asp His Lys Ser Arg Ile Phe Gln Asn Leu Asn Gly  
210 215 220

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

Arg Asn Val Ala Tyr Asp Thr Leu Pro Ile Val Val His Gly Asn Gly  
245 250 255

Pro Thr Lys Leu Gln Leu Asn Tyr Leu Gly Asn Tyr Val Pro Asn Gly  
260 265 270

Trp Thr Pro Glu Gly Gly Cys Gly Phe Cys Asn Gln Asp Arg Arg Thr  
275 280 285

Leu Pro Gly Gly Gln Pro Pro Pro Arg Val Phe Leu Ala Val Phe Val  
290 295 300

Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu Gln Arg Leu Leu Leu  
305 310 315 320

Leu Asp Tyr Pro Pro Asp Arg Val Thr Leu Phe Leu His Asn Asn Glu  
325 330 335

Val Phe His Glu Pro His Ile Ala Asp Ser Trp Pro Gln Leu Gln Asp  
sivu 22

340  
 His Phe Ser Ala Val Lys Leu Val Gly Pro Glu Glu Ala Leu Ser Pro  
 355 360 365  
 Gly Glu Ala Arg Asp Met Ala Met Asp Leu Cys Arg Gln Asp Pro Glu  
 370 375 380  
 Cys Glu Phe Tyr Phe Ser Leu Asp Ala Asp Ala Val Leu Thr Asn Leu  
 385 390 395 400  
 Gln Thr Leu Arg Ile Leu Ile Glu Glu Asn Arg Lys Val Ile Ala Pro  
 405 410 415  
 Met Leu Ser Arg His Gly Lys Leu Trp Ser Asn Phe Trp Gly Ala Leu  
 420 425 430  
 Ser Pro Asp Glu Tyr Tyr Ala Arg Ser Glu Asp Tyr Val Glu Leu Val  
 435 440 445  
 Gln Arg Lys Arg Val Gly Val Trp Asn Val Pro Tyr Ile Ser Gln Ala  
 450 455 460  
 Tyr Val Ile Arg Gly Asp Thr Leu Arg Met Glu Leu Pro Gln Arg Asp  
 465 470 475 480  
 Val Phe Ser Gly Ser Asp Thr Asp Pro Asp Met Ala Phe Cys Lys Ser  
 485 490 495  
 Phe Arg Asp Lys Gly Ile Phe Leu His Leu Ser Asn Gln His Glu Phe  
 500 505 510  
 Gly Arg Leu Leu Ala Thr Ser Arg Tyr Asp Thr Glu His Leu His Pro  
 515 520 525  
 Asp Leu Trp Gln Ile Phe Asp Asn Pro Val Asp Trp Lys Glu Gln Tyr  
 530 535 540  
 Ile His Glu Asn Tyr Ser Arg Ala Leu Glu Gly Glu Gly Ile Val Glu  
 545 550 555 560  
 Gln Pro Cys Pro Asp Val Tyr Trp Phe Pro Leu Leu Ser Glu Gln Met  
 565 570 575  
 Cys Asp Glu Leu Val Ala Glu Met Glu His Tyr Gly Gln Trp Ser Gly  
 580 585 590  
 Gly Arg His Glu Asp Ser Arg Leu Ala Gly Gly Tyr Glu Asn Val Pro  
 595 600 605  
 Thr Val Asp Ile His Met Lys Gln Val Gly Tyr Glu Asp Gln Trp Leu  
 610 615 620  
 Gln Leu Leu Arg Thr Tyr Val Gly Pro Met Thr Glu Ser Leu Phe Pro  
 625 630 635 640  
 Gly Tyr His Thr Lys Ala Arg Ala Val Met Asn Phe Val Val Arg Tyr  
 645 650 655  
 Arg Pro Asp Glu Gln Pro Ser Leu Arg Pro His His Asp Ser Ser Thr  
 660 665 670  
 Phe Thr Leu Asn Val Ala Leu Asn His Lys Gly Leu Asp Tyr Glu Gly  
 675 680 685

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Gly Gly Cys Arg Phe Leu Arg Tyr Asp Cys Val Ile Ser Ser Pro Arg  
690 695 700

Lys Gly Trp Ala Leu Leu His Pro Gly Arg Leu Thr His Tyr His Glu  
705 710 715 720

Gly Leu Pro Thr Thr Trp Gly Thr Arg Tyr Ile Met Val Ser Phe Val  
725 730 735

Asp Pro

<210> 28  
<211> 738  
<212> PRT  
<213> Homo sapiens

<400> 28

Met Thr Ser Ser Gly Pro Gly Pro Arg Phe Leu Leu Leu Leu Pro Leu  
1 5 10 15

Leu Leu Pro Pro Ala Ala Ser Ala Ser Asp Arg Pro Arg Gly Arg Asp  
20 25 30

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

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

Thr Val Arg Thr Leu Gly Leu Gly Glu Glu Trp Arg Gly Gly Asp Val  
65 70 75 80

Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg Trp Leu Lys Lys Glu  
85 90 95

Met Glu Lys Tyr Ala Asp Arg Glu Asp Met Ile Ile Met Phe Val Asp  
100 105 110

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

Phe Val Gln Ser Gly Ser Arg Leu Leu Phe Ser Ala Glu Ser Phe Cys  
130 135 140

Trp Pro Glu Trp Gly Leu Ala Glu Gln Tyr Pro Glu Val Gly Thr Gly  
145 150 155 160

Lys Arg Phe Leu Asn Ser Gly Gly Phe Ile Gly Phe Ala Thr Thr Ile  
165 170 175

His Gln Ile Val Arg Gln Trp Lys Tyr Lys Asp Asp Asp Asp Gln  
180 185 190

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

Ser Leu Asn Leu Asp His Lys Ser Arg Ile Phe Gln Asn Leu Asn Gly  
210 215 220

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

Arg Asn Val Ala Tyr Asp Thr Leu Pro Ile Val Val His Gly Asn Gly  
245 250 255



OULU17\_ST25.txt

Pro Thr Lys Leu Gln Leu Asn Tyr Leu Gly Asn Tyr Val Pro Asn Gly  
260 265 270

Trp Thr Pro Glu Gly Gly Cys Gly Phe Cys Asn Gln Asp Arg Arg Thr  
275 280 285

Leu Pro Gly Gly Gln Pro Pro Pro Arg Val Phe Leu Ala Val Phe Val  
290 295 300

Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu Gln Arg Leu Leu Leu  
305 310 315 320

Leu Asp Tyr Pro Pro Asp Arg Val Thr Leu Phe Leu His Asn Asn Glu  
325 330 335

Val Phe His Glu Pro His Ile Ala Asp Ser Trp Pro Gln Leu Gln Asp  
340 345 350

His Phe Ser Ala Val Lys Leu Val Gly Pro Glu Glu Ala Leu Ser Pro  
355 360 365

Gly Glu Ala Arg Asp Met Ala Met Asp Leu Cys Arg Gln Asp Pro Glu  
370 375 380

Cys Glu Phe Tyr Phe Ser Leu Asp Ala Asp Ala Val Leu Thr Asn Leu  
385 390 395 400

Gln Thr Leu Arg Ile Leu Ile Glu Glu Asn Arg Lys Val Ile Ala Pro  
405 410 415

Met Leu Ser Arg His Gly Lys Leu Trp Ser Asn Phe Trp Gly Ala Leu  
420 425 430

Ser Pro Asp Glu Tyr Tyr Ala Arg Ser Glu Asp Tyr Val Glu Leu Val  
435 440 445

Gln Arg Lys Arg Val Gly Val Trp Asn Val Pro Tyr Ile Ser Gln Ala  
450 455 460

Tyr Val Ile Arg Gly Asp Thr Leu Arg Met Glu Leu Pro Gln Arg Asp  
465 470 475 480

Val Phe Ser Gly Ser Asp Thr Asp Pro Asp Met Ala Phe Cys Lys Ser  
485 490 495

Phe Arg Asp Lys Gly Ile Phe Leu His Leu Ser Asn Gln His Glu Phe  
500 505 510

Gly Arg Leu Leu Ala Thr Ser Arg Tyr Asp Thr Glu His Leu His Pro  
515 520 525

Asp Leu Trp Gln Ile Phe Asp Asn Pro Val Asp Trp Lys Glu Gln Tyr  
530 535 540

Ile His Glu Asn Tyr Ser Arg Ala Leu Glu Gly Glu Gly Ile Val Glu  
545 550 555 560

Gln Pro Cys Pro Asp Val Tyr Trp Phe Pro Leu Leu Ser Glu Gln Met  
565 570 575

Cys Asp Glu Leu Val Ala Glu Met Glu His Tyr Gly Gln Trp Ser Gly  
580 585 590

Gly Arg His Glu Asp Ser Arg Leu Ala Gly Gly Tyr Glu Asn Val Pro  
595 600 605

Thr Val Asp Ile His Met Lys Gln Val Gly Tyr Glu Asp Gln Trp Leu  
610 615 620

Gln Leu Leu Arg Thr Tyr Val Gly Pro Met Thr Glu Ser Leu Phe Pro  
625 630 635 640

Gly Tyr His Thr Lys Ala Arg Ala Val Met Asn Phe Val Val Arg Tyr  
645 650 655

Arg Pro Asp Glu Gln Pro Ser Leu Arg Pro His His Asp Ser Ser Thr  
660 665 670

Phe Thr Leu Asn Val Ala Leu Asn His Lys Gly Leu Asp Tyr Glu Gly  
675 680 685

Gly Gly Cys Arg Phe Leu Arg Tyr Asp Cys Val Ile Ser Ser Pro Arg  
690 695 700

Lys Gly Trp Ala Leu Leu His Pro Gly Arg Leu Thr His Tyr His Glu  
705 710 715 720

Gly Leu Pro Thr Thr Trp Gly Thr Arg Tyr Ile Met Val Ser Phe Val  
725 730 735

Asp Pro

<210> 29  
<211> 739  
<212> PRT  
<213> Bos taurus

<400> 29

Met Ala Ser Gly Pro Glu Leu Arg Pro Leu Leu Leu Leu Leu Leu  
1 5 10 15

Leu Ser Pro Ser Pro Ala Ala Ser Ala Ser Asp Arg Pro Arg Gly Ser  
20 25 30

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

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

Tyr Thr Val Arg Thr Leu Gly Leu Gly Glu Glu Trp Arg Gly Gly Asp  
65 70 75 80

Val Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg Trp Leu Lys Lys  
85 90 95

Glu Met Glu Lys Tyr Ala Glu Arg Glu Asp Met Val Ile Met Phe Val  
100 105 110

Asp Ser Tyr Asp Val Val Leu Ala Gly Ser Pro Ser Glu Leu Leu Lys  
115 120 125

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

Cys Trp Pro Glu Trp Gly Leu Ala Glu Gln Tyr Pro Glu Val Gly Thr  
145 150 155 160

OULU17\_ST25.txt

Gly Lys Arg Phe Leu Asn Ser Gly Gly Phe Ile Gly Phe Ala Pro Thr  
 165 170 175  
 Ile His Gln Ile Val Arg Gln Trp Lys Tyr Lys Asp Asp Asp Asp  
 180 185 190  
 Gln Leu Phe Tyr Thr Arg Leu Tyr Leu Asp Pro Gly Leu Arg Glu Lys  
 195 200 205  
 Leu Gly Leu Ser Leu Asp His Lys Ser Arg Ile Phe Gln Asn Leu Asn  
 210 215 220  
 Gly Ala Leu Asp Glu Val Val Leu Lys Phe Gly Arg Asn Arg Val Arg  
 225 230 235 240  
 Ile Arg Asn Val Ala Tyr Asp Thr Leu Pro Val Val Val His Gly Asn  
 245 250 255  
 Gly Pro Thr Lys Leu Gln Leu Asn Tyr Leu Gly Asn Tyr Val Pro Asn  
 260 265 270  
 Gly Trp Thr Pro Glu Gly Gly Cys Gly Phe Cys Asn Gln Gly Arg Arg  
 275 280 285  
 Pro Leu Pro Gly Gly Gln Pro Pro Pro Arg Val Leu Leu Ala Val Phe  
 290 295 300  
 Val Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu Gln Arg Leu Leu  
 305 310 315 320  
 Leu Leu Asp Tyr Pro Pro Asp Arg Val Thr Leu Phe Leu His Asn Asn  
 325 330 335  
 Glu Val Tyr His Glu Pro His Ile Asp Glu Ser Trp Pro Gln Leu Gln  
 340 345 350  
 Asp His Phe Ser Ala Val Lys Leu Val Gly Pro Glu Glu Ala Leu Thr  
 355 360 365  
 Pro Gly Glu Ala Arg Asp Met Ala Met Asp Ile Cys Arg Gln Asp Pro  
 370 375 380  
 Lys Cys Glu Phe Tyr Phe Ser Leu Asp Ala Asp Thr Val Ile Thr Asn  
 385 390 395 400  
 Pro Gln Thr Leu Arg Ile Leu Ile Glu Ala Asn Arg Lys Val Ile Ala  
 405 410 415  
 Pro Met Leu Ser Arg His Gly Lys Leu Trp Ser Asn Phe Trp Gly Ala  
 420 425 430  
 Leu Ser Pro Asp Glu Tyr Tyr Ala Arg Ser Glu Asp Tyr Val Glu Leu  
 435 440 445  
 Val Gln Arg Lys Arg Val Gly Val Trp Asn Val Pro Tyr Ile Ser Gln  
 450 455 460  
 Ala Tyr Val Ile Arg Gly Glu Thr Leu Arg Thr Glu Leu Pro Gln Arg  
 465 470 475 480  
 Glu Val Phe Ser Gly Ser Asp Thr Asp Pro Asp Met Ala Phe Cys Lys  
 485 490 495  
 Ser Leu Arg Asp Lys Gly Ile Phe Leu His Leu Ser Asn Gln His Glu  
 sivu 27

500

505

Phe Gly Arg Leu Leu Ala Thr Ser Arg Tyr Asp Thr Asp His Leu His  
515 520 525  
Pro Asp Leu Trp Gln Ile Phe Asp Asn Pro Leu Asp Trp Lys Glu Gln  
530 535 540  
Tyr Ile His Glu Asn Tyr Thr Arg Ala Leu Glu Gly Glu Gly Leu Val  
545 550 555 560  
Glu Gln Pro Cys Pro Asp Val Tyr Trp Phe Pro Leu Leu Ser Glu Gln  
565 570 575  
Met Cys Asp Glu Leu Val Glu Glu Met Glu His Tyr Gly Gln Trp Ser  
580 585 590  
Gly Gly Arg His Glu Asp Ser Arg Leu Ala Gly Gly Tyr Glu Asn Val  
595 600 605  
Pro Thr Val Asp Ile His Met Lys Gln Val Gly Tyr Glu Asp Gln Trp  
610 615 620  
Leu Gln Leu Leu Arg Thr Tyr Val Gly Pro Met Thr Glu Ser Leu Phe  
625 630 635 640  
Pro Gly Tyr His Thr Lys Thr Arg Ala Val Met Asn Phe Val Val Arg  
645 650 655  
Tyr Arg Pro Asp Glu Gln Pro Ser Leu Arg Pro His His Asp Ser Ser  
660 665 670  
Thr Phe Thr Leu Asn Val Ala Leu Asn His Lys Gly Leu Asp Tyr Glu  
675 680 685  
Gly Gly Gly Cys Arg Phe Leu Arg Tyr Asp Cys Val Ile Ser Ser Pro  
690 695 700  
Arg Lys Gly Trp Gly Leu Leu His Pro Gly Arg Leu Thr His Tyr His  
705 710 715 720  
Glu Gly Leu Pro Thr Thr Arg Gly Thr Arg Tyr Ile Met Val Ser Phe  
725 730 735  
Val Asp Pro

<210> 30  
<211> 740  
<212> PRT  
<213> Canis lupus

<400> 30

Met Ala Ser Ser Gly Pro Gly Leu Arg Leu Leu Leu Gly Leu Leu Leu  
1 5 10 15  
Leu Leu Pro Pro Pro Pro Ala Thr Ser Ala Ser Asp Arg Pro Arg Gly  
20 25 30  
Gly Asp Pro Val Asn Pro Glu Lys Leu Leu Val Ile Thr Val Ala Thr  
35 40 45  
Ala Glu Thr Glu Gly Tyr Arg Arg Phe Leu Trp Ser Ala Glu Phe Phe  
50 55 60

Asn Tyr Thr Val Arg Thr Leu Gly Leu Gly Glu Glu Trp Arg Gly Gly  
 65 70 75 80  
 Asp Val Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg Trp Leu Lys  
 85 90 95  
 Lys Glu Met Glu Lys Tyr Ala Asp Arg Glu Asp Met Val Ile Met Phe  
 100 105 110  
 Val Asp Ser Tyr Asp Val Ile Leu Ala Gly Ser Pro Ala Glu Leu Leu  
 115 120 125  
 Lys Lys Phe Val Gln Ser Gly Ser Arg Leu Leu Phe Ser Ala Glu Gly  
 130 135 140  
 Phe Cys Trp Pro Glu Trp Gly Leu Ala Glu Gln Tyr Pro Glu Val Gly  
 145 150 155 160  
 Thr Gly Lys Arg Phe Leu Asn Ser Gly Gly Phe Ile Gly Phe Ala Pro  
 165 170 175  
 Thr Ile His Lys Val Val Arg Gln Trp Lys Tyr Lys Asp Asp Asp Asp  
 180 185 190  
 Asp Gln Leu Phe Tyr Thr Arg Leu Tyr Leu Asp Pro Gly Leu Arg Glu  
 195 200 205  
 Lys Leu Ser Leu Asn Leu Asp His Lys Ser Arg Ile Phe Gln Asn Leu  
 210 215 220  
 Asn Gly Ala Leu Asp Glu Val Val Leu Lys Phe Asp Arg Asn Arg Val  
 225 230 235 240  
 Arg Ile Arg Asn Val Ala Tyr Asp Thr Leu Pro Val Val Val His Gly  
 245 250 255  
 Asn Gly Pro Thr Lys Leu His Leu Asn Tyr Leu Gly Asn Tyr Val Pro  
 260 265 270  
 Asn Gly Trp Thr Pro Gln Gly Gly Cys Gly Phe Cys Gly Arg Asp Arg  
 275 280 285  
 Arg Thr Leu Pro Gly Gly Gln Pro Pro Pro Arg Val Leu Leu Ala Val  
 290 295 300  
 Phe Val Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu Gln Arg Leu  
 305 310 315 320  
 Leu Leu Leu Asp Tyr Pro Pro Asp Arg Val Thr Leu Phe Leu His Asn  
 325 330 335  
 Asn Glu Val Tyr His Glu Pro His Ile Ala Asp Ser Trp Pro Gln Leu  
 340 345 350  
 Gln Asp His Phe Ser Ala Val Lys Leu Val Gly Pro Glu Glu Ala Leu  
 355 360 365  
 Thr Pro Gly Glu Ala Arg Asp Met Ala Met Asp Ser Cys Arg Gln Asp  
 370 375 380  
 Pro Glu Cys Glu Phe Tyr Phe Ser Leu Asp Ala Asp Ala Val Ile Thr  
 385 390 395 400  
 Asn Pro Gln Thr Leu Arg Ile Leu Ile Glu Glu Asn Arg Lys Val Ile  
 405 410 415

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Ala Pro Met Leu Ser Arg His Gly Lys Leu Trp Ser Asn Phe Trp Gly  
420 425 430

Ala Leu Ser Pro Asp Glu Tyr Tyr Ala Arg Ser Glu Asp Tyr Val Glu  
435 440 445

Leu Val Gln Arg Lys Arg Val Gly Val Trp Asn Val Pro Tyr Ile Ser  
450 455 460

Gln Ala Tyr Val Ile Arg Gly Glu Thr Leu Arg Thr Glu Leu Pro Gln  
465 470 475 480

Arg Glu Val Phe Ser Gly Ser Asp Thr Asp Pro Asp Met Ala Phe Cys  
485 490 495

Lys Ser Leu Arg Asp Lys Gly Ile Phe Leu His Leu Ser Asn Gln His  
500 505 510

Glu Phe Gly Arg Leu Leu Ala Thr Ser Arg Tyr Asp Thr Asp His Leu  
515 520 525

His Pro Asp Leu Trp Gln Ile Phe Asp Asn Pro Leu Asp Trp Lys Glu  
530 535 540

Gln Tyr Ile His Glu Asn Tyr Ser Arg Ala Leu Glu Gly Glu Gly Leu  
545 550 555 560

Val Glu Gln Pro Cys Pro Asp Val Tyr Trp Phe Pro Leu Leu Ser Asp  
565 570 575

Gln Met Cys Asp Glu Leu Val Glu Glu Met Glu His Tyr Gly Gln Trp  
580 585 590

Ser Gly Gly Arg His Glu Asp Ser Arg Leu Ala Gly Gly Tyr Glu Asn  
595 600 605

Val Pro Thr Val Asp Ile His Met Lys Gln Val Gly Tyr Glu Asp Gln  
610 615 620

Trp Leu Gln Leu Leu Arg Thr Tyr Val Gly Pro Met Thr Glu Ser Leu  
625 630 635 640

Phe Pro Gly Tyr His Thr Lys Thr Arg Ala Val Met Asn Phe Val Val  
645 650 655

Arg Tyr Arg Pro Asp Glu Gln Pro Ser Leu Arg Pro His His Asp Ser  
660 665 670

Ser Thr Phe Thr Leu Asn Val Ala Leu Asn His Lys Gly Leu Asp Tyr  
675 680 685

Glu Gly Gly Gly Cys Arg Phe Leu Arg Tyr Asp Cys Ile Val Ser Ser  
690 695 700

Pro Arg Lys Gly Trp Gly Leu Leu His Pro Gly Arg Leu Thr His Tyr  
705 710 715 720

His Glu Gly Leu Pro Thr Thr Arg Gly Thr Arg Tyr Ile Met Val Ser  
725 730 735

Phe Val Asp Pro  
740

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<210> 31  
 <211> 754  
 <212> PRT  
 <213> Canis lupus

<400> 31

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

Leu Leu Pro Pro Pro Pro Ala Thr Ser Ala Ser Asp Arg Pro Arg Gly
20      25      30

Gly Asp Pro Val Asn Pro Glu Lys Leu Leu Val Ile Thr Val Ala Thr
35      40      45

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

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

Asp Val Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg Trp Leu Lys
85      90      95

Lys Glu Met Glu Lys Tyr Ala Asp Arg Glu Asp Met Val Ile Met Phe
100     105     110

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

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

Phe Cys Trp Pro Glu Trp Gly Leu Ala Glu Gln Tyr Pro Glu Val Gly
145     150     155     160

Thr Gly Lys Arg Phe Leu Asn Ser Gly Gly Phe Ile Gly Phe Ala Pro
165     170     175

Thr Ile His Lys Val Val Arg Gln Trp Lys Tyr Lys Asp Asp Asp
180     185     190

Asp Gln Leu Phe Tyr Thr Arg Leu Tyr Leu Asp Pro Gly Leu Arg Glu
195     200     205

Lys Leu Ser Leu Asn Leu Asp His Lys Ser Arg Ile Phe Gln Asn Leu
210     215     220

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

Arg Ile Arg Asn Val Ala Tyr Asp Thr Leu Pro Val Val Val His Gly
245     250     255

Asn Gly Pro Thr Lys Leu His Leu Asn Tyr Leu Gly Asn Tyr Val Pro
260     265     270

Asn Gly Trp Thr Pro Gln Gly Gly Cys Gly Phe Cys Gly Arg Asp Arg
275     280     285

Arg Thr Leu Pro Gly Gly Gln Pro Pro Pro Arg Val Leu Leu Ala Val
290     295     300

Phe Val Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu Gln Arg Leu
305     310     315     320
    
```

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Leu Leu Leu Asp Tyr Pro Pro Asp Arg Val Thr Leu Phe Leu His Asn  
 325 330 335  
 Asn Glu Val Tyr His Glu Pro His Ile Ala Asp Ser Trp Pro Gln Leu  
 340 345 350  
 Gln Asp His Phe Ser Ala Val Lys Leu Val Gly Pro Glu Glu Ala Leu  
 355 360 365  
 Thr Pro Gly Glu Ala Arg Asp Met Ala Met Asp Ser Cys Arg Gln Asp  
 370 375 380  
 Pro Glu Cys Glu Phe Tyr Phe Ser Leu Asp Ala Asp Ala Val Ile Thr  
 385 390 395 400  
 Asn Pro Gln Thr Leu Arg Ile Leu Ile Glu Glu Asn Arg Lys Val Ile  
 405 410 415  
 Ala Pro Met Leu Ser Arg His Gly Lys Leu Trp Ser Asn Phe Trp Gly  
 420 425 430  
 Ala Leu Ser Pro Asp Glu Tyr Tyr Ala Arg Ser Glu Asp Tyr Val Glu  
 435 440 445  
 Leu Val Gln Arg Lys Arg Val Gly Val Trp Asn Val Pro Tyr Ile Ser  
 450 455 460  
 Gln Ala Tyr Val Ile Arg Gly Glu Thr Leu Arg Thr Glu Leu Pro Gln  
 465 470 475 480  
 Arg Glu Val Phe Ser Gly Ser Asp Thr Asp Pro Asp Met Ala Phe Cys  
 485 490 495  
 Lys Ser Leu Arg Asp Lys Val Thr Thr His Val Ser Ser His Pro Pro  
 500 505 510  
 Pro Pro Leu Gln Gly Ile Phe Leu His Leu Ser Asn Gln His Glu Phe  
 515 520 525  
 Gly Arg Leu Leu Ala Thr Ser Arg Tyr Asp Thr Asp His Leu His Pro  
 530 535 540  
 Asp Leu Trp Gln Ile Phe Asp Asn Pro Leu Asp Trp Lys Glu Gln Tyr  
 545 550 555 560  
 Ile His Glu Asn Tyr Ser Arg Ala Leu Glu Gly Glu Gly Leu Val Glu  
 565 570 575  
 Gln Pro Cys Pro Asp Val Tyr Trp Phe Pro Leu Leu Ser Asp Gln Met  
 580 585 590  
 Cys Asp Glu Leu Val Glu Glu Met Glu His Tyr Gly Gln Trp Ser Gly  
 595 600 605  
 Gly Arg His Glu Asp Ser Arg Leu Ala Gly Gly Tyr Glu Asn Val Pro  
 610 615 620  
 Thr Val Asp Ile His Met Lys Gln Val Gly Tyr Glu Asp Gln Trp Leu  
 625 630 635 640  
 Gln Leu Leu Arg Thr Tyr Val Gly Pro Met Thr Glu Ser Leu Phe Pro  
 645 650 655  
 Gly Tyr His Thr Lys Thr Arg Ala Val Met Asn Phe Val Val Arg Tyr  
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660

665

Arg Pro Asp Glu Gln Pro Ser Leu Arg Pro His His Asp Ser Ser Thr  
675 680 685

Phe Thr Leu Asn Val Ala Leu Asn His Lys Gly Leu Asp Tyr Glu Gly  
690 695 700

Gly Gly Cys Arg Phe Leu Arg Tyr Asp Cys Ile Val Ser Ser Pro Arg  
705 710 715 720

Lys Gly Trp Gly Leu Leu His Pro Gly Arg Leu Thr His Tyr His Glu  
725 730 735

Gly Leu Pro Thr Thr Arg Gly Thr Arg Tyr Ile Met Val Ser Phe Val  
740 745 750

Asp Pro

<210> 32  
<211> 741  
<212> PRT  
<213> Mus musculus

<400> 32

Met Ala Ala Ala Gly Pro Glu Pro Arg Leu Leu Leu Leu Leu Leu Leu  
1 5 10 15

Leu Leu Pro Pro Leu Pro Pro Val Thr Ser Ala Ser Asp Arg Pro Arg  
20 25 30

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

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

Phe Asn Tyr Thr Val Arg Thr Leu Gly Leu Gly Gln Glu Trp Arg Gly  
65 70 75 80

Gly Asp Val Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg Trp Leu  
85 90 95

Lys Lys Glu Met Glu Lys Tyr Ala Asp Gln Lys Asp Met Ile Ile Met  
100 105 110

Phe Val Asp Ser Tyr Asp Val Ile Leu Ala Ser Ser Pro Thr Glu Leu  
115 120 125

Leu Lys Lys Phe Val Gln Ser Gly Ser His Leu Leu Phe Ser Ala Glu  
130 135 140

Ser Phe Cys Trp Pro Glu Trp Gly Leu Ala Glu Gln Tyr Pro Glu Val  
145 150 155 160

Gly Met Gly Lys Arg Phe Leu Asn Ser Gly Gly Phe Ile Gly Phe Ala  
165 170 175

Pro Thr Ile His Gln Ile Val Arg Gln Trp Asn Tyr Lys Asp Asp Asp  
180 185 190

Asp Asp Gln Leu Phe Tyr Thr Gln Leu Tyr Leu Asp Pro Gly Leu Arg  
195 200 205

Glu Lys Leu Lys Leu Ser Leu Asp His Lys Ser Arg Ile Phe Gln Asn  
 210 215  
 Leu Asn Gly Ala Leu Asp Glu Val Ile Leu Lys Phe Asp Gln Asn Arg  
 225 230 235 240  
 Val Arg Ile Arg Asn Val Ala Tyr Asp Thr Leu Pro Val Val Val His  
 245 250 255  
 Gly Asn Gly Pro Thr Lys Leu Gln Leu Asn Tyr Leu Gly Asn Tyr Val  
 260 265 270  
 Pro Asn Gly Trp Thr Pro Gln Gly Gly Cys Gly Phe Cys Asn Gln Thr  
 275 280 285  
 Leu Arg Thr Leu Pro Gly Gly Gln Pro Pro Pro Arg Val Leu Leu Ala  
 290 295 300  
 Val Phe Val Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu Gln Arg  
 305 310 315 320  
 Leu Leu Leu Leu Asp Tyr Pro Pro Asp Arg Ile Ser Leu Phe Leu His  
 325 330 335  
 Asn Ser Glu Val Tyr His Glu Pro His Ile Ala Asp Ala Trp Pro Gln  
 340 345 350  
 Leu Gln Asp His Phe Ser Ala Val Lys Leu Val Gly Pro Glu Glu Ala  
 355 360 365  
 Leu Ser Ala Gly Glu Ala Arg Asp Met Ala Met Asp Ser Cys Arg Gln  
 370 375 380  
 Asn Pro Glu Cys Glu Phe Tyr Phe Ser Leu Asp Ala Asp Ala Val Leu  
 385 390 395 400  
 Thr Asn Pro Glu Thr Leu Arg Val Leu Ile Glu Gln Asn Arg Lys Val  
 405 410 415  
 Ile Ala Pro Met Leu Ser Arg His Gly Lys Leu Trp Ser Asn Phe Trp  
 420 425 430  
 Gly Ala Leu Ser Pro Asn Glu Tyr Tyr Ala Arg Ser Glu Asp Tyr Val  
 435 440 445  
 Glu Leu Val Gln Arg Lys Arg Val Gly Val Trp Asn Val Pro Tyr Ile  
 450 455 460  
 Ser Gln Ala Tyr Val Ile Arg Gly Glu Thr Leu Arg Thr Glu Leu Pro  
 465 470 475 480  
 Gln Lys Glu Val Phe Ser Ser Ser Asp Thr Asp Pro Asp Met Ala Phe  
 485 490 495  
 Cys Lys Ser Val Arg Asp Lys Gly Ile Phe Leu His Leu Ser Asn Gln  
 500 505 510  
 His Glu Phe Gly Arg Leu Leu Ala Thr Ser Arg Tyr Asp Thr Asp His  
 515 520 525  
 Leu His Pro Asp Leu Trp Gln Ile Phe Asp Asn Pro Val Asp Trp Arg  
 530 535 540  
 Glu Gln Tyr Ile His Glu Asn Tyr Ser Arg Ala Leu Asp Gly Glu Gly  
 545 550 555 560

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Leu Val Glu Gln Pro Cys Pro Asp Val Tyr Trp Phe Pro Leu Leu Thr  
565 570 575

Glu Gln Met Cys Asp Glu Leu Val Glu Glu Met Glu His Tyr Gly Gln  
580 585 590

Trp Ser Gly Gly Arg His Glu Asp Ser Arg Leu Ala Gly Gly Tyr Glu  
595 600 605

Asn Val Pro Thr Val Asp Ile His Met Lys Gln Val Gly Tyr Glu Asp  
610 615 620

Gln Trp Leu Gln Leu Leu Arg Thr Tyr Val Gly Pro Met Thr Glu Tyr  
625 630 635 640

Leu Phe Pro Gly Tyr His Thr Lys Thr Arg Ala Val Met Asn Phe Val  
645 650 655

Val Arg Tyr Arg Pro Asp Glu Gln Pro Ser Leu Arg Pro His His Asp  
660 665 670

Ser Ser Thr Phe Thr Leu Asn Val Ala Leu Asn His Lys Gly Val Asp  
675 680 685

Tyr Glu Gly Gly Gly Cys Arg Phe Leu Arg Tyr Asp Cys Arg Ile Ser  
690 695 700

Ser Pro Arg Lys Gly Trp Ala Leu Leu His Pro Gly Arg Leu Thr His  
705 710 715 720

Tyr His Glu Gly Leu Pro Thr Thr Arg Gly Thr Arg Tyr Ile Met Val  
725 730 735

Ser Phe Val Asp Pro  
740

<210> 33  
<211> 741  
<212> PRT  
<213> Rattus norvegicus

<220>  
<221> SIGNAL  
<222> (1)..(27)  
<223> signal sequence

<400> 33

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

Leu Leu Pro Pro Leu Pro Pro Val Thr Ser Ala Ser Asp Arg Pro Arg  
20 25 30

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

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

Phe Asn Tyr Thr Val Arg Thr Leu Gly Leu Gly Gln Glu Trp Arg Gly  
65 70 75 80

Gly Asp Val Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg Trp Leu  
85 90 95

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Lys Lys Glu Met Glu Lys Tyr Ala Ser Gln Glu Asp Met Ile Ile Met  
 100 105 110  
 Phe Val Asp Ser Tyr Asp Val Ile Leu Ala Ser Ser Pro Thr Glu Leu  
 115 120 125  
 Leu Lys Lys Phe Val Gln Ser Gly Ser His Leu Leu Phe Ser Ala Glu  
 130 135 140  
 Ser Phe Cys Trp Pro Asp Trp Gly Leu Ala Glu Gln Tyr Pro Glu Val  
 145 150 155 160  
 Gly Val Gly Lys Arg Phe Leu Asn Ser Gly Gly Phe Ile Gly Phe Ala  
 165 170 175  
 Pro Thr Ile His Arg Ile Val Arg Gln Trp Lys Tyr Lys Asp Asp Asp  
 180 185 190  
 Asp Asp Gln Leu Phe Tyr Thr Gln Leu Tyr Leu Asp Pro Gly Leu Arg  
 195 200 205  
 Glu Lys Leu Lys Leu Ser Leu Asp His Lys Ser Arg Ile Phe Gln Asn  
 210 215 220  
 Leu Asn Gly Ala Leu Asp Glu Val Val Leu Lys Phe Asp Gln Asn Arg  
 225 230 235 240  
 Val Arg Ile Arg Asn Val Ala Tyr Asp Thr Leu Pro Val Val Val His  
 245 250 255  
 Gly Asn Gly Pro Thr Lys Leu Gln Leu Asn Tyr Leu Gly Asn Tyr Val  
 260 265 270  
 Pro Asn Gly Trp Thr Pro Gln Gly Gly Cys Gly Phe Cys Asn Leu Asn  
 275 280 285  
 Arg Arg Thr Leu Pro Gly Gly Gln Pro Pro Pro Arg Val Leu Leu Ala  
 290 295 300  
 Val Phe Val Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu Gln Arg  
 305 310 315 320  
 Leu Leu Leu Leu Asp Tyr Pro Pro Asp Arg Ile Ser Leu Phe Leu His  
 325 330 335  
 Asn Asn Glu Val Tyr His Glu Pro His Ile Ala Asp Ala Trp Pro Gln  
 340 345 350  
 Leu Gln Asp His Phe Ser Ala Val Lys Leu Val Gly Pro Glu Glu Ala  
 355 360 365  
 Leu Ser Ser Gly Glu Ala Arg Asp Met Ala Met Asp Ser Cys Arg Gln  
 370 375 380  
 Asn Pro Glu Cys Glu Phe Tyr Phe Ser Leu Asp Ala Asp Ala Val Leu  
 385 390 395 400  
 Thr Asn Pro Glu Thr Leu Arg Ile Leu Ile Glu Gln Asn Arg Lys Val  
 405 410 415  
 Ile Ala Pro Met Leu Ser Arg His Gly Lys Leu Trp Ser Asn Phe Trp  
 420 425 430  
 Gly Ala Leu Ser Pro Asp Glu Tyr Tyr Ala Arg Ser Glu Asp Tyr Val  
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435

440

Glu Leu Val Gln Arg Lys Arg Val Gly Leu Trp Asn Val Pro Tyr Ile  
450 455 460

Ser Gln Ala Tyr Val Ile Arg Gly Glu Thr Leu Arg Thr Glu Leu Pro  
465 470 475 480

Glu Lys Glu Val Phe Ser Ser Ser Asp Thr Asp Pro Asp Met Ala Phe  
485 490 495

Cys Arg Ser Val Arg Asp Lys Gly Ile Phe Leu His Leu Ser Asn Gln  
500 505 510

His Glu Phe Gly Arg Leu Leu Ser Thr Ser His Tyr Asp Thr Asp His  
515 520 525

Leu His Pro Asp Leu Trp Gln Ile Phe Asp Asn Pro Val Asp Trp Arg  
530 535 540

Glu Gln Tyr Ile His Glu Asn Tyr Ser Arg Ala Leu Asp Gly Glu Gly  
545 550 555 560

Leu Val Glu Gln Pro Cys Pro Asp Val Tyr Trp Phe Pro Leu Leu Thr  
565 570 575

Glu Gln Met Cys Asp Glu Leu Val Glu Glu Met Glu His Tyr Gly Gln  
580 585 590

Trp Ser Gly Gly Arg His Glu Asp Ser Arg Leu Ala Gly Gly Tyr Glu  
595 600 605

Asn Val Pro Thr Val Asp Ile His Met Lys Gln Val Gly Tyr Glu Asp  
610 615 620

Gln Trp Leu Gln Leu Leu Arg Thr Tyr Val Gly Pro Met Thr Glu His  
625 630 635 640

Leu Phe Pro Gly Tyr His Thr Lys Thr Arg Ala Val Met Asn Phe Val  
645 650 655

Val Arg Tyr Arg Pro Asp Glu Gln Pro Ser Leu Arg Pro His His Asp  
660 665 670

Ser Ser Thr Phe Thr Leu Asn Val Ala Leu Asn His Lys Gly Val Asp  
675 680 685

Tyr Glu Gly Gly Gly Cys Arg Phe Leu Arg Tyr Asp Cys Arg Val Ser  
690 695 700

Ser Pro Arg Lys Gly Trp Ala Leu Leu His Pro Gly Arg Leu Thr His  
705 710 715 720

Tyr His Glu Gly Leu Pro Thr Thr Arg Gly Thr Arg Tyr Ile Met Val  
725 730 735

Ser Phe Val Asp Pro  
740

<210> 34  
<211> 741  
<212> PRT  
<213> Rattus norvegicus  
  
<400> 34

Met Ala Ala Ser Val Pro Glu Pro Arg Leu Leu Leu Leu Leu Leu  
 1 5 10 15  
 Leu Leu Pro Pro Leu Pro Pro Val Thr Ser Ala Ser Asp Arg Pro Arg  
 20 25 30  
 Gly Ala Asn Pro Val Asn Pro Asp Lys Leu Leu Val Ile Thr Val Ala  
 35 40 45  
 Thr Ala Glu Thr Glu Gly Tyr Arg Arg Phe Leu Gln Ser Ala Glu Phe  
 50 55 60  
 Phe Asn Tyr Thr Val Arg Thr Leu Gly Leu Gly Gln Glu Trp Arg Gly  
 65 70 75 80  
 Gly Asp Val Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg Trp Leu  
 85 90 95  
 Lys Lys Glu Met Glu Lys Tyr Ala Ser Gln Glu Asp Met Ile Ile Met  
 100 105 110  
 Phe Val Asp Ser Tyr Asp Val Ile Leu Ala Ser Ser Pro Thr Glu Leu  
 115 120 125  
 Leu Lys Lys Phe Val Gln Ser Gly Ser His Leu Leu Phe Ser Ala Glu  
 130 135 140  
 Ser Phe Cys Trp Pro Asp Trp Gly Leu Ala Glu Gln Tyr Pro Glu Val  
 145 150 155 160  
 Gly Val Gly Lys Arg Phe Leu Asn Ser Gly Gly Phe Ile Gly Phe Ala  
 165 170 175  
 Pro Thr Ile His Arg Ile Val Arg Gln Trp Lys Tyr Lys Asp Asp Asp  
 180 185 190  
 Asp Asp Gln Leu Phe Tyr Thr Gln Leu Tyr Leu Asp Pro Gly Leu Arg  
 195 200 205  
 Glu Lys Leu Lys Leu Ser Leu Asp His Lys Ser Arg Ile Phe Gln Asn  
 210 215 220  
 Leu Asn Gly Ala Leu Asp Glu Val Val Leu Lys Phe Asp Gln Asn Arg  
 225 230 235 240  
 Val Arg Ile Arg Asn Val Ala Tyr Asp Thr Leu Pro Val Val Val His  
 245 250 255  
 Gly Asn Gly Pro Thr Lys Leu Gln Leu Asn Tyr Leu Gly Asn Tyr Val  
 260 265 270  
 Pro Asn Gly Trp Thr Pro Gln Gly Gly Cys Gly Phe Cys Asn Leu Asn  
 275 280 285  
 Arg Arg Thr Leu Pro Gly Gly Gln Pro Pro Pro Arg Val Leu Leu Ala  
 290 295 300  
 Val Phe Val Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu Gln Arg  
 305 310 315 320  
 Leu Leu Leu Leu Asp Tyr Pro Pro Asp Arg Ile Ser Leu Phe Leu His  
 325 330 335  
 Asn Asn Glu Val Tyr His Glu Pro His Ile Ala Asp Ala Trp Pro Gln  
 340 345 350

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Leu Gln Asp His Phe Ser Ala Val Lys Leu Val Gly Pro Glu Glu Ala  
 355 360 365  
 Leu Ser Ser Gly Glu Ala Arg Asp Met Ala Met Asp Ser Cys Arg Gln  
 370 375 380  
 Asn Pro Glu Cys Glu Phe Tyr Phe Ser Leu Asp Ala Asp Ala Val Leu  
 385 390 395 400  
 Thr Asn Pro Glu Thr Leu Arg Ile Leu Ile Glu Gln Asn Arg Lys Val  
 405 410 415  
 Ile Ala Pro Met Leu Ser Arg His Gly Lys Leu Trp Ser Asn Phe Trp  
 420 425 430  
 Gly Ala Leu Ser Pro Asp Glu Tyr Tyr Ala Arg Ser Glu Asp Tyr Val  
 435 440 445  
 Glu Leu Val Gln Arg Lys Arg Val Gly Leu Trp Asn Val Pro Tyr Ile  
 450 455 460  
 Ser Gln Ala Tyr Val Ile Arg Gly Glu Thr Leu Arg Thr Glu Leu Pro  
 465 470 475 480  
 Glu Lys Glu Val Phe Ser Ser Ser Asp Thr Asp Pro Asp Met Ala Phe  
 485 490 495  
 Cys Arg Ser Val Arg Asp Lys Gly Ile Phe Leu His Leu Ser Asn Gln  
 500 505 510  
 His Glu Phe Gly Arg Leu Leu Ser Thr Ser His Tyr Asp Thr Asp His  
 515 520 525  
 Leu His Pro Asp Leu Trp Gln Ile Phe Asp Asn Pro Val Asp Trp Arg  
 530 535 540  
 Glu Gln Tyr Ile His Glu Asn Tyr Ser Arg Ala Leu Asp Gly Glu Gly  
 545 550 555 560  
 Leu Val Glu Gln Pro Cys Pro Asp Val Tyr Trp Phe Pro Leu Leu Thr  
 565 570 575  
 Glu Gln Met Cys Asp Glu Leu Val Glu Glu Met Glu His Tyr Gly Gln  
 580 585 590  
 Trp Ser Gly Gly Arg His Glu Asp Ser Arg Leu Ala Gly Gly Tyr Glu  
 595 600 605  
 Asn Val Pro Thr Val Asp Ile His Met Lys Gln Val Gly Tyr Glu Asp  
 610 615 620  
 Gln Trp Leu Gln Leu Leu Arg Thr Tyr Val Gly Pro Met Thr Glu His  
 625 630 635 640  
 Leu Phe Pro Gly Tyr His Thr Lys Thr Arg Ala Val Met Asn Phe Val  
 645 650 655  
 Val Arg Tyr Arg Pro Asp Glu Gln Pro Ser Leu Arg Pro His His Asp  
 660 665 670  
 Ser Ser Thr Phe Thr Leu Asn Val Ala Leu Asn His Lys Gly Val Asp  
 675 680 685

Tyr Glu Gly Gly Gly Cys Arg Phe Leu Arg Tyr Asp Cys Arg Val Ser  
690 695 700

Ser Pro Arg Lys Gly Trp Ala Leu Leu His Pro Gly Arg Leu Thr His  
705 710 715 720

Tyr His Glu Gly Leu Pro Thr Thr Arg Gly Thr Arg Tyr Ile Met Val  
725 730 735

Ser Phe Val Asp Pro  
740

<210> 35  
<211> 738  
<212> PRT  
<213> Pongo abelii

<400> 35

Met Thr Ser Ser Gly Pro Gly Pro Arg Phe Leu Leu Leu Leu Pro Leu  
1 5 10 15

Leu Leu Pro Pro Ala Ala Ser Ala Ser Asp Arg Pro Arg Gly Arg Asp  
20 25 30

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

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

Thr Val Arg Thr Leu Gly Leu Gly Glu Glu Trp Arg Gly Gly Asp Val  
65 70 75 80

Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg Trp Leu Lys Lys Glu  
85 90 95

Met Glu Lys Tyr Ala Asp Arg Glu Asp Met Ile Ile Met Phe Val Asp  
100 105 110

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

Phe Val Gln Ser Gly Ser Arg Leu Leu Phe Ser Ala Glu Ser Phe Cys  
130 135 140

Trp Pro Glu Trp Gly Leu Ala Glu Gln Tyr Pro Glu Val Gly Thr Gly  
145 150 155 160

Lys Arg Phe Leu Asn Ser Gly Gly Phe Ile Gly Phe Ala Thr Thr Ile  
165 170 175

His Gln Ile Val Arg Gln Trp Lys Tyr Lys Asp Asp Asp Asp Gln  
180 185 190

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

Ser Leu Asn Leu Asp His Lys Ser Arg Ile Phe Gln Asn Leu Asn Gly  
210 215 220

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

Arg Asn Val Ala Tyr Asp Thr Leu Pro Val Val Val His Gly Asn Gly  
245 250 255



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Pro Thr Lys Leu Gln Leu Asn Tyr Leu Gly Asn Tyr Val Pro Lys Gly  
260 265 270

Trp Thr Pro Glu Gly Gly Cys Gly Phe Cys Asn Gln Asp Arg Arg Thr  
275 280 285

Leu Pro Gly Gly Gln Pro Pro Pro Arg Val Phe Leu Ala Val Phe Val  
290 295 300

Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu Gln Arg Leu Leu Leu  
305 310 315 320

Leu Asp Tyr Pro Pro Asp Arg Val Thr Leu Phe Leu His Asn Asn Glu  
325 330 335

Val Phe His Glu Pro His Ile Ala Asp Ser Trp Pro Gln Leu Gln Asp  
340 345 350

His Phe Ser Ala Val Lys Leu Val Gly Pro Glu Glu Ala Leu Ser Pro  
355 360 365

Gly Glu Ala Arg Asp Met Ala Met Asp Leu Cys Arg Gln Asp Pro Glu  
370 375 380

Cys Glu Phe Tyr Phe Ser Leu Asp Ala Asp Thr Val Leu Thr Asn Leu  
385 390 395 400

Gln Thr Leu Arg Ile Leu Ile Glu Glu Asn Arg Lys Val Ile Ala Pro  
405 410 415

Met Leu Ser Arg His Gly Lys Leu Trp Ser Asn Phe Trp Gly Ala Leu  
420 425 430

Ser Pro Asp Glu Tyr Tyr Ala Arg Ser Glu Asp Tyr Val Glu Leu Val  
435 440 445

Gln Arg Lys Arg Val Gly Val Trp Asn Val Pro Tyr Ile Ser Gln Ala  
450 455 460

Tyr Val Ile Arg Gly Asp Thr Leu Arg Thr Glu Leu Pro Gln Arg Asp  
465 470 475 480

Val Phe Ser Gly Ser Asp Thr Asp Pro Asp Met Ala Phe Cys Lys Ser  
485 490 495

Phe Arg Asp Lys Gly Ile Phe Leu His Leu Ser Asn Gln His Glu Phe  
500 505 510

Gly Arg Leu Leu Ala Thr Ser Arg Tyr Asp Thr Glu His Leu His Pro  
515 520 525

Asp Leu Trp Gln Ile Phe Asp Asn Pro Val Asp Trp Lys Glu Gln Tyr  
530 535 540

Ile His Glu Asn Tyr Ser Arg Ala Leu Glu Gly Glu Gly Ile Val Glu  
545 550 555 560

Gln Pro Cys Pro Asp Val Tyr Trp Phe Pro Leu Leu Ser Glu Gln Met  
565 570 575

Cys Asp Glu Leu Val Ala Glu Met Glu His Tyr Gly Gln Trp Ser Gly  
580 585 590

Gly Arg His Glu Asp Ser Arg Leu Ala Gly Gly Tyr Glu Asn Val Pro  
sivu 41

595

600

Thr Val Asp Ile His Met Lys Gln Val Gly Tyr Glu Asp Gln Trp Leu  
610 615 620  
Gln Leu Leu Arg Thr Tyr Val Gly Pro Met Thr Glu Ser Leu Phe Pro  
625 630 635 640  
Gly Tyr His Thr Lys Ala Arg Ala Val Met Asn Phe Val Val Arg Tyr  
645 650 655  
Arg Pro Asp Glu Gln Pro Ser Leu Arg Pro His His Asp Ser Ser Thr  
660 665 670  
Phe Thr Leu Asn Val Ala Leu Asn His Lys Gly Leu Asp Tyr Glu Gly  
675 680 685  
Gly Gly Cys Arg Phe Leu Arg Tyr Asp Cys Val Ile Ser Ser Pro Arg  
690 695 700  
Lys Gly Trp Ala Leu Leu His Pro Gly Arg Leu Thr His Tyr His Glu  
705 710 715 720  
Gly Leu Pro Thr Thr Trp Gly Thr Arg Tyr Ile Met Val Ser Phe Val  
725 730 735

Asp Pro

<210> 36  
<211> 730  
<212> PRT  
<213> Danio rerio  
<400> 36

Met Thr Pro Val Pro Val Ile Leu Thr Val Ile Leu Ala Val Ile Gln  
1 5 10 15  
Pro Cys Arg Thr Glu Pro Arg Lys Pro Asn Glu Leu Leu Val Ile Thr  
20 25 30  
Ala Ala Thr Glu Val Thr Asp Gly Tyr Leu Arg Phe Met Arg Thr Ile  
35 40 45  
Arg Gln Phe Asn Tyr Thr Ile Gln Val Leu Gly Leu Gly Glu Gln Trp  
50 55 60  
Arg Gly Gly Asp Val Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg  
65 70 75 80  
Trp Leu Lys Thr Glu Leu Glu Lys His Lys Asp Lys Gln Asn Thr Val  
85 90 95  
Ile Met Phe Val Asp Ser Tyr Asp Val Ile Leu Ala Ser Gly Pro Val  
100 105 110  
Glu Leu Leu Arg Lys Phe Ser Arg Phe Ser His Arg Val Val Phe Ser  
115 120 125  
Ala Glu Gly Phe Cys Trp Pro Asp Gln Arg Leu Ala Ser Lys Tyr Pro  
130 135 140  
Ala Val His His Gly Lys Arg Tyr Leu Asn Ser Gly Gly Phe Ile Gly  
145 150 155 160

Phe Ala Pro Glu Ile His Ala Ile Val Gln Gln Trp Lys Tyr Lys Asp  
 165 170 175  
 Asp Asp Asp Asp Gln Leu Phe Tyr Thr Arg Ile Tyr Leu Asp Lys Glu  
 180 185 190  
 Lys Arg Arg Lys Phe Asn Met Thr Leu Asp His Arg Ser Gln Ile Phe  
 195 200 205  
 Gln Asn Leu Asn Gly Ala Ile Glu Glu Val Val Leu Lys Phe Glu Lys  
 210 215 220  
 Ser Arg Val Arg Val Arg Asn Val Ala Tyr Asp Thr Leu Pro Val Val  
 225 230 235 240  
 Ile His Gly Asn Gly Pro Thr Lys Leu Gln Leu Asn Tyr Leu Gly Asn  
 245 250 255  
 Tyr Val Pro Thr Ala Trp Thr Tyr Glu Asn Gly Cys Gly Ile Cys Glu  
 260 265 270  
 Glu Asp Leu Leu Asp Leu Ser His Leu Ser Asp Glu Glu Met Pro Leu  
 275 280 285  
 Val His Val Ala Val Phe Ile Glu Gln Pro Met Pro Phe Leu Glu Glu  
 290 295 300  
 Phe Leu Glu Arg Leu Ala Thr Leu Asn Tyr Pro His Thr Arg Ile Arg  
 305 310 315 320  
 Leu Phe Leu His Asn Asn Val Val Tyr His Glu Gln His Val Glu Arg  
 325 330 335  
 Phe Trp Thr Arg His Arg Ser Leu Phe Thr Gly Ala Arg Ile Val Gly  
 340 345 350  
 Pro Glu Glu Asn Leu Lys His Asp Gln Ala Arg Thr Met Ala Val Glu  
 355 360 365  
 Ala Cys Lys Lys Asp Val Ser Cys Asp Tyr Phe Phe Ser Leu Asp Ala  
 370 375 380  
 Asp Val Ala Leu Thr Asn Pro Asp Val Leu Arg Ile Leu Ile Glu Glu  
 385 390 395 400  
 Asn Lys Ser Val Ile Ala Pro Met Leu Ser Arg His Gly Lys Leu Trp  
 405 410 415  
 Ser Asn Phe Trp Gly Ala Leu Ser Pro Glu Gly Phe Tyr Ser Arg Ala  
 420 425 430  
 Glu Asp Tyr Ile Asp Ile Val Gln Ser Lys Arg Val Gly Leu Trp Asn  
 435 440 445  
 Val Pro Tyr Ile Thr Gln Val Tyr Leu Ile Arg Gly Glu Thr Leu Arg  
 450 455 460  
 Ser Arg Leu Ala Ala Val Ser Leu Tyr Gln Gln Glu Gly Met Asp Pro  
 465 470 475 480  
 Asp Met Ser Phe Cys Lys Ser Val Arg Glu Gln Gly Ile Phe Met Phe  
 485 490 495  
 Val Ser Asn Arg Asp Glu Phe Gly Arg Leu Val Ser Ser Ala Asn Tyr  
 500 505 510

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Asn Ile Ser Arg Leu His Pro Asp Met Trp Gln Ile Phe Asp Asn Pro  
515 520 525

Val Asp Trp Arg Glu Lys Tyr Ile His Glu Asn Tyr Ser Arg Ile Phe  
530 535 540

Glu Asp Asp Glu Ser Val Val Glu Gln Pro Cys Pro Asp Val Tyr Trp  
545 550 555 560

Phe Pro Ala Phe Ser Glu Arg Met Cys Asp Asp Leu Val Glu Thr Met  
565 570 575

Glu Glu Phe Gly Gln Trp Ser Gly Gly Gly His Lys Asp Glu Arg Leu  
580 585 590

Ser Gly Gly Tyr Glu Asn Val Pro Thr Val Asp Ile His Met Asn Gln  
595 600 605

Ile Gln Phe Glu Lys Glu Trp Leu Lys Phe Leu Lys Glu Tyr Ile Val  
610 615 620

Pro Val Thr Glu Lys Leu Tyr Pro Gly Tyr Tyr Pro Lys Ala Gln Ala  
625 630 635 640

Val Met Asn Phe Val Val Arg Tyr Arg Pro Asp Glu Gln Pro Ser Leu  
645 650 655

Arg Pro His His Asp Ser Ser Thr Phe Thr Ile Asn Ile Ala Leu Asn  
660 665 670

Ser Lys Gly Val Asp Tyr Glu Gly Gly Gly Cys Arg Phe Leu Arg Tyr  
675 680 685

Asn Cys Lys Val Glu Ser Pro Arg Lys Gly Trp Ser Phe Met His Pro  
690 695 700

Gly Arg Leu Thr His Tyr His Glu Gly Leu Pro Thr Thr Gln Gly Thr  
705 710 715 720

Arg Tyr Ile Met Val Ser Phe Val Asp Pro  
725 730

<210> 37  
<211> 730  
<212> PRT  
<213> Danio rerio

<220>  
<221> SIGNAL  
<222> (1)..(20)  
<223> signal sequence

<400> 37

Met Thr Pro Val Pro Val Ile Leu Thr Val Ile Leu Ala Val Ile Gln  
1 5 10 15

Pro Cys Arg Thr Glu Pro Arg Lys Pro Asn Glu Leu Leu Val Ile Thr  
20 25 30

Ala Ala Thr Glu Val Thr Asp Gly Tyr Leu Arg Phe Met Arg Thr Ile  
35 40 45

Arg Gln Phe Asn Tyr Thr Ile Gln Val Leu Gly Leu Gly Glu Gln Trp  
50 55 60

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Arg Gly Gly Asp Val Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg  
 65 70 75 80  
 Trp Leu Lys Thr Glu Leu Glu Lys His Lys Asp Lys Gln Asn Thr Val  
 85 90 95  
 Ile Met Phe Val Asp Ser Tyr Asp Val Ile Leu Ala Ser Gly Pro Val  
 100 105 110  
 Glu Leu Leu Arg Lys Phe Ser Arg Phe Ser His Arg Val Val Phe Ser  
 115 120 125  
 Ala Glu Gly Phe Cys Trp Pro Asp Gln Arg Leu Ala Ser Lys Tyr Pro  
 130 135 140  
 Ala Val His His Gly Lys Arg Tyr Leu Asn Ser Gly Gly Phe Ile Gly  
 145 150 155 160  
 Phe Ala Pro Glu Ile His Ala Ile Val Gln Gln Trp Lys Tyr Lys Asp  
 165 170 175  
 Asp Asp Asp Asp Gln Leu Phe Tyr Thr Arg Ile Tyr Leu Asp Lys Glu  
 180 185 190  
 Lys Arg Arg Lys Phe Asn Met Thr Leu Asp His Arg Ser Gln Ile Phe  
 195 200 205  
 Gln Asn Leu Asn Gly Ala Ile Glu Glu Val Val Leu Lys Phe Glu Lys  
 210 215 220  
 Ser Arg Val Arg Val Arg Asn Val Ala Tyr Asp Thr Leu Pro Val Val  
 225 230 235 240  
 Ile His Gly Asn Gly Pro Thr Lys Leu Gln Leu Asn Tyr Leu Gly Asn  
 245 250 255  
 Tyr Val Pro Thr Ala Trp Thr Tyr Glu Asn Gly Cys Gly Ile Cys Glu  
 260 265 270  
 Glu Asp Leu Leu Asp Leu Ser His Leu Ser Asp Glu Glu Met Pro Leu  
 275 280 285  
 Val His Val Ala Val Phe Ile Glu Gln Pro Met Pro Phe Leu Glu Glu  
 290 295 300  
 Phe Leu Glu Arg Leu Ala Thr Leu Asn Tyr Pro His Thr Arg Ile Arg  
 305 310 315 320  
 Leu Phe Leu His Asn Asn Val Val Tyr His Glu Gln His Val Glu Arg  
 325 330 335  
 Phe Trp Thr Arg His Arg Ser Leu Phe Thr Gly Ala Arg Ile Val Gly  
 340 345 350  
 Pro Glu Glu Asn Leu Lys His Asp Gln Ala Arg Thr Met Ala Val Glu  
 355 360 365  
 Ala Cys Lys Lys Asp Val Ser Cys Asp Tyr Phe Phe Ser Leu Asp Ala  
 370 375 380  
 Asp Val Ala Leu Thr Asn Pro Asp Val Leu Arg Ile Leu Ile Glu Glu  
 385 390 395 400  
 Asn Lys Ser Val Ile Ala Pro Met Leu Ser Arg His Gly Lys Leu Trp  
 sivu 45

405

410

415

Ser Asn Phe Trp Gly Ala Leu Ser Pro Glu Gly Phe Tyr Ser Arg Ala  
 420 425 430  
 Glu Asp Tyr Ile Asp Ile Val Gln Ser Lys Arg Val Gly Leu Trp Asn  
 435 440 445  
 Val Pro Tyr Ile Thr Gln Val Tyr Leu Ile Arg Gly Glu Thr Leu Arg  
 450 455 460  
 Ser Arg Leu Ala Ala Val Ser Leu Tyr Gln Gln Glu Gly Met Asp Pro  
 465 470 475 480  
 Asp Met Ser Phe Cys Lys Ser Val Arg Glu Gln Gly Ile Phe Met Phe  
 485 490 495  
 Val Ser Asn Arg Asp Glu Phe Gly Arg Leu Val Ser Ser Ala Asn Tyr  
 500 505 510  
 Asn Ile Ser Arg Leu His Pro Asp Met Trp Gln Ile Phe Asp Asn Pro  
 515 520 525  
 Val Asp Trp Arg Glu Lys Tyr Ile His Glu Asn Tyr Ser Arg Ile Phe  
 530 535 540  
 Glu Asp Asp Glu Ser Val Val Glu Gln Pro Cys Pro Asp Val Tyr Trp  
 545 550 555 560  
 Phe Pro Ala Phe Ser Glu Arg Met Cys Asp Asp Leu Val Glu Thr Met  
 565 570 575  
 Glu Glu Phe Gly Gln Trp Ser Gly Gly Gly His Lys Asp Glu Arg Leu  
 580 585 590  
 Ser Gly Gly Tyr Glu Asn Val Pro Thr Val Asp Ile His Met Asn Gln  
 595 600 605  
 Ile Gln Phe Glu Lys Glu Trp Leu Lys Phe Leu Lys Glu Tyr Ile Val  
 610 615 620  
 Pro Val Thr Glu Lys Leu Tyr Pro Gly Tyr Tyr Pro Lys Ala Gln Ala  
 625 630 635 640  
 Val Met Asn Phe Val Val Arg Tyr Arg Pro Asp Glu Gln Pro Ser Leu  
 645 650 655  
 Arg Pro His His Asp Ser Ser Thr Phe Thr Ile Asn Ile Ala Leu Asn  
 660 665 670  
 Ser Lys Gly Val Asp Tyr Glu Gly Gly Gly Cys Arg Phe Leu Arg Tyr  
 675 680 685  
 Asn Cys Lys Val Glu Ser Pro Arg Lys Gly Trp Ser Phe Met His Pro  
 690 695 700  
 Gly Arg Leu Thr His Tyr His Glu Gly Leu Pro Thr Thr Gln Gly Thr  
 705 710 715 720  
 Arg Tyr Ile Met Val Ser Phe Val Asp Pro  
 725 730

<210> 38  
 <211> 733  
 <212> PRT

&lt;213&gt; xenopus laevis

&lt;220&gt;

&lt;221&gt; SIGNAL

&lt;222&gt; (1)..(20)

&lt;223&gt; signal sequence

&lt;400&gt; 38

Met Glu Thr Arg Ala Ala Leu Gly Leu Val Leu Leu Val Leu Cys Gly  
1 5 10 15Leu Ser Leu Gly Glu Ser Gly Arg Lys Glu Ala Leu Arg Pro Asp Lys  
20 25 30Leu Leu Val Val Thr Val Ala Thr Glu Ala Thr Glu Gly Tyr Leu Arg  
35 40 45Phe Leu Arg Thr Ala Arg His Phe Asn Tyr Thr Val Arg Thr Leu Gly  
50 55 60Leu Gly His Glu Trp Lys Gly Gly Asp Val Ala Arg Thr Val Gly Gly  
65 70 75 80Gly Gln Lys Val Arg Trp Leu Lys His Glu Leu Glu Gln His Lys Asp  
85 90 95Gln Asp Asp Leu Ile Ile Met Phe Val Asp Ser Tyr Asp Val Val Ile  
100 105 110Ser Gly Ser Pro Thr Glu Leu Leu Trp Lys Phe Gln Arg Phe Glu His  
115 120 125Lys Val Val Phe Ser Ala Glu Gly Phe Cys Trp Pro Glu Trp Ser Leu  
130 135 140Ala Glu Ser Tyr Pro Pro Ile Thr Asn Gly Lys Arg Phe Leu Asn Ser  
145 150 155 160Gly Gly Phe Ile Gly Phe Ala Pro Gln Leu Tyr Gln Met Val Gln Leu  
165 170 175Trp Lys Tyr Lys Asp Asn Asp Asp Asp Gln Leu Phe Tyr Thr Lys Ile  
180 185 190Tyr Leu Asp Glu Ser Met Arg Glu Lys Phe Asp Ile Thr Leu Asp His  
195 200 205Lys Ser Asn Ile Phe Gln Asn Leu Asn Gly Ala Ile Asp Glu Val Val  
210 215 220Leu Lys Phe Glu Ser Asn Lys Val Arg Ala Arg Asn Val Ala Tyr Asp  
225 230 235 240Thr Ile Pro Val Val Ile His Gly Asn Gly Pro Thr Lys Leu Gln Leu  
245 250 255Asn Tyr Leu Gly Asn Tyr Val Pro Asn Ser Trp Thr His Glu Gly Gly  
260 265 270Cys Glu Val Cys Asp Asp Asp Leu Leu Asp Leu Ser Met Leu Glu Asp  
275 280 285Asp Ala Leu Pro His Val Leu Leu Gly Val Phe Ile Glu Gln Pro Thr  
290 295 300

Pro Phe Ile Pro Gln Phe Leu Gln Arg Leu Val Gln Leu Asp Tyr Pro  
 305 310 315 320  
 Arg Asn Arg Leu Ser Leu Tyr Ile His Asn Ser Glu Val Tyr His Glu  
 325 330 335  
 Arg His Ile Glu Val Phe Tyr Lys Lys Tyr Lys Asp Ser Phe Thr Ser  
 340 345 350  
 Ile Lys Ile Val Gly Pro Glu Glu Ala Met Ser Gln Gly Glu Ala Arg  
 355 360 365  
 Asp Met Gly Met Asp Leu Cys Arg Gln Asp Gln Thr Cys Asp Tyr Tyr  
 370 375 380  
 Phe Ser Val Asp Ala Asp Val Ala Leu Thr Asn Pro Asp Thr Leu Tyr  
 385 390 395 400  
 Ile Leu Ile Gln Glu Asn Lys Lys Val Ile Ala Pro Met Val Ser Arg  
 405 410 415  
 Ser Gly Lys Leu Trp Ser Asn Phe Trp Gly Ala Leu Ser Pro Glu Gly  
 420 425 430  
 Tyr Tyr Ala Arg Ser Glu Asp Tyr Val Asp Ile Val Gln Ala Lys Arg  
 435 440 445  
 Ala Gly Val Trp Asn Val Pro Tyr Ile Ala His Val Tyr Leu Ile Lys  
 450 455 460  
 Gly Glu Thr Leu Arg Ala Glu Leu Ser Asn Lys Asn Ile Phe Thr Leu  
 465 470 475 480  
 Pro Gln Met Asp Pro Asp Met Ser Val Cys Lys Ser Ile Arg Asp Lys  
 485 490 495  
 Asn Val Phe Leu His Ile Ser Asn Arg Asp Glu Phe Gly Arg Leu Leu  
 500 505 510  
 Ser Thr Ser Lys Tyr Asn Thr Ser Arg Leu His Asn Asp Leu Trp Gln  
 515 520 525  
 Ile Phe Glu Asn Pro Val Asp Trp Lys Glu Lys Tyr Ile His Glu Asn  
 530 535 540  
 Tyr Ser Lys Ile Phe Glu Glu Asp Tyr Tyr Gln Gln Pro Cys Pro Asp  
 545 550 555 560  
 Val Tyr Trp Phe Pro Val Phe Ser Glu Val Met Cys Asp Glu Phe Val  
 565 570 575  
 Glu Glu Met Glu Asn Phe Gly Gln Trp Ser Gly Gly Lys Asn Gln Asp  
 580 585 590  
 Gln Arg Leu Ala Gly Gly Tyr Glu Asn Val Pro Thr Val Asp Ile His  
 595 600 605  
 Met Thr Gln Ile Gly Tyr Gln Glu Glu Trp Leu Lys Phe Leu Gln Glu  
 610 615 620  
 Tyr Ile Ala Pro Val Thr Glu Lys Leu Phe Pro Gly Tyr Tyr Thr Lys  
 625 630 635 640  
 Ala Lys Ala Leu Leu Asn Phe Ile Val Arg Tyr Arg Pro Asp Glu Gln  
 645 650 655



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Pro Ser Leu Arg Pro His His Asp Ser Ser Thr Phe Thr Val Asn Ile  
660 665 670

Ala Leu Asn Asn Lys Gly Ile Asp Tyr Glu Gly Gly Gly Cys Arg Phe  
675 680 685

Leu Arg Tyr Asn Cys Arg Val Glu Ser Pro Arg Lys Gly Trp Ser Phe  
690 695 700

Met His Pro Gly Arg Leu Thr His Tyr His Glu Gly Leu Pro Thr Thr  
705 710 715 720

Arg Gly Thr Arg Tyr Ile Met Val Ser Phe Val Asp Pro  
725 730

<210> 39  
<211> 731  
<212> PRT  
<213> Takifugu rubripes

<220>  
<221> SIGNAL  
<222> (1)..(21)  
<223> signal sequence

<400> 39

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

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

Val Ile Thr Ala Ala Thr Glu Glu Thr Asp Gly Phe Asn Arg Phe Met  
35 40 45

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

Glu Glu Trp Arg Gly Gly Asp Val Ala Arg Thr Val Gly Gly Gly Gln  
65 70 75 80

Lys Val Arg Trp Leu Lys Lys Glu Leu Ser Lys His Ser Asp Lys Glu  
85 90 95

Asn Met Val Ile Met Phe Val Asp Ser Tyr Asp Val Ile Leu Ala Ala  
100 105 110

Gly Pro Glu Glu Pro Leu Tyr Lys Phe Ser Arg Leu Gly His Lys Val  
115 120 125

Val Phe Ser Ala Glu Gly Phe Cys Trp Pro Asp Gln Arg Leu Ala Ser  
130 135 140

Lys Tyr Pro Glu Val His Ser Gly Lys Arg Tyr Leu Asn Ser Gly Gly  
145 150 155 160

Phe Ile Gly Leu Ala Ser Glu Leu Ser Ala Ile Val Gln Gln Trp Lys  
165 170 175

Tyr Lys Asp Asn Asp Asp Asp Gln Leu Phe Tyr Thr Arg Ile Tyr Leu  
180 185 190

Asp Lys Val Gln Arg Thr Lys Phe Asn Met Thr Leu Asp His Arg Ser  
195 200 205

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

Phe Glu Arg Ser Lys Val Arg Ala Arg Asn Val Ala Tyr Asp Thr Leu  
225 230 235 240

Pro Val Val Ile His Gly Asn Gly Pro Thr Lys Leu Gln Leu Asn Tyr  
245 250 255

Leu Gly Asn Tyr Val Pro Thr Ala Trp Thr Phe Ala Gly Gly Cys Gly  
260 265 270

Ile Cys Asp Asp Glu Leu Arg Leu Leu Asn Glu Asp Glu Glu Met Pro  
275 280 285

Leu Val His Val Gly Val Phe Ile Glu Lys Ala Thr Pro Phe Leu Glu  
290 295 300

Glu Phe Leu Glu Arg Leu Thr Ala Met Ser Tyr Pro Thr Ala Arg Leu  
305 310 315 320

Arg Leu Phe Ile His Asn Asn Val Phe Tyr His Glu Arg His Ile His  
325 330 335

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

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

Glu Ala Cys Lys Lys Asp Pro Arg Cys Glu Phe Tyr Phe Ser Ile Asp  
370 375 380

Ser Asp Val Ala Leu Thr Asn Pro Asp Thr Leu Arg Ile Leu Ile Glu  
385 390 395 400

Glu Asn Lys Ser Val Ile Ala Pro Met Leu Ser Gln His Gly Lys Leu  
405 410 415

Trp Ser Asn Phe Trp Gly Ala Leu Ser Pro Glu Gly Tyr Tyr Ser Arg  
420 425 430

Ser Glu Asp Tyr Ile Glu Ile Val Gln Gly Lys Arg Ile Gly Leu Trp  
435 440 445

Asn Val Pro Tyr Ile Thr Gln Val Tyr Leu Ile Lys Gly Ser Val Leu  
450 455 460

Arg Ser Lys Leu Ser Gln Leu Ser Leu Phe Val Asp Glu Glu Met Asp  
465 470 475 480

Ser Asp Met Val Phe Cys Arg Asn Ile Arg Asp Gln Gly Ile Phe Leu  
485 490 495

Phe Val Ser Asn Arg Asp Glu Phe Gly Arg Leu Val Thr Ser Thr Asn  
500 505 510

Phe Asn Thr Ser Arg Leu His Pro Asp Met Trp Gln Ile Phe Asp Asn  
515 520 525

Pro Leu Asp Trp Lys Glu Lys Tyr Ile His Glu Asn Tyr Ser Lys Val  
530 535 540

Phe Glu Glu Gln Glu Ser Phe Val Glu Gln Pro Cys Pro Asp Val Tyr  
sivu 50

545                      550                      555                      560  
 Trp Phe Pro Ala Phe Ser Glu Lys Met Cys Asp His Leu Val Glu Thr  
                          565                      570                      575  
 Met Glu Asp Asn Gly Gln Trp Ser Ser Gly Gly His Arg Asp Glu Arg  
                          580                      585                      590  
 Leu Ser Gly Gly Tyr Glu Asn Val Pro Thr Val Asp Ile His Met Asn  
                          595                      600                      605  
 Gln Ile Gly Phe Glu Lys Glu Trp Leu Lys Phe Leu Lys Glu Tyr Ile  
                          610                      615                      620  
 Ala Pro Val Thr Glu Arg Leu Tyr Pro Gly Tyr Tyr Pro Lys Ala Gln  
                          625                      630                      635  
 Ala Ile Met Asn Phe Val Val Arg Tyr His Pro Asp Glu Gln Pro Phe  
                          645                      650                      655  
 Leu Arg Pro His His Asp Ser Ser Thr Phe Thr Ile Asn Ile Ala Leu  
                          660                      665                      670  
 Asn Arg Lys Asn Ile Asp Tyr Glu Gly Gly Gly Cys Arg Phe Leu Arg  
                          675                      680                      685  
 Tyr Asn Cys Asn Val Glu Ser Pro Arg Lys Gly Trp Ser Phe Met His  
                          690                      695                      700  
 Pro Gly Arg Leu Thr His Tyr His Glu Gly Leu Pro Thr Thr Lys Gly  
                          705                      710                      715                      720  
 Thr Arg Tyr Ile Met Val Ser Phe Val Asp Pro  
                          725                      730

<210> 40  
 <211> 730  
 <212> PRT  
 <213> Caenorhabditis elegans

<220>  
 <221> SIGNAL  
 <222> (1)..(16)  
 <223> signal sequence

<400> 40

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

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Arg Lys Phe Phe Glu His Tyr Ser Glu Lys Arg Leu Leu Phe Gly Ala  
115 120 125

Glu Pro Phe Cys Trp Pro Asp Gln Ser Leu Ala Pro Glu Tyr Pro Ile  
130 135 140

Val Glu Phe Gly Lys Arg Phe Leu Asn Ser Gly Leu Phe Met Gly Tyr  
145 150 155 160

Gly Pro Glu Met His Lys Ile Leu Lys Leu Lys Ser Val Glu Asp Lys  
165 170 175

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

Arg Lys Glu Leu Asn Met Asp Leu Asp Ser Met Ser Lys Ile Phe Gln  
195 200 205

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

Gly Thr Pro Glu Ala Tyr Asn Ala Ala Tyr Asn Thr Lys Pro Leu Ile  
225 230 235 240

Val His Gly Asn Gly Pro Ser Lys Ser His Leu Asn Tyr Leu Gly Asn  
245 250 255

Tyr Leu Gly Asn Arg Trp Asn Ser Gln Leu Gly Cys Arg Thr Cys Gly  
260 265 270

Leu Glu Val Lys Glu Ser Glu Glu Val Pro Leu Ile Ala Leu Asn Leu  
275 280 285

Phe Ile Ser Lys Pro Ile Pro Phe Ile Glu Glu Val Leu Gln Lys Ile  
290 295 300

Ala Glu Phe Asp Tyr Pro Lys Glu Lys Ile Ala Leu Tyr Ile Tyr Asn  
305 310 315 320

Asn Gln Pro Phe Ser Ile Lys Asn Ile Gln Asp Phe Leu Gln Lys His  
325 330 335

Gly Lys Ser Tyr Tyr Thr Lys Arg Val Ile Asn Gly Val Thr Glu Ile  
340 345 350

Gly Asp Arg Glu Ala Arg Asn Glu Ala Ile Glu Trp Asn Lys Ala Arg  
355 360 365

Asn Val Glu Phe Ala Phe Leu Met Asp Gly Asp Ala Tyr Phe Ser Glu  
370 375 380

Pro Lys Val Ile Lys Asp Leu Ile Gln Tyr Ser Lys Thr Tyr Asp Val  
385 390 395 400

Gly Ile Ile Ala Pro Met Ile Gly Gln Pro Gly Lys Leu Phe Thr Asn  
405 410 415

Phe Trp Gly Ala Ile Ala Ala Asn Gly Tyr Tyr Ala Arg Ser Glu Asp  
420 425 430

Tyr Met Ala Ile Val Lys Gly Asn Arg Val Gly Tyr Trp Asn Val Pro  
435 440 445

Phe Ile Thr Ser Ala Val Leu Phe Asn Lys Glu Lys Leu Glu Ala Met  
 450 455 460  
 Lys Asp Ala Tyr Ser Tyr Asn Lys Asn Leu Asp Pro Asp Met Ser Met  
 465 470 475 480  
 Cys Lys Phe Ala Arg Asp Asn Gly His Phe Leu Tyr Ile Asp Asn Glu  
 485 490 495  
 Lys Tyr Tyr Gly Phe Leu Ile Val Ser Asp Glu Tyr Ala Glu Thr Val  
 500 505 510  
 Thr Glu Gly Lys Trp His Pro Glu Met Trp Gln Ile Phe Glu Asn Arg  
 515 520 525  
 Glu Leu Trp Glu Ala Arg Tyr Ile His Pro Gly Tyr His Lys Ile Met  
 530 535 540  
 Glu Pro Glu His Val Val Asp Gln Ala Cys Pro Asp Val Tyr Asp Phe  
 545 550 555 560  
 Pro Leu Met Ser Glu Arg Phe Cys Glu Glu Leu Ile Glu Glu Met Glu  
 565 570 575  
 Gly Phe Gly Arg Trp Ser Asp Gly Ser Asn Asn Asp Lys Arg Leu Ala  
 580 585 590  
 Gly Gly Tyr Glu Asn Val Pro Thr Arg Asp Ile His Met Asn Gln Val  
 595 600 605  
 Gly Phe Glu Arg Gln Trp Leu Tyr Phe Met Asp Thr Tyr Val Arg Pro  
 610 615 620  
 Val Gln Glu Lys Thr Phe Ile Gly Tyr Tyr His Gln Pro Val Glu Ser  
 625 630 635 640  
 Asn Met Met Phe Val Val Arg Tyr Lys Pro Glu Glu Gln Pro Ser Leu  
 645 650 655  
 Arg Pro His His Asp Ala Ser Thr Phe Ser Ile Asp Ile Ala Leu Asn  
 660 665 670  
 Lys Lys Gly Arg Asp Tyr Glu Gly Gly Gly Val Arg Tyr Ile Arg Tyr  
 675 680 685  
 Asn Cys Thr Val Pro Ala Asp Glu Val Gly Tyr Ala Met Met Phe Pro  
 690 695 700  
 Gly Arg Leu Thr His Leu His Glu Gly Leu Ala Thr Thr Lys Gly Thr  
 705 710 715 720  
 Arg Tyr Ile Met Val Ser Phe Ile Asn Pro  
 725 730  
 <210> 41  
 <211> 721  
 <212> PRT  
 <213> Drosophila melanogaster  
 <400> 41  
 Met Arg Ile Gln Gln Ser Ala Leu Leu Leu Leu Leu Ala Val Thr  
 1 5 10 15  
 Ser Gln Gly Asp Ala Glu Ser Asn Trp Asn Asp Lys Ile Lys Val Phe  
 20 25 30

OULU17\_ST25.txt

Thr Val Ala Thr Glu Pro Thr Asp Gly Tyr Thr Arg Tyr Ile Arg Ser  
35 40 45

Ala Arg Val Tyr Asp Ile Glu Val Thr Thr Leu Gly Leu Gly Glu Glu  
50 55 60

Trp Lys Gly Gly Asp Met Gln Lys Pro Gly Gly Gly Phe Lys Leu Asn  
65 70 75 80

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

Ile Leu Phe Thr Asp Ser Tyr Asp Val Ile Ile Thr Thr Thr Leu Asp  
100 105 110

Glu Ile Phe Glu Lys Phe Lys Glu Ser Gly Ala Lys Ile Leu Phe Ser  
115 120 125

Ala Glu Lys Tyr Cys Trp Pro Asp Lys Ser Leu Ala Asn Asp Tyr Pro  
130 135 140

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

Gly Tyr Ala Pro Gln Val Phe Ala Leu Leu Val Asp Pro Ile Glu Asp  
165 170 175

Thr Ala Asp Asp Gln Leu Tyr Phe Thr Lys Ile Phe Leu Asp Glu Thr  
180 185 190

Lys Arg Ala Lys Leu Gly Leu Lys Leu Asp Val Gln Ser Arg Leu Phe  
195 200 205

Gln Asn Leu His Gly Ala Lys Asn Asp Val Lys Leu Lys Val Asp Leu  
210 215 220

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

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

Gly Asn Tyr Leu Ala Arg Thr Phe Asn Gly Val Cys Leu Leu Cys Gln  
260 265 270

Glu Asn Leu Leu Asp Leu Glu Glu Thr Asn Leu Pro Val Ile Ser Leu  
275 280 285

Ala Leu Met Val Thr Gln Pro Val Pro Phe Phe Asp Gln Phe Leu Glu  
290 295 300

Gly Ile Glu Ser Leu Asn Tyr Pro Lys Glu Lys Leu His Leu Leu Ile  
305 310 315 320

Tyr Ser Asn Val Ala Phe His Asp Asp Asp Ile Lys Ser Phe Val Asn  
325 330 335

Lys His Ala Lys Glu Tyr Ala Thr Ala Lys Phe Ala Leu Ser Thr Asp  
340 345 350

Glu Leu Asp Glu Arg Gln Gly Arg Gln Leu Ala Leu Asp Lys Ala Arg  
355 360 365

Leu His Gln Ser Asp Tyr Ile Phe Phe Val Asp Ala Asp Ala His Ile  
sivu 54

370

375

Asp 385 Asp Gly Glu Val Leu 390 Arg Glu Leu Leu Arg 395 Leu Asn Lys Gln Phe 400  
Val Ala Pro Ile Phe 405 Ser Lys His Lys Glu 410 Leu Trp Ser Asn Phe 415 Trp  
Gly Ala Leu Ser 420 Glu Gly Gly Tyr Tyr 425 Ala Arg Ser His Asp 430 Tyr Val  
Asp Ile Val 435 Lys Arg Glu Leu Ile 440 Gly Met Phe Asn Val 445 Pro His Val  
Thr Ser 450 Ile Tyr Leu Val Lys 455 Lys Thr Ala Phe Asp 460 Ala Ile Ser Phe  
Lys 465 His Lys Glu Phe Asp 470 Pro Asp Met Ala Met 475 Cys Glu Ser Leu Arg 480  
Asn Ala Gly Ile Phe 485 Met Tyr Ala Ser Asn 490 Leu Arg Ile Phe Gly 495 His  
Leu Val Asn Ala 500 Asp Asp Phe Asn Thr 505 Thr Val Thr Arg Pro 510 Asp Phe  
Tyr Thr Leu 515 Phe Ser Asn Glu Ile 520 Asp Trp Thr Glu Lys 525 Tyr Ile His  
Pro Asn 530 Tyr Ser Leu Gln Leu 535 Asn Glu Ser Asn Lys 540 Ile Gln Gln Pro  
Cys 545 Pro Asp Val Tyr Trp 550 Phe Gln Ile Val Ser 555 Asp Ala Phe Cys Asp 560  
Asp Leu Val Ala Ile 565 Met Glu Ala His Asn 570 Gly Trp Ser Asp Gly 575 Ser  
Asn Asn Asp Asn 580 Arg Leu Glu Gly Gly 585 Tyr Glu Ala Val Pro 590 Thr Arg  
Asp Ile His 595 Met Lys Gln Val Gly 600 Leu Glu Arg Leu Tyr 605 Leu Lys Phe  
Leu Gln 610 Met Phe Val Arg Pro 615 Leu Gln Glu Arg Ala 620 Phe Thr Gly Tyr  
Phe 625 His Asn Pro Pro Arg 630 Ala Leu Met Asn Phe 635 Met Val Arg Tyr Arg 640  
Pro Asp Glu Gln Pro 645 Ser Leu Arg Pro His 650 His Asp Ser Ser Thr 655 Tyr  
Thr Ile Asn Ile 660 Ala Met Asn Arg Ala 665 Gly Ile Asp Tyr Gln 670 Gly Gly  
Gly Cys Arg 675 Phe Ile Arg Tyr Asn 680 Cys Ser Val Thr Asp 685 Thr Lys Lys  
Gly Trp 690 Met Leu Met His Pro 695 Gly Arg Leu Thr His 700 Tyr His Glu Gly  
Leu 705 Leu Val Thr Asn Gly 710 Thr Arg Tyr Ile Met 715 Ile Ser Phe Ile Asp 720

Pro

<210> 42  
 <211> 707  
 <212> PRT  
 <213> Aedes aegypti

<400> 42

Met Phe Arg Lys Leu Glu Tyr Asn Ile Ser Gln Lys Pro Pro Leu Val  
 1 5 10 15  
 Phe Thr Val Ala Ser Asn Ala Thr Glu Gly Tyr Leu Arg Tyr Ile Arg  
 20 25 30  
 Ser Ala Lys Tyr Tyr Gly Ile Glu Val Ser Thr Leu Gly Leu Gly Lys  
 35 40 45  
 Pro Trp Leu Gly Gly Asp Met Thr Arg Leu Gly Gly Gly Tyr Lys Ile  
 50 55 60  
 Asn Leu Leu Arg Asp Ala Leu Lys Pro Tyr Lys Ala Asp Asp Asp Arg  
 65 70 75 80  
 Ile Val Leu Phe Thr Asp Ser Tyr Asp Val Leu Phe Leu Ala Ser Met  
 85 90 95  
 Glu Lys Ile Ile Glu Lys Phe Arg Thr Phe Asp Ala Ser Ile Leu Phe  
 100 105 110  
 Gly Ser Glu Gly Phe Cys Trp Pro Glu Glu Asp Leu Lys Ser Lys Tyr  
 115 120 125  
 Pro Val Leu Glu Gly Arg Gly Thr Arg Phe Leu Asn Ser Gly Leu Phe  
 130 135 140  
 Met Gly Tyr Ala Ser Lys Val Tyr Arg Met Leu Lys Thr Pro Val Lys  
 145 150 155 160  
 Asp Thr Asp Asp Asp Gln Leu Tyr Tyr Thr Lys Ala Tyr Leu Asp Glu  
 165 170 175  
 Lys Gln Arg Asn Glu Leu Lys Ile Lys Leu Asp His Thr Ala Val Leu  
 180 185 190  
 Phe Gln Asn Leu Asn Gly Val Glu Glu Gln Val Val Leu Ala Leu Asp  
 195 200 205  
 Glu Asn Gly Lys Glu Ala Phe Leu Lys Asn Thr Glu Tyr Ser Thr Val  
 210 215 220  
 Pro Tyr Ile Val His Gly Asn Gly Pro Ser Lys Leu Val Leu Asn Gly  
 225 230 235 240  
 Tyr Ala Asn Tyr Leu Ala Gly Ala Phe Val Asp Gly Glu Cys Lys Thr  
 245 250 255  
 Ile Asn Glu Asp Leu Ile Gln Leu Asp Glu Glu Asn Leu Pro Thr Val  
 260 265 270  
 Met Leu Ala Leu Phe Ile Glu Lys Ala Thr Pro Phe Ile Glu Glu Trp  
 275 280 285  
 Phe Glu Gly Ile Ala Lys Ile Asn Tyr Pro Ser Lys Lys Met Asp Leu  
 290 295 300



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Phe Ile His Asn Asn Val Asp Tyr His Lys Pro Thr Ile Asp Asp Phe  
 305 310 315 320  
 Ile Glu Lys Tyr Ser Ser Ser Tyr Arg Ser Phe Arg Met Val Asp Tyr  
 325 330 335  
 Thr Asp Asp Tyr Glu Glu Leu Ala Gly Arg Ser Leu Ala Val Asp Gln  
 340 345 350  
 Cys Leu Lys Lys Gln Cys Asp Tyr Leu Phe Val Val Asp Ala Asp Gly  
 355 360 365  
 His Ile Asp Asp Ser Asp Ile Ile Arg Lys Leu Ile Val Gln Asn Lys  
 370 375 380  
 Ser Ile Ile Ser Pro Met Leu Asn Arg Pro Glu Lys Val Trp Ser Asn  
 385 390 395 400  
 Phe Trp Gly Ala Leu Ser Ser Gln Gly Phe Tyr Ala Arg Ser Ser Asp  
 405 410 415  
 Tyr Met Asp Ile Val Gly Arg Lys Ile Leu Gly Gln Trp Asn Val Pro  
 420 425 430  
 Tyr Ile Ser Thr Ile Tyr Leu Val Lys Ala Ser Val Leu Pro Leu Val  
 435 440 445  
 Ser Tyr Glu Leu Gln Gly Thr Asp Pro Asp Met Ala Leu Cys Trp His  
 450 455 460  
 Met Arg Ala Lys Gly Ile Phe Met His Val Ile Asn Ala Glu Gln Tyr  
 465 470 475 480  
 Gly His Leu Ile Asp Ser Asp Tyr Tyr Asp Thr Thr Lys Thr His Pro  
 485 490 495  
 Asp Phe Tyr Gln Leu Phe Asn Asn Lys His Asp Trp Glu Gln Lys Tyr  
 500 505 510  
 Ile Ser Pro Glu Tyr Tyr Lys Gln Leu Glu Lys Asp Tyr Val Gln Ile  
 515 520 525  
 Gln Pro Cys Pro Asp Val Tyr Trp Phe Ala Ile Ala Ser Glu Leu Phe  
 530 535 540  
 Cys Asp His Leu Lys Glu Ile Val Glu Ala Phe Gly Lys Trp Ser Asp  
 545 550 555 560  
 Gly Thr His Thr Asp Lys Arg Leu Gln Gly Gly Tyr Glu Ala Val Pro  
 565 570 575  
 Thr Arg Asp Ile His Met Asn Gln Val Gly Leu Glu Gln Val Trp Leu  
 580 585 590  
 Lys Phe Leu Gln Leu Tyr Val Lys Pro Leu Gln Glu Lys Val Phe Ile  
 595 600 605  
 Gly Tyr Tyr His Asp Pro Pro Arg Ser Leu Met Asn Phe Val Val Arg  
 610 615 620  
 Tyr Arg Pro Asp Glu Gln Pro Ser Leu Arg Pro His His Asp Ser Ser  
 625 630 635 640

Thr Tyr Thr Ile Asn Ile Ala Leu Asn Arg Ala Gly Ile Asp Tyr Glu  
645 650 655

Gly Gly Gly Cys His Phe Leu Arg Tyr Asn Cys Ser Val Thr Asp Thr  
660 665 670

Arg Lys Gly Trp Met Leu Met His Pro Gly Arg Leu Thr His Phe His  
675 680 685

Glu Gly Leu Arg Thr Asn Ser Gly Thr Arg Tyr Ile Met Ile Ser Phe  
690 695 700

Val Asp Pro  
705

<210> 43  
<211> 895  
<212> PRT  
<213> Acanthamoeba polyphaga minivirus  
<400> 43

Met Ile Ser Arg Thr Tyr Val Ile Asn Leu Ala Arg Arg Pro Asp Lys  
1 5 10 15

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

Glu Leu Asn Cys Val Ile Phe Glu Ala Val Asp Gly Asn Asn Pro Glu  
35 40 45

His Leu Ser Arg Phe Asn Phe Lys Ile Pro Asn Trp Thr Asp Leu Asn  
50 55 60

Ser Gly Lys Pro Met Thr Asn Gly Glu Val Gly Cys Ala Leu Ser His  
65 70 75 80

Trp Ser Val Trp Lys Asp Val Val Asp Cys Val Glu Asn Gly Thr Leu  
85 90 95

Asp Lys Asp Cys Arg Ile Leu Val Leu Glu Asp Asp Val Val Phe Leu  
100 105 110

Asp Asn Phe Met Glu Arg Tyr Gln Thr Tyr Thr Ser Glu Ile Thr Tyr  
115 120 125

Asn Cys Asp Leu Leu Tyr Leu His Arg Lys Pro Leu Asn Pro Tyr Thr  
130 135 140

Glu Thr Lys Ile Ser Thr His Ile Val Lys Pro Asn Lys Ser Tyr Trp  
145 150 155 160

Ala Cys Ala Tyr Val Ile Thr Tyr Gln Cys Ala Lys Lys Phe Met Asn  
165 170 175

Ala Asn Tyr Leu Glu Asn Leu Ile Pro Ser Asp Glu Phe Ile Pro Ile  
180 185 190

Met His Gly Cys Asn Val Tyr Gly Phe Glu Lys Leu Phe Ser Asn Cys  
195 200 205

Glu Lys Ile Asp Cys Tyr Ala Val Gln Pro Ser Leu Val Lys Leu Thr  
210 215 220

Ser Asn Ala Phe Asn Asp Ser Glu Thr Phe His Ser Gly Ser Tyr Val  
225 230 235 240

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Pro Ser Asn Lys Phe Asn Phe Asp Thr Asp Lys Gln Phe Arg Ile Val  
245 250 255

Tyr Ile Gly Pro Thr Lys Gly Asn Ser Phe His Arg Phe Thr Glu Tyr  
260 265 270

Cys Lys Leu Tyr Leu Leu Pro Tyr Lys Val Ile Asp Glu Lys Glu Thr  
275 280 285

Asn Asp Phe Val Ser Leu Arg Ser Glu Leu Gln Ser Leu Ser Glu Gln  
290 295 300

Asp Leu Asn Thr Thr Leu Met Leu Val Val Ser Val Asn His Asn Asp  
305 310 315 320

Phe Cys Asn Thr Ile Pro Cys Ala Pro Thr Asn Glu Phe Ile Asp Lys  
325 330 335

Tyr Lys Gln Leu Thr Thr Asp Thr Asn Ser Ile Val Ser Ala Val Gln  
340 345 350

Asn Gly Thr Asn Lys Thr Met Phe Ile Gly Trp Ala Asn Lys Ile Ser  
355 360 365

Glu Phe Ile Asn His Tyr His Gln Lys Leu Thr Glu Ser Asn Ala Glu  
370 375 380

Thr Asp Ile Asn Leu Ala Asn Leu Leu Leu Ile Ser Ser Ile Ser Ser  
385 390 395 400

Asp Phe Asn Cys Val Val Glu Asp Val Glu Gly Asn Leu Phe Gln Leu  
405 410 415

Ile Asn Glu Glu Ser Asp Ile Val Phe Ser Thr Thr Thr Ser Arg Val  
420 425 430

Asn Asn Lys Leu Gly Lys Thr Pro Ser Val Leu Tyr Ala Asn Ser Asp  
435 440 445

Ser Ser Val Ile Val Leu Asn Lys Val Glu Asn Tyr Thr Gly Tyr Gly  
450 455 460

Trp Asn Glu Tyr Tyr Gly Tyr His Val Tyr Pro Val Lys Phe Asp Val  
465 470 475 480

Leu Pro Lys Ile Tyr Leu Ser Ile Arg Ile Val Lys Asn Ala Asn Val  
485 490 495

Thr Lys Ile Ala Glu Thr Leu Asp Tyr Pro Lys Glu Leu Ile Thr Val  
500 505 510

Ser Ile Ser Arg Ser Glu His Asp Ser Phe Tyr Gln Ala Asp Ile Gln  
515 520 525

Lys Phe Leu Leu Ser Gly Ala Asp Tyr Tyr Phe Tyr Ile Ser Gly Asp  
530 535 540

Cys Ile Ile Thr Arg Pro Thr Ile Leu Lys Glu Leu Leu Glu Leu Asn  
545 550 555 560

Lys Asp Phe Val Gly Pro Leu Met Arg Lys Gly Thr Glu Ser Trp Thr  
565 570 575

Asn Tyr Trp Gly Asp Ile Asp Pro Ser Asn Gly Tyr Tyr Lys Arg Ser  
sivu 59

580

585

Phe Asp Tyr Phe Asp Ile Ile Gly Arg Asp Arg Val Gly Cys Trp Asn  
595 600 605  
Val Pro Tyr Leu Ala Ser Val Tyr Leu Ile Lys Lys Ser Val Ile Glu  
610 615 620  
Gln Val Pro Asn Leu Phe Thr Glu Asn Ser His Met Trp Asn Gly Ser  
625 630 635 640  
Asn Ile Asp Met Arg Leu Cys His Asn Leu Arg Lys Asn Asn Val Phe  
645 650 655  
Met Tyr Leu Ser Asn Leu Arg Pro Tyr Gly His Ile Asp Asp Ser Ile  
660 665 670  
Asn Leu Glu Val Leu Ser Gly Val Pro Thr Glu Val Thr Leu Tyr Asp  
675 680 685  
Leu Pro Thr Arg Lys Glu Glu Trp Glu Lys Lys Tyr Leu His Pro Glu  
690 695 700  
Phe Leu Ser His Leu Gln Asn Phe Lys Asp Phe Asp Tyr Thr Glu Ile  
705 710 715 720  
Cys Asn Asp Val Tyr Ser Phe Pro Leu Phe Thr Pro Ala Phe Cys Lys  
725 730 735  
Glu Val Ile Glu Val Met Asp Lys Ala Asn Leu Trp Ser Lys Gly Gly  
740 745 750  
Asp Ser Tyr Phe Asp Pro Arg Ile Gly Gly Val Glu Ser Tyr Pro Thr  
755 760 765  
Gln Asp Thr Gln Leu Tyr Glu Val Gly Leu Asp Lys Gln Trp His Tyr  
770 775 780  
Val Val Phe Asn Tyr Val Ala Pro Phe Val Arg His Leu Tyr Asn Asn  
785 790 795 800  
Tyr Lys Thr Lys Asp Ile Asn Leu Ala Phe Val Val Lys Tyr Asp Met  
805 810 815  
Glu Arg Gln Ser Glu Leu Ala Pro His His Asp Ser Ser Thr Tyr Thr  
820 825 830  
Leu Asn Ile Ala Leu Asn Glu Tyr Gly Lys Glu Tyr Thr Ala Gly Gly  
835 840 845  
Cys Glu Phe Ile Arg His Lys Phe Ile Trp Gln Gly Gln Lys Val Gly  
850 855 860  
Tyr Ala Thr Ile His Ala Gly Lys Leu Leu Ala Tyr His Arg Ala Leu  
865 870 875 880  
Pro Ile Thr Ser Gly Lys Arg Tyr Ile Leu Val Ser Phe Val Asn  
885 890 895

<210> 44  
<211> 688  
<212> PRT  
<213> Brugia malayi  
<400> 44

Met Thr Gly Met Thr Leu Trp Val Leu Thr 10 Leu Ser Thr Val Leu Met  
 1 5  
 Tyr Gly Thr Val Thr Met Glu Lys Ile Ser Gly Met Pro Glu Leu Leu  
 20 25 30  
 Val Val Thr Val Ala Thr Glu Glu Thr Asp Gly Leu Arg Arg Leu Lys  
 35 40 45  
 Arg Thr Ala Asp Ile Asn Asp Val Gly Leu Glu Val Phe Gly Met Gly  
 50 55 60  
 Glu Gln Trp Arg Gly Gly Asp Val Arg Val Asp Lys Gly Gly Gly Gln  
 65 70 75 80  
 Lys Ile Arg Ile Leu Arg Lys Ser Leu Glu Lys Tyr Lys Asp Arg Asn  
 85 90 95  
 Asp Leu Ile Ile Leu Phe Val Asp Ala Tyr Asp Val Ile Leu Leu Gly  
 100 105 110  
 Asn Glu Glu Gln Ile Leu Arg Asn Phe Phe Thr Phe Phe Asp Gly Phe  
 115 120 125  
 Arg Leu Val Phe Ser Ser Glu Pro Phe Cys Trp Pro Asn Arg Ser Leu  
 130 135 140  
 Ala Pro Lys Tyr Pro Leu Val Asn Phe Gly Tyr Arg Tyr Leu Asn Ser  
 145 150 155 160  
 Gly Val Phe Met Gly Phe Ala Pro Glu Ile Trp Asn Leu Ile Ser Tyr  
 165 170 175  
 Lys Asp Val Glu Asp Asn Asp Asp Asp Gln Leu Tyr Tyr Thr Arg Leu  
 180 185 190  
 Tyr Leu Asp Glu Gln Ile Arg Met Ser Leu Lys Met Thr Leu Asp Ser  
 195 200 205  
 Met Ser Ile Leu Phe Gln Asn Leu Asn Gly Ala Ser Asn Asp Val Lys  
 210 215 220  
 Leu Glu Met Ser Asp Glu Arg Ser Gly Thr Tyr Phe Asp Leu Glu Lys  
 225 230 235 240  
 Ile Glu Leu Pro Arg Leu Phe Leu Ser Val Ile Ile Ser Lys Pro Ile  
 245 250 255  
 Pro Phe Ile Arg Glu Phe Phe Glu Asn Ile Lys Ser Leu Val Tyr Ala  
 260 265 270  
 Asp Glu Lys Ile Asp Leu Tyr Val Tyr Cys Asn Gln Asn Phe Leu Glu  
 275 280 285  
 Lys Glu Thr Asn Gly Phe Val Glu Asp Val Lys Gly Arg Tyr Arg Ser  
 290 295 300  
 Leu Leu Tyr Asp Gly Ser Thr Thr Glu Leu Gly Glu Arg Glu Ala Arg  
 305 310 315 320  
 Ala Phe Ser Leu Lys Gln Ser Leu Ala Leu Gly Asp Asp Tyr Leu Ile  
 325 330 335  
 Met Ile Asp Gly Asp Val His Leu Asn Asn Ser Glu Ala Leu Leu Leu  
 340 345 350

OULU17\_ST25.txt

Met Ile His Arg Val Lys Glu Lys Asp Ser Glu Ile Leu Ala Pro Leu  
355 360 365

Val Gly Gln Pro His Lys Leu Phe Thr Asn Phe Trp Gly Ala Ile Ser  
370 375 380

Ser Asn Gly Tyr Tyr Ala Arg Ser Glu Asn Tyr Leu Asp Ile Ile Asp  
385 390 395 400

Tyr Lys Glu Val Gly Ile Trp Asn Val Pro Phe Ile Ser Ser Ile Leu  
405 410 415

Ile Ile Ala Lys Glu Lys Leu Thr Ser Leu Ser Asn Ala Tyr Tyr Tyr  
420 425 430

Asn Asp Lys Leu Asp Pro Asp Met Ser Phe Cys Ser Phe Ala Arg Asp  
435 440 445

Lys Gly His Phe Leu Tyr Leu Asp Asn Ser His Tyr Tyr Gly Phe Leu  
450 455 460

Val Val Ser Glu Asp Val Glu Ser Ser Lys Val His Pro Asp Met Tyr  
465 470 475 480

Glu Ile Phe Asn Asn Lys Glu Leu Trp Glu Lys Arg Tyr Ile His Pro  
485 490 495

Asn Tyr Phe Ala Ala Leu Asn Gly Ser Ile Gln Ile Leu Glu Ile Cys  
500 505 510

Gln Asp Val Tyr Asp Phe Pro Leu Met Ser Glu Arg Phe Cys Ala Glu  
515 520 525

Leu Ile Glu Glu Cys Glu Tyr Tyr Gly Lys Trp Ser Asp Gly Lys His  
530 535 540

Lys Asp Glu Arg Leu Val Gly Gly Tyr Glu Asn Val Pro Thr Arg Asp  
545 550 555 560

Ile His Met Asn Gln Ile Gly Phe Glu Arg His Trp Leu Tyr Met Leu  
565 570 575

Asp Glu Tyr Val Arg Pro Ile Gln Glu Lys Leu Phe Ile Gly Tyr Tyr  
580 585 590

Lys Gln Pro Val Glu Ser Val Met Met Phe Val Val Arg Tyr Lys Pro  
595 600 605

Glu Glu Gln Ala Ser Leu Arg Pro His His Asp Ala Ser Thr Tyr Ser  
610 615 620

Ile Asp Ile Ala Leu Asn Lys Arg Gly Val Asp Tyr Glu Gly Gly Gly  
625 630 635 640

Val Arg Phe Leu Arg Tyr Asn Cys Thr Phe Asp Ala Asp Thr Val Gly  
645 650 655

His Ser Met Ile Phe Pro Gly Arg Leu Thr His Leu His Glu Gly Leu  
660 665 670

Glu Thr Thr Gln Gly Thr Arg Tyr Ile Ala Val Ser Phe Ile Asn Pro  
675 680 685

<210> 45  
 <211> 702  
 <212> PRT  
 <213> Ornithorhynchus anatinus

<400> 45

```
Met Ala Ala Pro Arg Pro Ala Phe Pro Ser Leu Leu Leu Leu Leu Leu
1      5      10      15

Leu Leu Leu Pro Gly Leu Pro Ala Ala Arg Ala Gly Asp Gly Pro Pro
20     25     30

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

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

Phe Asn Tyr Thr Val Arg Thr Leu Gly Leu Gly Glu Glu Trp Arg Gly
65     70     75     80

Gly Asp Val Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg Trp Leu
85     90     95

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

Phe Val Asp Ser Tyr Asp Val Leu Leu Ala Gly Ser Pro Leu Glu Leu
115    120    125

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

Gly Phe Cys Trp Pro Glu Trp Ser Leu Ala Asp Ser Tyr Pro Pro Leu
145    150    155    160

Ser Ala Gly Asn Gly Lys Arg Phe Leu Asn Ser Gly Gly Phe Ile Gly
165    170    175

Phe Ala Pro Thr Val His Arg Leu Val Arg Gln Trp Lys Tyr Lys Asp
180    185    190

Asp Asp Asp Asp Gln Leu Phe Tyr Thr Arg Leu Tyr Leu Asp Pro Gly
195    200    205

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

Gln Asn Leu Asn Gly Ala Leu Asp Glu Val Val Leu Lys Phe Glu Lys
225    230    235    240

Asn Arg Val Arg Val Arg Asn Val Ala Tyr Asp Thr Leu Pro Val Val
245    250    255

Ile His Gly Asn Gly Pro Thr Lys Leu Gln Leu Asn Tyr Leu Gly Asn
260    265    270

Tyr Val Pro Asn Ala Trp Thr Tyr Glu Gly Gly Cys Gly Phe Cys Ala
275    280    285

Gln Asp Arg Arg Asn Leu Thr Gly Asp Ser Glu Leu Pro Arg Val Leu
290    295    300

Leu Gly Leu Phe Val Glu Gln Pro Thr Pro Phe Leu Pro Gln Phe Leu
305    310    315    320
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Gln Arg Leu Leu Leu<sub>325</sub> Leu Asp Tyr Pro Ser<sub>330</sub> Ser Arg Leu Ser Leu<sub>335</sub> Phe

Leu His Asn Ser<sub>340</sub> Glu Val Tyr His Glu<sub>345</sub> Ala His Val Glu Ala<sub>350</sub> Leu Trp

Glu Gln Leu<sub>355</sub> Arg Thr Arg Phe Ser<sub>360</sub> Thr Val Gln Leu Val<sub>365</sub> Gly Pro Glu

Glu Ala<sub>370</sub> Leu Thr Gln Gly Glu<sub>375</sub> Ala Arg Asp Met Ala<sub>380</sub> Met Asp Ser Cys

Arg Gln Asp Pro Ser Cys<sub>390</sub> Asp Phe Tyr Phe Ser<sub>395</sub> Leu Asp Ala Asp Ala<sub>400</sub>

Val Leu Thr Asn Pro<sub>405</sub> Arg Thr Leu Leu Ser<sub>410</sub> Leu Ile Glu Glu Asp Arg<sub>415</sub>

Lys Val Val Ala<sub>420</sub> Pro Met Leu Ser Arg<sub>425</sub> His Gly Lys Leu Trp<sub>430</sub> Ser Asn

Phe Trp Gly<sub>435</sub> Ala Leu Ser Pro Glu<sub>440</sub> Glu Tyr Tyr Ala Arg<sub>445</sub> Ser Glu Asp

Tyr Val<sub>450</sub> Glu Leu Val Gln Arg<sub>455</sub> Lys Arg Val Gly Leu Trp Asn Val Pro

Tyr Val<sub>465</sub> Ala Gln Ala Tyr<sub>470</sub> Leu Val Arg Gly Glu<sub>475</sub> Thr Leu Arg Ser Glu<sub>480</sub>

Leu Pro Gln Arg Gly<sub>485</sub> Val Phe Thr Leu Glu<sub>490</sub> Glu Thr Asp Pro Asp Met<sub>495</sub>

Ser Phe Cys Lys<sub>500</sub> Ser Leu Arg Asp Lys<sub>505</sub> Gly Ile Phe Leu His<sub>510</sub> Leu Ser

Asn Gln Glu<sub>515</sub> Glu Phe Gly Arg Leu<sub>520</sub> Val Ser Thr Ala Arg<sub>525</sub> Tyr Asp Thr

Asp His<sub>530</sub> Leu His Pro Asp Leu<sub>535</sub> Trp Gln Ile Phe Asp<sub>540</sub> Asn Pro Leu Asp

Trp Arg Glu Lys Tyr Ile<sub>550</sub> His Pro Asn Tyr Ser<sub>555</sub> Leu Ala Leu Glu Gly<sub>560</sub>

Glu Gly Val Glu<sub>565</sub> Gln Pro Cys Pro Asp Val<sub>570</sub> Tyr Trp Phe Pro Val<sub>575</sub> Leu

Ser Asp Arg Met<sub>580</sub> Cys Asp Glu Leu Val<sub>585</sub> Glu Glu Met Glu Asn Phe Gly<sub>590</sub>

Gln Trp Ser<sub>595</sub> Gly Gly Arg His Glu<sub>600</sub> Asp Thr Arg Leu Ala<sub>605</sub> Gly Gly Tyr

Glu Asn Val Pro Thr Val Asp<sub>615</sub> Ile His Met Asn Gln<sub>620</sub> Val Gly Tyr Glu

Lys Glu Trp Leu Lys Val<sub>630</sub> Leu Ser Glu Tyr Ile<sub>635</sub> Ala Pro Met Thr Glu<sub>640</sub>

Ser Leu Phe Pro Gly<sub>645</sub> Tyr His Thr Lys Ala<sub>650</sub> Asp Arg Thr Glu Gly Thr<sub>655</sub>

Asn Ser Ser Trp Ala Ser Asp His Thr Ser Ser Pro Ala Asn Ile Ser



660

665

Arg Ser Asp Asp Pro Pro Pro Pro Ala Glu Pro Asp Leu Gly Gly Pro  
675 680 685

Gly Ala Pro Pro Pro Ala Lys Lys Asp Gly Gly Arg Gly Ile  
690 695 700

<210> 46  
<211> 726  
<212> PRT  
<213> Nasonia vitripennis  
<400> 46

Met Lys Arg Trp Thr Cys Val Leu Leu Ala Val Leu Ala Cys Val Ala  
1 5 10 15

Ala Glu Glu Thr Asp Asp Ala Leu Val Phe Thr Val Ala Thr Asn Glu  
20 25 30

Thr Glu Gly Phe Arg Arg Tyr Leu Arg Ser Thr Glu Val Asn Gly Phe  
35 40 45

Gly Asp Asn Val Arg Val Leu Gly Leu Gly Gln Ala Trp Arg Gly Gly  
50 55 60

Glu Ile Lys Leu Tyr Ala Gly Gly Gly Gln Lys Val Asn Leu Leu Lys  
65 70 75 80

Glu Ala Ile Glu Glu Ile Lys Asp Asp Pro Asp Gln Ile Val Leu Phe  
85 90 95

Thr Asp Ser Tyr Asp Val Ile Phe Leu Ser Ser Leu Glu Lys Ile Ser  
100 105 110

Arg Lys Phe Lys Glu Trp Asp Asp Ala Arg Val Ile Phe Ser Ala Glu  
115 120 125

Glu Tyr Cys Trp Pro Leu Lys Ser Leu Ala Ser Glu Tyr Pro Gln Val  
130 135 140

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

Pro Asp Ile Tyr Ala Ile Leu Thr Ser Ala Glu Ile Lys Asp Asp Asp  
165 170 175

Asp Asp Gln Leu Phe Tyr Thr Lys Val Tyr Leu Asn Ser Glu Leu Arg  
180 185 190

Glu Lys His Lys Ile Lys Leu Asp His Lys Ser Glu Ile Phe Gln Asn  
195 200 205

Leu Asn Gly Ala Ile His Asp Ile Glu Leu Arg Phe Lys Gly Asn Glu  
210 215 220

Ala Tyr Val Gln Asn Thr Ala Tyr Asn Thr Val Pro Leu Ile Ile His  
225 230 235 240

Gly Asn Gly Phe Ser Lys Leu Leu Leu Asn Ser Leu Gly Asn Tyr Val  
245 250 255

Ala Gln Ala Trp Ser Pro Glu Glu Gly Cys Leu Ser Cys Trp Asp Arg  
260 265 270

Thr Ile Glu Leu Asp Val Lys Asn Ala Glu Ala Tyr Pro Lys Ile Leu  
 275 280 285  
 Ile Ala Ile Phe Ile Glu Lys Pro Thr Pro Phe Leu Glu Glu Phe Leu  
 290 295 300  
 Asn Lys Ile Lys Asp Gln Arg Tyr Pro Lys Glu Lys Leu His Phe Phe  
 305 310 315 320  
 Ile Arg Asn Asn Val Pro Tyr His Glu Lys Leu Ile Asp Glu Phe Val  
 325 330 335  
 Glu Lys His Gly Asp Glu Tyr Gln Ser Val Lys Gln Ile Lys Pro Glu  
 340 345 350  
 Asp Glu Ile Ala Glu Ala Ala Ala Arg Asn Leu Ala Met Asn His Cys  
 355 360 365  
 Leu Ser Val Lys Cys Ser Gly Tyr Phe Ser Ile Asp Ser Glu Ser His  
 370 375 380  
 Leu Asp Asn Val Asn Thr Leu Glu Leu Leu Val Glu Gln Gln Arg Gly  
 385 390 395 400  
 Ile Val Ala Pro Leu Leu Val Arg Pro Phe Lys Ala Trp Ser Asn Phe  
 405 410 415  
 Trp Gly Ala Ile Thr Asp Asp Gly Phe Tyr Ala Arg Ser Ser Asp Tyr  
 420 425 430  
 Met Asp Ile Ile His His Glu Arg Arg Gly Leu Trp Asn Val Pro Phe  
 435 440 445  
 Val Ser Ser Cys Tyr Leu Ile Asn Ala Thr Leu Leu Glu Asn Glu Ala  
 450 455 460  
 Thr Arg Pro Ser Tyr Ala Glu Ala Asp Leu Asp Ala Glu Met Ala Phe  
 465 470 475 480  
 Ala Tyr Ala Asn Arg Arg Arg Asp Ile Phe Met Tyr Val Asn Asn Arg  
 485 490 495  
 Leu Asp Phe Gly His Leu Val Asn Pro Glu Thr Phe Asn Ile Ser Leu  
 500 505 510  
 Thr Asn Pro Asp Met Tyr Gln Met Phe Asp Asn Lys Leu Asp Trp Glu  
 515 520 525  
 Lys Arg Tyr Ile His Val Asn Tyr Ser Asp Asn Phe Leu Pro Glu Asn  
 530 535 540  
 Lys Pro Val Gln Pro Cys Pro Asp Val Tyr Trp Phe Pro Ile Val Thr  
 545 550 555 560  
 Glu Arg Phe Asn Lys Asp Phe Val Glu Ile Met Glu Ala Tyr Gly Lys  
 565 570 575  
 Trp Ser Asp Gly Ser Asn Tyr Asp Pro Arg Leu Ser Asn Gly Tyr Glu  
 580 585 590  
 Asn Val Pro Thr Arg Asp Ile His Met Asn Gln Val Gly Leu Glu Ser  
 595 600 605  
 Gln Trp Leu Phe Phe Leu Arg Asn Tyr Val Lys Pro Leu Gln Glu Leu  
 610 615 620

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Val Phe Leu Gly Tyr Phe His Asp Pro Pro Arg Ser Leu Met Asn Phe  
625 630 635 640

Val Val Arg Tyr Arg Pro Asp Glu Gln Pro Ser Leu Lys Pro His His  
645 650 655

Asp Ser Ser Thr Tyr Thr Ile Asn Ile Ala Leu Asn Lys Val Gly Val  
660 665 670

Asp Tyr Glu Gly Gly Gly Cys Arg Phe Ile Arg Tyr Asn Cys Ser Val  
675 680 685

Thr Asp Thr Lys Pro Gly Trp Met Leu Met His Pro Gly Arg Leu Thr  
690 695 700

His Tyr His Glu Gly Leu Lys Val Thr Lys Gly Thr Arg Tyr Ile Met  
705 710 715 720

Ile Ser Phe Val Asp Pro  
725

<210> 47  
<211> 714  
<212> PRT  
<213> Pan troglodytes

<400> 47

Met Gly Gln Ala Ser Val Arg His Asp Cys Tyr Pro Asp Asn Leu Leu  
1 5 10 15

Val Leu Thr Val Ala Thr Lys Glu Thr Glu Gly Phe Arg Arg Phe Lys  
20 25 30

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

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

Val Arg Leu Leu Lys Lys Ala Leu Glu Lys His Ala Asp Lys Glu Asp  
65 70 75 80

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

Pro Arg Glu Leu Leu Lys Lys Phe Arg Gln Ala Arg Ser Gln Val Val  
100 105 110

Phe Ser Ala Glu Glu Leu Ile Tyr Pro Asp Arg Arg Leu Glu Thr Lys  
115 120 125

Tyr Pro Val Val Ser Asp Gly Lys Arg Phe Leu Gly Ser Gly Gly Phe  
130 135 140

Ile Gly Tyr Ala Pro Asn Leu Ser Lys Leu Val Ala Glu Trp Glu Gly  
145 150 155 160

Gln Asp Ser Asp Ser Asp Gln Leu Phe Tyr Thr Lys Ile Phe Leu Asp  
165 170 175

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

Ile Phe Gln Asn Leu Asp Gly Ala Leu Asp Glu Val Val Leu Lys Phe  
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195	200	
Glu Met Gly His Val Arg Ala Arg Asn Leu Ala Tyr Asp Thr Leu Pro	210	215 220
Val Leu Ile His Gly Asn Gly Pro Asn Lys Leu Gln Leu Asn Tyr Leu	225	230 235 240
Gly Asn Tyr Ile Pro Arg Phe Trp Thr Phe Glu Thr Gly Cys Thr Val	245	250 255
Cys Asp Glu Gly Leu Arg Ser Leu Lys Gly Ile Gly Asp Glu Ala Leu	260	265 270
Pro Thr Val Leu Val Gly Val Phe Ile Glu Gln Pro Thr Pro Phe Val	275	280 285
Ser Leu Phe Phe Gln Arg Leu Leu Arg Leu His Tyr Pro Gln Lys His	290	295 300
Met Arg Leu Phe Ile His Asn His Glu Gln His His Lys Ala Gln Val	305	310 315 320
Glu Glu Phe Leu Ala Glu His Gly Ser Glu Tyr Gln Ser Val Lys Leu	325	330 335
Val Gly Pro Glu Val Arg Met Ala Asn Ala Asp Ala Arg Asn Met Gly	340	345 350
Ala Asp Leu Cys Arg Gln Asp Arg Ser Cys Thr Tyr Tyr Phe Ser Val	355	360 365
Asp Ala Asp Val Ala Leu Thr Glu Pro Asn Ser Leu Arg Leu Leu Ile	370	375 380
Gln Gln Asn Lys Asn Val Ile Ala Pro Leu Met Thr Arg His Gly Arg	385	390 395 400
Leu Trp Ser Asn Phe Trp Gly Ala Leu Ser Ala Asp Gly Tyr Tyr Ala	405	410 415
Arg Ser Glu Asp Tyr Val Asp Ile Val Gln Gly Arg Arg Val Gly Val	420	425 430
Trp Asn Val Pro Tyr Ile Ser Asn Ile Tyr Leu Ile Lys Gly Ser Ala	435	440 445
Leu Arg Gly Glu Leu Gln Ser Pro Asp Leu Phe His His Ser Lys Leu	450	455 460
Asp Pro Asp Met Ala Phe Cys Ala Asn Val Arg Gln Gln Asp Val Phe	465	470 475 480
Met Phe Leu Thr Asn Arg His Thr Leu Gly His Leu Leu Ser Leu Asp	485	490 495
Ser Tyr Arg Thr Thr His Leu His Asn Asp Leu Trp Glu Val Phe Ser	500	505 510
Asn Pro Glu Asp Trp Lys Glu Lys Tyr Ile His Gln Asn Tyr Thr Lys	515	520 525
Ala Leu Ala Gly Lys Leu Val Glu Thr Pro Cys Pro Asp Val Tyr Trp	530	535 540

OULU17\_ST25.txt

Phe Pro Ile Phe Thr Glu Val Ala Cys Asp Glu Leu Val Glu Glu Met  
545 550 555 560

Glu His Phe Gly Gln Trp Ser Leu Gly Asn Asn Lys Asp Asn Arg Ile  
565 570 575

Gln Gly Gly Tyr Glu Asn Val Pro Thr Ile Asp Ile His Met Asn Gln  
580 585 590

Ile Gly Phe Glu Arg Glu Trp His Lys Phe Leu Leu Glu Tyr Ile Ala  
595 600 605

Pro Met Thr Glu Lys Leu Tyr Pro Gly Tyr Tyr Thr Arg Ala Gln Phe  
610 615 620

Asp Leu Ala Phe Val Val Arg Tyr Lys Pro Asp Glu Gln Pro Ser Leu  
625 630 635 640

Met Pro His His Asp Ala Ser Thr Phe Thr Ile Asn Ile Ala Leu Asn  
645 650 655

Arg Val Gly Val Asp Tyr Glu Gly Gly Gly Cys Arg Phe Leu Arg Tyr  
660 665 670

Asn Cys Ser Val Arg Ala Pro Arg Lys Gly Trp Thr Leu Met His Pro  
675 680 685

Gly Arg Leu Thr His Tyr His Glu Gly Leu Pro Thr Thr Arg Gly Thr  
690 695 700

Arg Tyr Ile Ala Val Ser Phe Val Asp Pro  
705 710

<210> 48  
<211> 729  
<212> PRT  
<213> Nemostella vectensis

<400> 48

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

Leu Ser Tyr Leu Val Asn Ala Asp Asn Gly Phe Ser Arg Asp Pro Lys  
20 25 30

Glu Leu Glu Leu Leu Val Leu Thr Val Ala Thr Glu Glu Thr Asp Gly  
35 40 45

Tyr Thr Arg Phe Met Arg Ser Cys Ser His Tyr Asp Val Pro Val Arg  
50 55 60

Val Ile Gly Met Asn Thr Ser Trp Lys Gly Gly Asn Val Arg Thr Asp  
65 70 75 80

Pro Gly Gly Ala His Lys Ile Asn Leu Leu Lys Asp Ala Val Ala Glu  
85 90 95

Tyr Lys Asp Lys Lys Asn Leu Val Leu Met Phe Ser Asp Ser Tyr Asp  
100 105 110

Ala Ile Phe Leu Ala Arg Ala Glu Ala Phe Ile Lys Lys Phe Leu Glu  
115 120 125

Phe Lys Ala His Val Val Phe Ser Ala Glu Gly Phe Cys Trp Pro Asp  
130 135 140

OULU17\_ST25.txt

Arg Trp Leu Val Asp Lys Tyr Pro Glu Val Gly His Gly Lys Arg Tyr  
 145 150 155 160  
 Leu Cys Ser Gly Gly Phe Ile Gly Tyr Ala Pro Val Phe His Gln Ile  
 165 170 175  
 Ile Asn Glu Lys Pro Val Lys Asp Glu Asp Asp Asp Gln Leu Phe Tyr  
 180 185 190  
 Thr Asn Ile Tyr Leu Asp Lys Glu Lys Arg Asp Lys Phe Asn Met Lys  
 195 200 205  
 Leu Asp His Lys Ala Glu Ile Phe Met Asn Leu Asn Gly Ala Glu Glu  
 210 215 220  
 Glu Val Gln Leu Lys Phe Glu Gly Glu Lys Val Trp Leu Tyr Asn Lys  
 225 230 235 240  
 Val Tyr Ser Thr Thr Pro Leu Trp Val His Gly Asn Gly Pro Ser Lys  
 245 250 255  
 Val His Leu Asn Tyr Ile Gly Asn Tyr Leu Pro Ala Met Trp Asn Lys  
 260 265 270  
 Glu Lys Gly Cys Leu Val Cys Asn Glu Asp Thr Ile Lys Leu Pro Glu  
 275 280 285  
 Lys Glu Ser Asp Tyr Pro Lys Val Met Met Ala Ile Phe Ile Ser Arg  
 290 295 300  
 Pro Thr Pro Phe Val Pro Glu Phe Phe Lys Arg Ile Glu Ala Leu Asp  
 305 310 315 320  
 Tyr Pro Lys Lys Lys Ile Ala Leu Tyr Ile His Asn Leu Met Asp Gly  
 325 330 335  
 His Thr Lys Glu Val Asn Glu Trp Leu Thr Glu Glu Ile Arg Gly Leu  
 340 345 350  
 Tyr His Ser Val Thr Tyr Gln Gly Pro Gly Thr Phe Glu Ala Ala Ala  
 355 360 365  
 Arg Asn Lys Ala Val Tyr Ser Gly Ser Asp Tyr Leu Phe Val Val Asp  
 370 375 380  
 Ala Asn Val Val Tyr Thr Asn Lys Lys Ser Leu Lys Leu Leu Ile Glu  
 385 390 395 400  
 Gln Asn Arg Pro Leu Leu Val Pro Lys Met Ser Lys His Ala Lys Leu  
 405 410 415  
 Trp Ser Asn Phe Trp Gly Thr Ile Gly Asp Asp Gly Tyr Tyr Ala Arg  
 420 425 430  
 Ala Glu Asp Tyr Ile Asp Ile Val Glu Tyr Arg Arg Val Gly Ile Trp  
 435 440 445  
 Asn Ser Ala Tyr Val Thr Gly Ser Tyr Leu Ile Gln Lys Asp Val Leu  
 450 455 460  
 Pro Lys Leu Lys His Ala Tyr Ser Tyr Gly Asn Leu Glu Pro Asp Leu  
 465 470 475 480

Ser Phe Ser Lys Tyr Leu Arg Asp Asn Gly Ile Phe Met Tyr Val Thr  
485 490 495

Asn Met His Tyr Phe Gly Arg Leu Lys Glu Thr Asp Thr Val Thr Thr  
500 505 510

Asn His Leu His Asn Asp Leu Trp Gln Ile Phe Asp Asn Gln Ile Asp  
515 520 525

Trp Glu Glu Arg Tyr Leu His Pro Asn Tyr Ser Gln Asn Leu Asn Lys  
530 535 540

Ser Ile Pro Leu Lys Met Pro Cys Asn Asp Val Phe Trp Phe Pro Leu  
545 550 555 560

Met Ser Glu Thr Trp Ala Thr His Met Ile Glu Glu Met Glu His Tyr  
565 570 575

Gly Lys Trp Ser Gly Gly Lys His Glu Pro Gln Asp Ala Arg Leu Asn  
580 585 590

Gly Gly Tyr Glu Asn Val Pro Thr Val Asp Ile His Met Asn Gln Val  
595 600 605

Gly Trp Glu Arg Glu Trp Leu His Leu Leu Lys Thr Tyr Ile Val Pro  
610 615 620

Val Asn Thr Arg Ile Phe Pro Gly Tyr Tyr Ser Glu Gly Arg Ala Ile  
625 630 635 640

Met Asn Phe Val Val Lys Tyr Thr Pro Ser Gly Gln Tyr Tyr Leu Arg  
645 650 655

Pro His His Asp Ser Ser Thr Tyr Thr Ile Asn Ile Gly Leu Asn Lys  
660 665 670

Pro Gly Ile His Tyr Gly Gly Gly Gly Ser Arg Phe Ile Arg Gln Asp  
675 680 685

Cys Ala Val Thr Asp Thr Gln Val Gly Trp Ala Leu Met His Pro Gly  
690 695 700

Arg Leu Thr His Tyr His Glu Gly Leu Pro Thr Thr Trp Gly Thr Arg  
705 710 715 720

Tyr Ile Met Val Cys Phe Val Asp Pro  
725

<210> 49

<211> 743

<212> PRT

<213> Equus caballus

<400> 49

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

Leu Leu Leu Leu Leu Pro Pro Pro Pro Ala Ala Ser Ala Ser Asp Arg  
20 25 30

Pro Arg Gly Ser Asp Pro Val Asn Pro Glu Lys Leu Leu Val Ile Thr  
35 40 45

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

OULU17\_ST25.txt

Glu Phe Phe Asn Tyr Thr Val Arg Thr Leu Gly Leu Gly Glu Asp Trp  
 65 70 75 80  
 Arg Gly Gly Asp Val Ala Arg Thr Val Gly Gly Gly Gln Lys Val Arg  
 85 90 95  
 Trp Leu Lys Lys Glu Met Glu Lys Tyr Ala Asp Arg Glu Asp Met Val  
 100 105 110  
 Ile Met Phe Val Asp Ser Tyr Asp Val Ile Leu Ala Gly Ser Pro Ser  
 115 120 125  
 Glu Leu Leu Lys Lys Phe Val Gln Ser Gly Ser Arg Leu Leu Phe Ser  
 130 135 140  
 Ala Glu Ser Phe Cys Trp Pro Glu Trp Gly Leu Ala Glu Gln Tyr Pro  
 145 150 155 160  
 Glu Val Gly Thr Gly Lys Arg Phe Leu Asn Ser Gly Gly Phe Ile Gly  
 165 170 175  
 Phe Ala Pro Thr Ile His Gln Ile Val Arg Gln Trp Lys Tyr Lys Asp  
 180 185 190  
 Asp Asp Asp Asp Gln Leu Phe Tyr Thr Arg Leu Tyr Leu Asp Pro Gly  
 195 200 205  
 Leu Arg Glu Lys Leu Ser Leu Asn Leu Asp His Lys Ser Arg Ile Phe  
 210 215 220  
 Gln Asn Leu Asn Gly Ala Leu Asp Glu Val Val Leu Lys Phe Asp Arg  
 225 230 235 240  
 Asn Arg Val Arg Ile Arg Asn Val Ala Tyr Asp Thr Leu Pro Val Val  
 245 250 255  
 Val His Gly Asn Gly Pro Thr Lys Leu Gln Leu Asn Tyr Leu Gly Asn  
 260 265 270  
 Tyr Val Pro Lys Gly Trp Thr Pro Glu Gly Gly Cys Gly Tyr Cys Asp  
 275 280 285  
 Leu Asp Arg Arg Thr Leu Pro Gly Gly Gln Pro Pro Pro Arg Val Leu  
 290 295 300  
 Leu Ala Val Phe Val Glu Gln Pro Thr Pro Phe Leu Pro Arg Phe Leu  
 305 310 315 320  
 Gln Arg Leu Leu Leu Leu Asp Tyr Pro Pro Asp Arg Val Ala Leu Phe  
 325 330 335  
 Leu His Asn Asn Glu Val Tyr His Glu Pro His Ile Ala Asp Ser Trp  
 340 345 350  
 Pro Gln Leu Gln Asp His Phe Ser Ala Val Lys Leu Val Gly Pro Glu  
 355 360 365  
 Glu Ala Leu Thr Pro Gly Glu Ala Arg Asp Met Ala Met Asp Ser Cys  
 370 375 380  
 Arg Gln Asp Pro Lys Cys Glu Phe Tyr Phe Ser Leu Asp Ala Asp Ala  
 385 390 395 400  
 Val Ile Thr Asn Pro Gln Thr Leu Arg Ile Leu Ile Glu Glu Asn Arg  
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405

410

415

Lys Val Ile Ala Pro Met Leu Ser Arg His Gly Lys Leu Trp Ser Asn  
 420 425 430  
 Phe Trp Gly Ala Leu Ser Pro Asp Glu Tyr Tyr Ala Arg Ser Glu Asp  
 435 440 445  
 Tyr Val Glu Leu Val Gln Arg Lys Arg Val Gly Val Trp Asn Val Pro  
 450 455 460  
 Tyr Ile Ser Gln Ala Tyr Val Ile Arg Gly Glu Thr Leu Arg Thr Glu  
 465 470 475 480  
 Leu Pro Gln Lys Glu Val Phe Ser Ser Ser Asp Thr Asp Pro Asp Met  
 485 490 495  
 Ala Phe Cys Lys Ser Leu Arg Asp Gln Gly Ile Phe Leu His Leu Ser  
 500 505 510  
 Asn Arg His Glu Phe Gly Arg Leu Leu Ala Thr Ser Arg Tyr Asp Thr  
 515 520 525  
 Asp His Leu His Pro Asp Leu Trp Gln Ile Phe Asp Asn Pro Leu Asp  
 530 535 540  
 Trp Lys Glu Gln Tyr Ile His Glu Asn Tyr Ser Arg Ala Leu Glu Gly  
 545 550 555 560  
 Lys Gly Leu Val Glu Gln Pro Cys Pro Asp Val Tyr Trp Phe Pro Leu  
 565 570 575  
 Leu Ser Asp Gln Met Cys Asp Glu Leu Val Glu Glu Met Glu His Tyr  
 580 585 590  
 Gly Gln Trp Ser Gly Gly Arg His Glu Asp Ser Arg Leu Ala Gly Gly  
 595 600 605  
 Tyr Glu Asn Val Pro Thr Val Asp Ile His Met Lys Gln Val Gly Phe  
 610 615 620  
 Glu Asp Gln Trp Leu Gln Leu Leu Arg Thr Tyr Val Gly Pro Met Thr  
 625 630 635 640  
 Glu Ser Leu Phe Pro Gly Tyr His Thr Lys Thr Arg Ala Val Met Asn  
 645 650 655  
 Phe Val Val Arg Tyr Arg Pro Asp Glu Gln Pro Ser Leu Arg Pro His  
 660 665 670  
 His Asp Ser Ser Thr Phe Thr Leu Asn Val Ala Leu Asn His Lys Gly  
 675 680 685  
 Leu Asp Tyr Glu Gly Gly Gly Cys Arg Phe Leu Arg Tyr Asp Cys Val  
 690 695 700  
 Val Ser Ser Pro Arg Lys Gly Trp Gly Leu Leu His Pro Gly Arg Leu  
 705 710 715 720  
 Thr His Tyr His Glu Gly Leu Pro Thr Thr Arg Gly Thr Arg Tyr Ile  
 725 730 735  
 Met Val Ser Phe Val Asp Pro  
 740

OULU17\_ST25.txt

<210> 50  
 <211> 710  
 <212> PRT  
 <213> Anopheles gambiae

<400> 50

Met Ala Leu Phe Ser His Phe Pro Arg Ile Pro Ala Ser Thr Lys Glu  
 1 5 10 15  
 Pro Leu Ile Phe Thr Val Ala Ser Asn Ala Thr Glu Gly Tyr Val Arg  
 20 25 30  
 Tyr Leu Arg Ser Ala Lys His Tyr Asp Leu Thr Val Thr Thr Leu Gly  
 35 40 45  
 Met Gly Lys Pro Trp Leu Gly Gly Asn Met Lys Ser Val Gly Gly Gly  
 50 55 60  
 Tyr Lys Ile Asn Leu Leu Arg Glu Ala Leu Lys Pro Tyr Arg Ala Asp  
 65 70 75 80  
 Lys Asp Arg Leu Val Leu Phe Thr Asp Ser Tyr Asp Val Leu Phe Leu  
 85 90 95  
 Ala Pro Trp Ala Lys Ile Gln Glu Lys Phe Ala Ser Phe Glu Ala Ser  
 100 105 110  
 Ile Leu Phe Gly Ala Glu Gly Phe Cys Trp Pro Asp Glu Ser Leu Lys  
 115 120 125  
 Ser Ala Tyr Pro Pro Leu Glu Gly Arg Gly Met Arg Tyr Leu Asn Ser  
 130 135 140  
 Gly Leu Phe Met Gly Tyr Ala Asp Lys Leu Tyr Lys Leu Leu Lys Thr  
 145 150 155 160  
 Pro Val Lys Asp Ala Glu Asp Asp Gln Leu Tyr Tyr Thr Lys Ala Tyr  
 165 170 175  
 Leu Asp Glu Glu Leu Arg Gln Glu Leu Asn Ile Lys Leu Asp His Met  
 180 185 190  
 Ala Thr Leu Phe Gln Asn Leu Asn Gly Val Glu Glu Gln Val Val Leu  
 195 200 205  
 Ser Leu Glu Pro Ser Glu Lys Glu Ala Thr Leu Ala Asn Ser Glu Tyr  
 210 215 220  
 Asn Thr Lys Pro Ala Ile Val His Gly Asn Gly Pro Ser Lys Leu Thr  
 225 230 235 240  
 Leu Asn Ser Tyr Ala Asn Tyr Leu Ala Gly Ala Phe Val Asp Gly Glu  
 245 250 255  
 Cys Gln Thr Val Lys Glu Gly Arg Leu Thr Leu Ser Gly Gly Glu Leu  
 260 265 270  
 Pro Leu Val Thr Met Ala Leu Phe Val Glu Lys Pro Thr Pro Phe Leu  
 275 280 285  
 Glu Glu Trp Phe Gly Thr Ile Ala Lys Leu Asn Tyr Pro Ala Asp Arg  
 290 295 300  
 Leu Asp Val Leu Val His Ser Asn Val Ala Tyr His Ala Gly Thr Val  
 305 310 315 320

OULU17\_ST25.txt

Lys Ala Phe Leu Asp<sub>325</sub> Ala Gln Glu Gly Arg<sub>330</sub> Tyr Arg Ser Leu Lys<sub>335</sub> Val  
 Ile Glu His Asp<sub>340</sub> Gly Asp Phe Thr Glu<sub>345</sub> Thr Ala Ala Arg Asn<sub>350</sub> Phe Ala  
 Thr Lys His<sub>355</sub> Cys Glu Leu Arg Gly<sub>360</sub> Cys Asp Tyr Leu Phe<sub>365</sub> Val Val Asp  
 Ser Glu<sub>370</sub> Gly His Leu Asp Asp<sub>375</sub> Pro Asn Val Leu Arg<sub>380</sub> Ala Leu Ile Glu  
 Ala Asn Arg Asn Val Ile<sub>390</sub> Ala Pro Val Leu Thr<sub>395</sub> Arg Pro Glu Lys Val<sub>400</sub>  
 Trp Ser Asn Phe Trp<sub>405</sub> Gly Ala Leu Ser Gly<sub>410</sub> Gln Gly Phe Tyr Ala<sub>415</sub> Arg  
 Ser Asn Asp Tyr<sub>420</sub> Met Asp Ile Val Gly<sub>425</sub> Arg Lys Leu Leu Gly<sub>430</sub> Leu Trp  
 Asn Val Pro<sub>435</sub> Phe Val Ser Ile Val<sub>440</sub> Tyr Leu Val Lys Arg<sub>445</sub> Ala Val Leu  
 Pro Glu<sub>450</sub> Val Ser Tyr Glu Leu<sub>455</sub> Gln Glu Thr Asp Pro<sub>460</sub> Asp Met Ala Leu  
 Cys Trp His Phe Arg Ser<sub>470</sub> Lys Gly Ile Phe Met<sub>475</sub> His Val Ile Asn Val<sub>480</sub>  
 Glu Gln Tyr Gly His<sub>485</sub> Leu Ile Asp Thr Glu<sub>490</sub> Tyr Phe Asp Met Thr Arg<sub>495</sub>  
 Thr His Pro Asp<sub>500</sub> Phe Tyr Gln Leu Phe<sub>505</sub> Asn Asn Arg His Asp<sub>510</sub> Trp Glu  
 Gln Arg Tyr<sub>515</sub> Leu Ala Pro Gly Tyr<sub>520</sub> Lys Gln Gln Leu Glu<sub>525</sub> Ala Asp Phe  
 Val Pro<sub>530</sub> Gln Gln Pro Cys Pro<sub>535</sub> Asp Val Tyr Trp Phe Ala Ile Gly Ser  
 Asp Arg Phe Cys Asp Asp<sub>550</sub> Leu Arg Glu Ile Val<sub>555</sub> Glu Ala Phe Gly Glu<sub>560</sub>  
 Trp Ser Asp Gly Ser<sub>565</sub> His Ser Asp Lys Arg<sub>570</sub> Leu Gln Gly Gly Tyr Glu<sub>575</sub>  
 Ala Val Pro Thr<sub>580</sub> Arg Asp Ile His Met<sub>585</sub> Asn Gln Val Gly Leu<sub>590</sub> Glu Gln  
 Leu Trp Leu<sub>595</sub> Lys Phe Leu Gln Leu<sub>600</sub> Tyr Val Arg Pro Leu<sub>605</sub> Gln Glu Lys  
 Val Phe<sub>610</sub> Ile Gly Tyr Phe His<sub>615</sub> Asp Pro Pro Arg Ser<sub>620</sub> Leu Met Asn Phe  
 Val Val Arg Tyr Arg Pro<sub>630</sub> Asp Glu Gln Pro Ser<sub>635</sub> Leu Arg Pro His His<sub>640</sub>  
 Asp Ser Ser Thr Tyr<sub>645</sub> Thr Ile Asn Ile Ala<sub>650</sub> Leu Asn Thr Ala Gly<sub>655</sub> Val

## OULU17\_ST25.txt

Asp Tyr Glu Gly Gly Gly Cys Arg Phe Leu Arg Tyr Asn Cys Ser Val  
660 665 670

Thr Asp Thr Arg Lys Gly Trp Met Leu Leu His Pro Gly Arg Leu Thr  
675 680 685

His Phe His Glu Gly Leu Leu Thr Thr Lys Gly Thr Arg Tyr Ile Met  
690 695 700

Ile Ser Phe Val Asp Pro  
705 710

<210> 51  
<211> 733  
<212> PRT  
<213> Caenorhabditis briggsae

<400> 51

Met Arg Val Leu Pro Leu Leu Leu Pro Leu Leu Ile Ile Pro Val Ile  
1 5 10 15

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

Ala Thr Glu Asn Thr Asp Gly Leu Lys Arg Leu Leu Glu Ser Ala Lys  
35 40 45

Ala Phe Asp Ile Asn Ile Glu Val Leu Gly Leu Gly Glu Lys Trp Asn  
50 55 60

Gly Gly Asp Thr Arg Val Glu Lys Gly Gly Gly Gln Lys Ile Arg Ile  
65 70 75 80

Leu Ser Lys Trp Ile Glu Lys Tyr Lys Asp Ala Ser Asp Thr Ile Ile  
85 90 95

Met Phe Val Asp Ala Tyr Asp Val Val Phe Asn Ala Asp Ser Lys Asn  
100 105 110

Ile Leu Gln Lys Phe Leu Glu His Tyr Pro Gly Lys Gln Leu Leu Phe  
115 120 125

Gly Ala Glu Pro Phe Cys Trp Pro Asp Gln Thr Leu Ala Pro Asp Tyr  
130 135 140

Pro Ile Val Glu Phe Gly Lys Arg Phe Leu Asn Ser Gly Leu Phe Met  
145 150 155 160

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

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

Lys Leu Arg Lys Glu Leu Asn Met Asp Leu Asp Ser Met Ser Lys Ile  
195 200 205

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

Glu Asp Gly Thr Pro Glu Ala Tyr Asn Ala Ala Tyr Asn Thr Lys Pro  
225 230 235 240

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

OULU17\_ST25.txt

Gly Asn Tyr Leu Gly Asn Arg Trp Asn Ser Gln Leu Gly Cys Arg Thr  
 260 265 270  
 Cys Asp Gln Glu Gly Ala Lys Glu Gln Thr Glu Phe Pro Leu Ile Gly  
 275 280 285  
 Leu Asn Leu Phe Ile Ser Lys Pro Val Pro Phe Ile Glu Glu Val Leu  
 290 295 300  
 Gln Lys Val Ser Glu Phe Asp Tyr Pro Lys Asn Arg Ile Ala Leu Tyr  
 305 310 315 320  
 Ile Tyr Asn Asn Gln Pro Phe Ser Ile Lys Asn Ile Gln Asp Phe Leu  
 325 330 335  
 Lys Asp His Gly Lys Ser Tyr Tyr Thr Lys Arg Ile Ile Asn Gly Val  
 340 345 350  
 Thr Glu Ile Gly Glu Arg Gln Ala Arg Asn Glu Ala Ile Asp Trp Cys  
 355 360 365  
 Lys Gln Arg Asp Thr Glu Phe Ala Phe Phe Met Asp Gly Asp Ala Tyr  
 370 375 380  
 Phe Thr Glu Pro Thr Val Ile Lys Asp Leu Ile His Tyr Ser Lys Ser  
 385 390 395 400  
 Tyr Asp Val Gly Ile Ile Ser Pro Met Val Gly Gln Pro Gly Lys Leu  
 405 410 415  
 Phe Thr Asn Phe Trp Gly Ala Ile Ala Ala Asn Gly Tyr Tyr Ala Arg  
 420 425 430  
 Ser Glu Asp Tyr Met Ala Ile Val Lys Gly Asn Arg Val Gly Tyr Trp  
 435 440 445  
 Asn Val Pro Phe Val Thr Ser Ala Leu Leu Met Ser Lys Glu Lys Leu  
 450 455 460  
 Gly Ala Met Ser Gly Ala Tyr Thr Tyr Asn Lys Asn Leu Asp Pro Asp  
 465 470 475 480  
 Met Ser Leu Cys Gln Phe Ala Arg Asp Asn Gly His Phe Met Tyr Ile  
 485 490 495  
 Asn Asn Glu Lys Tyr Phe Gly Tyr Leu Ile Val Ser Asp Glu Phe Ser  
 500 505 510  
 Glu Thr Val Thr Glu Gly Lys Trp His Pro Glu Met Trp Gln Ile Phe  
 515 520 525  
 Glu Asn Arg Glu Leu Trp Glu Ala Arg Tyr Ile His Pro Gly Tyr His  
 530 535 540  
 Lys Ile Met Glu Pro Asp His Ile Ile Asp Gln Ala Cys Pro Asp Val  
 545 550 555 560  
 Tyr Asp Tyr Pro Leu Met Ser Glu Arg Phe Cys Glu Glu Leu Ile Glu  
 565 570 575  
 Glu Met Glu Gly Phe Gly Arg Trp Ser Asp Gly Ser Asn Asn Asp Lys  
 580 585 590  
 Arg Leu Ala Gly Gly Tyr Glu Asn Val Pro Thr Arg Asp Ile His Met  
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595

600

Asn Gln Val Gly Phe Glu Arg Gln Trp Leu Tyr Phe Leu Asp Thr Tyr  
610 615 620  
Val Arg Pro Val Gln Glu Lys Thr Phe Ile Gly Tyr Tyr His Gln Pro  
625 630 635 640  
Val Glu Ser Asn Met Met Phe Val Val Arg Tyr Lys Pro Glu Glu Gln  
645 650 655  
Ala Ser Leu Arg Pro His His Asp Ala Ser Thr Phe Ser Ile Asp Ile  
660 665 670  
Ala Leu Asn Lys Lys Gly Arg Asp Tyr Glu Gly Gly Gly Val Arg Tyr  
675 680 685  
Val Arg Tyr Asn Cys Thr Val Glu Ala Asp Glu Val Gly Tyr Ala Met  
690 695 700  
Met Phe Pro Gly Arg Leu Thr His Leu His Glu Gly Leu Ala Thr Thr  
705 710 715 720  
Lys Gly Thr Arg Tyr Ile Met Val Ser Phe Ile Asn Pro  
725 730

<210> 52  
<211> 695  
<212> PRT  
<213> Drosophila pseudoobscura

<400> 52

Asp Lys Val Glu Val Phe Thr Val Ala Thr Glu Pro Thr Asp Gly Tyr  
1 5 10 15  
Ala Arg Tyr Ile Arg Ser Ala Arg Ile Tyr Asp Val Lys Val Thr Thr  
20 25 30  
Leu Gly Leu Gly Glu His Trp Lys Gly Gly Asp Met Gln His Pro Gly  
35 40 45  
Gly Gly Phe Lys Val Asn Leu Arg Lys Ala Val Ala Pro Leu Lys  
50 55 60  
Asp Glu Gln Asp Thr Ile Val Leu Phe Thr Asp Ser Tyr Asp Val Ile  
65 70 75 80  
Ile Thr Ala Lys Leu Glu Glu Ile Val Glu Leu Phe Lys Glu Ser Lys  
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Leu Thr Asp Ala Tyr Pro Glu Val Glu Gly Asn Ala Ser Arg Phe Leu  
115 120 125  
Asn Ser Gly Ala Phe Ile Gly Tyr Ala Pro Gln Val Asn Ala Leu Leu  
130 135 140  
Glu Glu Ala Ile Asp Asp Met Asp Asp Asp Gln Leu Tyr Tyr Thr Lys  
145 150 155 160  
Val Phe Leu Asp Glu Ala Arg Arg Ala Lys Leu Gly Met Lys Leu Asp  
165 170 175

Thr Gln Ser Arg<sub>180</sub> Leu Phe Gln Asn<sub>185</sub> Leu His Gly Ala Lys<sub>190</sub> Asn Asp Val  
 Lys Leu Lys<sub>195</sub> Val Asp Ile Glu Ser<sub>200</sub> Asn Gln Gly Ile<sub>205</sub> Leu Gln Asn Val  
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 Phe Asp Gln<sub>275</sub> Phe Leu Glu Gly Ile<sub>280</sub> Glu Lys Ile Asn<sub>285</sub> Tyr Pro Lys Gln  
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 Ile<sub>305</sub> Lys Ser Phe Val<sub>310</sub> Asn Lys His Gly Glu<sub>315</sub> Lys Tyr Ala Ser Ala<sub>320</sub> Lys  
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Val Leu Tyr Leu Lys Phe Leu Glu Leu Phe Val Arg Pro Leu Gln Glu  
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Arg Val Phe Thr Gly Tyr Tyr His Asn Pro Pro Arg Ala Leu Met Asn  
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Phe Met Val Arg Tyr Arg Pro Asp Glu Gln Pro Ser Leu Arg Pro His  
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His Asp Ala Ser Thr Tyr Thr Ile Asn Ile Ala Met Asn Gln Val Asp  
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Thr Asp Tyr Glu Gly Gly Gly Cys Arg Phe Leu Arg Tyr Asn Cys Ser  
645 650 655

Val Thr Glu Thr Lys Lys Gly Trp Met Leu Met His Pro Gly Arg Leu  
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21