SEQUENCE LISTING

<110> PFIZER INC.
BOSTON MEDICAL CENTER CORPORATION

<120> RECOMBINANT ROBO2 PROTEINS, COMPOSITIONS, METHODS AND USES THEREOF

<130> PCFC-0043-WO1

<140>
<141>

<150> 62/663,082
<151> 2018-04-26

<150> 62/514,242
<151> 2017-06-02

<160> 25

<170> PatentIn version 3.5

<210> 1
<211> 440
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 1
Ser Arg Leu Arg Gln Glu Asp Phe Pro Pro Arg Ile Val Glu His Pro
1 5 10 15

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

Ala Glu Gly Arg Pro Thr Pro Thr Ile Glu Trp Tyr Lys Asp Gly Glu
35 40 45

Arg Val Glu Thr Asp Lys Asp Asp Pro Arg Ser His Arg Met Leu Leu
50 55 60

Pro Ser Gly Ser Leu Phe Phe Leu Arg Ile Val His Gly Arg Arg Ser
65 70 75 80

```
Lys Pro Asp Glu Gly Ser Tyr Val Cys Val Ala Arg Asn Tyr Leu Gly
                85                  90                  95

Glu Ala Val Ser Arg Asn Ala Ser Leu Glu Val Ala Leu Leu Arg Asp
            100                 105                 110

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

Ala Ile Leu Glu Cys Gln Pro Pro Arg Gly His Pro Glu Pro Thr Ile
    130                 135                 140

Tyr Trp Lys Lys Asp Lys Val Arg Ile Asp Asp Lys Glu Glu Arg Ile
145                 150                 155                 160

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

Ala Gly Met Tyr Thr Cys Val Gly Thr Asn Met Val Gly Glu Arg Asp
            180                 185                 190

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

Ser Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro
    210                 215                 220

Ala Pro Glu Ala Ala Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys
225                 230                 235                 240

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
                245                 250                 255

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
            260                 265                 270

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
        275                 280                 285

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
    290                 295                 300
```

```
Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
305                 310                 315                 320


Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
                325                 330                 335


Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
            340                 345                 350


Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
        355                 360                 365


Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
    370                 375                 380


Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
385                 390                 395                 400


Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
                405                 410                 415


Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
            420                 425                 430


Lys Ser Leu Ser Leu Ser Pro Gly
        435                 440


<210> 2
<211> 432
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 2
Pro Arg Ile Val Glu His Pro Ser Asp Val Ile Val Ser Lys Gly Glu
1               5                   10                  15


Pro Thr Thr Leu Asn Cys Lys Ala Glu Gly Arg Pro Thr Pro Thr Ile
```

```
            20                  25                  30

Glu Trp Tyr Lys Asp Gly Glu Arg Val Glu Thr Asp Lys Asp Asp Pro
        35                  40                  45

Arg Ser His Arg Met Leu Leu Pro Ser Gly Ser Leu Phe Phe Leu Arg
    50                  55                  60

Ile Val His Gly Arg Arg Ser Lys Pro Asp Glu Gly Ser Tyr Val Cys
65                  70                  75                  80

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

Glu Val Ala Leu Leu Arg Asp Asp Phe Arg Gln Asn Pro Thr Asp Val
            100                 105                 110

Val Val Ala Ala Gly Glu Pro Ala Ile Leu Glu Cys Gln Pro Pro Arg
        115                 120                 125

Gly His Pro Glu Pro Thr Ile Tyr Trp Lys Lys Asp Lys Val Arg Ile
    130                 135                 140

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

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

Asn Met Val Gly Glu Arg Asp Ser Asp Pro Ala Glu Leu Thr Val Phe
            180                 185                 190

Glu Arg Gly Gly Ser Gly Gly Ser Glu Pro Lys Ser Ser Asp Lys Thr
        195                 200                 205

His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Ala Pro Ser
    210                 215                 220

Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg
225                 230                 235                 240
```

```
Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro
                245                 250                 255

Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala
            260                 265                 270

Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val
        275                 280                 285

Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
    290                 295                 300

Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr
305                 310                 315                 320

Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu
                325                 330                 335

Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys
            340                 345                 350

Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser
        355                 360                 365

Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp
    370                 375                 380

Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser
385                 390                 395                 400

Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala
                405                 410                 415

Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
            420                 425                 430
```

<210> 3
<211> 428
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 3
Pro Arg Ile Val Glu His Pro Ser Asp Val Ile Val Ser Lys Gly Glu
1 5 10 15

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

Glu Trp Tyr Lys Asp Gly Glu Arg Val Glu Thr Asp Lys Asp Asp Pro
35 40 45

Arg Ser His Arg Met Leu Leu Pro Ser Gly Ser Leu Phe Phe Leu Arg
50 55 60

Ile Val His Gly Arg Arg Ser Lys Pro Asp Glu Gly Ser Tyr Val Cys
65 70 75 80

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

Glu Val Ala Leu Leu Arg Asp Asp Phe Arg Gln Asn Pro Thr Asp Val
100 105 110

Val Val Ala Ala Gly Glu Pro Ala Ile Leu Glu Cys Gln Pro Pro Arg
115 120 125

Gly His Pro Glu Pro Thr Ile Tyr Trp Lys Lys Asp Lys Val Arg Ile
130 135 140

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

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

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

```
Ser Gly Gly Ser Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro
        195                 200                 205

Pro Cys Pro Ala Pro Glu Ala Ala Gly Ala Pro Ser Val Phe Leu Phe
    210                 215                 220

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
225                 230                 235                 240

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe
                245                 250                 255

Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro
            260                 265                 270

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
        275                 280                 285

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val
    290                 295                 300

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala
305                 310                 315                 320

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg
                325                 330                 335

Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly
            340                 345                 350

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro
        355                 360                 365

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser
    370                 375                 380

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln
385                 390                 395                 400

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His
                405                 410                 415
```

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
420 425

<210> 4
<211> 340
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 4
Pro Arg Ile Val Glu His Pro Ser Asp Val Ile Val Ser Lys Gly Glu
1 5 10 15

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

Glu Trp Tyr Lys Asp Gly Glu Arg Val Glu Thr Asp Lys Asp Asp Pro
35 40 45

Arg Ser His Arg Met Leu Leu Pro Ser Gly Ser Leu Phe Phe Leu Arg
50 55 60

Ile Val His Gly Arg Arg Ser Lys Pro Asp Glu Gly Ser Tyr Val Cys
65 70 75 80

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

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

Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala
115 120 125

Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
130 135 140

Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser

```
145                 150                 155                 160

His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
                165                 170                 175

Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
            180                 185                 190

Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
        195                 200                 205

Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
    210                 215                 220

Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
225                 230                 235                 240

Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val
                245                 250                 255

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
            260                 265                 270

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
        275                 280                 285

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
    290                 295                 300

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
305                 310                 315                 320

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
                325                 330                 335

Ser Pro Gly Lys
            340
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<210> 5
<211> 335
<212> PRT

<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<400> 5
Pro Arg Ile Val Glu His Pro Ser Asp Val Ile Val Ser Lys Gly Glu
1 5 10 15

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

Glu Trp Tyr Lys Asp Gly Glu Arg Val Glu Thr Asp Lys Asp Asp Pro
35 40 45

Arg Ser His Arg Met Leu Leu Pro Ser Gly Ser Leu Phe Phe Leu Arg
50 55 60

Ile Val His Gly Arg Arg Ser Lys Pro Asp Glu Gly Ser Tyr Val Cys
65 70 75 80

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

Glu Gly Gly Ser Gly Gly Ser Glu Pro Lys Ser Ser Asp Lys Thr His
100 105 110

Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Ala Gly Ala Pro Ser Val
115 120 125

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr
130 135 140

Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu
145 150 155 160

Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys
165 170 175

Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
180 185 190

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

Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile
210 215 220

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
225 230 235 240

Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
245 250 255

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
260 265 270

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser
275 280 285

Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg
290 295 300

Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
305 310 315 320

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
325 330 335

<210> 6
<211> 517
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 6
Pro Arg Ile Val Glu His Pro Ser Asp Val Ile Val Ser Lys Gly Glu
1 5 10 15

Pro Thr Thr Leu Asn Cys Lys Ala Glu Gly Arg Pro Thr Pro Thr Ile

```
            20                  25                  30

Glu Trp Tyr Lys Asp Gly Glu Arg Val Glu Thr Asp Lys Asp Asp Pro
        35                  40                  45

Arg Ser His Arg Met Leu Leu Pro Ser Gly Ser Leu Phe Phe Leu Arg
    50                  55                  60

Ile Val His Gly Arg Arg Ser Lys Pro Asp Glu Gly Ser Tyr Val Cys
65                  70                  75                  80

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

Glu Val Ala Leu Leu Arg Asp Asp Phe Arg Gln Asn Pro Thr Asp Val
            100                 105                 110

Val Val Ala Ala Gly Glu Pro Ala Ile Leu Glu Cys Gln Pro Pro Arg
        115                 120                 125

Gly His Pro Glu Pro Thr Ile Tyr Trp Lys Lys Asp Lys Val Arg Ile
    130                 135                 140

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

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

Asn Met Val Gly Glu Arg Asp Ser Asp Pro Ala Glu Leu Thr Val Phe
            180                 185                 190

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

Glu Glu Ala Val Glu Phe Arg Cys Gln Val Gln Gly Asp Pro Gln Pro
    210                 215                 220

Thr Val Arg Trp Lys Lys Asp Asp Ala Asp Leu Pro Arg Gly Arg Tyr
225                 230                 235                 240
```

```
Asp Ile Lys Asp Asp Tyr Thr Leu Arg Ile Lys Lys Thr Met Ser Thr
                245                 250                 255

Asp Glu Gly Thr Tyr Met Cys Ile Ala Glu Asn Arg Val Gly Lys Met
            260                 265                 270

Glu Ala Ser Ala Thr Leu Thr Gly Gly Ser Gly Gly Ser Glu Pro Lys
        275                 280                 285

Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala
    290                 295                 300

Ala Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
305                 310                 315                 320

Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
                325                 330                 335

Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val
            340                 345                 350

Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser
        355                 360                 365

Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
    370                 375                 380

Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala
385                 390                 395                 400

Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
                405                 410                 415

Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln
            420                 425                 430

Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
        435                 440                 445

Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
```

```
    450                 455                 460

Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
465                 470                 475                 480

Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser
                485                 490                 495

Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
            500                 505                 510

Leu Ser Pro Gly Lys
        515
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<210> 7
<211> 617
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 7

```
Pro Arg Ile Val Glu His Pro Ser Asp Val Ile Val Ser Lys Gly Glu
1               5                   10                  15

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

Glu Trp Tyr Lys Asp Gly Glu Arg Val Glu Thr Asp Lys Asp Asp Pro
        35                  40                  45

Arg Ser His Arg Met Leu Leu Pro Ser Gly Ser Leu Phe Phe Leu Arg
    50                  55                  60

Ile Val His Gly Arg Arg Ser Lys Pro Asp Glu Gly Ser Tyr Val Cys
65                  70                  75                  80

Val Ala Arg Asn Tyr Leu Gly Glu Ala Val Ser Arg Asn Ala Ser Leu
                85                  90                  95
```

```
Glu Val Ala Leu Leu Arg Asp Asp Phe Arg Gln Asn Pro Thr Asp Val
            100                 105                 110

Val Val Ala Ala Gly Glu Pro Ala Ile Leu Glu Cys Gln Pro Pro Arg
        115                 120                 125

Gly His Pro Glu Pro Thr Ile Tyr Trp Lys Lys Asp Lys Val Arg Ile
    130                 135                 140

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

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

Asn Met Val Gly Glu Arg Asp Ser Asp Pro Ala Glu Leu Thr Val Phe
            180                 185                 190

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

Glu Glu Ala Val Glu Phe Arg Cys Gln Val Gln Gly Asp Pro Gln Pro
    210                 215                 220

Thr Val Arg Trp Lys Lys Asp Asp Ala Asp Leu Pro Arg Gly Arg Tyr
225                 230                 235                 240

Asp Ile Lys Asp Asp Tyr Thr Leu Arg Ile Lys Lys Thr Met Ser Thr
                245                 250                 255

Asp Glu Gly Thr Tyr Met Cys Ile Ala Glu Asn Arg Val Gly Lys Met
            260                 265                 270

Glu Ala Ser Ala Thr Leu Thr Val Arg Ala Pro Pro Gln Phe Val Val
        275                 280                 285

Arg Pro Arg Asp Gln Ile Val Ala Gln Gly Arg Thr Val Thr Phe Pro
    290                 295                 300

Cys Glu Thr Lys Gly Asn Pro Gln Pro Ala Val Phe Trp Gln Lys Glu
305                 310                 315                 320
```

```
Gly Ser Gln Asn Leu Leu Phe Pro Asn Gln Pro Gln Gln Pro Asn Ser
                325                 330                 335

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

Arg Ser Asp Ala Gly Tyr Tyr Ile Cys Gln Ala Leu Thr Val Ala Gly
        355                 360                 365

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

Ser Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro
385                 390                 395                 400

Ala Pro Glu Ala Ala Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys
                405                 410                 415

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
            420                 425                 430

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
        435                 440                 445

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
    450                 455                 460

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
465                 470                 475                 480

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
                485                 490                 495

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
            500                 505                 510

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
        515                 520                 525
```

```
Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
    530                 535                 540

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
545                 550                 555                 560

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
                565                 570                 575

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
            580                 585                 590

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
        595                 600                 605

Lys Ser Leu Ser Leu Ser Pro Gly Lys
    610                 615
```

<210> 8
<211> 9
<212> PRT
<213> Homo sapiens

<400> 8

```
Ser Arg Leu Arg Gln Glu Asp Phe Pro
1               5
```

<210> 9
<211> 97
<212> PRT
<213> Homo sapiens

<400> 9

```
Pro Arg Ile Val Glu His Pro Ser Asp Val Ile Val Ser Lys Gly Glu
1               5                   10                  15

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

Glu Trp Tyr Lys Asp Gly Glu Arg Val Glu Thr Asp Lys Asp Asp Pro
        35                  40                  45

Arg Ser His Arg Met Leu Leu Pro Ser Gly Ser Leu Phe Phe Leu Arg
    50                  55                  60
```

Ile Val His Gly Arg Arg Ser Lys Pro Asp Glu Gly Ser Tyr Val Cys
65 70 75 80

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

Glu

<210> 10
<211> 5
<212> PRT
<213> Homo sapiens

<400> 10
Val Ala Leu Leu Arg
1 5

<210> 11
<211> 88
<212> PRT
<213> Homo sapiens

<400> 11
Asp Asp Phe Arg Gln Asn Pro Thr Asp Val Val Val Ala Ala Gly Glu
1 5 10 15

Pro Ala Ile Leu Glu Cys Gln Pro Pro Arg Gly His Pro Glu Pro Thr
20 25 30

Ile Tyr Trp Lys Lys Asp Lys Val Arg Ile Asp Asp Lys Glu Glu Arg
35 40 45

Ile Ser Ile Arg Gly Gly Lys Leu Met Ile Ser Asn Thr Arg Lys Ser
50 55 60

Asp Ala Gly Met Tyr Thr Cys Val Gly Thr Asn Met Val Gly Glu Arg
65 70 75 80

Asp Ser Asp Pro Ala Glu Leu Thr
85

<210> 12
<211> 4
<212> PRT
<213> Homo sapiens

<400> 12
Val Phe Glu Arg
1

<210> 13
<211> 85
<212> PRT
<213> Homo sapiens

<400> 13
Pro Thr Phe Leu Arg Arg Pro Ile Asn Gln Val Val Leu Glu Glu Glu
1 5 10 15

Ala Val Glu Phe Arg Cys Gln Val Gln Gly Asp Pro Gln Pro Thr Val
20 25 30

Arg Trp Lys Lys Asp Asp Ala Asp Leu Pro Arg Gly Arg Tyr Asp Ile
35 40 45

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

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

Ser Ala Thr Leu Thr
85

<210> 14
<211> 100
<212> PRT
<213> Homo sapiens

<400> 14
Val Arg Ala Pro Pro Gln Phe Val Val Arg Pro Arg Asp Gln Ile Val
1 5 10 15

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

Gln Pro Ala Val Phe Trp Gln Lys Glu Gly Ser Gln Asn Leu Leu Phe
35 40 45

Pro Asn Gln Pro Gln Gln Pro Asn Ser Arg Cys Ser Val Ser Pro Thr
50 55 60

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

Ile Cys Gln Ala Leu Thr Val Ala Gly Ser Ile Leu Ala Lys Ala Gln
85 90 95

Leu Glu Val Thr
100

<210> 15
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic peptide"

<400> 15
Gly Gly Ser Gly Gly Ser
1 5

<210> 16
<211> 232
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic polypeptide"

<400> 16
Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
1 5 10 15

Pro Glu Ala Ala Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
20 25 30

```
Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
        35                  40                  45

Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
    50                  55                  60

Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln
65                  70                  75                  80

Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
                85                  90                  95

Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
            100                 105                 110

Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro
        115                 120                 125

Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr
    130                 135                 140

Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
145                 150                 155                 160

Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
                165                 170                 175

Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr
            180                 185                 190

Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
        195                 200                 205

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
    210                 215                 220

Ser Leu Ser Leu Ser Pro Gly Lys
225                 230
```

<210> 17
<211> 21

<212> PRT
<213> Homo sapiens

<400> 17
Met Ser Leu Leu Met Phe Thr Gln Leu Leu Leu Cys Gly Phe Leu Tyr
1   5   10   15

Val Arg Val Asp Gly
            20

<210> 18
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      peptide"

<400> 18
Met Gly Trp Ser Cys Ile Ile Phe Leu Val Ala Thr Ala Gly Ala His
1   5   10   15

Ser

<210> 19
<211> 441
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      polypeptide"

<400> 19
Ser Arg Leu Arg Gln Glu Asp Phe Pro Pro Arg Ile Val Glu His Pro
1   5   10   15

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

Ala Glu Gly Arg Pro Thr Pro Thr Ile Glu Trp Tyr Lys Asp Gly Glu
        35   40   45

```
Arg Val Glu Thr Asp Lys Asp Asp Pro Arg Ser His Arg Met Leu Leu
    50                  55                  60

Pro Ser Gly Ser Leu Phe Phe Leu Tyr Ile Val His Gly Arg Arg Ser
65                  70                  75                  80

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

Glu Ala Val Ser Arg Asn Ala Ser Leu Glu Val Ala Leu Leu Arg Asp
            100                 105                 110

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

Ala Ile Leu Glu Cys Gln Pro Pro Arg Gly His Pro Glu Pro Thr Ile
    130                 135                 140

Tyr Trp Lys Lys Asp Lys Val Arg Ile Asp Asp Lys Glu Glu Arg Ile
145                 150                 155                 160

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

Ala Gly Met Tyr Thr Cys Val Gly Thr Asn Met Val Gly Glu Arg Asp
            180                 185                 190

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

Ser Glu Pro Lys Ser Ser Asp Lys Thr His Thr Cys Pro Pro Cys Pro
    210                 215                 220

Ala Pro Glu Ala Ala Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys
225                 230                 235                 240

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
                245                 250                 255

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
            260                 265                 270
```

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Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
        275                 280                 285

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
    290                 295                 300

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys
305                 310                 315                 320

Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln
                325                 330                 335

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met
            340                 345                 350

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
        355                 360                 365

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
    370                 375                 380

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
385                 390                 395                 400

Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val
                405                 410                 415

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
            420                 425                 430

Lys Ser Leu Ser Leu Ser Pro Gly Lys
        435                 440
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<210> 20
<211> 97
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic

polypeptide"

<400> 20
Pro Arg Ile Val Glu His Pro Thr Asp Val Ile Val Ser Lys Gly Glu
1 5 10 15

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

Glu Trp Tyr Lys Asp Gly Glu Arg Val Glu Thr Asp Lys Asp Asp Pro
35 40 45

Arg Ser His Arg Met Leu Leu Pro Ser Gly Ser Leu Phe Phe Leu Tyr
50 55 60

Ile Val His Gly Arg Arg Ser Lys Pro Asp Glu Gly Ser Tyr Val Cys
65 70 75 80

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

Glu

<210> 21
<211> 1320
<212> DNA
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polynucleotide"

<400> 21
tcgcgtcttc gccaggagga ctttcccccg cggattgtgg agcatccttc cgatgtcatc 60

gtctctaagg gcgagcccac gactctgaac tgcaaggcgg agggccggcc aacgcccacc 120

attgagtggt acaaagatgg ggagcgagtg gagactgaca aggacgatcc ccggtcccac 180

aggatgcttc tgcccagcgg atccttattc ttcttgcgca tcgtgcacgg gcgcaggagt 240

aaacctgatg aaggaagcta cgtttgtgtt gcgaggaact atcttggtga agcagtgagt 300

cgaaatgcgt ctctggaagt ggcattgtta cgagatgact tccgacaaaa ccccacagat 360

gttgtagtgg cagctggaga gcctgcaatc ctggagtgcc agcctccccg gggacaccca 420

gaacccacca tctactggaa aaaagacaaa gttcgaattg atgacaagga agaaagaata 480

agtatccgtg gtggaaaact gatgatctcc aataccagga aaagtgatgc agggatgtat 540

acttgtgttg gtaccaatat ggtgggagaa agggacagtg acccagcaga gctgactgtc 600

tttgaacgag gcggcagcgg cggcagcgag cccaaatctt ctgacaaaac tcacacatgc 660

ccaccgtgcc cagcacctga agctgcaggg gcaccgtcag tcttcctctt cccccaaaa 720

cccaaggaca ccctcatgat ctcccggacc cctgaggtca catgcgtggt ggtggacgtg 780

agccacgaag accctgaggt caagttcaac tggtacgtgg acggcgtgga ggtgcataat 840

gccaagacaa agccgcggga ggagcagtac aacagcacgt accgtgtggt cagcgtcctc 900

accgtcctgc accaggactg gctgaatggc aaggagtaca agtgcaaggt ctccaacaaa 960

gccctcccag cccccatcga gaaaaccatc tccaaagcca aagggcagcc ccgagaacca 1020

caggtgtaca ccctgccccc atcccgggag gagatgacca agaaccaggt cagcctgacc 1080

tgcctggtca aaggcttcta tcccagcgac atcgccgtgg agtgggagag caatgggcag 1140

ccggagaaca actacaagac cacgcctccc gtgctggact ccgacggctc cttcttcctc 1200

tatagcaagc tcaccgtgga caagagcagg tggcagcagg ggaacgtctt ctcatgctcc 1260

gtgatgcatg aggctctgca caaccactac acgcagaaga gcctctccct gtcccccgga 1320

<210> 22
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
peptide"

<220>
<221> MISC_FEATURE
<222> (1)..(18)
<223> /note="This sequence may encompass 1-6 'Gly Gly Ser'
repeating units"

<400> 22
Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ser Gly
1 5 10 15

Gly Ser

<210> 23
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
polypeptide"

<220>
<221> MISC_FEATURE
<222> (1)..(30)
<223> /note="This sequence may encompass 1-6 'Gly Gly Gly Gly Ser'
repeating units"

<400> 23
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
20 25 30

<210> 24
<211> 1378
<212> PRT
<213> Homo sapiens

<400> 24
Met Ser Leu Leu Met Phe Thr Gln Leu Leu Leu Cys Gly Phe Leu Tyr
1 5 10 15

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

Ile Val Glu His Pro Ser Asp Val Ile Val Ser Lys Gly Glu Pro Thr
35 40 45

Thr Leu Asn Cys Lys Ala Glu Gly Arg Pro Thr Pro Thr Ile Glu Trp
50 55 60

Tyr Lys Asp Gly Glu Arg Val Glu Thr Asp Lys Asp Asp Pro Arg Ser

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65                  70                  75                  80

His Arg Met Leu Leu Pro Ser Gly Ser Leu Phe Phe Leu Arg Ile Val
                85                  90                  95

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

Arg Asn Tyr Leu Gly Glu Ala Val Ser Arg Asn Ala Ser Leu Glu Val
        115                 120                 125

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

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

Pro Glu Pro Thr Ile Tyr Trp Lys Lys Asp Lys Val Arg Ile Asp Asp
                165                 170                 175

Lys Glu Glu Arg Ile Ser Ile Arg Gly Gly Lys Leu Met Ile Ser Asn
            180                 185                 190

Thr Arg Lys Ser Asp Ala Gly Met Tyr Thr Cys Val Gly Thr Asn Met
        195                 200                 205

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

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

Ala Val Glu Phe Arg Cys Gln Val Gln Gly Asp Pro Gln Pro Thr Val
                245                 250                 255

Arg Trp Lys Lys Asp Asp Ala Asp Leu Pro Arg Gly Arg Tyr Asp Ile
            260                 265                 270

Lys Asp Asp Tyr Thr Leu Arg Ile Lys Lys Thr Met Ser Thr Asp Glu
        275                 280                 285
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```
Gly Thr Tyr Met Cys Ile Ala Glu Asn Arg Val Gly Lys Met Glu Ala
    290                 295                 300

Ser Ala Thr Leu Thr Val Arg Ala Pro Pro Gln Phe Val Val Arg Pro
305                 310                 315                 320

Arg Asp Gln Ile Val Ala Gln Gly Arg Thr Val Thr Phe Pro Cys Glu
                325                 330                 335

Thr Lys Gly Asn Pro Gln Pro Ala Val Phe Trp Gln Lys Glu Gly Ser
            340                 345                 350

Gln Asn Leu Leu Phe Pro Asn Gln Pro Gln Gln Pro Asn Ser Arg Cys
        355                 360                 365

Ser Val Ser Pro Thr Gly Asp Leu Thr Ile Thr Asn Ile Gln Arg Ser
    370                 375                 380

Asp Ala Gly Tyr Tyr Ile Cys Gln Ala Leu Thr Val Ala Gly Ser Ile
385                 390                 395                 400

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

Pro Pro Ile Ile Leu Gln Gly Pro Ala Asn Gln Thr Leu Ala Val Asp
            420                 425                 430

Gly Thr Ala Leu Leu Lys Cys Lys Ala Thr Gly Asp Pro Leu Pro Val
        435                 440                 445

Ile Ser Trp Leu Lys Glu Gly Phe Thr Phe Pro Gly Arg Asp Pro Arg
    450                 455                 460

Ala Thr Ile Gln Glu Gln Gly Thr Leu Gln Ile Lys Asn Leu Arg Ile
465                 470                 475                 480

Ser Asp Thr Gly Thr Tyr Thr Cys Val Ala Thr Ser Ser Ser Gly Glu
                485                 490                 495

Thr Ser Trp Ser Ala Val Leu Asp Val Thr Glu Ser Gly Ala Thr Ile
```

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            500                 505                 510

Ser Lys Asn Tyr Asp Leu Ser Asp Leu Pro Gly Pro Pro Ser Lys Pro
        515                 520                 525

Gln Val Thr Asp Val Thr Lys Asn Ser Val Thr Leu Ser Trp Gln Pro
    530                 535                 540

Gly Thr Pro Gly Thr Leu Pro Ala Ser Ala Tyr Ile Ile Glu Ala Phe
545                 550                 555                 560

Ser Gln Ser Val Ser Asn Ser Trp Gln Thr Val Ala Asn His Val Lys
                565                 570                 575

Thr Thr Leu Tyr Thr Val Arg Gly Leu Arg Pro Asn Thr Ile Tyr Leu
            580                 585                 590

Phe Met Val Arg Ala Ile Asn Pro Gln Gly Leu Ser Asp Pro Ser Pro
        595                 600                 605

Met Ser Asp Pro Val Arg Thr Gln Asp Ile Ser Pro Pro Ala Gln Gly
    610                 615                 620

Val Asp His Arg Gln Val Gln Lys Glu Leu Gly Asp Val Leu Val Arg
625                 630                 635                 640

Leu His Asn Pro Val Val Leu Thr Pro Thr Thr Val Gln Val Thr Trp
                645                 650                 655

Thr Val Asp Arg Gln Pro Gln Phe Ile Gln Gly Tyr Arg Val Met Tyr
            660                 665                 670

Arg Gln Thr Ser Gly Leu Gln Ala Thr Ser Ser Trp Gln Asn Leu Asp
        675                 680                 685

Ala Lys Val Pro Thr Glu Arg Ser Ala Val Leu Val Asn Leu Lys Lys
    690                 695                 700

Gly Val Thr Tyr Glu Ile Lys Val Arg Pro Tyr Phe Asn Glu Phe Gln
705                 710                 715                 720
```

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Gly Met Asp Ser Glu Ser Lys Thr Val Arg Thr Thr Glu Glu Ala Pro
                725                 730                 735

Ser Ala Pro Pro Gln Ser Val Thr Val Leu Thr Val Gly Ser Tyr Asn
            740                 745                 750

Ser Thr Ser Ile Ser Val Ser Trp Asp Pro Pro Pro Pro Asp His Gln
        755                 760                 765

Asn Gly Ile Ile Gln Glu Tyr Lys Ile Trp Cys Leu Gly Asn Glu Thr
    770                 775                 780

Arg Phe His Ile Asn Lys Thr Val Asp Ala Ala Ile Arg Ser Val Ile
785                 790                 795                 800

Ile Gly Gly Leu Phe Pro Gly Ile Gln Tyr Arg Val Glu Val Ala Ala
                805                 810                 815

Ser Thr Ser Ala Gly Val Gly Val Lys Ser Glu Pro Gln Pro Ile Ile
            820                 825                 830

Ile Gly Arg Arg Asn Glu Val Val Ile Thr Glu Asn Asn Asn Ser Ile
        835                 840                 845

Thr Glu Gln Ile Thr Asp Val Val Lys Gln Pro Ala Phe Ile Ala Gly
    850                 855                 860

Ile Gly Gly Ala Cys Trp Val Ile Leu Met Gly Phe Ser Ile Trp Leu
865                 870                 875                 880

Tyr Trp Arg Arg Lys Lys Arg Lys Gly Leu Ser Asn Tyr Ala Val Thr
                885                 890                 895

Phe Gln Arg Gly Asp Gly Gly Leu Met Ser Asn Gly Ser Arg Pro Gly
            900                 905                 910

Leu Leu Asn Ala Gly Asp Pro Ser Tyr Pro Trp Leu Ala Asp Ser Trp
        915                 920                 925

Pro Ala Thr Ser Leu Pro Val Asn Asn Ser Asn Ser Gly Pro Asn Glu
```

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    930                 935                 940

Ile Gly Asn Phe Gly Arg Gly Asp Val Leu Pro Pro Val Pro Gly Gln
945                 950                 955                 960

Gly Asp Lys Thr Ala Thr Met Leu Ser Asp Gly Ala Ile Tyr Ser Ser
                965                 970                 975

Ile Asp Phe Thr Thr Lys Thr Ser Tyr Asn Ser Ser Ser Gln Ile Thr
            980                 985                 990

Gln Ala Thr Pro Tyr Ala Thr Thr  Gln Ile Leu His Ser  Asn Ser Ile
        995                 1000                1005

His Glu  Leu Ala Val Asp Leu  Pro Asp Pro Gln Trp  Lys Ser Ser
    1010                1015                1020

Ile Gln  Gln Lys Thr Asp Leu  Met Gly Phe Gly Tyr  Ser Leu Pro
    1025                1030                1035

Asp Gln  Asn Lys Gly Asn Asn  Gly Gly Lys Gly Gly  Lys Lys Lys
    1040                1045                1050

Lys Asn  Lys Asn Ser Ser Lys  Pro Gln Lys Asn Asn  Gly Ser Thr
    1055                1060                1065

Trp Ala  Asn Val Pro Leu Pro  Pro Pro Pro Val Gln  Pro Leu Pro
    1070                1075                1080

Gly Thr  Glu Leu Glu His Tyr  Ala Val Glu Gln Gln  Glu Asn Gly
    1085                1090                1095

Tyr Asp  Ser Asp Ser Trp Cys  Pro Pro Leu Pro Val  Gln Thr Tyr
    1100                1105                1110

Leu His  Gln Gly Leu Glu Asp  Glu Leu Glu Glu Asp  Asp Asp Arg
    1115                1120                1125

Val Pro  Thr Pro Pro Val Arg  Gly Val Ala Ser Ser  Pro Ala Ile
    1130                1135                1140
```

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Ser Phe  Gly Gln Gln Ser Thr  Ala Thr Leu Thr Pro  Ser Pro Arg
    1145                1150                1155

Glu Glu  Met Gln Pro Met Leu  Gln Ala His Leu Asp  Glu Leu Thr
    1160                1165                1170

Arg Ala  Tyr Gln Phe Asp Ile  Ala Lys Gln Thr Trp  His Ile Gln
    1175                1180                1185

Ser Asn  Asn Gln Pro Pro Gln  Pro Pro Val Pro Pro  Leu Gly Tyr
    1190                1195                1200

Val Ser  Gly Ala Leu Ile Ser  Asp Leu Glu Thr Asp  Val Ala Asp
    1205                1210                1215

Asp Asp  Ala Asp Asp Glu Glu  Glu Ala Leu Glu Ile  Pro Arg Pro
    1220                1225                1230

Leu Arg  Ala Leu Asp Gln Thr  Pro Gly Ser Ser Met  Asp Asn Leu
    1235                1240                1245

Asp Ser  Ser Val Thr Gly Lys  Ala Phe Thr Ser Ser  Gln Arg Pro
    1250                1255                1260

Arg Pro  Thr Ser Pro Phe Ser  Thr Asp Ser Asn Thr  Ser Ala Ala
    1265                1270                1275

Leu Ser  Gln Ser Gln Arg Pro  Arg Pro Thr Lys Lys  His Lys Gly
    1280                1285                1290

Gly Arg  Met Asp Gln Gln Pro  Ala Leu Pro His Arg  Arg Glu Gly
    1295                1300                1305

Met Thr  Asp Glu Glu Ala Leu  Val Pro Tyr Ser Lys  Pro Ser Phe
    1310                1315                1320

Pro Ser  Pro Gly Gly His Ser  Ser Ser Gly Thr Ala  Ser Ser Lys
    1325                1330                1335

Gly Ser  Thr Gly Pro Arg Lys  Thr Glu Val Leu Arg  Ala Gly His
```

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    1340                1345                1350


Gln Arg  Asn Ala Ser Asp Leu  Leu Asp Ile Gly Tyr  Met Gly Ser
    1355                1360                1365


Asn Ser  Gln Gly Gln Phe Thr  Gly Glu Leu
    1370                1375


<210> 25
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<221> source
<223> /note="Description of Artificial Sequence: Synthetic
      6xHis tag"

<400> 25
His His His His His His
1               5
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