SEQUENCE LISTING

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<130> 018410-0406491

<140> To Be Assigned
<141> 2012-05-10

<150> 61/485,872
<151> 2011-05-13

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<170> PatentIn version 3.5

<210> 1
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<213> Homo sapiens

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

Ser Asp Tyr Val Asn Tyr Asp Ile Ile Val Arg His Tyr Asn Tyr Thr
            20                  25                  30

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

Ser Val Val Phe Ile Leu Ile Cys Cys Phe Ile Ile Leu Glu Asn Ile
    50                  55                  60

Phe Val Leu Leu Thr Ile Trp Lys Thr Lys Lys Phe His Arg Pro Met
65                  70                  75                  80

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

Ala Tyr Thr Ala Asn Leu Leu Leu Ser Gly Ala Thr Thr Tyr Lys Leu
            100                 105                 110

Thr Pro Ala Gln Trp Phe Leu Arg Glu Gly Ser Met Phe Val Ala Leu
        115                 120                 125
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Ser Ala Ser Val Phe Ser Leu Leu Ala Ile Ala Ile Glu Arg Tyr Ile
    130                 135                 140

Thr Met Leu Lys Met Lys Leu His Asn Gly Ser Asn Asn Phe Arg Leu
145                 150                 155                 160

Phe Leu Leu Ile Ser Ala Cys Trp Val Ile Ser Leu Ile Leu Gly Gly
                165                 170                 175

Leu Pro Ile Met Gly Trp Asn Cys Ile Ser Ala Leu Ser Ser Cys Ser
            180                 185                 190

Thr Val Leu Pro Leu Tyr His Lys His Tyr Ile Leu Phe Cys Thr Thr
        195                 200                 205

Val Phe Thr Leu Leu Leu Leu Ser Ile Val Ile Leu Tyr Cys Arg Ile
    210                 215                 220

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

Ile Ser Lys Ala Ser Arg Ser Ser Glu Asn Val Ala Leu Leu Lys Thr
                245                 250                 255

Val Ile Ile Val Leu Ser Val Phe Ile Ala Cys Trp Ala Pro Leu Phe
            260                 265                 270

Ile Leu Leu Leu Leu Asp Val Gly Cys Lys Val Lys Thr Cys Asp Ile
        275                 280                 285

Leu Phe Arg Ala Glu Tyr Phe Leu Val Leu Ala Val Leu Asn Ser Gly
    290                 295                 300

Thr Asn Pro Ile Ile Tyr Thr Leu Thr Asn Lys Glu Met Arg Arg Ala
305                 310                 315                 320

Phe Ile Arg Ile Met Ser Cys Cys Lys Cys Pro Ser Gly Asp Ser Ala
                325                 330                 335

Gly Lys Phe Lys Arg Pro Ile Ile Ala Gly Met Glu Phe Ser Arg Ser
            340                 345                 350

Lys Ser Asp Asn Ser Ser His Pro Gln Lys Asp Glu Gly Asp Asn Pro
        355                 360                 365

Glu Thr Ile Met Ser Ser Gly Asn Val Asn Ser Ser Ser
    370                 375                 380
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<210> 2
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<213> Homo sapiens

<400> 2

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

Ser Asp Tyr Val Asn Tyr Asp Ile Ile Val Arg His Tyr Asn Tyr Thr
            20                  25                  30

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

Ser Val Val Phe Ile Leu Ile Cys Cys Phe Ile Ile Leu Glu Asn Ile
    50                  55                  60

Phe Val Leu Leu Thr Ile Trp Lys Thr Lys Lys Phe His Arg Pro Met
65                  70                  75                  80

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

Ala Tyr Thr Ala Asn Leu Leu Leu Ser Gly Ala Thr Thr Tyr Lys Leu
            100                 105                 110

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

Ser Ala Ser Val Phe Ser Leu Leu Ala Ile Ala Ile Glu Arg Tyr Ile
    130                 135                 140

Thr Met Leu Lys Met Lys Leu His Asn Gly Ser Asn Asn Phe Arg Leu
145                 150                 155                 160

Phe Leu Leu Ile Ser Ala Cys Trp Val Ile Ser Leu Ile Leu Gly Gly
                165                 170                 175

Leu Pro Ile Met Gly Trp Asn Cys Ile Ser Ala Leu Ser Ser Cys Ser
            180                 185                 190

Thr Val Leu Pro Leu Tyr His Lys His Tyr Ile Leu Phe Cys Thr Thr
        195                 200                 205

Val Phe Thr Leu Leu Leu Leu Ser Ile Val Ile Leu Tyr Cys Arg Ile
    210                 215                 220

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

Leu Asn Asp Asn Leu Lys Val Ile Glu Lys Ala Asp Asn Ala Ala Gln
                245                 250                 255

Val Lys Asp Ala Leu Thr Lys Met Arg Ala Ala Ala Leu Asp Ala Gln
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260 265 270

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

Met Lys Asp Phe Arg His Gly Phe Asp Ile Leu Val Gly Gln Ile Asp
290 295 300

Asp Ala Leu Lys Leu Ala Asn Glu Gly Lys Val Lys Glu Ala Gln Ala
305 310 315 320

Ala Ala Glu Gln Leu Lys Thr Thr Arg Asn Ala Tyr Ile Gln Lys Tyr
325 330 335

Leu Ala Ser Arg Ser Ser Glu Asn Val Ala Leu Leu Lys Thr Val Ile
340 345 350

Ile Val Leu Ser Val Phe Ile Ala Cys Trp Ala Pro Leu Phe Ile Leu
355 360 365

Leu Leu Leu Asp Val Gly Cys Lys Val Lys Thr Cys Asp Ile Leu Phe
370 375 380

Arg Ala Glu Tyr Phe Leu Val Leu Ala Val Leu Asn Ser Gly Thr Asn
385 390 395 400

Pro Ile Ile Tyr Thr Leu Thr Asn Lys Glu Met Arg Arg Ala Phe Ile
405 410 415

Arg Ile Met

<210> 3
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<213> Homo sapiens

<400> 3

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

Ser Asp Tyr Val Asn Tyr Asp Ile Ile Val Arg His Tyr Asn Tyr Thr
20 25 30

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

Ser Val Val Phe Ile Leu Ile Cys Cys Phe Ile Ile Leu Glu Asn Ile
50 55 60

Phe Val Leu Leu Thr Ile Trp Lys Thr Lys Lys Phe His Arg Pro Met
65 70 75 80

```
Tyr Tyr Phe Ile Gly Asn Leu Ala Leu Ser Asp Leu Leu Ala Gly Val
                85                  90                  95

Ala Tyr Thr Ala Asn Leu Leu Leu Ser Gly Ala Thr Thr Tyr Lys Leu
            100                 105                 110

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

Ser Ala Ser Val Phe Ser Leu Leu Ala Ile Ala Ile Glu Arg Tyr Ile
    130                 135                 140

Thr Met Leu Lys Met Lys Leu His Asn Gly Ser Asn Asn Phe Arg Leu
145                 150                 155                 160

Phe Leu Leu Ile Ser Ala Cys Trp Val Ile Ser Leu Ile Leu Gly Gly
                165                 170                 175

Leu Pro Ile Met Gly Trp Asn Cys Ile Ser Ala Leu Ser Ser Cys Ser
            180                 185                 190

Thr Val Leu Pro Leu Tyr His Lys His Tyr Ile Leu Phe Cys Thr Thr
        195                 200                 205

Val Phe Thr Leu Leu Leu Leu Ser Ile Val Ile Leu Tyr Cys Arg Ile
    210                 215                 220

Tyr Ser Leu Val Arg Thr Arg Ala Lys Ala Leu Ile Val Tyr Gly Ser
225                 230                 235                 240

Thr Thr Gly Asn Thr Glu Tyr Thr Ala Glu Thr Ile Ala Arg Glu Leu
                245                 250                 255

Ala Asp Ala Gly Tyr Glu Val Asp Ser Arg Asp Ala Ala Ser Val Glu
            260                 265                 270

Ala Gly Gly Leu Phe Glu Gly Phe Asp Leu Val Leu Leu Gly Cys Ser
        275                 280                 285

Thr Trp Gly Asp Asp Ser Ile Glu Leu Gln Asp Asp Phe Ile Pro Leu
    290                 295                 300

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

Phe Gly Cys Gly Asp Ser Ser Trp Glu Tyr Phe Cys Gly Ala Val Asp
                325                 330                 335

Ala Ile Glu Glu Lys Leu Lys Asn Leu Gly Ala Glu Ile Val Gln Asp
            340                 345                 350
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Gly Leu Arg Ile Asp Gly Asp Pro Arg Ala Ala Arg Asp Asp Ile Val
        355                 360                 365

Gly Trp Ala His Asp Val Arg Gly Ala Ile Ala Ser Arg Ser Ser Glu
    370                 375                 380

Asn Val Ala Leu Leu Lys Thr Val Ile Ile Val Leu Ser Val Phe Ile
385                 390                 395                 400

Ala Cys Trp Ala Pro Leu Phe Ile Leu Leu Leu Leu Asp Val Gly Cys
                405                 410                 415

Lys Val Lys Thr Cys Asp Ile Leu Phe Arg Ala Glu Tyr Phe Leu Val
            420                 425                 430

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

Asn Lys Glu Met Arg Arg Ala Phe Ile Arg Ile Met
    450                 455                 460
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<210> 4
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<213> Homo sapiens

<400> 4

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

Ser Asp Tyr Val Asn Tyr Asp Ile Ile Val Arg His Tyr Asn Tyr Thr
            20                  25                  30

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

Ser Val Val Phe Ile Leu Ile Cys Cys Phe Ile Ile Leu Glu Asn Ile
    50                  55                  60

Phe Val Leu Leu Thr Ile Trp Lys Thr Lys Lys Phe His Arg Pro Met
65                  70                  75                  80

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

Ala Tyr Thr Ala Asn Leu Leu Leu Ser Gly Ala Thr Thr Tyr Lys Leu
            100                 105                 110

Thr Pro Ala Gln Trp Phe Leu Arg Glu Gly Ser Met Phe Val Ala Leu
        115                 120                 125
```

```
Ser Ala Ser Val Phe Ser Leu Leu Ala Ile Ala Ile Glu Arg Tyr Ile
    130                 135                 140

Thr Met Leu Lys Met Lys Leu His Asn Gly Ser Asn Asn Phe Arg Leu
145                 150                 155                 160

Phe Leu Leu Ile Ser Ala Cys Trp Val Ile Ser Leu Ile Leu Gly Gly
                165                 170                 175

Leu Pro Ile Met Gly Trp Asn Cys Ile Ser Ala Leu Ser Ser Cys Ser
            180                 185                 190

Thr Val Leu Pro Leu Tyr His Lys His Tyr Ile Leu Phe Cys Thr Thr
        195                 200                 205

Val Phe Thr Leu Leu Leu Leu Ser Ile Val Ile Leu Tyr Cys Arg Ile
    210                 215                 220

Tyr Ser Leu Val Arg Thr Arg Ala Ser Thr Asp Tyr Trp Gln Asn Trp
225                 230                 235                 240

Thr Phe Gly Gly Gly Ile Val Asn Ala Val Asn Gly Ser Gly Gly Asn
                245                 250                 255

Tyr Ser Val Asn Trp Ser Asn Thr Gly Asn Phe Val Val Gly Lys Gly
            260                 265                 270

Trp Thr Thr Gly Ser Pro Phe Arg Thr Ile Asn Tyr Asn Ala Gly Val
        275                 280                 285

Trp Ala Pro Asn Gly Asn Gly Tyr Leu Thr Leu Tyr Gly Trp Thr Arg
    290                 295                 300

Ser Pro Leu Ile Glu Tyr Tyr Val Val Asp Ser Trp Gly Thr Tyr Arg
305                 310                 315                 320

Pro Thr Gly Thr Tyr Lys Gly Thr Val Lys Ser Asp Gly Gly Thr Tyr
                325                 330                 335

Asp Ile Tyr Thr Thr Thr Arg Tyr Asn Ala Pro Ser Ile Asp Gly Asp
            340                 345                 350

Asp Thr Thr Phe Thr Gln Tyr Trp Ser Val Arg Gln Ser Lys Arg Pro
        355                 360                 365

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

Lys Ser His Gly Met Asn Leu Gly Ser Asn Trp Ala Tyr Gln Val Met
385                 390                 395                 400
```

```
Ala Thr Glu Gly Tyr Gln Ser Ser Gly Ser Ser Asn Val Thr Val Trp
                405                 410                 415

Ala Ser Arg Ser Ser Glu Asn Val Ala Leu Leu Lys Thr Val Ile Ile
            420                 425                 430

Val Leu Ser Val Phe Ile Ala Cys Trp Ala Pro Leu Phe Ile Leu Leu
        435                 440                 445

Leu Leu Asp Val Gly Cys Lys Val Lys Thr Cys Asp Ile Leu Phe Arg
    450                 455                 460

Ala Glu Tyr Phe Leu Val Leu Ala Val Leu Asn Ser Gly Thr Asn Pro
465                 470                 475                 480

Ile Ile Tyr Thr Leu Thr Asn Lys Glu Met Arg Arg Ala Phe Ile Arg
                485                 490                 495

Ile Met
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<210> 5
<211> 367
<212> PRT
<213> Homo sapiens

<400> 5

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

Ser Asp Tyr Val Asn Tyr Asp Ile Ile Val Arg His Tyr Asn Tyr Thr
            20                  25                  30

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

Ser Val Val Phe Ile Leu Ile Cys Cys Phe Ile Ile Leu Glu Asn Ile
    50                  55                  60

Phe Val Leu Leu Thr Ile Trp Lys Thr Lys Lys Phe His Arg Pro Met
65                  70                  75                  80

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

Ala Tyr Thr Ala Asn Leu Leu Leu Ser Gly Ala Thr Thr Tyr Lys Leu
            100                 105                 110

Thr Pro Ala Gln Trp Phe Leu Arg Glu Gly Ser Met Phe Val Ala Leu
        115                 120                 125
```

```
Ser Ala Ser Val Phe Ser Leu Leu Ala Ile Ala Ile Glu Arg Tyr Ile
    130                 135                 140

Thr Met Leu Lys Met Lys Leu His Asn Gly Ser Asn Asn Phe Arg Leu
145                 150                 155                 160

Phe Leu Leu Ile Ser Ala Cys Trp Val Ile Ser Leu Ile Leu Gly Gly
                165                 170                 175

Leu Pro Ile Met Gly Trp Asn Cys Ile Ser Ala Leu Ser Ser Cys Ser
            180                 185                 190

Thr Val Leu Pro Leu Tyr His Lys His Tyr Ile Leu Phe Cys Thr Thr
        195                 200                 205

Val Phe Thr Leu Leu Leu Leu Ser Ile Val Ile Leu Tyr Cys Arg Ile
    210                 215                 220

Tyr Ser Leu Val Arg Thr Arg Met Lys Lys Tyr Thr Cys Thr Val Cys
225                 230                 235                 240

Gly Tyr Ile Tyr Asn Pro Glu Asp Gly Asp Pro Asp Asn Gly Val Asn
                245                 250                 255

Pro Gly Thr Asp Phe Lys Asp Ile Pro Asp Asp Trp Val Cys Pro Leu
            260                 265                 270

Cys Gly Val Gly Lys Asp Gln Phe Glu Glu Val Glu Glu Ala Ser Arg
        275                 280                 285

Ser Ser Glu Asn Val Ala Leu Leu Lys Thr Val Ile Ile Val Leu Ser
    290                 295                 300

Val Phe Ile Ala Cys Trp Ala Pro Leu Phe Ile Leu Leu Leu Leu Asp
305                 310                 315                 320

Val Gly Cys Lys Val Lys Thr Cys Asp Ile Leu Phe Arg Ala Glu Tyr
                325                 330                 335

Phe Leu Val Leu Ala Val Leu Asn Ser Gly Thr Asn Pro Ile Ile Tyr
            340                 345                 350

Thr Leu Thr Asn Lys Glu Met Arg Arg Ala Phe Ile Arg Ile Met
        355                 360                 365
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<210> 6
<211> 466
<212> PRT
<213> Homo sapiens

<400> 6

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

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

Ser Val Ser Asp Tyr Val Asn Tyr Asp Ile Ile Val Arg His Tyr Asn
35 40 45

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

Leu Thr Ser Val Val Phe Ile Leu Ile Cys Cys Phe Ile Ile Leu Glu
65 70 75 80

Asn Ile Phe Val Leu Leu Thr Ile Trp Lys Thr Lys Lys Phe His Arg
85 90 95

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

Gly Val Ala Tyr Thr Ala Asn Leu Leu Leu Ser Gly Ala Thr Thr Tyr
115 120 125

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

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

Tyr Ile Thr Met Leu Lys Met Lys Leu His Asn Gly Ser Asn Asn Phe
165 170 175

Arg Leu Phe Leu Leu Ile Ser Ala Cys Trp Val Ile Ser Leu Ile Leu
180 185 190

Gly Gly Leu Pro Ile Met Gly Trp Asn Cys Ile Ser Ala Leu Ser Ser
195 200 205

Cys Ser Thr Val Leu Pro Leu Tyr His Lys His Tyr Ile Leu Phe Cys
210 215 220

Thr Thr Val Phe Thr Leu Leu Leu Leu Ser Ile Val Ile Leu Tyr Cys
225 230 235 240

Arg Ile Tyr Ser Leu Val Arg Thr Arg Ala Asp Leu Glu Asp Asn Trp
245 250 255

Glu Thr Leu Asn Asp Asn Leu Lys Val Ile Glu Lys Ala Asp Asn Ala
260 265 270

Ala Gln Val Lys Asp Ala Leu Thr Lys Met Arg Ala Ala Ala Leu Asp

275 280 285

Ala Gln Lys Ala Thr Pro Pro Lys Leu Glu Asp Lys Ser Pro Asp Ser
290 295 300

Pro Glu Met Lys Asp Phe Arg His Gly Phe Asp Ile Leu Val Gly Gln
305 310 315 320

Ile Asp Asp Ala Leu Lys Leu Ala Asn Glu Gly Lys Val Lys Glu Ala
325 330 335

Gln Ala Ala Ala Glu Gln Leu Lys Thr Thr Arg Asn Ala Tyr Ile Gln
340 345 350

Lys Tyr Leu Ala Ser Arg Ser Ser Glu Asn Val Ala Leu Leu Lys Thr
355 360 365

Val Ile Ile Val Leu Ser Val Phe Ile Ala Cys Trp Ala Pro Leu Phe
370 375 380

Ile Leu Leu Leu Leu Asp Val Gly Cys Lys Val Lys Thr Cys Asp Ile
385 390 395 400

Leu Phe Arg Ala Glu Tyr Phe Leu Val Leu Ala Val Leu Asn Ser Gly
405 410 415

Thr Asn Pro Ile Ile Tyr Thr Leu Thr Asn Lys Glu Met Arg Arg Ala
420 425 430

Phe Ile Arg Ile Met Gly Arg Pro Leu Glu Val Leu Phe Gln Gly Pro
435 440 445

His His His His His His His His His His Asp Tyr Lys Asp Asp Asp
450 455 460

Asp Lys
465

<210> 7
<211> 254
<212> PRT
<213> Homo sapiens

<400> 7

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

Asp Tyr Lys Asp Asp Asp Asp Ala Met Gly Gln Pro Gly Asn Gly Ser
20 25 30

Ala Phe Leu Leu Ala Pro Asn Arg Ser His Ala Pro Asp His Asp Val
35 40 45

```
Thr Gln Gln Arg Asp Glu Val Trp Val Val Gly Met Gly Ile Val Met
    50                  55                  60

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

Ala Ile Ala Lys Phe Glu Arg Leu Gln Thr Val Thr Asn Tyr Phe Ile
                85                  90                  95

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

Phe Gly Ala Ala His Ile Leu Met Lys Met Trp Thr Phe Gly Asn Phe
        115                 120                 125

Trp Cys Glu Phe Trp Thr Ser Ile Asp Val Leu Cys Val Thr Ala Ser
    130                 135                 140

Ile Trp Thr Leu Cys Val Ile Ala Val Asp Arg Tyr Phe Ala Ile Thr
145                 150                 155                 160

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

Ile Ile Leu Met Val Trp Ile Val Ser Gly Leu Thr Ser Phe Leu Pro
            180                 185                 190

Ile Gln Met His Trp Tyr Arg Ala Thr His Gln Glu Ala Ile Asn Cys
        195                 200                 205

Tyr Ala Glu Glu Thr Cys Cys Asp Phe Phe Thr Asn Gln Ala Tyr Ala
    210                 215                 220

Ile Ala Ser Ser Ile Val Ser Phe Tyr Val Pro Leu Val Ile Met Val
225                 230                 235                 240

Phe Val Tyr Ser Arg Val Phe Gln Glu Ala Lys Arg Gln Leu
                245                 250
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<210> 8
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<212> PRT
<213> Homo sapiens

<400> 8

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

Asp Tyr Lys Asp Asp Asp Asp Ala Met Gly Gln Pro Gly Asn Gly Ser
            20                  25                  30
```

```
Ala Phe Leu Leu Ala Pro Asn Arg Ser His Ala Pro Asp His Asp Val
        35                  40                  45

Thr Gln Gln Arg Asp Glu Val Trp Val Val Gly Met Gly Ile Val Met
    50                  55                  60

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

Ala Ile Ala Lys Phe Glu Arg Leu Gln Thr Val Thr Asn Tyr Phe Ile
                85                  90                  95

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

Phe Gly Ala Ala His Ile Leu Met Lys Met Trp Thr Phe Gly Asn Phe
        115                 120                 125

Trp Cys Glu Phe Trp Thr Ser Ile Asp Val Leu Cys Val Thr Ala Ser
    130                 135                 140

Ile Trp Thr Leu Cys Val Ile Ala Val Asp Arg Tyr Phe Ala Ile Thr
145                 150                 155                 160

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

Ile Ile Leu Met Val Trp Ile Val Ser Gly Leu Thr Ser Phe Leu Pro
            180                 185                 190

Ile Gln Met His Trp Tyr Arg Ala Thr His Gln Glu Ala Ile Asn Cys
        195                 200                 205

Tyr Ala Glu Glu Thr Cys Cys Asp Phe Phe Thr Asn Gln Ala Tyr Ala
    210                 215                 220

Ile Ala Ser Ser Ile Val Ser Phe Tyr Val Pro Leu Val Ile Met Val
225                 230                 235                 240

Phe Val Tyr Ser Arg Val Phe Gln Glu Ala Lys Arg Gln Leu Asn Ile
                245                 250                 255

Phe Glu Met Leu Arg Ile Asp Glu Gly Leu Arg Leu Lys Ile Tyr Lys
            260                 265                 270

Asp Thr Glu Gly Tyr Tyr Thr Ile Gly Ile Gly His Leu Leu Thr Lys
        275                 280                 285

Ser Pro Ser Leu Asn Ala Ala Lys Ser Glu Leu Asp Lys Ala Ile Gly
    290                 295                 300
```

```
Arg Asn Thr Asn Gly Val Ile Thr Lys Asp Glu Ala Glu Lys Leu Phe
305                 310                 315                 320

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

Leu Lys Pro Val Tyr Asp Ser Leu Asp Ala Val Arg Arg Ala Ala Leu
            340                 345                 350

Ile Asn Met Val Phe Gln Met Gly Glu Thr Gly Val Ala Gly Phe Thr
        355                 360                 365

Asn Ser Leu Arg Met Leu Gln Gln Lys Arg Trp Asp Glu Ala Ala Val
    370                 375                 380

Asn Leu Ala Lys Ser Arg Trp Tyr Asn Gln Thr Pro Asn Arg Ala Lys
385                 390                 395                 400

Arg Val Ile Thr Thr Phe Arg Thr Gly Thr Trp Asp Ala Tyr Lys Phe
                405                 410                 415

Cys Leu Lys Glu His Lys Ala Leu Lys Thr Leu Gly Ile Ile Met Gly
            420                 425                 430

Thr Phe Thr Leu Cys Trp Leu Pro Phe Phe Ile Val Asn Ile Val His
        435                 440                 445

Val Ile Gln Asp Asn Leu Ile Arg Lys Glu Val Tyr Ile Leu Leu Asn
    450                 455                 460

Trp Ile Gly Tyr Val Asn Ser Gly Phe Asn Pro Leu Ile Tyr Cys Arg
465                 470                 475                 480

Ser Pro Asp Phe Arg Ile Ala Phe Gln Glu Leu Leu Cys Leu Arg Arg
                485                 490                 495

Ser Ser Leu Lys His His His His His His
            500                 505


<210>  9
<211>  473
<212>  PRT
<213>  Homo sapiens

<400>  9

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

Asp Tyr Lys Asp Asp Asp Asp Ala Met Gly Gln Pro Gly Asn Gly Ser
            20                  25                  30
```

```
Ala Phe Leu Leu Ala Pro Asn Arg Ser His Ala Pro Asp His Asp Val
        35                  40                  45

Thr Gln Gln Arg Asp Glu Val Trp Val Val Gly Met Gly Ile Val Met
    50                  55                  60

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

Ala Ile Ala Lys Phe Glu Arg Leu Gln Thr Val Thr Asn Tyr Phe Ile
                85                  90                  95

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

Phe Gly Ala Ala His Ile Leu Met Lys Met Trp Thr Phe Gly Asn Phe
        115                 120                 125

Trp Cys Glu Phe Trp Thr Ser Ile Asp Val Leu Cys Val Thr Ala Ser
    130                 135                 140

Ile Trp Thr Leu Cys Val Ile Ala Val Asp Arg Tyr Phe Ala Ile Thr
145                 150                 155                 160

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

Ile Ile Leu Met Val Trp Ile Val Ser Gly Leu Thr Ser Phe Leu Pro
            180                 185                 190

Ile Gln Met His Trp Tyr Arg Ala Thr His Gln Glu Ala Ile Asn Cys
        195                 200                 205

Tyr Ala Glu Glu Thr Cys Cys Asp Phe Phe Thr Asn Gln Ala Tyr Ala
    210                 215                 220

Ile Ala Ser Ser Ile Val Ser Phe Tyr Val Pro Leu Val Ile Met Val
225                 230                 235                 240

Phe Val Tyr Ser Arg Val Phe Gln Glu Ala Lys Arg Gln Leu Lys Asp
                245                 250                 255

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

Ile Leu Arg Asn Ala Lys Leu Lys Pro Val Tyr Asp Ser Leu Asp Ala
        275                 280                 285

Val Arg Arg Ala Ala Leu Ile Asn Met Val Phe Gln Met Gly Glu Thr
    290                 295                 300
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Gly Val Ala Gly Phe Thr Asn Ser Leu Arg Met Leu Gln Gln Lys Arg
305 310 315 320

Trp Asp Glu Ala Ala Val Asn Leu Ala Lys Ser Arg Trp Tyr Asn Gln
325 330 335

Thr Pro Asn Arg Ala Lys Arg Val Ile Thr Thr Phe Arg Thr Gly Thr
340 345 350

Trp Asp Ala Tyr Lys Asn Leu Ser Gly Gly Gly Gly Ala Met Asp Ile
355 360 365

Phe Glu Met Leu Arg Ile Asp Glu Gly Lys Phe Cys Leu Lys Glu His
370 375 380

Lys Ala Leu Lys Thr Leu Gly Ile Ile Met Gly Thr Phe Thr Leu Cys
385 390 395 400

Trp Leu Pro Phe Phe Ile Val Asn Ile Val His Val Ile Gln Asp Asn
405 410 415

Leu Ile Arg Lys Glu Val Tyr Ile Leu Leu Asn Trp Ile Gly Tyr Val
420 425 430

Asn Ser Gly Phe Asn Pro Leu Ile Tyr Cys Arg Ser Pro Asp Phe Arg
435 440 445

Ile Ala Phe Gln Glu Leu Leu Cys Leu Arg Arg Ser Ser Leu Lys His
450 455 460

His His His His His His His His His
465 470

<210> 10
<211> 455
<212> PRT
<213> Homo sapiens

<400> 10

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

Asp Tyr Lys Asp Asp Asp Asp Ala Met Gly Gln Pro Gly Asn Gly Ser
20 25 30

Ala Phe Leu Leu Ala Pro Asn Arg Ser His Ala Pro Asp His Asp Val
35 40 45

Thr Gln Gln Arg Asp Glu Val Trp Val Val Gly Met Gly Ile Val Met
50 55 60

Ser Leu Ile Val Leu Ala Ile Val Phe Gly Asn Val Leu Val Ile Thr

65 70 75 80

Ala Ile Ala Lys Phe Glu Arg Leu Gln Thr Val Thr Asn Tyr Phe Ile
85 90 95

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

Phe Gly Ala Ala His Ile Leu Met Lys Trp Thr Phe Gly Asn Phe Trp
115 120 125

Cys Glu Phe Trp Thr Ser Ile Asp Val Leu Cys Val Thr Ala Ser Ile
130 135 140

Trp Thr Leu Cys Val Ile Ala Val Asp Arg Tyr Phe Ala Ile Thr Ser
145 150 155 160

Pro Phe Lys Tyr Gln Ser Leu Leu Thr Lys Asn Lys Ala Arg Val Ile
165 170 175

Ile Leu Met Val Trp Ile Val Ser Gly Leu Thr Ser Phe Leu Pro Ile
180 185 190

Gln Met His Trp Tyr Arg Ala Thr His Gln Glu Ala Ile Asn Cys Tyr
195 200 205

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

Ala Ser Ser Ile Val Ser Phe Tyr Val Pro Leu Val Ile Met Val Phe
225 230 235 240

Val Tyr Ser Arg Val Phe Gln Glu Ala Lys Arg Gln Leu Ala Asp Leu
245 250 255

Glu Asp Asn Trp Glu Thr Leu Asn Asp Asn Leu Lys Val Ile Glu Lys
260 265 270

Ala Asp Asn Ala Ala Gln Val Lys Asp Ala Leu Thr Lys Met Arg Ala
275 280 285

Ala Ala Leu Asp Ala Gln Lys Ala Thr Pro Pro Lys Leu Glu Asp Lys
290 295 300

Ser Pro Asp Ser Pro Glu Met Lys Asp Phe Arg His Gly Phe Asp Ile
305 310 315 320

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

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

340 345 350

Ala Tyr Ile Gln Lys Tyr Leu Lys Phe Cys Leu Lys Glu His Lys Ala
355 360 365

Leu Lys Thr Leu Gly Ile Ile Met Gly Thr Phe Thr Leu Cys Trp Leu
370 375 380

Pro Phe Phe Ile Val Asn Ile Val His Val Ile Gln Asp Asn Leu Ile
385 390 395 400

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

Gly Phe Asn Pro Leu Ile Tyr Cys Arg Ser Pro Asp Phe Arg Ile Ala
420 425 430

Phe Gln Glu Leu Leu Cys Leu Arg Arg Ser Ser Leu Lys His His His
435 440 445

His His His His His His His
450 455

<210> 11
<211> 403
<212> PRT
<213> Homo sapiens

<400> 11

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

Asp Tyr Lys Asp Asp Asp Asp Ala Met Gly Gln Pro Gly Asn Gly Ser
20 25 30

Ala Phe Leu Leu Ala Pro Asn Arg Ser His Ala Pro Asp His Asp Val
35 40 45

Thr Gln Gln Arg Asp Glu Val Trp Val Val Gly Met Gly Ile Val Met
50 55 60

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

Ala Ile Ala Lys Phe Glu Arg Leu Gln Thr Val Thr Asn Tyr Phe Ile
85 90 95

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

Phe Gly Ala Ala His Ile Leu Met Lys Met Trp Thr Phe Gly Asn Phe
115 120 125

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Trp Cys Glu Phe Trp Thr Ser Ile Asp Val Leu Cys Val Thr Ala Ser
    130                 135                 140

Ile Trp Thr Leu Cys Val Ile Ala Val Asp Arg Tyr Phe Ala Ile Thr
145                 150                 155                 160

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

Ile Ile Leu Met Val Trp Ile Val Ser Gly Leu Thr Ser Phe Leu Pro
            180                 185                 190

Ile Met His Trp Tyr Arg Ala Thr His Gln Glu Ala Ile Asn Cys Tyr
        195                 200                 205

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

Ala Ser Ser Ile Val Ser Phe Tyr Val Pro Leu Val Ile Met Val Phe
225                 230                 235                 240

Val Tyr Ser Arg Val Phe Gln Glu Ala Lys Arg Gln Leu Met Lys Lys
                245                 250                 255

Tyr Thr Cys Thr Val Cys Gly Tyr Ile Tyr Asn Pro Glu Asp Gly Asp
            260                 265                 270

Pro Asp Asn Gly Val Asn Pro Gly Thr Asp Phe Lys Asp Ile Pro Asp
        275                 280                 285

Asp Trp Val Cys Pro Leu Cys Gly Val Gly Lys Asp Gln Phe Glu Glu
    290                 295                 300

Val Glu Glu Lys Phe Cys Leu Lys Glu His Lys Ala Leu Lys Thr Leu
305                 310                 315                 320

Gly Ile Ile Met Gly Thr Phe Thr Leu Cys Trp Leu Pro Phe Phe Ile
                325                 330                 335

Val Asn Ile Val His Val Ile Gln Asp Asn Leu Ile Arg Lys Glu Val
            340                 345                 350

Tyr Ile Leu Leu Asn Trp Ile Gly Tyr Val Asn Ser Gly Phe Asn Pro
        355                 360                 365

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

Leu Cys Leu Arg Arg Ser Ser Leu Lys His His His His His His His
385                 390                 395                 400
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His His His

<210> 12
<211> 535
<212> PRT
<213> Homo sapiens

<400> 12

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

Asp Tyr Lys Asp Asp Asp Asp Ala Met Gly Gln Pro Gly Asn Gly Ser
20 25 30

Ala Phe Leu Leu Ala Pro Asn Arg Ser His Ala Pro Asp His Asp Val
35 40 45

Thr Gln Gln Arg Asp Glu Val Trp Val Val Gly Met Gly Ile Val Met
50 55 60

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

Ala Ile Ala Lys Phe Glu Arg Leu Gln Thr Val Thr Asn Tyr Phe Ile
85 90 95

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

Phe Gly Ala Ala His Ile Leu Met Lys Met Trp Thr Phe Gly Asn Phe
115 120 125

Trp Cys Glu Phe Trp Thr Ser Ile Asp Val Leu Cys Val Thr Ala Ser
130 135 140

Ile Trp Thr Leu Cys Val Ile Ala Val Asp Arg Tyr Phe Ala Ile Thr
145 150 155 160

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

Ile Ile Leu Met Val Trp Ile Val Ser Gly Leu Thr Ser Phe Leu Pro
180 185 190

Ile Gln Met His Trp Tyr Arg Ala Thr His Gln Glu Ala Ile Asn Cys
195 200 205

Tyr Ala Glu Glu Thr Cys Cys Asp Phe Phe Thr Asn Gln Ala Tyr Ala
210 215 220

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Ile Ala Ser Ser Ile Val Ser Phe Tyr Val Pro Leu Val Ile Met Val
225                 230                 235                 240

Phe Val Tyr Ser Arg Val Phe Gln Glu Ala Lys Arg Gln Leu Ala Ser
                245                 250                 255

Thr Asp Tyr Trp Gln Asn Trp Thr Phe Gly Gly Gly Ile Val Asn Ala
            260                 265                 270

Val Asn Gly Ser Gly Gly Asn Tyr Ser Val Asn Trp Ser Asn Thr Gly
        275                 280                 285

Asn Phe Val Val Gly Lys Gly Trp Thr Thr Gly Ser Pro Phe Arg Thr
    290                 295                 300

Ile Asn Tyr Asn Ala Gly Val Trp Ala Pro Asn Gly Asn Gly Tyr Leu
305                 310                 315                 320

Thr Leu Tyr Gly Trp Thr Arg Ser Pro Leu Ile Glu Tyr Tyr Val Val
                325                 330                 335

Asp Ser Trp Gly Thr Tyr Arg Pro Thr Gly Thr Tyr Lys Gly Thr Val
            340                 345                 350

Lys Ser Asp Gly Gly Thr Tyr Asp Ile Tyr Thr Thr Thr Arg Tyr Asn
        355                 360                 365

Ala Pro Ser Ile Asp Gly Asp Asp Thr Thr Phe Thr Gln Tyr Trp Ser
    370                 375                 380

Val Arg Gln Ser Lys Arg Pro Thr Gly Ser Asn Ala Thr Ile Thr Phe
385                 390                 395                 400

Thr Asn His Val Asn Ala Trp Lys Ser His Gly Met Asn Leu Gly Ser
                405                 410                 415

Asn Trp Ala Tyr Gln Val Met Ala Thr Glu Gly Tyr Gln Ser Ser Gly
            420                 425                 430

Ser Ser Asn Val Thr Val Trp Lys Phe Cys Leu Lys Glu His Lys Ala
        435                 440                 445

Leu Lys Thr Leu Gly Ile Ile Met Gly Thr Phe Thr Leu Cys Trp Leu
    450                 455                 460

Pro Phe Phe Ile Val Asn Ile Val His Val Ile Gln Asp Asn Leu Ile
465                 470                 475                 480

Arg Lys Glu Val Tyr Ile Leu Leu Asn Trp Ile Gly Tyr Val Asn Ser
                485                 490                 495
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Gly Phe Asn Pro Leu Ile Tyr Cys Arg Ser Pro Asp Phe Arg Ile Ala
            500                 505                 510

Phe Gln Glu Leu Leu Cys Leu Arg Arg Ser Ser Leu Lys His His His
        515                 520                 525

His His His His His His His
    530                 535
```

<210> 13
<211> 497
<212> PRT
<213> Homo sapiens

<400> 13

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

Asp Tyr Lys Asp Asp Asp Asp Ala Met Gly Gln Pro Gly Asn Gly Ser
            20                  25                  30

Ala Phe Leu Leu Ala Pro Asn Arg Ser His Ala Pro Asp His Asp Val
        35                  40                  45

Thr Gln Gln Arg Asp Glu Val Trp Val Val Gly Met Gly Ile Val Met
    50                  55                  60

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

Ala Ile Ala Lys Phe Glu Arg Leu Gln Thr Val Thr Asn Tyr Phe Ile
                85                  90                  95

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

Phe Gly Ala Ala His Ile Leu Met Lys Met Trp Thr Phe Gly Asn Phe
        115                 120                 125

Trp Cys Glu Phe Trp Thr Ser Ile Asp Val Leu Cys Val Thr Ala Ser
    130                 135                 140

Ile Trp Thr Leu Cys Val Ile Ala Val Asp Arg Tyr Phe Ala Ile Thr
145                 150                 155                 160

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

Ile Ile Leu Met Val Trp Ile Val Ser Gly Leu Thr Ser Phe Leu Pro
            180                 185                 190
```

```
Ile Gln Met His Trp Tyr Arg Ala Thr His Gln Glu Ala Ile Asn Cys
        195                 200                 205

Tyr Ala Glu Glu Thr Cys Cys Asp Phe Phe Thr Asn Gln Ala Tyr Ala
    210                 215                 220

Ile Ala Ser Ser Ile Val Ser Phe Tyr Val Pro Leu Val Ile Met Val
225                 230                 235                 240

Phe Val Tyr Ser Arg Val Phe Gln Glu Ala Lys Arg Gln Leu Ala Lys
                245                 250                 255

Ala Leu Ile Val Tyr Gly Ser Thr Thr Gly Asn Thr Glu Tyr Thr Ala
            260                 265                 270

Glu Thr Ile Ala Arg Glu Leu Ala Asp Ala Gly Tyr Glu Val Asp Ser
        275                 280                 285

Arg Asp Ala Ala Ser Val Glu Ala Gly Gly Leu Phe Glu Gly Phe Asp
    290                 295                 300

Leu Val Leu Leu Gly Cys Ser Thr Trp Gly Asp Asp Ser Ile Glu Leu
305                 310                 315                 320

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

Gln Gly Arg Lys Val Ala Cys Phe Gly Cys Gly Asp Ser Ser Trp Glu
            340                 345                 350

Tyr Phe Cys Gly Ala Val Asp Ala Ile Glu Glu Lys Leu Lys Asn Leu
        355                 360                 365

Gly Ala Glu Ile Val Gln Asp Gly Leu Arg Ile Asp Gly Asp Pro Arg
    370                 375                 380

Ala Ala Arg Asp Asp Ile Val Gly Trp Ala His Asp Val Arg Gly Ala
385                 390                 395                 400

Ile Lys Phe Cys Leu Lys Glu His Lys Ala Leu Lys Thr Leu Gly Ile
                405                 410                 415

Ile Met Gly Thr Phe Thr Leu Cys Trp Leu Pro Phe Phe Ile Val Asn
            420                 425                 430

Ile Val His Val Ile Gln Asp Asn Leu Ile Arg Lys Glu Val Tyr Ile
        435                 440                 445

Leu Leu Asn Trp Ile Gly Tyr Val Asn Ser Gly Phe Asn Pro Leu Ile
    450                 455                 460
```

```
Tyr Cys Arg Ser Pro Asp Phe Arg Ile Ala Phe Gln Glu Leu Leu Cys
465                 470                 475                 480

Leu Arg Arg Ser Ser Leu Lys His His His His His His His His His
                485                 490                 495

His
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