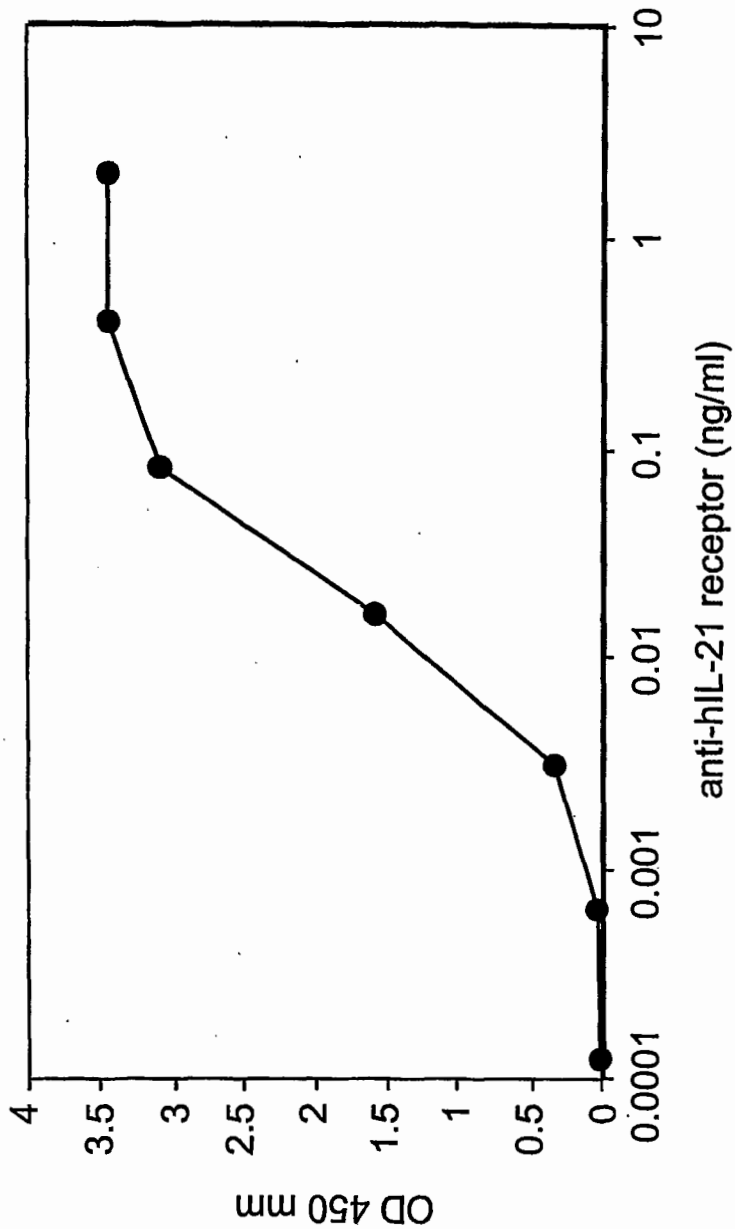

OD 450 mm
4
3.5
3
2.5
2
1.5
1
0.5
0
0.0001
0.001
0.01
0.1
1
10
anti-hIL-21 receptor (ng/ml)

FIG .1A

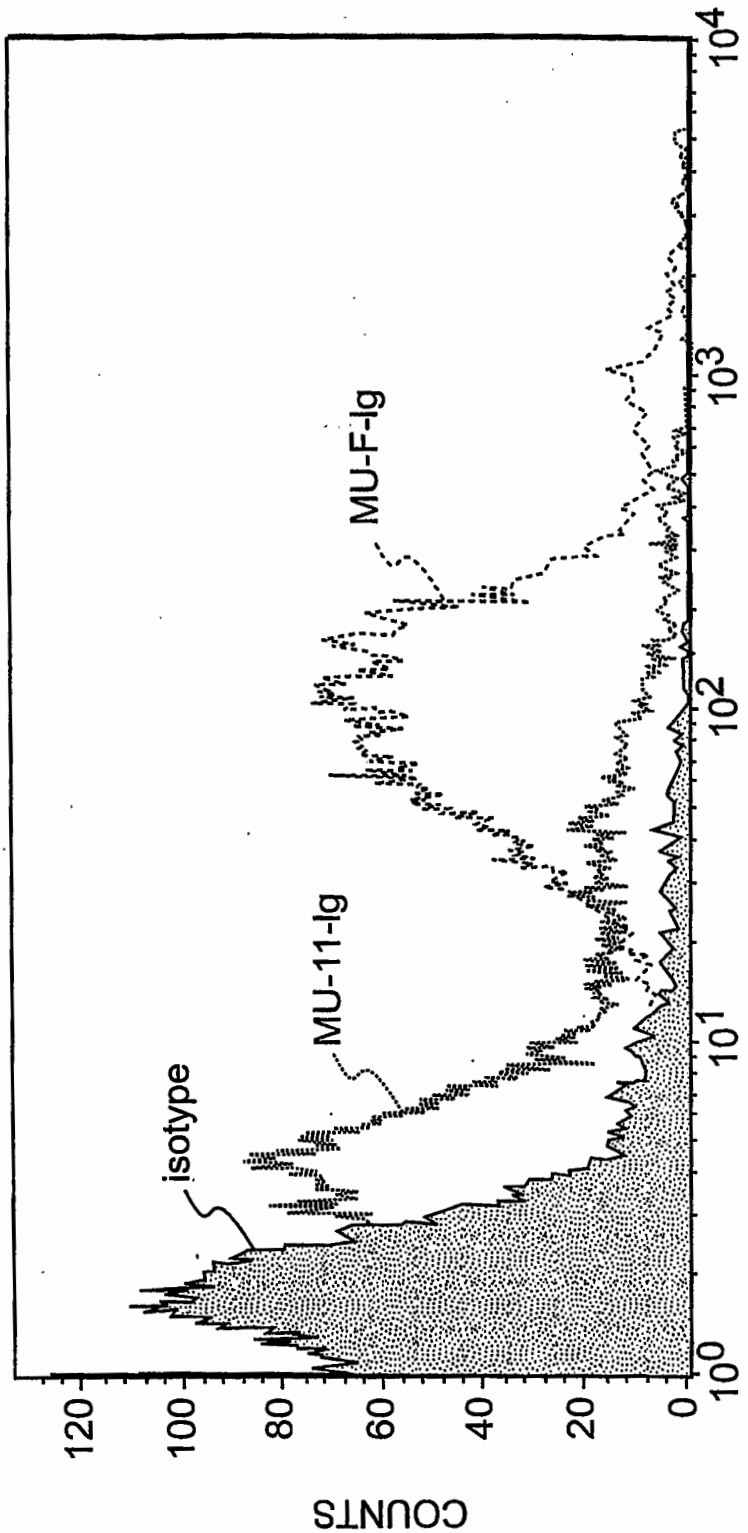

COUNTS
120
100
80
60
40
20
0
10^0
10^1
10^2
10^3
10^4
isotype
MU-11-Ig
MU-F-Ig

FIG .1B

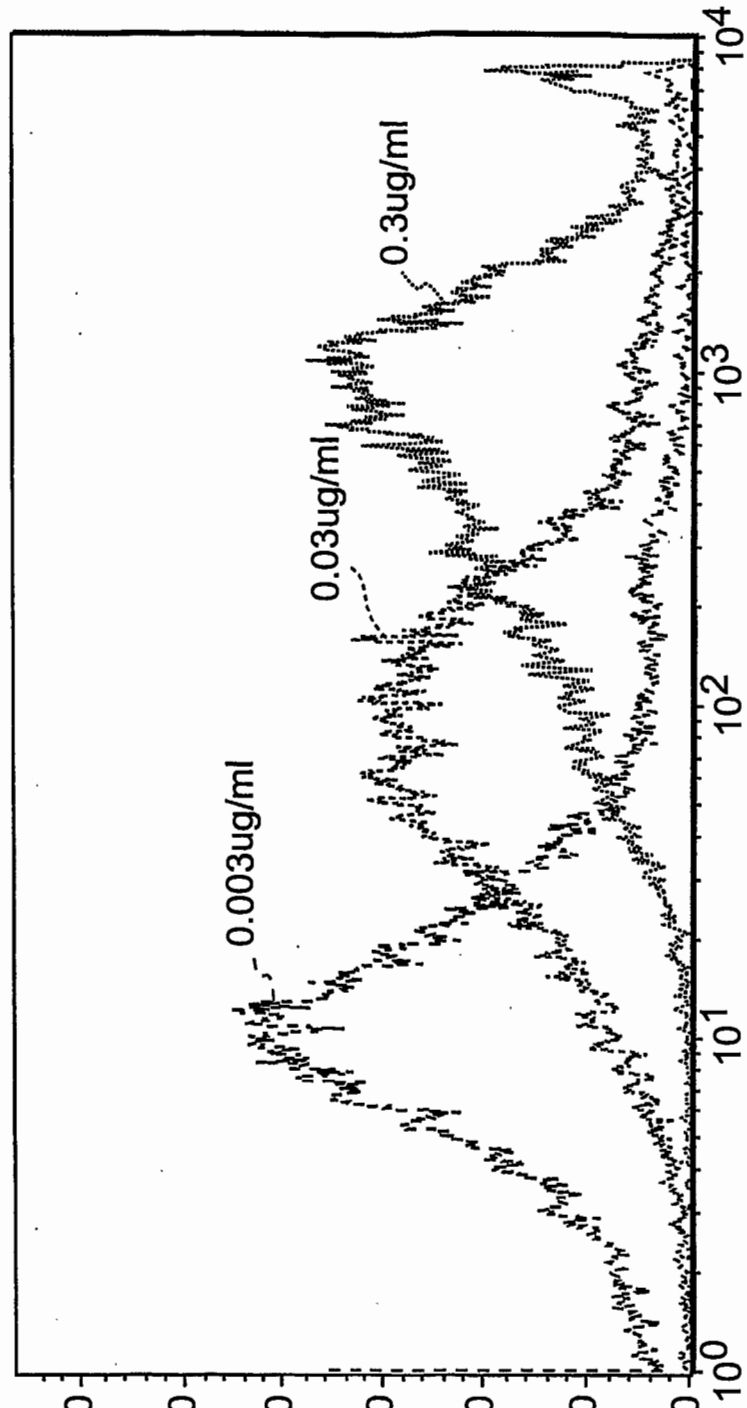

COUNTS
120
100
80
60
40
20
0
10^0
10^1
10^2
10^3
10^4
FL2-H
0.003ug/ml
0.03ug/ml
0.3ug/ml

FIG .1C

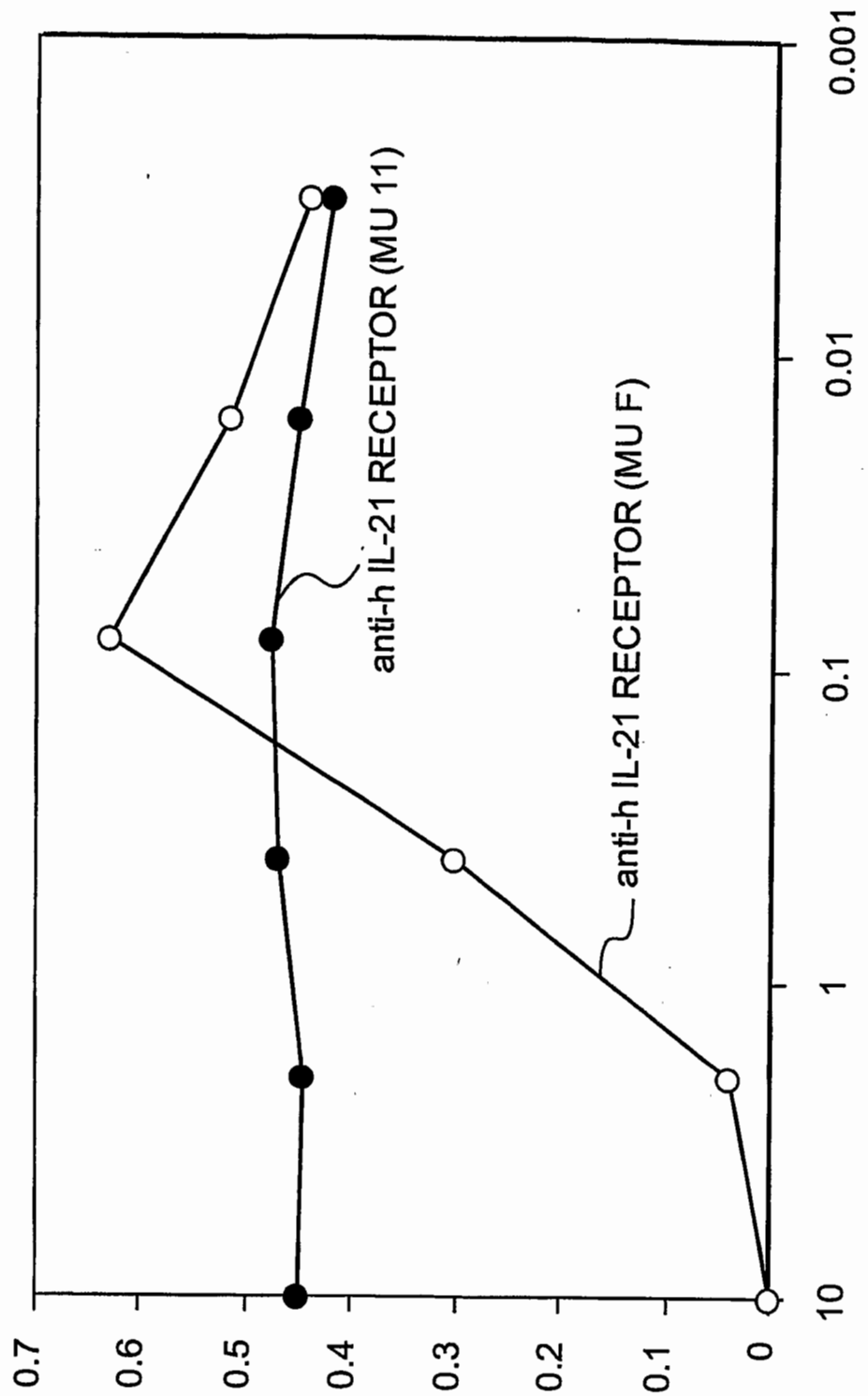

OD 450 nm
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
10
1
0.1
0.01
0.001
anti-hIL-21R Ab (ug/ml)
anti-h IL-21 RECEPTOR (MU 11)
anti-h IL-21 RECEPTOR (MU F)

FIG. 2

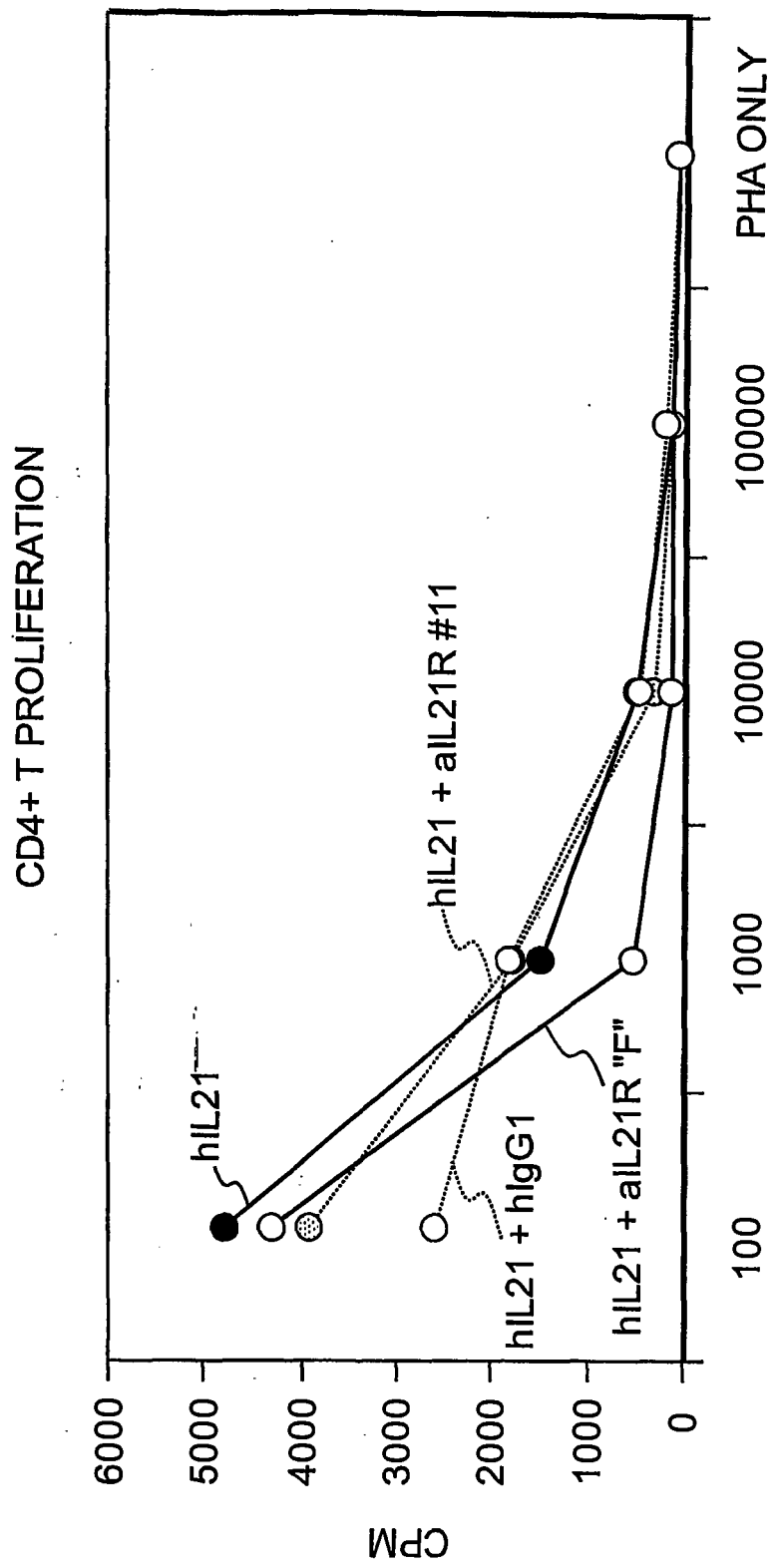

CD4+ T PROLIFERATION
CPM
6000
5000
4000
3000
2000
1000
0
100
1000
10000
100000
PHA ONLY
hIL21 DILUTION FACTOR (50X COS CM)
hIL21
hIL21 + aIL21R #11
hIL21 + hIgG1
hIL21 + aIL21R "F"

FIG. 3A

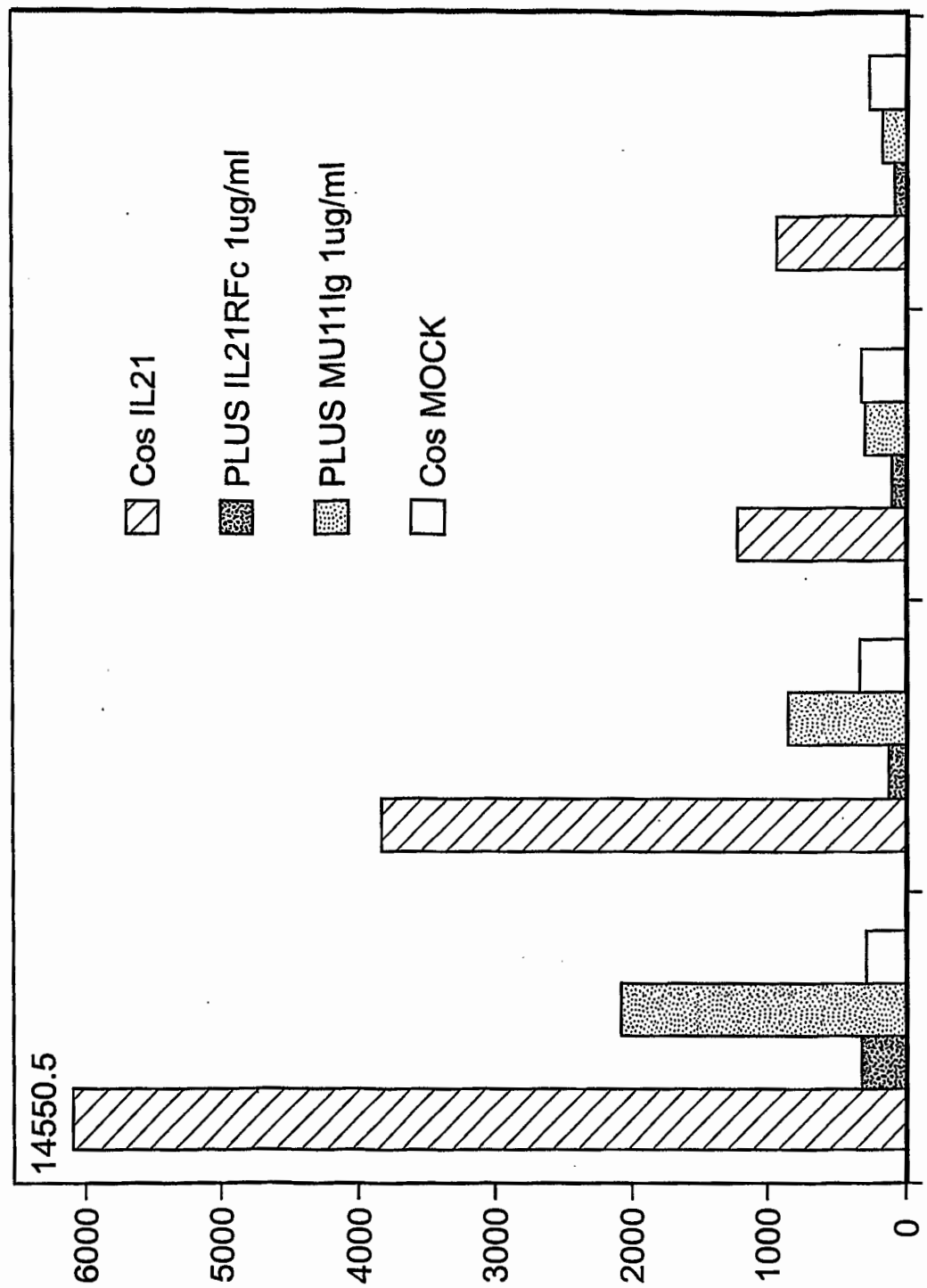

14550.5
6000
5000
4000
3000
2000
1000
0
Cos IL21
PLUS IL21RFc 1ug/ml
PLUS MU11lg 1ug/ml
Cos MOCK
1:4 DIL
1:8 DIL
1:16 DIL
1:32 DIL
DILUTION OF SAMPLE

FIG. 3B

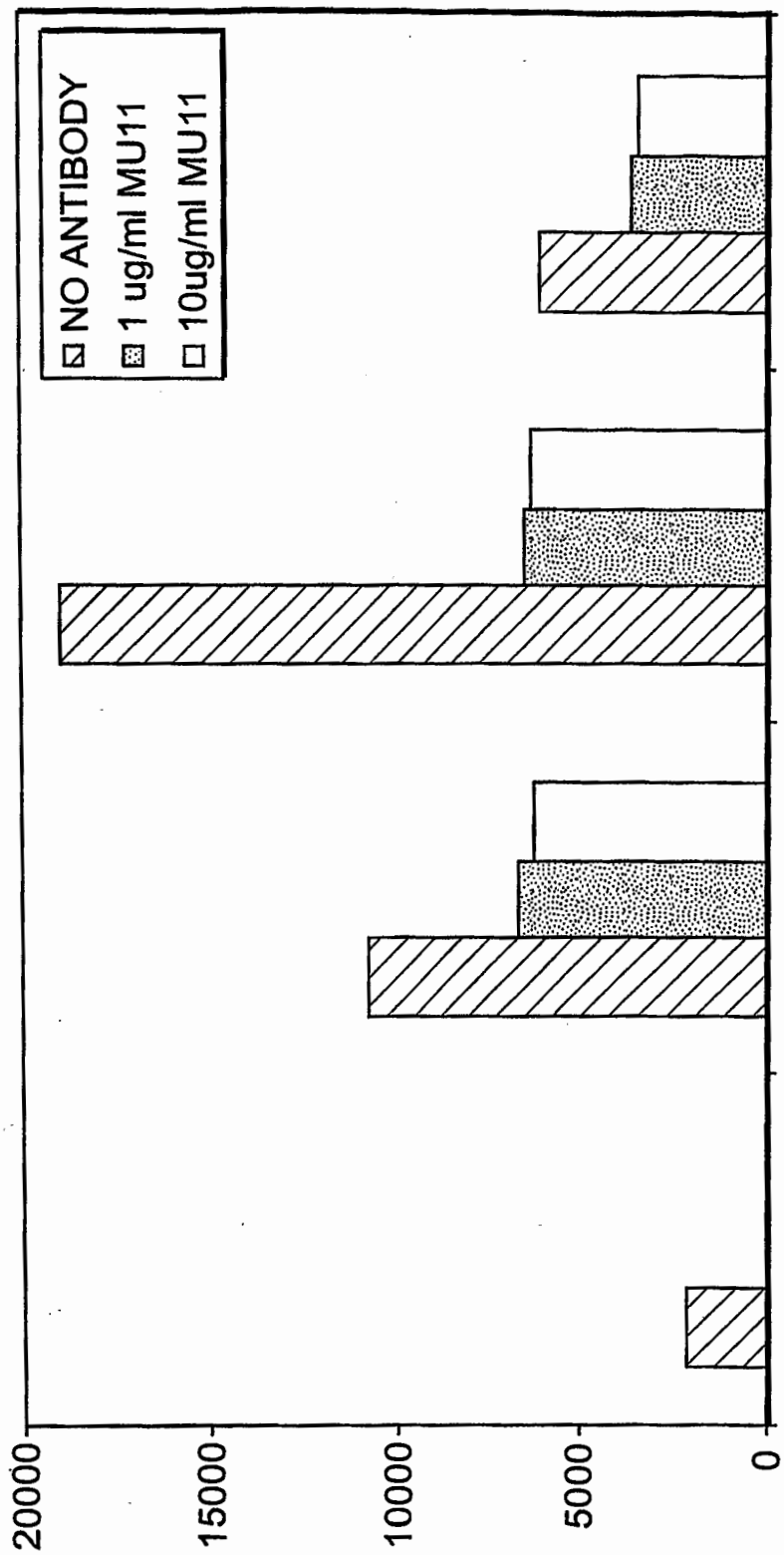

NO ANTIBODY
1 ug/ml MU11
10ug/ml MU11
20000
15000
10000
5000
0
NO IL-21
1:720
1:240
1:80
DILUTION OF 50X COS s/n

FIG. 3C

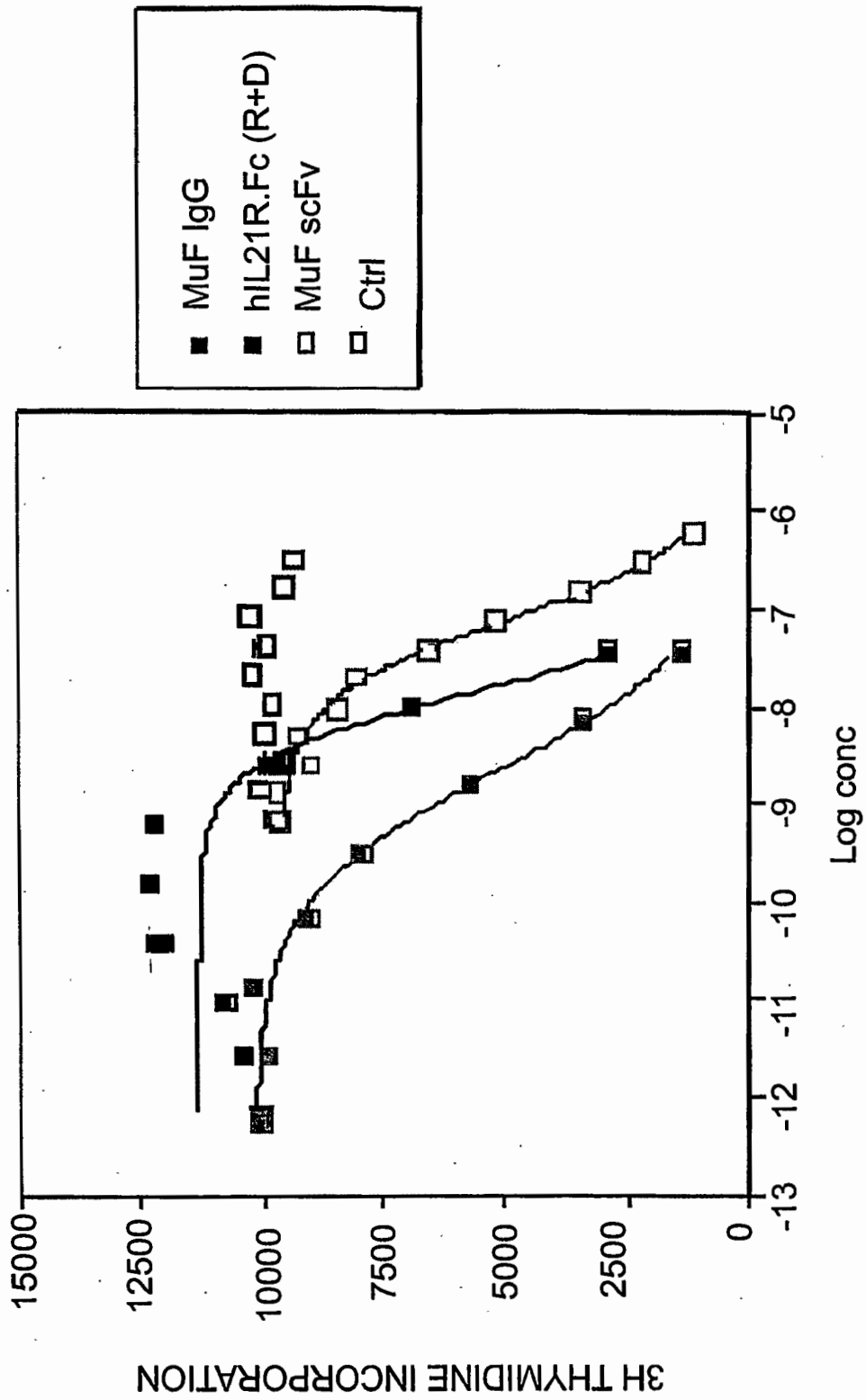

MuF IgG
hIL21R.Fc (R+D)
MuF scFv
Ctrl
3H THYMIDINE INCORPORATION
15000
12500
10000
7500
5000
2500
0
-5
-6
-7
-8
-9
-10
-11
-12
-13
Log conc

FIG .4

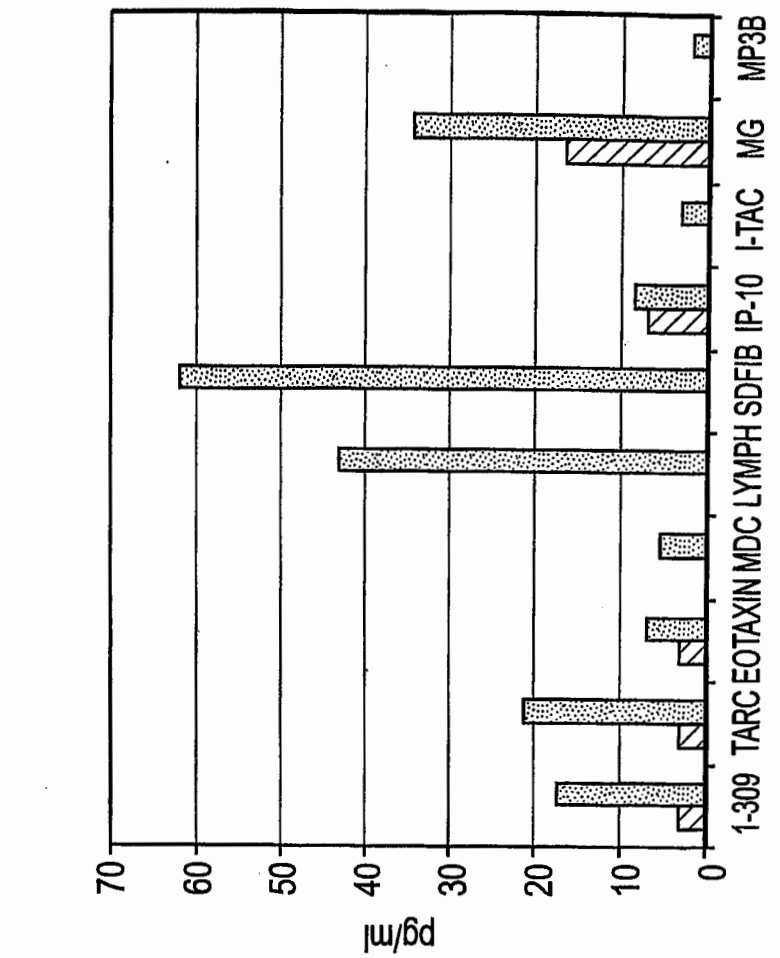

70
60
50
40
30
20
10
0
pg/ml
1-309
TARC
EOTAXIN
MDC
LYMPH
SDFIB
IP-10
I-TAC
MG
MP3B

FIG. 5B

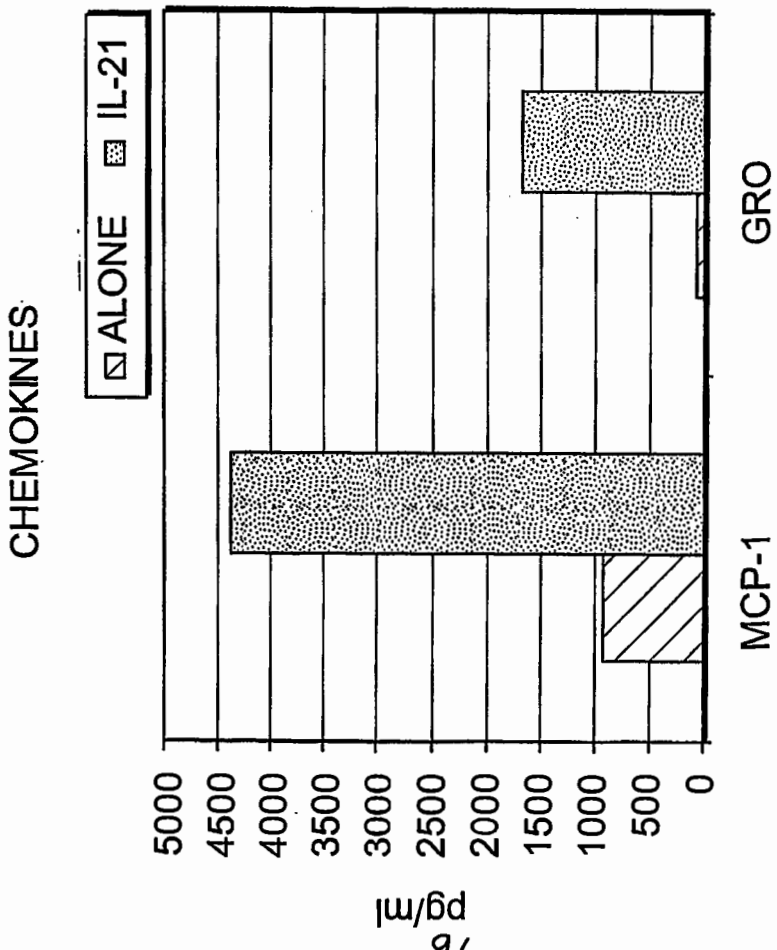

CHEMOKINES
ALONE
IL-21
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
pg/ml
MCP-1
GRO

FIG. 5A

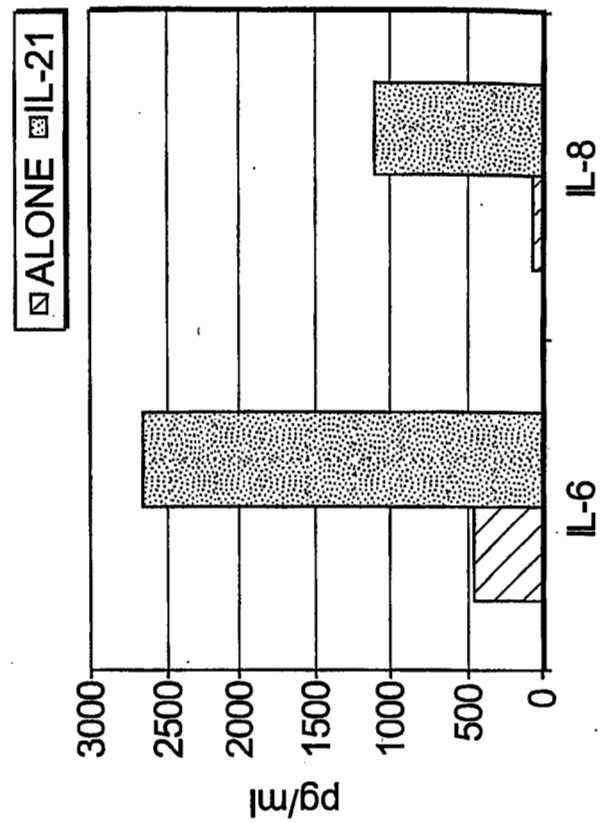


FIG. 5D

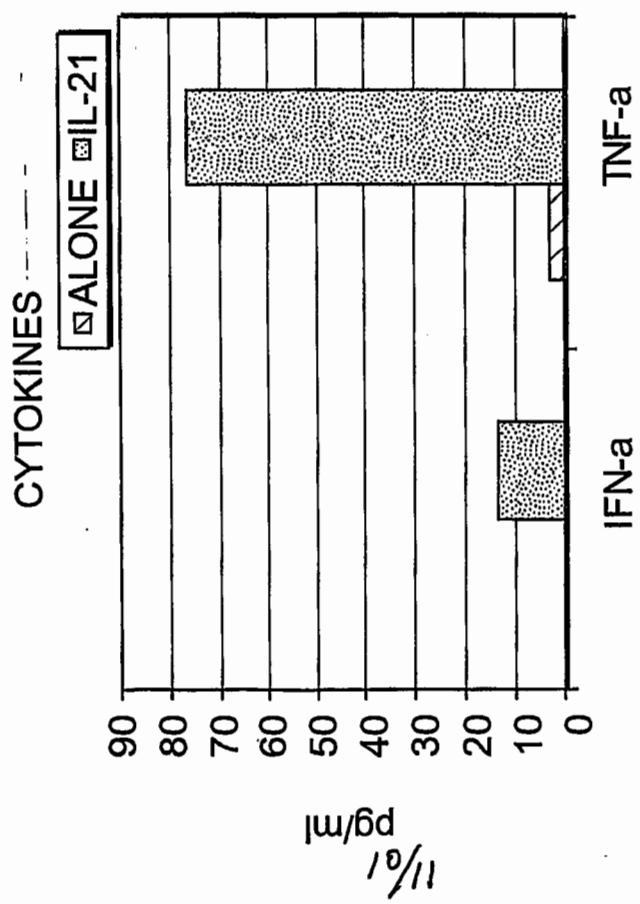


FIG. 5C

11/01

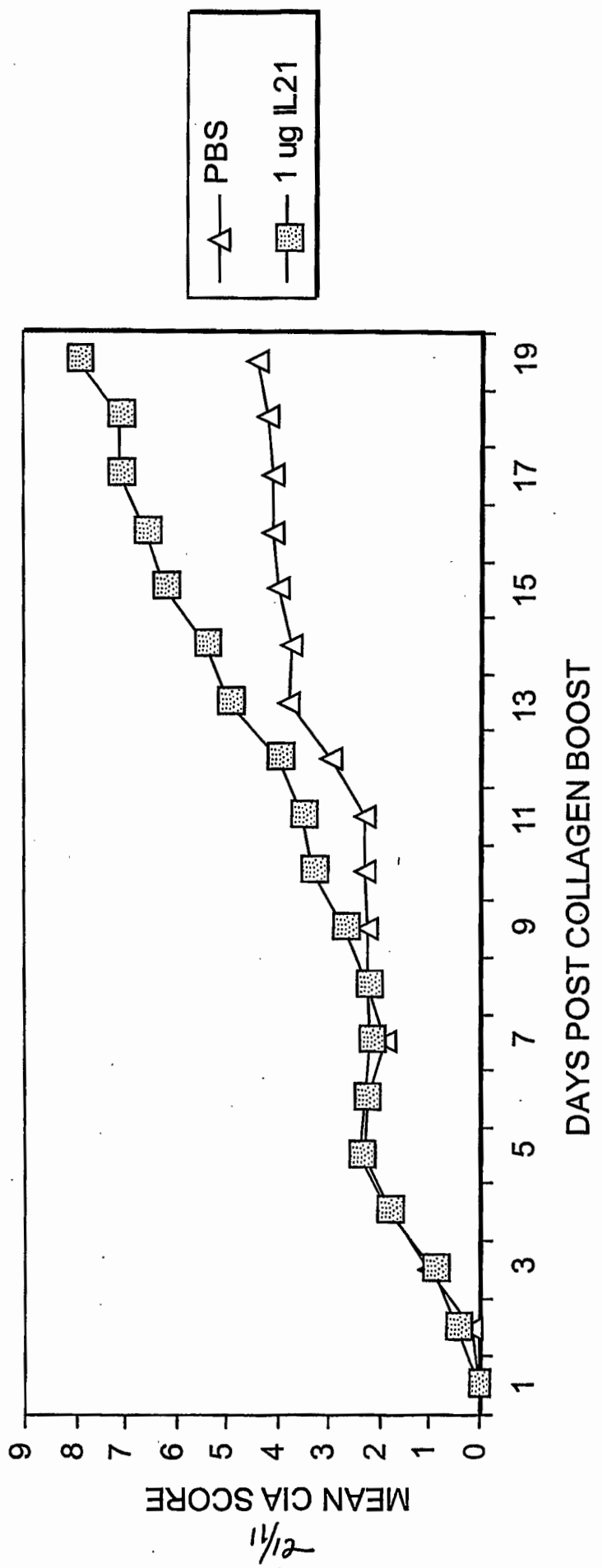

PBS
1 ug IL21
MEAN CIA SCORE
0
1
2
3
4
5
6
7
8
9
DAYS POST COLLAGEN BOOST
1
3
5
7
9
11
13
15
17
19

FIG. 5E

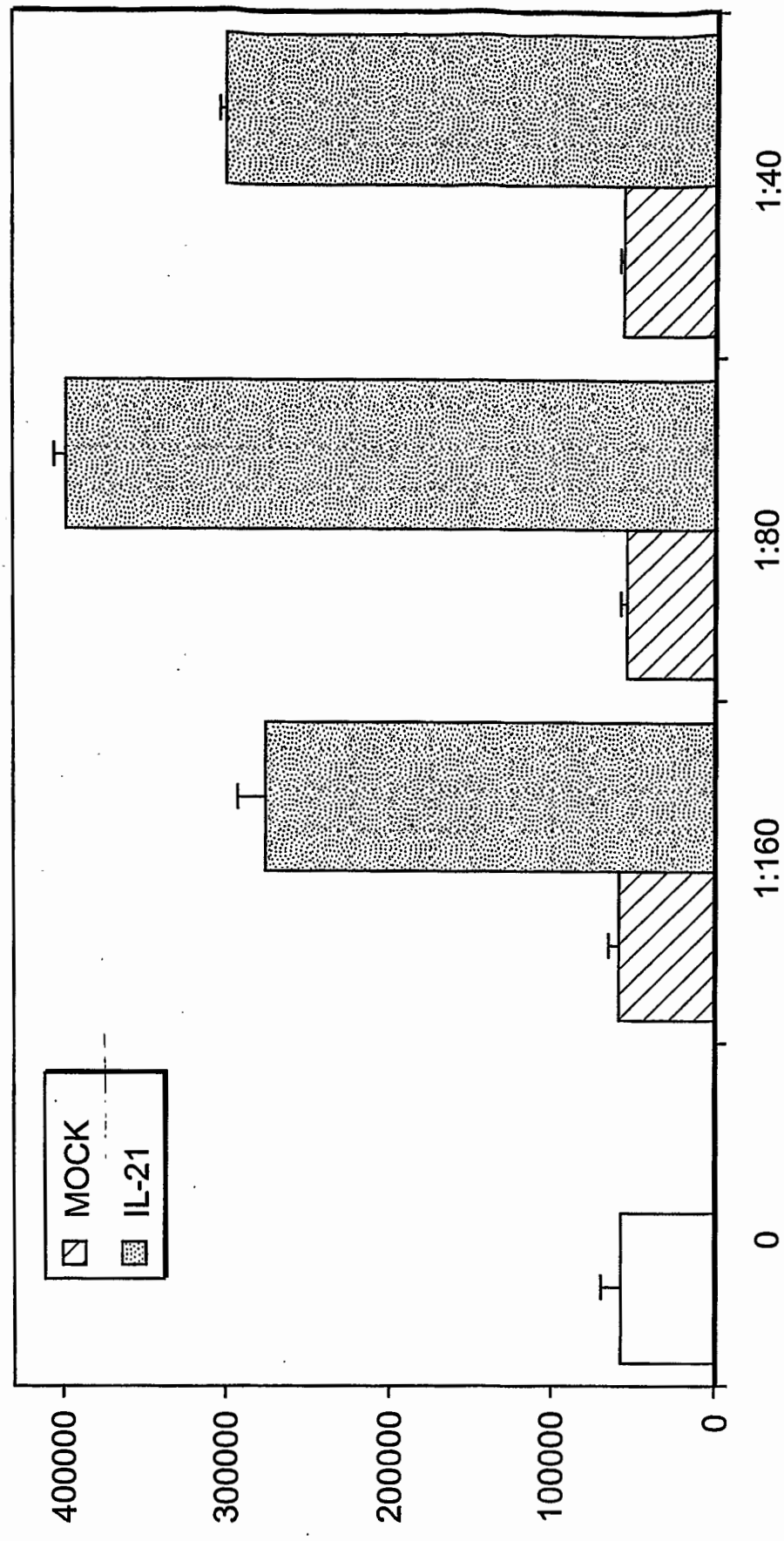


FIG. 6

SEQUENCE LISTING

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CAMBRIDGE ANTIBODY TECHNOLOGY

<120> ANTIBODIES AGAINST HUMAN IL-21 RECEPTOR AND USES THEREFOR

<130> 08702.0137-00304

<140>
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<150> 60/454,336
<151> 2003-03-14

<160> 154

<170> PatentIn Ver. 3.2

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<212> PRT
<213> Homo sapiens

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1 5 10 15

Ser Val Arg Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Asn Ile Tyr
20 25 30

Ser Val Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Arg Ile Ile Pro Met Arg Asp Ile Ala Asn Tyr Ala Gln Arg Phe
50 55 60

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

Met Glu Leu Arg Gly Leu Arg Ser Asp Asp Thr Ala Val Tyr Trp Cys
85 90 95

Ala Thr Leu Ala Gly Pro Leu Asp Ser Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr

<210> 2
<211> 113
<212> PRT
<213> Homo sapiens

<400> 2
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1 5 10 15

```
Thr Val Thr Ile Thr Cys Gln Gly Gly Ser Leu Arg Gln Tyr Tyr Ala
            20                  25                  30

Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Val Val Ile Tyr
        35                  40                  45

Gly Lys Asn Lys Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Thr
    50                  55                  60

Thr Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
65                  70                  75                  80

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

Pro Leu Tyr Val Phe Gly Ala Gly Thr Lys Leu Thr Val Leu Gly Glu
            100                 105                 110

Ser
```

<210> 3
<211> 253
<212> PRT
<213> Homo sapiens

<400> 3

```
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  1               5                  10                  15

Ser Val Arg Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Asn Ile Tyr
            20                  25                  30

Ser Val Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
        35                  40                  45

Gly Arg Ile Ile Pro Met Arg Asp Ile Ala Asn Tyr Ala Gln Arg Phe
    50                  55                  60

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

Met Glu Leu Arg Gly Leu Arg Ser Asp Asp Thr Ala Val Tyr Trp Cys
                85                  90                  95

Ala Thr Leu Ala Gly Pro Leu Asp Ser Trp Gly Gln Gly Thr Leu Val
            100                 105                 110

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
        115                 120                 125

Gly Gly Ser Ala Leu Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser
    130                 135                 140

Val Gly Leu Gly Gln Thr Val Thr Ile Thr Cys Gln Gly Gly Ser Leu
145                 150                 155                 160
```

```
Arg Gln Tyr Tyr Ala Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
                165                 170                 175

Val Val Val Ile Tyr Gly Lys Asn Lys Arg Pro Ser Gly Ile Pro Asp
            180                 185                 190

Arg Phe Ser Gly Thr Thr Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr
        195                 200                 205

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

Ser Ser Gly Asn His Pro Leu Tyr Val Phe Gly Ala Gly Thr Lys Leu
225                 230                 235                 240

Thr Val Leu Gly Ala Ala Ala His His His His His His
                245                 250
```

<210> 4
<211> 5
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<213> Homo sapiens

<400> 4
```
Ile Tyr Ser Val Ser
  1               5
```

<210> 5
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<213> Homo sapiens

<400> 5
```
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  1               5                  10                  15

Gly
```

<210> 6
<211> 7
<212> PRT
<213> Homo sapiens

<400> 6
```
Leu Ala Gly Pro Leu Asp Ser
  1               5
```

<210> 7
<211> 11
<212> PRT
<213> Homo sapiens

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Gln Gly Gly Ser Leu Arg Gln Tyr Tyr Ala Ser
1 5 10

<210> 8
<211> 7
<212> PRT
<213> Homo sapiens

<400> 8
Gly Lys Asn Lys Arg Pro Ser
1 5

<210> 9
<211> 13
<212> PRT
<213> Homo sapiens

<400> 9
Lys Ser Arg Asp Ser Ser Gly Asn His Pro Leu Tyr Val
1 5 10

<210> 10
<211> 339
<212> DNA
<213> Homo sapiens

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tcctgcaagg cttctggagg caccttcaac atctatagtg tcagctgggt gcgacaggcc 120
cctggacagg ggcttgagtg gatgggaagg atcatcccta tgcgtgatat tgcaaactac 180
gcgcagaggt tccagggcag ggtcacactt accgcggaca agtcctcggg gacagcctac 240
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ggcccccttgg actcctgggg ccagggcacc ctggtcacc 339

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<212> DNA
<213> Homo sapiens

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acatgtcaag gcggcagcct cagacaatat tatgcaagtt ggtaccaaca gaagccagga 120
caggcccctg tggttgtcat ctatggtaaa aataagcgac cctcagggat cccagaccga 180
ttctctggca ccacctcagg caacacagct tccttgacca tcactggggc tcaggcggaa 240
gatgaggctg actactattg taagtcccgg gacagcagtg gtaaccatcc cctttatgtc 300
ttcggagcag ggaccaagct gaccgtccta ggtgagtca 339

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<212> DNA
<213> Homo sapiens

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tcctgcaagg cttctggagg caccttcaac atctatagtg tcagctgggt gcgacaggcc 120
cctggacagg ggcttgagtg gatgggaagg atcatcccta tgcgtgatat tgcaaactac 180
gcgcagaggt tccagggcag ggtcacactt accgcggaca agtcctcggg gacagcctac 240
atggagttgc gcggcctgag atctgacgac acggccgtct attggtgtgc gacattggct 300
ggcccccttgg actcctgggg ccagggcacc ctggtcaccg tctcgagtgg aggcggcggt 360
tcaggcggag gtggctctgg cggtggcgga agtgcacttt cttctgagct gactcaggac 420
ccagctgtgt ctgtgggctt gggacagaca gtcacgatca catgtcaagg cggcagcctc 480
agacaatatt atgcaagttg gtaccaacag aagccaggac aggcccctgt ggttgtcatc 540
tatggtaaaa ataagcgacc ctcagggatc ccagaccgat tctctggcac cacctcaggc 600
aacacagctt ccttgaccat cactggggct caggcggaag atgaggctga ctactattgt 660
aagtcccggg acagcagtgg taaccatccc ctttatgtct tcggagctgg gaccaagctg 720
accgtcctag gtgcggccgc acatcatcat caccatcac 759

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<212> DNA
<213> Homo sapiens

<400> 13
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<211> 51
<212> DNA
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<400> 14
aggatcatcc ctatgcgtga tattgcaaac tacgcgcaga ggttccaggg c 51

<210> 15
<211> 21
<212> DNA
<213> Homo sapiens

<400> 15
ttggctggcc ccttggactc c 21

<210> 16
<211> 33
<212> DNA
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<400> 16
caaggcggca gcctcagaca atattatgca agt 33

<210> 17
<211> 21
<212> DNA
<213> Homo sapiens

<400> 17
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<210> 18
<211> 39
<212> DNA
<213> Homo sapiens

<400> 18
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<210> 19
<211> 118
<212> PRT
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Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Arg
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Arg His Gly Gln Tyr Ala Leu Asp Ile Trp Gly Gln Gly Thr Met
100 105 110

Val Thr Val Ser Ser Gly
115

<210> 20
<211> 108
<212> PRT
<213> Homo sapiens

<400> 20
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1 5 10 15

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Trp
20 25 30

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

```
Tyr Lys Ala Ser Thr Leu Glu Ser Gly Val pro Ser Arg Phe Ser Gly
     50                  55                  60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65                  70                  75                  80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Trp
                85                  90                  95

Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg
            100                 105
```

<210> 21
<211> 242
<212> PRT
<213> Homo sapiens

<400> 21

```
Glu Val Gln Leu Val Gln Ser Gly Gly Gly Val Val Gln Pro Gly Arg
  1               5                  10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
             20                  25                  30

Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
         35                  40                  45

Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val
     50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65                  70                  75                  80

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

Ala Arg His Gly Gln Tyr Ala Leu Asp Ile Trp Gly Gln Gly Thr Met
            100                 105                 110

Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
        115                 120                 125

Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser Pro Ser Thr Leu Ser
    130                 135                 140

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly
145                 150                 155                 160

Ile Ser Ser Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Arg Ala Pro
                165                 170                 175

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

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
        195                 200                 205
```

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr
210 215 220

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

Ala Ala

<210> 22
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Ser Tyr Gly Met His
1 5

<210> 23
<211> 17
<212> PRT
<213> Homo sapiens

<400> 23
Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 24
<211> 9
<212> PRT
<213> Homo sapiens

<400> 24
His Gly Gln Tyr Ala Leu Asp Ile Trp
1 5

<210> 25
<211> 11
<212> PRT
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<400> 25
Arg Ala Ser Gln Gly Ile Ser Ser Trp Leu Ala
1 5 10

<210> 26
<211> 7
<212> PRT
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<400> 26
Lys Ala Ser Thr Leu Glu Ser
1 5

<210> 27
<211> 9
<212> PRT
<213> Homo sapiens

<400> 27
Gln Gln Ser Tyr Ser Thr Pro Trp Thr
1 5

<210> 28
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<212> DNA
<213> Homo sapiens

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gcccaggtgc agctggtgga gtctgggga ggcgtggtcc agcctgggag gtccctgaga 120
ctctcctgtg cagcctctgg attcaccttc agtagctatg gcatgcactg ggtccgccag 180
gctccaggca aggggctgga gtgggtggca gttatatcat atgatggaag taataaatac 240
tatgcagact ccgtgaaggg ccgattcacc atctccagag acaattccaa gaacacgctg 300
tatctgcaaa tgaacagcct gagagacgag gacacggctg tgtattactg tgcgaggcat 360
ggtcagtacg ctcttgatat ctgggggcaa gggacaatgg tcaccgtctc ctcaggt 417

<210> 29
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<213> Homo sapiens

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atccagatga cccagtctcc ttccaccctg tctgcatctg taggagacag agtcaccatc 120
acttgccggg ccagtcaggg tattagtagc tggttggcct ggtatcagca gaaaccaggg 180
agagccccta aggtcttgat ctataaggca tctactttag aaagtggggt cccatcaagg 240
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gcagactccg tgaagggccg attcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agacgaggac acggctgtgt attactgtgc gaggcatggt 300
cagtacgctc ttgatatctg ggggcaaggg acaatggtca ccgtctcttc aggtggaggc 360
ggttcaggcg gaggtggcag cggcggtggc ggatcggaca tcgtgatgac ccagtctcct 420

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attagtagct ggttggcctg gtatcagcag aaaccaggga gagcccctaa ggtcttgatc 540
tataaggcat ctactttaga aagtggggtc ccatcaaggt tcagcggcag tggatctggg 600
acagatttca ctctcaccat cagcagtctg caacctgaag attttgcaac ttactactgt 660
caacagagtt acagtacccc gtggacgttc ggccaaggga ccaagctgga gatcaaacgt 720
gcggccgc 728

<210> 31
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<213> Homo sapiens

<400> 31
agtagctatg gcatgcac 18

<210> 32
<211> 51
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<400> 32
gttatatcat atgatggaag taataaatac tatgcagact ccgtgaaggg c 51

<210> 33
<211> 30
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<213> Homo sapiens

<400> 33
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<400> 34
cgggccagtc agggtattag tagctggttg gcc 33

<210> 35
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<400> 35
aaggcatcta ctttagaaag t 21

<210> 36
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<212> DNA
<213> Homo sapiens

<400> 36
caacagagtt acagtacccc gtggacg 27

<210> 37
<211> 329
<212> PRT
<213> Homo sapiens

<400> 37

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

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe
             20                  25                  30

Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly
         35                  40                  45

Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu
     50                  55                  60

Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr
 65                  70                  75                  80

Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys
                 85                  90                  95

Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro
            100                 105                 110

Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys
        115                 120                 125

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val
    130                 135                 140

Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr
145                 150                 155                 160

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu
                165                 170                 175

Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His
            180                 185                 190

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

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

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu
225                 230                 235                 240

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro
                245                 250                 255
```

```
Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn
            260                 265                 270

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu
        275                 280                 285

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

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln
305                 310                 315                 320

Lys Ser Leu Ser Leu Ser Pro Gly Lys
                325
```

<210> 38
<211> 1599
<212> DNA
<213> Homo sapiens

<400> 38

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tggaactcag gcgccctgac cagcggcgtc cacaccttcc cggctgtcct acagtcctca 180
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tacatctgca acgtgaatca caagcccagc aacaccaagg tggacaagaa agttggtgag 300
aggccagcac agggagggag ggtgtctgct ggaagccagg ctcagcgctc ctgcctggac 360
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ccggaggcct ctgcccgccc cactcatgct cagggagagg gtcttctggc tttttcccca 480
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tgctgggctc agacctgcca agagccatat ccgggaggac cctgcccctg acctaagccc 600
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<210> 39
<211> 106
<212> PRT
<213> Homo sapiens

<400> 39
Gly Gln Pro Lys Ala Ala Pro Ser Val Thr Leu Phe Pro Pro Ser Ser
1 5 10 15

Glu Glu Leu Gln Ala Asn Lys Ala Thr Leu Val Cys Leu Ile Ser Asp
20 25 30

Phe Tyr Pro Gly Ala Val Thr Val Ala Trp Lys Ala Asp Ser Ser Pro
35 40 45

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

Lys Tyr Ala Ala Ser Ser Tyr Leu Ser Leu Thr Pro Glu Gln Trp Lys
65 70 75 80

Ser His Arg Ser Tyr Ser Cys Gln Val Thr His Glu Gly Ser Thr Val
85 90 95

Glu Lys Thr Val Ala Pro Thr Glu Cys Ser
100 105

<210> 40
<211> 321
<212> DNA
<213> Homo sapiens

<400> 40
ggtcagccca aggctgcccc ctcggtcact ctgttcccgc cctcctctga ggagcttcaa 60
gccaacaagg ccacactggt gtgtctcata agtgacttct acccgggagc cgtgacagtg 120
gcctggaagg cagatagcag ccccgtcaag gcgggagtgg agaccaccac accctccaaa 180
caaagcaaca acaagtacgc ggccagcagc tacctgagcc tgacgcctga gcagtggaag 240
tcccacagaa gctacagctg ccaggtcacg catgaaggga gcaccgtgga gaagacagtg 300
gcccctacag aatgttcata g 321

<210> 41
<211> 105
<212> PRT
<213> Homo sapiens

<400> 41
Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu
1 5 10 15

Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro
20 25 30

Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly
35 40 45

Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr
50 55 60

Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His
65 70 75 80

```
Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val
                 85                  90                  95

Thr Lys Ser Phe Asn Arg Gly Glu Cys
            100                 105
```

<210> 42
<211> 324
<212> DNA
<213> Homo sapiens

<400> 42
ggaactgtgg ctgcaccatc tgtcttcatc ttcccgccat ctgatgagca gttgaaatct 60
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tggaaggtgg ataacgccct ccaatcgggt aactcccagg agagtgtcac agagcaggac 180
agcaaggaca gcacctacag cctcagcagc accctgacgc tgagcaaagc agactacgag 240
aaacacaaag tctacgcctg cgaagtcacc catcagggcc tgagttcacc ggtgacaaag 300
agcttcaaca ggggagagtg ttag 324

<210> 43
<211> 538
<212> PRT
<213> Homo sapiens

<400> 43

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Met Pro Arg Gly Trp Ala Ala Pro Leu Leu Leu Leu Leu Leu Gln Gly
  1               5                  10                  15

Gly Trp Gly Cys Pro Asp Leu Val Cys Tyr Thr Asp Tyr Leu Gln Thr
             20                  25                  30

Val Ile Cys Ile Leu Glu Met Trp Asn Leu His Pro Ser Thr Leu Thr
         35                  40                  45

Leu Thr Trp Gln Asp Gln Tyr Glu Glu Leu Lys Asp Glu Ala Thr Ser
     50                  55                  60

Cys Ser Leu His Arg Ser Ala His Asn Ala Thr His Ala Thr Tyr Thr
 65                  70                  75                  80

Cys His Met Asp Val Phe His Phe Met Ala Asp Asp Ile Phe Ser Val
                 85                  90                  95

Asn Ile Thr Asp Gln Ser Gly Asn Tyr Ser Gln Glu Cys Gly Ser Phe
            100                 105                 110

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

Thr Phe Ser Gly Gln Tyr Asn Ile Ser Trp Arg Ser Asp Tyr Glu Asp
    130                 135                 140

Pro Ala Phe Tyr Met Leu Lys Gly Lys Leu Gln Tyr Glu Leu Gln Tyr
145                 150                 155                 160
```

```
Arg Asn Arg Gly Asp Pro Trp Ala Val Ser Pro Arg Arg Lys Leu Ile
                165                 170                 175

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

Asp Ser Ser Tyr Glu Leu Gln Val Arg Ala Gly Pro Met Pro Gly Ser
        195                 200                 205

Ser Tyr Gln Gly Thr Trp Ser Glu Trp Ser Asp Pro Val Ile Phe Gln
    210                 215                 220

Thr Gln Ser Glu Glu Leu Lys Glu Gly Trp Asn Pro His Leu Leu Leu
225                 230                 235                 240

Leu Leu Leu Leu Val Ile Val Phe Ile Pro Ala Phe Trp Ser Leu Lys
                245                 250                 255

Thr His Pro Leu Trp Arg Leu Trp Lys Lys Ile Trp Ala Val Pro Ser
            260                 265                 270

Pro Glu Arg Phe Phe Met Pro Leu Tyr Lys Gly Cys Ser Gly Asp Phe
        275                 280                 285

Lys Lys Trp Val Gly Ala Pro Phe Thr Gly Ser Ser Leu Glu Leu Gly
    290                 295                 300

Pro Trp Ser Pro Glu Val Pro Ser Thr Leu Glu Val Tyr Ser Cys His
305                 310                 315                 320

Pro Pro Arg Ser Pro Ala Lys Arg Leu Gln Leu Thr Glu Leu Gln Glu
                325                 330                 335

Pro Ala Glu Leu Val Glu Ser Asp Gly Val Pro Lys Pro Ser Phe Trp
            340                 345                 350

Pro Thr Ala Gln Asn Ser Gly Gly Ser Ala Tyr Ser Glu Glu Arg Asp
        355                 360                 365

Arg Pro Tyr Gly Leu Val Ser Ile Asp Thr Val Thr Val Leu Asp Ala
    370                 375                 380

Glu Gly Pro Cys Thr Trp Pro Cys Ser Cys Glu Asp Asp Gly Tyr Pro
385                 390                 395                 400

Ala Leu Asp Leu Asp Ala Gly Leu Glu Pro Ser Pro Gly Leu Glu Asp
                405                 410                 415

Pro Leu Leu Asp Ala Gly Thr Thr Val Leu Ser Cys Gly Cys Val Ser
            420                 425                 430

Ala Gly Ser Pro Gly Leu Gly Gly Pro Leu Gly Ser Leu Leu Asp Arg
        435                 440                 445

Leu Lys Pro Pro Leu Ala Asp Gly Glu Asp Trp Ala Gly Gly Leu Pro
    450                 455                 460
```

```
Trp Gly Gly Arg Ser Pro Gly Gly Val Ser Glu Ser Glu Ala Gly Ser
465                 470                 475                 480

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

Ser Asp Cys Ser Ser Pro Val Glu Cys Asp Phe Thr Ser Pro Gly Asp
            500                 505                 510

Glu Gly Pro Pro Arg Ser Tyr Leu Arg Gln Trp Val Val Ile Pro Pro
        515                 520                 525

Pro Leu Ser Ser Pro Gly Pro Gln Ala Ser
    530                 535
```

<210> 44
<211> 2665
<212> DNA
<213> Homo sapiens

<400> 44

```
gtcgactgga ggcccagctg cccgtcatca gagtgacagg tcttatgaca gcctgattgg 60
tgactcgggc tgggtgtgga ttctcacccc aggcctctgc ctgctttctc agaccctcat 120
ctgtcacccc cacgctgaac ccagctgcca cccccagaag cccatcagac tgcccccagc 180
acacggaatg gatttctgag aaagaagccg aaacagaagg cccgtgggag tcagcatgcc 240
gcgtggctgg gccgcccccc tgctcctgct gctgctccag ggaggctggg gctgccccga 300
cctcgtctgc tacaccgatt acctccagac ggtcatctgc atcctggaaa tgtggaacct 360
ccaccccagc acgctcaccc ttacctggca agaccagtat gaagagctga aggacgaggc 420
cacctcctgc agcctccaca ggtcggccca caatgccacg catgccacct acacctgcca 480
catggatgta ttccacttca tggccgacga cattttcagt gtcaacatca cagaccagtc 540
tggcaactac tcccaggagt gtggcagctt tctcctggct gagagcatca agccggctcc 600
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tacagtgtct gtgtgtgtgt gtgcatatgt gtgtgtgtgc atatgcatgt gtgtgtgtgt 2040
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cgatgtcacc cgtgtacggt acgcagccca gagcagaccc tcaataaacg tcagcttcct 2640
tcaaaaaaaa aaaaaaaaat ctaga 2665

<210> 45
<211> 529
<212> PRT
<213> Mus musculus

<400> 45
Met Pro Arg Gly Pro Val Ala Ala Leu Leu Leu Leu Ile Leu His Gly
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Ala Trp Ser Cys Leu Asp Leu Thr Cys Tyr Thr Asp Tyr Leu Trp Thr
20 25 30

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

Leu Thr Trp Gln Asp Glu Tyr Glu Glu Leu Gln Asp Gln Glu Thr Phe
50 55 60

Cys Ser Leu His Arg Ser Gly His Asn Thr Thr His Ile Trp Tyr Thr
65 70 75 80

Cys His Met Arg Leu Ser Gln Phe Leu Ser Asp Glu Val Phe Ile Val
85 90 95

Asn Val Thr Asp Gln Ser Gly Asn Asn Ser Gln Glu Cys Gly Ser Phe
100 105 110

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

Ala Phe Ser Gly Arg Tyr Asp Ile Ser Trp Asp Ser Ala Tyr Asp Glu
130 135 140

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

Arg Asn Leu Arg Asp Pro Tyr Ala Val Arg Pro Val Thr Lys Leu Ile
165 170 175

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

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

Ser Phe Arg Gly Thr Trp Ser Glu Trp Ser Asp Pro Val Ile Phe Gln
210 215 220

```
Thr Gln Ala Gly Glu Pro Glu Ala Gly Trp Asp Pro His Met Leu Leu
225                 230                 235                 240

Leu Leu Ala Val Leu Ile Ile Val Leu Val Phe Met Gly Leu Lys Ile
                245                 250                 255

His Leu Pro Trp Arg Leu Trp Lys Lys Ile Trp Ala Pro Val Pro Thr
            260                 265                 270

Pro Glu Ser Phe Phe Gln Pro Leu Tyr Arg Glu His Ser Gly Asn Phe
        275                 280                 285

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

Pro Gln Ser Ser Thr Thr Thr Ser Ala Leu His Leu Ser Leu Tyr Pro
305                 310                 315                 320

Ala Lys Glu Lys Lys Phe Pro Gly Leu Pro Gly Leu Glu Glu Gln Leu
                325                 330                 335

Glu Cys Asp Gly Met Ser Glu Pro Gly His Trp Cys Ile Ile Pro Leu
            340                 345                 350

Ala Ala Gly Gln Ala Val Ser Ala Tyr Ser Glu Glu Arg Asp Arg Pro
        355                 360                 365

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

Leu Cys Val Trp Pro Cys Ser Cys Glu Asp Asp Gly Tyr Pro Ala Met
385                 390                 395                 400

Asn Leu Asp Ala Gly Arg Glu Ser Gly Pro Asn Ser Glu Asp Leu Leu
                405                 410                 415

Leu Val Thr Asp Pro Ala Phe Leu Ser Cys Gly Cys Val Ser Gly Ser
            420                 425                 430

Gly Leu Arg Leu Gly Gly Ser Pro Gly Ser Leu Leu Asp Arg Leu Arg
        435                 440                 445

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

Thr Gly Ser Pro Gly Gly Gly Ser Glu Ser Glu Ala Gly Ser Pro Pro
465                 470                 475                 480

Gly Leu Asp Met Asp Thr Phe Asp Ser Gly Phe Ala Gly Ser Asp Cys
                485                 490                 495

Gly Ser Pro Val Glu Thr Asp Glu Gly Pro Pro Arg Ser Tyr Leu Arg
            500                 505                 510
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Gln Trp Val Val Arg Thr Pro Pro Pro Val Asp Ser Gly Ala Gln Ser
515 520 525

Ser

<210> 46
<211> 2628
<212> DNA
<213> Homo sapiens

<400> 46
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caggcgtgcc ctgtctctgt ctggctgccc cagccctact gtcttcctct gtgtaggctc 180
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tgaggaggtg gccaggccag cagttagaag agtagattag gggtgacctc cagtatttgt 2580
caaagccaat taaaataaca aaaaaaaaaa aaaagcggcc gctctaga 2628

<210> 47
<211> 116
<212> PRT
<213> Homo sapiens

<400> 47
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Asn Ile Tyr
20 25 30

Ser Val Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Arg Ile Ile Pro Met Arg Asp Ile Ala Asn Tyr Ala Gln Arg Phe
50 55 60

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

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Trp Cys
85 90 95

Ala Thr Leu Ala Gly Pro Leu Asp Ser Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 48
<211> 109
<212> PRT
<213> Homo sapiens

<400> 48
Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
1 5 10 15

Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Thr Tyr Tyr Ala
20 25 30

Ser Trp Tyr Gln Lys Arg Pro Gly Gln Ala Pro Ile Leu Val Met Tyr
35 40 45

Gly Arg Asn Lys Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
50 55 60

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

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

Val Glu Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 49
<211> 242
<212> PRT
<213> Homo sapiens

<400> 49
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Asn Ile Tyr
20 25 30

Ser Val Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Arg Ile Ile Pro Met Arg Asp Ile Ala Asn Tyr Ala Gln Arg Phe
50 55 60

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

Met Glu Leu Arg Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Trp Cys
85 90 95

Ala Thr Leu Ala Gly Pro Leu Asp Ser Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
115 120 125

Gly Gly Ser Ala Leu Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser
130 135 140

Val Ala Leu Gly Gln Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu
145 150 155 160

Arg Thr Tyr Tyr Ala Ser Trp Tyr Gln Lys Arg Pro Gly Gln Ala Pro
165 170 175

Ile Leu Val Met Tyr Gly Arg Asn Lys Arg Pro Ser Gly Ile Pro Asp
180 185 190

Arg Phe Ser Gly Ser Phe Ser Gly Asn Arg Ala Ser Leu Thr Ile Thr
195 200 205

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

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

Leu Gly

<210> 50
<211> 5
<212> PRT

<213> Homo sapiens

<400> 50
Ile Tyr Ser Val Ser
1 5

<210> 51
<211> 17
<212> PRT
<213> Homo sapiens

<400> 51
Arg Ile Ile Pro Met Arg Asp Ile Ala Asn Tyr Ala Gln Arg Phe Gln
1 5 10 15

Gly

<210> 52
<211> 7
<212> PRT
<213> Homo sapiens

<400> 52
Leu Ala Gly Pro Leu Asp Ser
1 5

<210> 53
<211> 11
<212> PRT
<213> Homo sapiens

<400> 53
Gln Gly Asp Ser Leu Arg Thr Tyr Tyr Ala Ser
1 5 10

<210> 54
<211> 7
<212> PRT
<213> Homo sapiens

<400> 54
Gly Arg Asn Lys Arg Pro Ser
1 5

<210> 55
<211> 11
<212> PRT
<213> Homo sapiens

<400> 55
Lys Ser Arg Ala Tyr Ser Gly Asn Leu Val Glu
1 5 10

<210> 56
<211> 348
<212> DNA
<213> Homo sapiens

<400> 56
gaggtgcagc tggtgcagtc tggggctgag gtgaagaagc ctgggtcctc ggtgaaggtc 60
tcctgcaagg cttctggagg caccttcaac atctatagtg tcagctgggt gcgacaggcc 120
cctggacagg ggcttgagtg gatgggaagg atcatcccta tgcgtgatat tgcaaactac 180
gcgcagaggt tccagggcag ggtcacactt accgcggaca agtcctcggg gacagcctac 240
atggagttgc gcagcctgag atctgacgac acggccgtct attggtgtgc gacattggct 300
ggccccttgg actcctgggg cagaggaacc ctggtcaccg tctcgagt 348

<210> 57
<211> 327
<212> DNA
<213> Homo sapiens

<400> 57
tcttctgagc tgactcagga ccctgctgtg tctgtggcct tgggacagac agtcaggatc 60
acatgccagg gagacagcct cagaacttat tatgcgagct ggtaccagaa gaggccagga 120
caggccccta tacttgtcat gtatggtaga aataagaggc cctcagggat cccagaccga 180
ttctctggct ccttctcagg gaacagagct tccttgacca tcactggggc tcaggcggaa 240
gatgaggctg actattactg taaatcccgg gcctacagtg gtaacctcgt agaattcggc 300
ggagggacca agctgaccgt cctaggt 327

<210> 58
<211> 726
<212> DNA
<213> Homo sapiens

<400> 58
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tcctgcaagg cttctggagg caccttcaac atctatagtg tcagctgggt gcgacaggcc 120
cctggacagg ggcttgagtg gatgggaagg atcatcccta tgcgtgatat tgcaaactac 180
gcgcagaggt tccagggcag ggtcacactt accgcggaca agtcctcggg gacagcctac 240
atggagttgc gcagcctgag atctgacgac acggccgtct attggtgtgc gacattggct 300
ggcccttgg actcctgggg cagaggaacc ctggtcaccg tctcgagtgg aggcggcggt 360
tcaggcggag gtggctctgg cggtggcgga agtgcacttt cttctgagct gactcaggac 420
cctgctgtgt ctgtggcctt gggacagaca gtcaggatca catgccaggg agacagcctc 480
agaacttatt atgcgagctg gtaccagaag aggccaggac aggcccctat acttgtcatg 540
tatggtagaa ataagaggcc ctcagggatc ccagaccgat tctctggctc cttctcaggg 600
aacagagctt ccttgaccat cactggggct caggcggaag atgaggctga ctattactgt 660
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ctaggt 726

<210> 59
<211> 15
<212> DNA
<213> Homo sapiens

<400> 59
atctatagtg tcagc 15

<210> 60
<211> 51
<212> DNA
<213> Homo sapiens

<400> 60
aggatcatcc ctatgcgtga tattgcaaac tacgcgcaga ggttccaggg c 51

<210> 61
<211> 21
<212> DNA
<213> Homo sapiens

<400> 61
ttggctggcc ccttggactc c 21

<210> 62
<211> 33
<212> DNA
<213> Homo sapiens

<400> 62
cagggagaca gcctcagaac ttattatgcg agc 33

<210> 63
<211> 21
<212> DNA
<213> Homo sapiens

<400> 63
ggtagaaata agaggccctc a 21

<210> 64
<211> 33
<212> DNA
<213> Homo sapiens

<400> 64
aaatcccggg cctacagtgg taacctcgta gaa 33

<210> 65
<211> 118
<212> PRT
<213> Homo sapiens

<400> 65
Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Thr Ser Glu
1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Ser Gly Tyr Ser Ile Ser Ser Gly
20 25 30

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Tyr Tyr Trp Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
         35                  40                  45

Ile Gly Ser Ile Ser His Thr Gly Asn Thr Tyr Tyr Asn Pro Pro Leu
     50                  55                  60

Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
 65                  70                  75                  80

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
                85                  90                  95

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

Leu Val Thr Val Ser Ser
        115
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<210> 66
<211> 110
<212> PRT
<213> Homo sapiens

<400> 66

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

Thr Val Thr Leu Thr Cys Gln Gly Asp Ser Leu Arg Thr Tyr Tyr Ala
             20                  25                  30

Ser Trp Tyr Gln Gln Lys Ser Gly Gln Ala Pro Ile Leu Leu Leu Tyr
         35                  40                  45

Gly Lys His Lys Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
     50                  55                  60

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

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

His Val Leu Phe Gly Gly Gly Thr Gln Leu Thr Val Leu Ser
            100                 105                 110
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<210> 67
<211> 245
<212> PRT
<213> Homo sapiens

<400> 67

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Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Thr Ser Glu
  1               5                  10                  15

Thr Leu Ser Leu Thr Cys Ala Val Ser Gly Tyr Ser Ile Ser Ser Gly
             20                  25                  30
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```
Tyr Tyr Trp Gly Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp
          35                  40                  45

Ile Gly Ser Ile Ser His Thr Gly Asn Thr Tyr Tyr Asn Pro Pro Leu
      50                  55                  60

Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser
 65                  70                  75                  80

Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys
                 85                  90                  95

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

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        115                 120                 125

Gly Gly Gly Gly Ser Ala Leu Ser Ser Glu Leu Thr Gln Asp Pro Pro
    130                 135                 140

Val Ser Val Ala Leu Gly Gln Thr Val Thr Leu Thr Cys Gln Gly Asp
145                 150                 155                 160

Ser Leu Arg Thr Tyr Tyr Ala Ser Trp Tyr Gln Gln Lys Ser Gly Gln
                165                 170                 175

Ala Pro Ile Leu Leu Leu Tyr Gly Lys His Lys Arg Pro Ser Gly Ile
            180                 185                 190

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

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

Arg Asp Ser Ser Gly Asn Pro His Val Leu Phe Gly Gly Gly Thr Gln
225                 230                 235                 240

Leu Thr Val Leu Ser
                245
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<210> 68
<211> 6
<212> PRT
<213> Homo sapiens

<400> 68
Ser Gly Tyr Tyr Trp Gly
1 5

<210> 69
<211> 16
<212> PRT
<213> Homo sapiens

<400> 69
Ser Ile Ser His Thr Gly Asn Thr Tyr Tyr Asn Pro Pro Leu Lys Ser
1 5 10 15

<210> 70
<211> 9
<212> PRT
<213> Homo sapiens

<400> 70
Gly Gly Gly Ile Ser Arg Pro Glu Tyr
1 5

<210> 71
<211> 11
<212> PRT
<213> Homo sapiens

<400> 71
Gln Gly Asp Ser Leu Arg Thr Tyr Tyr Ala Ser
1 5 10

<210> 72
<211> 7
<212> PRT
<213> Homo sapiens

<400> 72
Gly Lys His Lys Arg Pro Ser
1 5

<210> 73
<211> 12
<212> PRT
<213> Homo sapiens

<400> 73
Asn Ser Arg Asp Ser Ser Gly Asn Pro His Val Leu
1 5 10

<210> 74
<211> 354
<212> DNA
<213> Homo sapiens

<400> 74
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acctgcgctg tctctggtta ctccatcagc agtggttact actggggctg gatccggcag 120
cccccaggga aggggttgga gtggattggg agtatctctc atactgggaa cacctactac 180
aacccgcccc tcaagagtcg cgtcaccata tcagtagaca cgtccaagaa ccagttctcc 240
ctgaaactga gctctgtgac cgccgcagac acggccgtgt attactgtgc gcgaggtggg 300
ggaattagca ggccggagta ctggggcaaa ggcaccctgg tcaccgtctc gagt 354

<210> 75
<211> 330
<212> DNA
<213> Homo sapiens

<400> 75
tcttctgagc tgactcagga ccctcctgtg tctgtggcct tgggacagac agtcacgctc 60
acatgccaag gagacagcct cagaacctat tatgcaagct ggtaccagca gaagtcagga 120
caggccccta tacttctcct ctatggtaaa cacaaacggc cctcagggat cccagaccgc 180
ttctctggct ccacctcagg agacacagct tccttgacca tcactggggc tcaggcggaa 240
gacgaggctg actattactg taactcccgg gactccagtg gcaaccccca tgttctgttc 300
ggcggaggga cccagctcac cgttttaagt 330

<210> 76
<211> 735
<212> DNA
<213> Homo sapiens

<400> 76
caggtgcagc tgcaggagtc gggcccagga ctggtgaaga cttcggagac cctgtccctc 60
acctgcgctg tctctggtta ctccatcagc agtggttact actggggctg gatccggcag 120
cccccaggga aggggttgga gtggattggg agtatctctc atactgggaa cacctactac 180
aacccgcccc tcaagagtcg cgtcaccata tcagtagaca cgtccaagaa ccagttctcc 240
ctgaaactga gctctgtgac cgccgcagac acggccgtgt attactgtgc gcgaggtggg 300
ggaattagca ggccggagta ctggggcaaa ggcaccctgg tcaccgtctc gagtggaggc 360
ggcggttcag gcggaggtgg ctctggcggt ggcggaagtg cactttcttc tgagctgact 420
caggaccctc ctgtgtctgt ggccttggga cagacagtca cgctcacatg ccaaggagac 480
agcctcagaa cctattatgc aagctggtac cagcagaagt caggacaggc ccctatactt 540
ctcctctatg gtaaacacaa acggccctca gggatcccag accgcttctc tggctccacc 600
tcaggagaca cagcttcctt gaccatcact ggggctcagg cggaagacga ggctgactat 660
tactgtaact cccgggactc cagtggcaac ccccatgttc tgttcggcgg agggacccag 720
ctcaccgttt taagt 735

<210> 77
<211> 18
<212> DNA
<213> Homo sapiens

<400> 77
agtggttact actggggc 18

<210> 78
<211> 48
<212> DNA
<213> Homo sapiens

<400> 78
agtatctctc atactgggaa cacctactac aacccgcccc tcaagagt 48

<210> 79
<211> 27
<212> DNA
<213> Homo sapiens

<400> 79
ggtgggggaa ttagcaggcc ggagtac 27

<210> 80
<211> 33
<212> DNA
<213> Homo sapiens

<400> 80
caaggagaca gcctcagaac ctattatgca agc 33

<210> 81
<211> 21
<212> DNA
<213> Homo sapiens

<400> 81
ggtaaacaca aacggccctc a 21

<210> 82
<211> 36
<212> DNA
<213> Homo sapiens

<400> 82
aactcccggg actccagtgg caacccccat gttctg 36

<210> 83
<211> 116
<212> PRT
<213> Homo sapiens

<400> 83
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Asn Ile Tyr
20 25 30

Ser Val Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Arg Ile Ile Pro Met Arg Asp Ile Ala Asn Tyr Ala Gln Arg Phe
50 55 60

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

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Thr Leu Ala Gly Pro Leu Asp Ser Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser
115

<210> 84
<211> 111
<212> PRT
<213> Homo sapiens

<400> 84
Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
1 5 10 15

Thr Val Arg Ile Thr Cys Gln Gly Gly Ser Leu Arg Gln Tyr Tyr Ala
20 25 30

Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Val Leu Val Ile Tyr
35 40 45

Gly Lys Asn Lys Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
50 55 60

Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
65 70 75 80

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

Pro Leu Tyr Val Phe Gly Ala Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

<210> 85
<211> 244
<212> PRT
<213> Homo sapiens

<400> 85
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Asn Ile Tyr
20 25 30

Ser Val Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Arg Ile Ile Pro Met Arg Asp Ile Ala Asn Tyr Ala Gln Arg Phe
50 55 60

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

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Thr Leu Ala Gly Pro Leu Asp Ser Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
115 120 125

Gly Gly Ser Ala Leu Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser
130 135 140

Val Ala Leu Gly Gln Thr Val Arg Ile Thr Cys Gln Gly Gly Ser Leu
145 150 155 160

Arg Gln Tyr Tyr Ala Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
165 170 175

Val Leu Val Ile Tyr Gly Lys Asn Lys Arg Pro Ser Gly Ile Pro Asp
180 185 190

Arg Phe Ser Gly Ser Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr
195 200 205

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

Ser Ser Gly Asn His Pro Leu Tyr Val Phe Gly Ala Gly Thr Lys Leu
225 230 235 240

Thr Val Leu Gly

<210> 86
<211> 5
<212> PRT
<213> Homo sapiens

<400> 86
Ile Tyr Ser Val Ser
1 5

<210> 87
<211> 17
<212> PRT
<213> Homo sapiens

<400> 87
Arg Ile Ile Pro Met Arg Asp Ile Ala Asn Tyr Ala Gln Arg Phe Gln
1 5 10 15

Gly

<210> 88
<211> 7
<212> PRT
<213> Homo sapiens

<400> 88
Leu Ala Gly Pro Leu Asp Ser
1 5

<210> 89
<211> 11
<212> PRT
<213> Homo sapiens

<400> 89
Gln Gly Gly Ser Leu Arg Gln Tyr Tyr Ala Ser
1 5 10

<210> 90
<211> 7
<212> PRT
<213> Homo sapiens

<400> 90
Gly Lys Asn Lys Arg Pro Ser
1 5

<210> 91
<211> 13
<212> PRT
<213> Homo sapiens

<400> 91
Lys Ser Arg Asp Ser Ser Gly Asn His Pro Leu Tyr Val
1 5 10

<210> 92
<211> 348
<212> DNA
<213> Homo sapiens

<400> 92
caggtgcagc tggtgcagtc tggggctgag gtgaagaagc ctgggtcctc ggtgaaggtc 60
tcctgcaagg cttctggagg caccttcaac atctatagtg tcagctgggt gcgacaggcc 120
cctggacagg ggcttgagtg gatgggaagg atcatcccta tgcgtgatat tgcaaactac 180
gcgcagaggt tccagggcag ggtcacaatt accgcggaca agtccacgag cacagcctac 240
atggagttga gcagcctgag atctgaagac acggccgtct attattgtgc gacattggct 300
ggcccttgg actcctgggg ccagggcacc ctggtcaccg tctcgagt 348

<210> 93
<211> 333
<212> DNA
<213> Homo sapiens

<400> 93
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acatgtcaag gcggcagcct cagacaatat tatgcaagtt ggtaccaaca gaagccagga 120
caggcccctg tgcttgtcat ctatggtaaa ataagcgac cctcagggat cccagaccga 180

ttctctggct cctcctcagg caacacagct tccttgacca tcactggggc tcaggcggaa 240
gatgaggctg actactattg taagtcccgg gacagcagtg gtaaccatcc cctttatgtc 300
ttcggagctg ggaccaagct gaccgtccta ggt 333

<210> 94
<211> 732
<212> DNA
<213> Homo sapiens

<400> 94
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tcctgcaagg cttctggagg caccttcaac atctatagtg tcagctgggt gcgacaggcc 120
cctggacagg ggcttgagtg gatgggaagg atcatcccta tgcgtgatat tgcaaactac 180
gcgcagaggt tccagggcag ggtcacaatt accgcggaca agtccacgag cacagcctac 240
atggagttga gcagcctgag atctgaagac acggccgtct attattgtgc gacattggct 300
ggcccttgg actcctgggg ccagggcacc ctggtcaccg tctcgagtgg aggcggcggt 360
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tatggtaaaa ataagcgacc ctcagggatc ccagaccgat tctctggctc ctcctcaggc 600
aacacagctt ccttgaccat cactggggct caggcggaag atgaggctga ctactattgt 660
aagtcccggg acagcagtgg taaccatccc ctttatgtct tcggagctgg gaccaagctg 720
accgtcctag gt 732

<210> 95
<211> 15
<212> DNA
<213> Homo sapiens

<400> 95
atctatagtg tcagc 15

<210> 96
<211> 51
<212> DNA
<213> Homo sapiens

<400> 96
aggatcatcc ctatgcgtga tattgcaaac tacgcgcaga ggttccaggg c 51

<210> 97
<211> 21
<212> DNA
<213> Homo sapiens

<400> 97
ttggctggcc ccttggactc c 21

<210> 98
<211> 33
<212> DNA
<213> Homo sapiens

<400> 98
caaggcggca gcctcagaca atattatgca agt 33

<210> 99
<211> 21
<212> DNA
<213> Homo sapiens

<400> 99
ggtaaaaata agcgaccctc a 21

<210> 100
<211> 39
<212> DNA
<213> Homo sapiens

<400> 100
aagtcccggg acagcagtgg taaccatccc ctttatgtc 39

<210> 101
<211> 120
<212> PRT
<213> Homo sapiens

<400> 101
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala Phe Thr Asp Asn
20 25 30

Tyr Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Pro Lys Thr Gly Gly Thr Asn Tyr Ala Gln Lys Phe
50 55 60

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

Met Asp Leu Ser Arg Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Ser Leu Ser Pro Tyr Gly Gly Gln Leu Leu Tyr Trp Gly Arg
100 105 110

Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 102
<211> 110
<212> PRT
<213> Homo sapiens

<400> 102
Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
1 5 10 15

Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Arg Tyr Tyr Ala
20 25 30

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

Gly Lys Asn Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Ala Ser
50 55 60

Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
65 70 75 80

Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Arg Asp Thr Ser Ile Asn His
85 90 95

Pro Val Ile Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105 110

<210> 103
<211> 247
<212> PRT
<213> Homo sapiens

<400> 103
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala Phe Thr Asp Asn
20 25 30

Tyr Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35 40 45

Gly Trp Ile Asn Pro Lys Thr Gly Gly Thr Asn Tyr Ala Gln Lys Phe
50 55 60

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

Met Asp Leu Ser Arg Leu Thr Ser Asp Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Thr Arg Ser Leu Ser Pro Tyr Gly Gly Gln Leu Leu Tyr Trp Gly Arg
100 105 110

Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly
115 120 125

Gly Ser Gly Gly Gly Gly Ser Ala Leu Ser Ser Glu Leu Thr Gln Asp
130 135 140

Pro Ala Val Ser Val Ala Leu Gly Gln Thr Val Arg Ile Thr Cys Gln
145 150 155 160

```
Gly Asp Ser Leu Arg Arg Tyr Tyr Ala Ser Trp Phe Gln Gln Lys Pro
                165                 170                 175

Gly Gln Ala Pro Val Leu Val Ile Phe Gly Lys Asn Asn Arg Pro Ser
            180                 185                 190

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

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

Asn Ser Arg Asp Thr Ser Ile Asn His Pro Val Ile Phe Gly Gly Gly
225                 230                 235                 240

Thr Lys Leu Thr Val Leu Gly
                245


<210> 104
<211> 5
<212> PRT
<213> Homo sapiens

<400> 104
Asp Asn Tyr Ile His
  1               5


<210> 105
<211> 17
<212> PRT
<213> Homo sapiens

<400> 105
Trp Ile Asn Pro Lys Thr Gly Gly Thr Asn Tyr Ala Gln Lys Phe Gln
  1               5                  10                  15

Gly


<210> 106
<211> 11
<212> PRT
<213> Homo sapiens

<400> 106
Ser Leu Ser Pro Tyr Gly Gly Gln Leu Leu Tyr
  1               5                  10


<210> 107
<211> 11
<212> PRT
<213> Homo sapiens
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<400> 112
gaggtccagc tggtgcagtc tggagctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgtaagg cttccggata cgccttcacc gacaactata tacactgggt gcgacaggcc 120
cctggacaag ggcttgaatg gatgggatgg atcaacccta agactggtgg cacaaactat 180
gcacaaaagt ttcagggcag ggtcagcatg accagggaca cgtccatcaa cacagcctac 240
atggacctaa gtaggctgac atctgacgac acggccgtct attactgtac gagaagcctt 300
tccccatatg gtggccaact cctctactgg ggccggggga caatggtcac cgtctcgagt 360
ggaggcggcg gttcaggcgg aggtggctct ggcggtggcg gaagtgcact ttcttctgag 420
ctgactcagg accctgctgt gtctgtggcc ttgggacaga cagtcaggat cacatgccaa 480
ggagacagcc tcagaagata ttatgcaagc tggttccagc agaagccagg acaggcccct 540
gtacttgtca tctttggtaa aaacaaccgg ccctcaggga tcccagaccg attctctgcc 600
tccagttcag gaaacacagc ttccttgacc atcactgggg ctcaggcgga agatgaggct 660
gactattact gtaactcccg ggacaccagt attaaccatc ccgtgatatt cggcgggggg 720
accaagctga ccgtcctagg t 741

<210> 113
<211> 15
<212> DNA
<213> Homo sapiens

<400> 113
gacaactata tacac 15

<210> 114
<211> 54
<212> DNA
<213> Homo sapiens

<400> 114
tggatcaacc ctaagactgg tggcacaaac tatgcacaaa agtttcaggg cagg 54

<210> 115
<211> 33
<212> DNA
<213> Homo sapiens

<400> 115
agcctttccc catatggtgg ccaactcctc tac 33

<210> 116
<211> 33
<212> DNA
<213> Homo sapiens

<400> 116
caaggagaca gcctcagaag atattatgca agc 33

<210> 117
<211> 21
<212> DNA
<213> Homo sapiens

<400> 107
Gln Gly Asp Ser Leu Arg Arg Tyr Tyr Ala Ser
1 5 10

<210> 108
<211> 7
<212> PRT
<213> Homo sapiens

<400> 108
Gly Lys Asn Asn Arg Pro Ser
1 5

<210> 109
<211> 12
<212> PRT
<213> Homo sapiens

<400> 109
Asn Ser Arg Asp Thr Ser Ile Asn His Pro Val Ile
1 5 10

<210> 110
<211> 360
<212> DNA
<213> Homo sapiens

<400> 110
gaggtccagc tggtgcagtc tggagctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgtaagg cttccggata cgccttcacc gacaactata tacactgggt gcgacaggcc 120
cctggacaag ggcttgaatg gatgggatgg atcaacccta agactggtgg cacaaactat 180
gcacaaaagt ttcagggcag ggtcagcatg accagggaca cgtccatcaa cacagcctac 240
atggacctaa gtaggctgac atctgacgac acggccgtct attactgtac gagaagcctt 300
tccccatatg gtggccaact cctctactgg ggccggggga caatggtcac cgtctcgagt 360

<210> 111
<211> 330
<212> DNA
<213> Homo sapiens

<400> 111
tcttctgagc tgactcagga ccctgctgtg tctgtggcct tgggacagac agtcaggatc 60
acatgccaag gagacagcct cagaagatat tatgcaagct ggttccagca gaagccagga 120
caggcccctg tacttgtcat ctttggtaaa aacaaccggc cctcagggat cccagaccga 180
ttctctgcct ccagttcagg aaacacagct tccttgacca tcactggggc tcaggcggaa 240
gatgaggctg actattactg taactcccgg gacaccagta ttaaccatcc cgtgatattc 300
ggcgggggga ccaagctgac cgtcctaggt 330

<210> 112
<211> 741
<212> DNA
<213> Homo sapiens

<400> 117
ggtaaaaaca accggccctc a 21

<210> 118
<211> 36
<212> DNA
<213> Homo sapiens

<400> 118
aactcccggg acaccagtat taaccatccc gtgata 36

<210> 119
<211> 118
<212> PRT
<213> Homo sapiens

<400> 119
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Gly Gly Trp Lys Leu Pro Phe Phe Ala Tyr Trp Gly Arg Gly Thr
100 105 110

Leu Val Thr Val Ser Ser
115

<210> 120
<211> 110
<212> PRT
<213> Homo sapiens

<400> 120
Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
1 5 10 15

Thr Val Arg Ile Thr Cys Gln Gly Asp Ser Leu Arg Thr Phe Tyr Ala
20 25 30

Asn Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Ile Leu Val Ile Tyr
35 40 45

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Gly Lys Ser Asn Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
     50                  55                  60

Ser Ser Gly Asn Thr Ala Ser Leu Thr Ile Thr Gly Ala Gln Ala Glu
 65                  70                  75                  80

Asp Glu Ala Asp Tyr Tyr Cys Tyr Ser Arg Asp Arg Ser Gly Asn His
                 85                  90                  95

Leu Gly Met Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
            100                 105                 110


<210> 121
<211> 245
<212> PRT
<213> Homo sapiens

<400> 121
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
  1               5                  10                  15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
             20                  25                  30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
         35                  40                  45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
     50                  55                  60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65                  70                  75                  80

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

Ala Gly Gly Trp Lys Leu Pro Phe Phe Ala Tyr Trp Gly Arg Gly Thr
            100                 105                 110

Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        115                 120                 125

Gly Gly Gly Gly Ser Ala Leu Ser Ser Glu Leu Thr Gln Asp Pro Ala
    130                 135                 140

Val Ser Val Ala Leu Gly Gln Thr Val Arg Ile Thr Cys Gln Gly Asp
145                 150                 155                 160

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

Ala Pro Ile Leu Val Ile Tyr Gly Lys Ser Asn Arg Pro Ser Gly Ile
            180                 185                 190

Pro Asp Arg Phe Ser Gly Ser Ser Ser Gly Asn Thr Ala Ser Leu Thr
        195                 200                 205
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Ile Thr Gly Ala Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Tyr Ser
    210                 215                 220

Arg Asp Arg Ser Gly Asn His Leu Gly Met Phe Gly Gly Gly Thr Lys
225                 230                 235                 240

Leu Thr Val Leu Gly
                245


<210> 122
<211> 5
<212> PRT
<213> Homo sapiens

<400> 122
Ser Tyr Ala Met Ser
  1               5


<210> 123
<211> 17
<212> PRT
<213> Homo sapiens

<400> 123
Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val Lys
  1               5                   10                  15

Gly


<210> 124
<211> 9
<212> PRT
<213> Homo sapiens

<400> 124
Gly Trp Lys Leu Pro Phe Phe Ala Tyr
  1               5


<210> 125
<211> 11
<212> PRT
<213> Homo sapiens

<400> 125
Gln Gly Asp Ser Leu Arg Thr Phe Tyr Ala Asn
  1               5                   10


<210> 126
<211> 7
<212> PRT
<213> Homo sapiens
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<400> 126
Gly Lys Ser Asn Arg Pro Ser
1 5

<210> 127
<211> 12
<212> PRT
<213> Homo sapiens

<400> 127
Tyr Ser Arg Asp Arg Ser Gly Asn His Leu Gly Met
1 5 10

<210> 128
<211> 354
<212> DNA
<213> Homo sapiens

<400> 128
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggGTC cctgagactc 60
tcctgtgcag cctctggatt cacctttagc agctatgcca tgagctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagct attagtggta gtggtggtag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggccgtgt attactgtgc gggggggtgg 300
aaacttccat tttttgccta ctggggccgg ggcaccctgg tcaccgtctc gagt 354

<210> 129
<211> 330
<212> DNA
<213> Homo sapiens

<400> 129
tcttctgagc tgactcagga ccctgctgtg tctgtggcct tgggacagac agtcaggatc 60
acatgccaag gagacagcct cagaaccttt tatgcaaact ggtaccagca gaagccagga 120
caggccccta tacttgtcat ctatggtaaa agcaaccgtc cctcagggat cccagaccga 180
ttctctggct ccagctcagg aaacacagct tccttgacca tcactggggc tcaggcggaa 240
gatgaggctg actattactg ttactcccgg gacagaagtg gtaaccatct agggatgttc 300
ggcggaggga ccaagctgac cgtcctaggt 330

<210> 130
<211> 735
<212> DNA
<213> Homo sapiens

<400> 130
gaggtgcagc tgttggagtc tgggggaggc ttggtacagc ctgggggGTC cctgagactc 60
tcctgtgcag cctctggatt cacctttagc agctatgcca tgagctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcagct attagtggta gtggtggtag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgaggac acggccgtgt attactgtgc gggggggtgg 300
aaacttccat tttttgccta ctggggccgg ggcaccctgg tcaccgtctc gagtggaggc 360
ggcggttcag gcggaggtgg ctctggcggt ggcggaagtg cactttcttc tgagctgact 420
caggaccctg ctgtgtctgt ggccttggga cagacagtca ggatcacatg ccaaggagac 480
agcctcagaa ccttttatgc aaactggtac cagcagaagc caggacaggc ccctatactt 540

gtcatctatg gtaaaagcaa ccgtccctca gggatcccag accgattctc tggctccagc 600
tcaggaaaca cagcttcctt gaccatcact ggggctcagg cggaagatga ggctgactat 660
tactgttact cccgggacag aagtggtaac catctaggga tgttcggcgg agggaccaag 720
ctgaccgtcc taggt 735

<210> 131
<211> 15
<212> DNA
<213> Homo sapiens

<400> 131
agctatgcca tgagc 15

<210> 132
<211> 54
<212> DNA
<213> Homo sapiens

<400> 132
gctattagtg gtagtggtgg tagcacatac tacgcagact ccgtgaaggg ccgg 54

<210> 133
<211> 27
<212> DNA
<213> Homo sapiens

<400> 133
gggtggaaac ttccattttt tgcctac 27

<210> 134
<211> 33
<212> DNA
<213> Homo sapiens

<400> 134
caaggagaca gcctcagaac cttttatgca aac 33

<210> 135
<211> 21
<212> DNA
<213> Homo sapiens

<400> 135
ggtaaaagca accgtccctc a 21

<210> 136
<211> 36
<212> DNA
<213> Homo sapiens

<400> 136
tactcccggg acagaagtgg taaccatcta gggatg 36

<210> 137
<211> 121
<212> PRT
<213> Homo sapiens

<400> 137
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Gly Ser Gly Thr Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Thr His Ile Ser Glu Arg Pro Arg Gly Ala Phe Asp Ile Trp Gly
100 105 110

Arg Gly Thr Met Val Thr Val Ser Ser
115 120

<210> 138
<211> 109
<212> PRT
<213> Homo sapiens

<400> 138
Ser Ser Glu Leu Thr Gln Asp Pro Ala Val Ser Val Ala Leu Gly Gln
1 5 10 15

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

Thr Trp Tyr Gln Gln Lys Pro Arg Gln Ala Pro Val Leu Val Val Tyr
35 40 45

Gly Lys Asn Arg Arg Pro Ser Gly Ile Pro Asp Arg Phe Ser Gly Ser
50 55 60

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

Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Arg Asp Thr Ser Gly Leu His
85 90 95

Tyr Val Phe Gly Ala Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 139
<211> 247
<212> PRT
<213> Homo sapiens

<400> 139
Gln Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45

Ser Gly Ile Ser Gly Ser Gly Thr Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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

Ala Thr His Ile Ser Glu Arg Pro Arg Gly Ala Phe Asp Ile Trp Gly
100 105 110

Arg Gly Thr Met Val Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
115 120 125

Gly Gly Ser Gly Gly Gly Gly Ser Ala Leu Ser Ser Glu Leu Thr Gln
130 135 140

Asp Pro Ala Val Ser Val Ala Leu Gly Gln Thr Val Arg Ile Thr Cys
145 150 155 160

Gln Gly Asp Ser Leu Arg Lys Tyr His Ala Thr Trp Tyr Gln Gln Lys
165 170 175

Pro Arg Gln Ala Pro Val Leu Val Val Tyr Gly Lys Asn Arg Arg Pro
180 185 190

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

Ser Leu Thr Ile Thr Gly Ala Gln Ala Gly Asp Glu Ala Asp Tyr Tyr
210 215 220

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

Thr Lys Leu Thr Val Leu Gly
245

<210> 140
<211> 5
<212> PRT
<213> Homo sapiens

<400> 140
Ser Tyr Ala Met Ser
1 5

<210> 141
<211> 17
<212> PRT
<213> Homo sapiens

<400> 141
Gly Ile Ser Gly Ser Gly Thr Ser Thr Tyr Tyr Ala Asp Ser Val Lys
1 5 10 15

Gly

<210> 142
<211> 12
<212> PRT
<213> Homo sapiens

<400> 142
His Ile Ser Glu Arg Pro Arg Gly Ala Phe Asp Ile
1 5 10

<210> 143
<211> 11
<212> PRT
<213> Homo sapiens

<400> 143
Gln Gly Asp Ser Leu Arg Lys Tyr His Ala Thr
1 5 10

<210> 144
<211> 7
<212> PRT
<213> Homo sapiens

<400> 144
Gly Lys Asn Arg Arg Pro Ser
1 5

<210> 145
<211> 11
<212> PRT
<213> Homo sapiens

<400> 145
Asn Ser Arg Asp Thr Ser Gly Leu His Tyr Val
1 5 10

<210> 146
<211> 363
<212> DNA
<213> Homo sapiens

<400> 146
caggtgcagc tgcaggagtc gggggggaggc ttggtacagc ctgggggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttagc agctatgcca tgagctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcaggt attagtggta gtggtactag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgaagac acggccgtat attactgtgc gacacatatc 300
tcggaacgtc cacgtggtgc ttttgatatc tggggccggg ggacaatggt caccgtctcg 360
agt 363

<210> 147
<211> 327
<212> DNA
<213> Homo sapiens

<400> 147
tcttctgagc tgactcagga ccctgctgtg tctgtggccc tgggacagac agtcaggatc 60
acatgccaag gagacagcct cagaaagtat catgcaactt ggtaccagca gaagccaagg 120
caggcccctg tacttgtcgt ctatggtaaa aacaggcgcc cctcagggat ccccgaccga 180
ttctctggct ccagctcagg aaacacagct tccctgacca tcactggggc tcaggcggga 240
gatgaggctg actattactg taactcccgg gacaccagtg gtcttcatta tgtcttcgga 300
gctgggacca agctgaccgt cctaggt 327

<210> 148
<211> 741
<212> DNA
<213> Homo sapiens

<400> 148
caggtgcagc tgcaggagtc gggggggaggc ttggtacagc ctgggggggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttagc agctatgcca tgagctgggt ccgccaggct 120
ccagggaagg ggctggagtg ggtctcaggt attagtggta gtggtactag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaatga acagcctgag agccgaagac acggccgtat attactgtgc gacacatatc 300
tcggaacgtc cacgtggtgc ttttgatatc tggggccggg ggacaatggt caccgtctcg 360
agtggaggcg gcggttcagg cggaggtggc tctggcggtg gcggaagtgc actttcttct 420
gagctgactc aggaccctgc tgtgtctgtg gccctgggac agacagtcag gatcacatgc 480
caaggagaca gcctcagaaa gtatcatgca acttggtacc agcagaagcc aaggcaggcc 540
cctgtacttg tcgtctatgg taaaaacagg cgcccctcag ggatccccga ccgattctct 600
ggctccagct caggaaacac agcttccctg accatcactg gggctcaggc gggagatgag 660
gctgactatt actgtaactc ccgggacacc agtggtcttc attatgtctt cggagctggg 720
accaagctga ccgtcctagg t 741

<210> 149
<211> 15
<212> DNA

<213> Homo sapiens

<400> 149
agctatgcca tgagc 15

<210> 150
<211> 51
<212> DNA
<213> Homo sapiens

<400> 150
ggtattagtg gtagtggtac tagcacatac tacgcagact ccgtgaaggg c 51

<210> 151
<211> 36
<212> DNA
<213> Homo sapiens

<400> 151
catatctcgg aacgtccacg tggtgctttt gatatc 36

<210> 152
<211> 33
<212> DNA
<213> Homo sapiens

<400> 152
caaggagaca gcctcagaaa gtatcatgca act 33

<210> 153
<211> 21
<212> DNA
<213> Homo sapiens

<400> 153
ggtaaaaaca ggcgcccctc a 21

<210> 154
<211> 33
<212> DNA
<213> Homo sapiens

<400> 154
aactcccggg acaccagtgg tcttcattat gtc 33