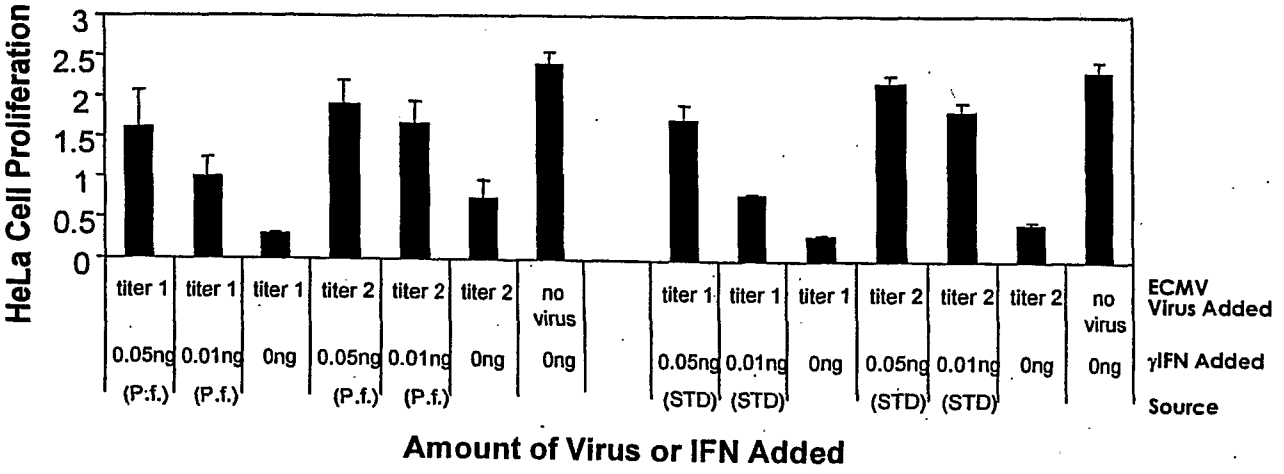

HeLa Cell Proliferation
3
2.5
2
1.5
1
0.5
0
titer 1
titer 1
titer 1
titer 2
titer 2
titer 2
no virus
titer 1
titer 1
titer 1
titer 2
titer 2
titer 2
no virus
0.05ng
0.01ng
0ng
0.05ng
0.01ng
0ng
0ng
0.05ng
0.01ng
0ng
0.05ng
0.01ng
0ng
0ng
(P:f.)
(P.f.)
(P.f.)
(P.f.)
(STD)
(STD)
(STD)
(STD)
ECMV Virus Added
γIFN Added
Source
Amount of Virus or IFN Added

FIGURE 1

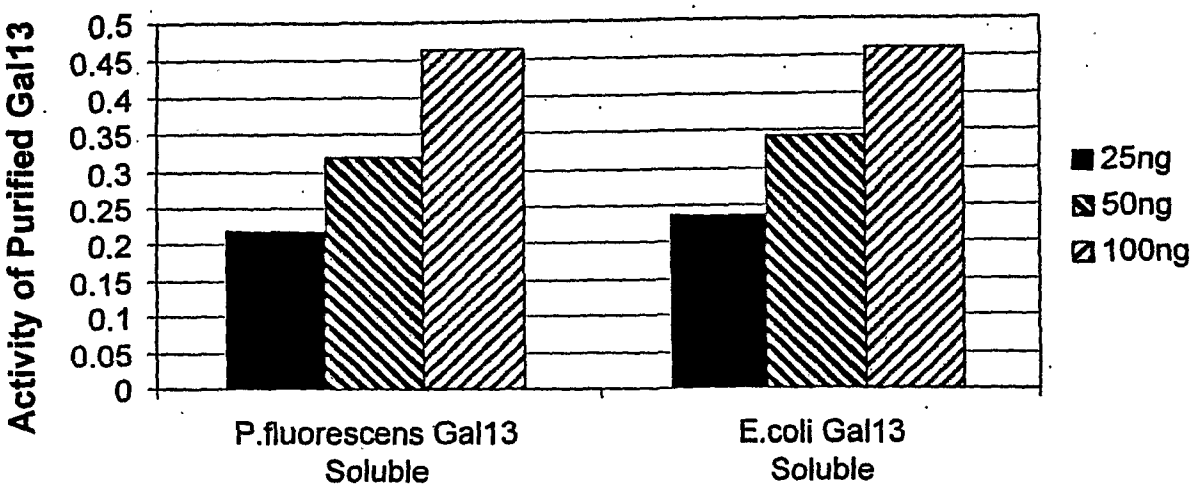
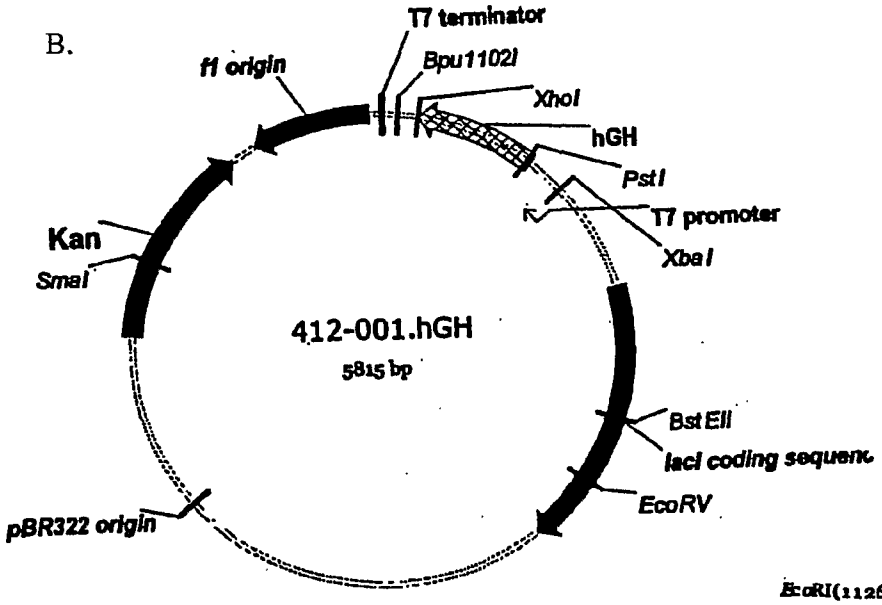

Activity of Purified Gal13
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
P.fluorescens Gal13 Soluble
E.coli Gal13 Soluble
25ng
50ng
100ng

FIGURE 2

A.

MFPTIPLSRPFDNAMLRAHRLHQLAFDTYQEFEEAYIPKEQKYSFLQNPQTSLCFSESI
PTPSNREETQQKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDLLKDL
EEGIQTLMGRLEDGSPRTGQIFKQTYSKFDTNSHNDDALLKNYGLLYCFRKDMDKVE
TFLRIVQCRSVEGSCGF

B.



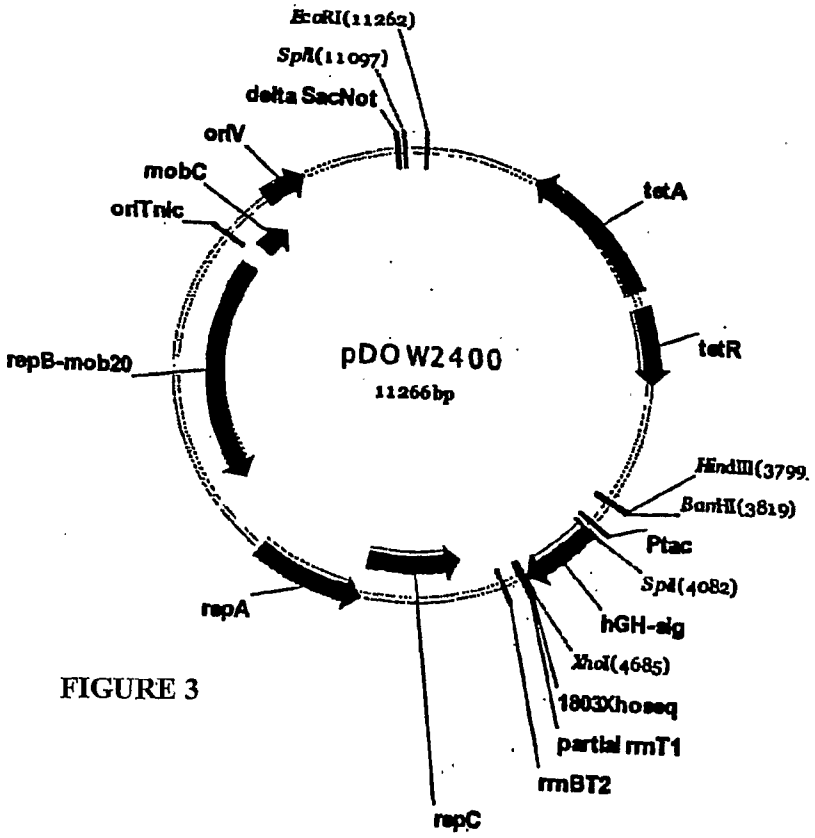
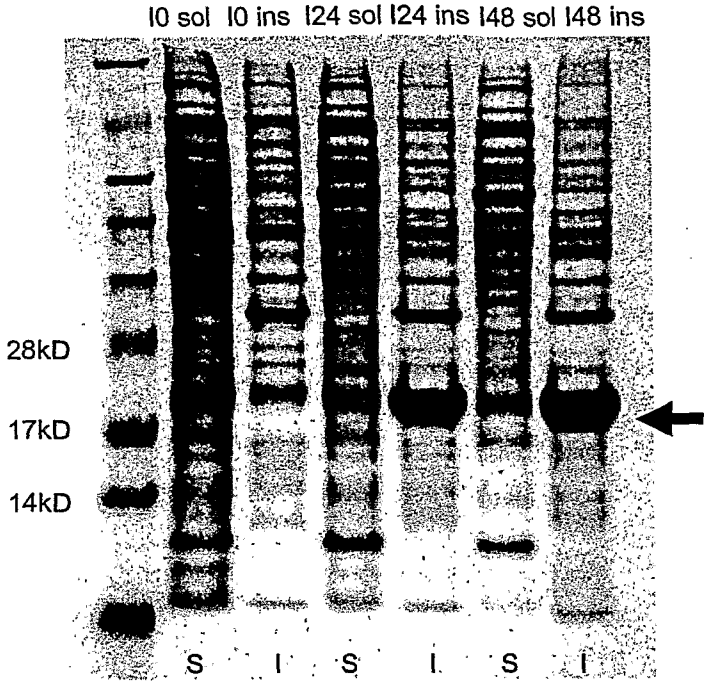


FIGURE 3

A.


I0 sol
I0 ins
I24 sol
I24 ins
I48 sol
I48 ins
28kD
17kD
14kD
S
I
S
I
S
I

B.

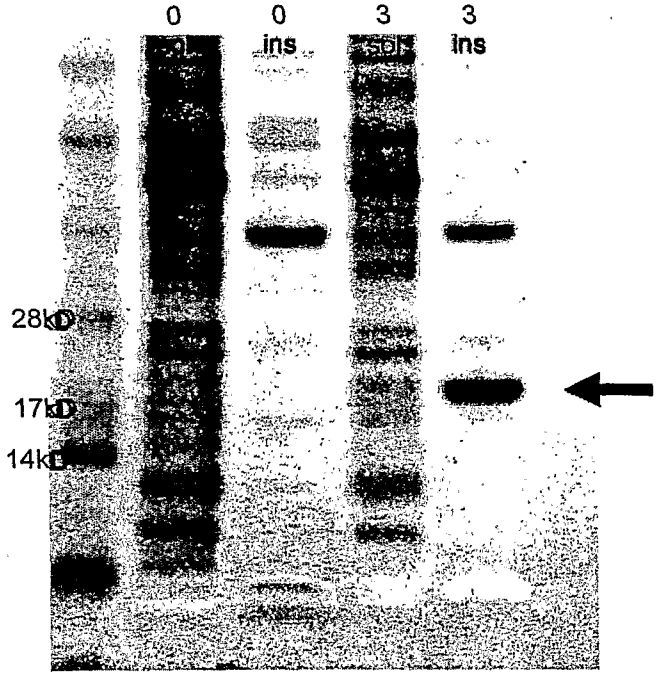

0
0
ins
3
3
ins
28kD
17kD
14kD

FIGURE 4

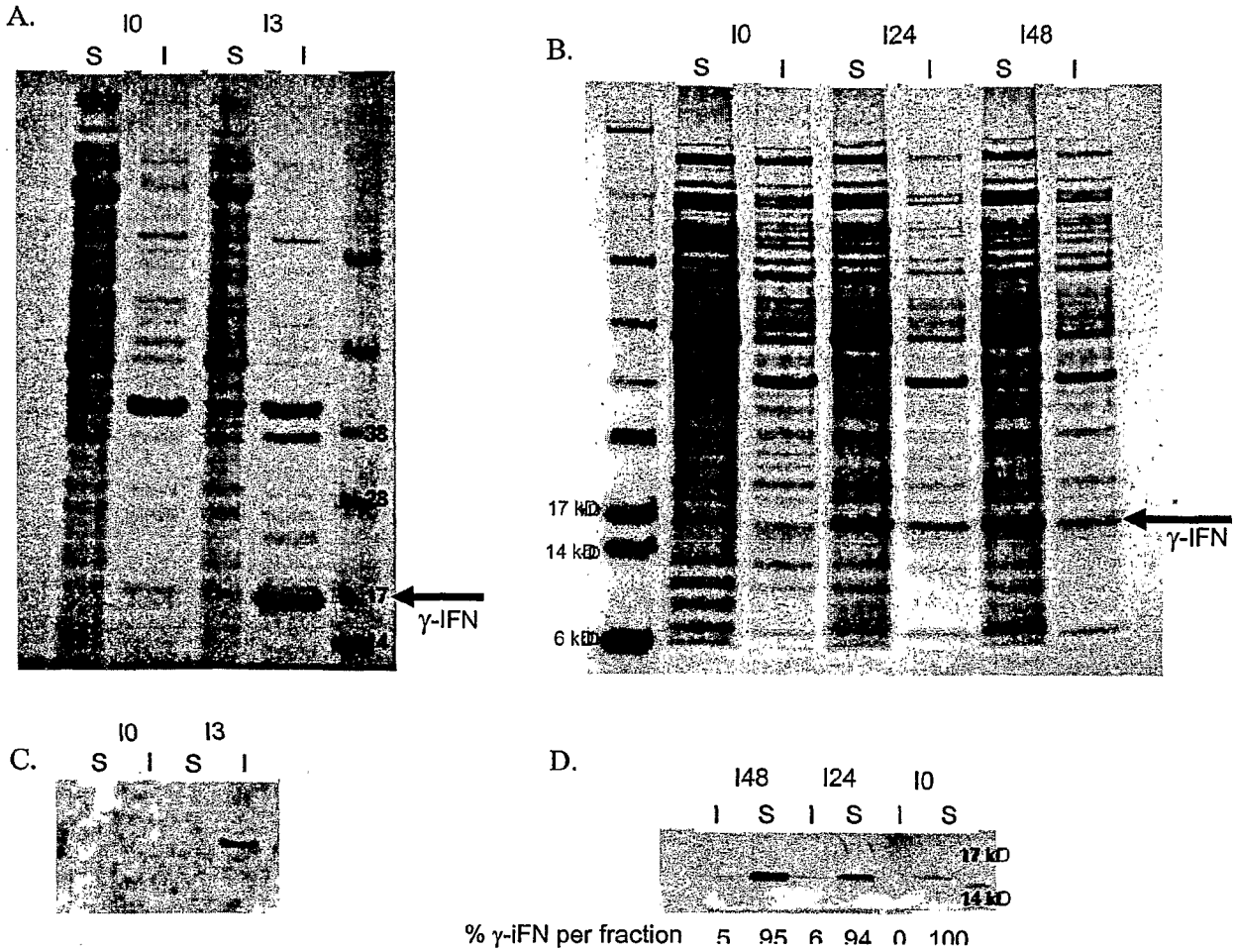

A.
I0
I3
S
I
S
I
γ-IFN
B.
I0
I24
I48
S
I
S
I
S
I
17 kD
14 kD
6 kD
γ-IFN
C.
I0
I3
S
I
S
I
D.
I48
I24
I0
I
S
I
S
I
S
17 kD
14 kD
% γ-iFN per fraction 5 95 6 94 0 100

FIGURE 5

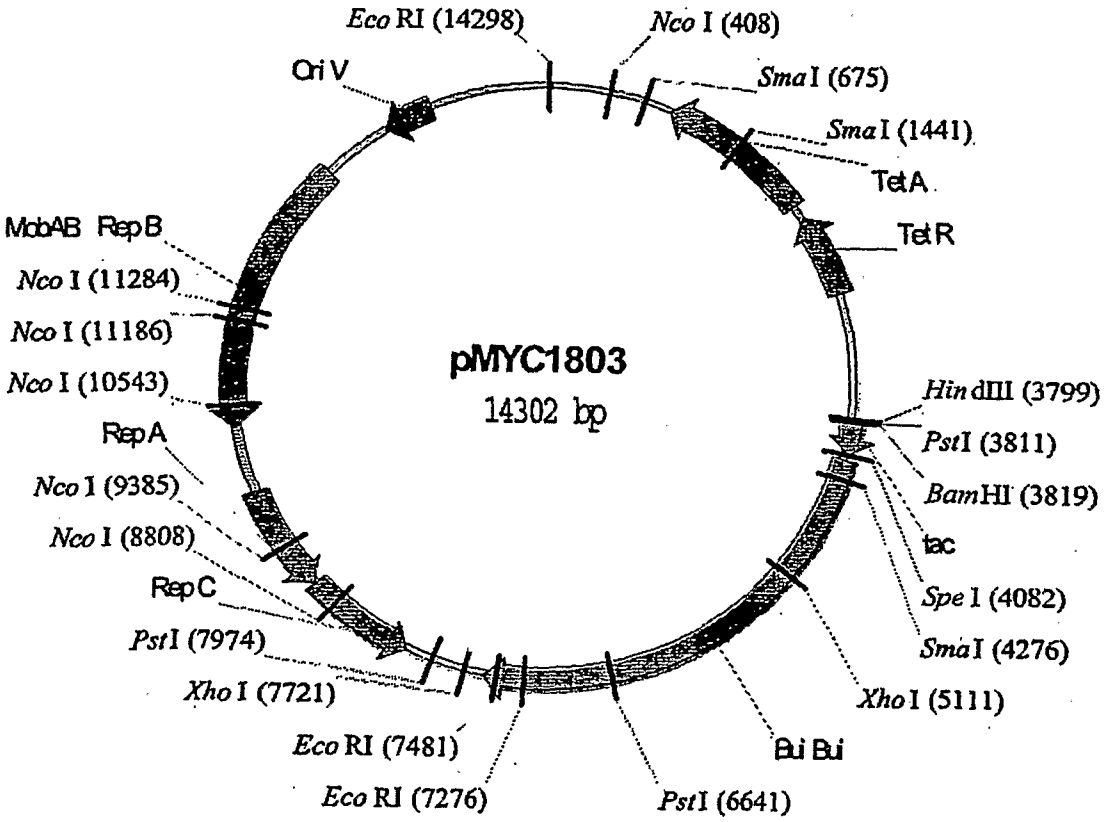

pMYC1803
14302 bp
Eco RI (14298)
Nco I (408)
Ori V
Sma I (675)
Sma I (1441)
TetA
TetR
MobAB
RepB
Nco I (11284)
Nco I (11186)
Nco I (10543)
RepA
Nco I (9385)
Nco I (8808)
RepC
Pst I (7974)
Xho I (7721)
Eco RI (7481)
Eco RI (7276)
Pst I (6641)
Bui Bui
Xho I (5111)
Spe I (4082)
Sma I (4276)
tac
BamHI (3819)
Pst I (3811)
Hin dIII (3799)

FIGURE 6

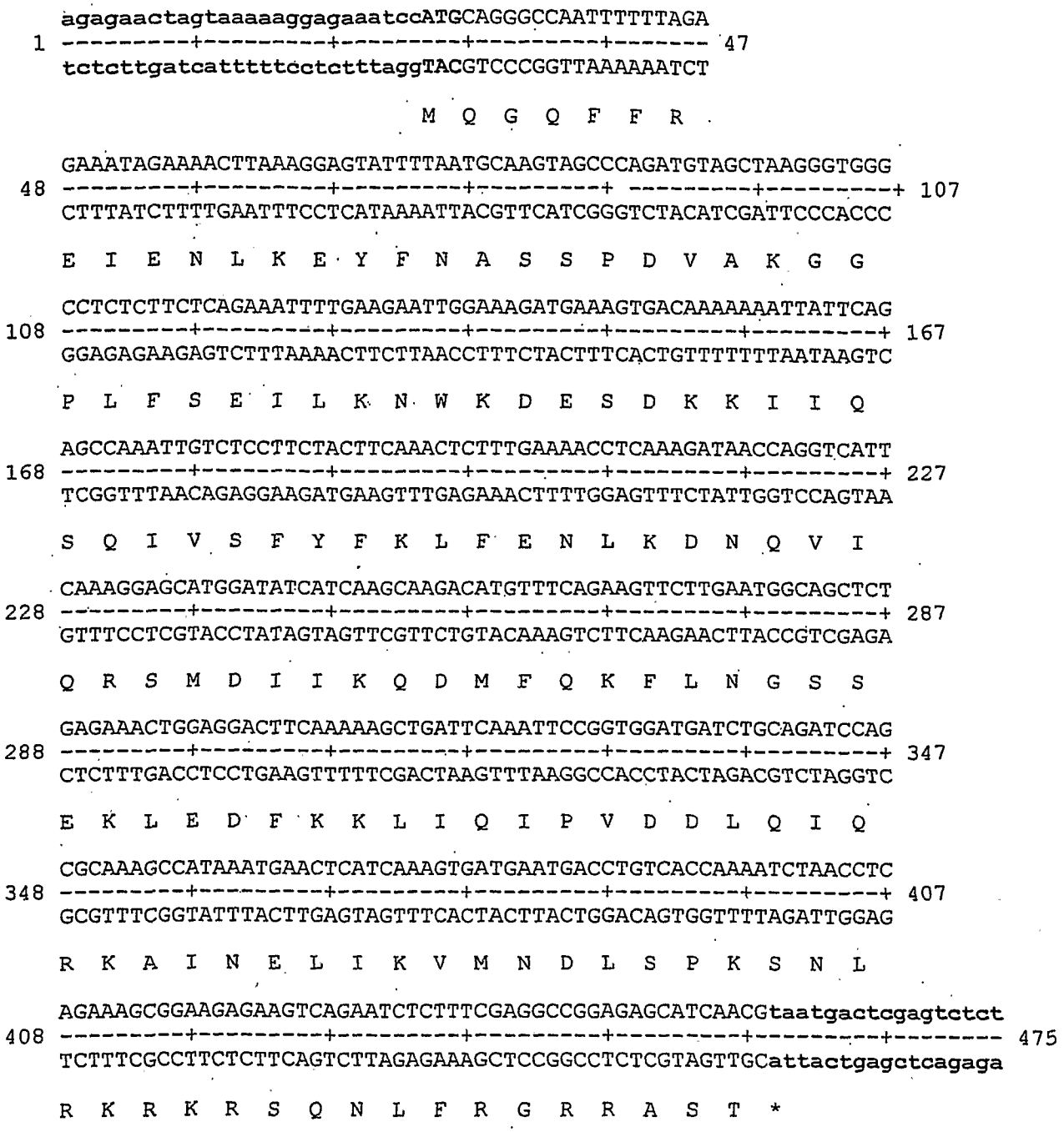

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1 47
tctcttgatcatttttcctctttaggTACGTCCCGGTTAAAAAATCT
M Q G Q F F R
GAAATAGAAAACTTAAAGGAGTATTTTAATGCAAGTAGCCCAGATGTAGCTAAGGGTGGG
48 107
CTTTATCTTTTGAATTTCCTCATAAAATTACGTTCATCGGGTCTACATCGATTCCCACCC
E I E N L K E Y F N A S S P D V A K G G
CCTCTCTTCTCAGAAATTTTGAAGAATTGGAAAGATGAAAGTGACAAAAAAATTATTCAG
108 167
GGAGAGAAGAGTCTTTAAAACTTCTTAACCTTTCTACTTTCACTGTTTTTTTAATAAGTC
P L F S E I L K N W K D E S D K K I I Q
AGCCAAATTGTCTCCTTCTACTTCAAACTCTTTGAAAACCTCAAAGATAACCAGGTCATT
168 227
TCGGTTTAACAGAGGAAGATGAAGTTTGAGAAACTTTTGGAGTTTCTATTGGTCCAGTAA
S Q I V S F Y F K L F E N L K D N Q V I
CAAAGGAGCATGGATATCATCAAGCAAGACATGTTTCAGAAGTTCTTGAATGGCAGCTCT
228 287
GTTTCCTCGTACCTATAGTAGTTCGTTCTGTACAAAGTCTTCAAGAACTTACCGTCGAGA
Q R S M D I I K Q D M F Q K F L N G S S
GAGAAACTGGAGGACTTCAAAAAGCTGATTCAAATTCCGGTGGATGATCTGCAGATCCAG
288 347
CTCTTTGACCTCCTGAAGTTTTTCGACTAAGTTTAAGGCCACCTACTAGACGTCTAGGTC
E K L E D F K K L I Q I P V D D L Q I Q
CGCAAAGCCATAAATGAACTCATCAAAGTGATGAATGACCTGTCACCAAAATCTAACCTC
348 407
GCGTTTCGGTATTTACTTGAGTAGTTTCACTACTTACTGGACAGTGGTTTTAGATTGGAG
R K A I N E L I K V M N D L S P K S N L
AGAAAGCGGAAGAGAAGTCAGAATCTCTTTCGAGGCCGGAGAGCATCAACGtaatgactcgagtctct
408 475
TCTTTCGCCTTCTCTTCAGTCTTAGAGAAAGCTCCGGCCTCTCGTAGTTGCattactgagctcagaga
R K R K R S Q N L F R G R R A S T *

FIGURE 7

```
atg aaa ctg aaa cgt ttg atg gcg gca atg act ttt gtc gct gct ggc       48
Met Lys Leu Lys Arg Leu Met Ala Ala Met Thr Phe Val Ala Ala Gly
1               5                  10                  15

gtt gcg acc gcc aac gcg gtg gcc gcc cag gtg cag ctg cag gag tcg       96
Val Ala Thr Ala Asn Ala Val Ala Ala Gln Val Gln Leu Gln Glu Ser
            20                  25                  30

ggc cca gga ctg gtg aag cct tcg gag acc ctg tcc ctc acc tgc act      144
Gly Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr
        35                  40                  45

gtc tct ggt ggt tcc atc agt agt tat cac tgg agc tgg atc cgg cag      192
Val Ser Gly Gly Ser Ile Ser Ser Tyr His Trp Ser Trp Ile Arg Gln
    50                  55                  60

ccc cca ggg aag gga ctg gag tgg att ggg tat atc tat tac agt ggg      240
Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly
65                  70                  75                  80

agc acc aac tac aac ccc tcc ctc aag aat cga gtc acc ata tct gta      288
Ser Thr Asn Tyr Asn Pro Ser Leu Lys Asn Arg Val Thr Ile Ser Val
                85                  90                  95

gac acg tcc aag aac cag ttc tcc ctg aac ctg agg tct gtg acc gct      336
Asp Thr Ser Lys Asn Gln Phe Ser Leu Asn Leu Arg Ser Val Thr Ala
            100                 105                 110

gca gac acg gcc gtg tat tac tgt gcg cga gga acg tat ggc cca gcc      384
Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Thr Tyr Gly Pro Ala
        115                 120                 125

gga gat gct ttt gat atc tgg ggg caa ggg acc acg gtc acc gtc tcg      432
Gly Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Thr Val Thr Val Ser
    130                 135                 140

agt ggt gga ggc ggt tca ggc gga ggt ggc agc ggc ggt ggc gga tcg      480
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
145                 150                 155                 160

gac atc cag atg acc cag tct cct tcc acc ctg tct gca tct att gga      528
Asp Ilr Gln Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Ile Gly
                165                 170                 175

gac aga gtc acc atc acc tgc cgg gcc agt gag ggt att tat cac tgg      576
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Gly Ile Tyr His Trp
            180                 185                 190

ttg gcc tgg tat cag cag aag cca ggg aaa gcc cct aaa ctc ctg atc      624
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        195                 200                 205

tat aag gcc tct agt tta gcc agt ggg gcc cca tca agg ttc agc ggc      672
Tyr Lys Ala Ser Ser Leu Ala Ser Gly Ala Pro Ser Arg Phe Ser Gly
    210                 215                 220

agt gga tct ggg aca gat ttc act ctc acc atc agc agc ctg cag cct      720
Ser Gly Ser Gly Thr Asp Phe Thr Leu The Ile Ser Ser Leu Gln Pro
225                 230                 235                 240

gat gat ttt gca act tat tac tgc caa caa tat agt aat tat ccg ctc      768
Asp Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Asn Tyr Pro Leu
                245                 250                 255

act ttc ggc gga ggg acc aag ctg gag atc aaa cgt gcg gcc gca cat      816
Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala His
            260                 265                 270

cac cat cat cac cat taa                                             834
His His His His His
        275
```

FIGURE 8

```
Met Lys Leu Lys Arg Leu Met Ala Ala Met Thr Phe Val Ala Ala Gly

Val Ala Thr Ala Asn Ala Val Ala Ala Gln Val Gln Leu Gln Glu Ser
            20                  25                  30

Gly Pro Gly Leu Val Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr
        35                  40                  45

Val Ser Gly Gly Ser Ile Ser Ser Tyr His Trp Ser Trp Ile Arg Gln
    50                  55                  60

Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly
65                  70                  75                  80

Ser Thr Asn Tyr Asn Pro Ser Leu Lys Asn Arg Val Thr Ile Ser Val
                85                  90                  95

Asp Thr Ser Lys Asn Gln Phe Ser Leu Asn Leu Arg Ser Val Thr Ala
            100                 105                 110

Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Thr Tyr Gly Pro Ala
        115                 120                 125

Gly Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Thr Val Thr Val Ser
    130                 135                 140

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
145                 150                 155                 160

Asp Ilr Gln Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Ile Gly
                165                 170                 175

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Glu Gly Ile Tyr His Trp
            180                 185                 190

Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
        195                 200                 205

Tyr Lys Ala Ser Ser Leu Ala Ser Gly Ala Pro Ser Arg Phe Ser Gly
    210                 215                 220

Ser Gly Ser Gly Thr Asp Phe Thr Leu The Ile Ser Ser Leu Gln Pro
225                 230                 235                 240

Asp Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Ser Asn Tyr Pro Leu
                245                 250                 255

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala His
            260                 265                 270

His His His His His
        275
```

FIGURE 9

```
atg aaa ctg aaa cgt ttg atg gcg gca atg act ttt gtc gct gct ggc      48
Met Lys Leu Lys Arg Leu Met Ala Ala Met Thr Phe Val Ala Ala Gly
1               5                  10                  15

gtt gcg acc gcc aac gcg gtg gcc ttc cca acc att ccc tta tcc agg      96
Val Ala Thr Ala Asn Ala Val Ala Phe Pro Thr Ile Pro Leu Ser Arg
            20                  25                  30

cct ttt gac aac gct atg ctc cgc gcc cat cgt ctg cac cag ctg gcc     144
Pro Phe Asp Asn Ala Met Leu Arg Ala His Arg Leu His Gln Leu Ala
        35                  40                  45

ttt gac acc tac cag gag ttt gaa gaa gcc tat atc cca aag gaa cag     192
Phe Asp Thr Tyr Gln Glu Phe Glu Glu Ala Tyr Ile Pro Lys Glu Gln
    50                  55                  60

aag tat tca ttc ctg cag aac ccc cag acc tcc ctc tgt ttc tca gag     240
Lys Tyr Ser Phe Leu Gln Asn Pro Gln Thr Ser Leu Cys Phe Ser Glu
65                  70                  75                  80

tct att ccg aca ccc tcc aac agg gag gaa aca caa cag aaa tcc aac     288
Ser Ile Pro Thr Pro Ser Asn Arg Glu Glu Thr Gln Gln Lys Ser Asn
                85                  90                  95

cta gag ctg ctc cgc atc tcc ctg ctg ctc atc cag tcg tgg ctg gag     336
Leu Glu Leu Leu Arg Ile Ser Leu Leu Leu Ile Gln Ser Trp Leu Glu
            100                 105                 110

ccc gtg cag ttc ctc agg agt gtc ttc gcc aac agc ctg gtg tac ggc     384
Pro Val Gln Phe Leu Arg Ser Val Phe Ala Asn Ser Leu Val Tyr Gly
        115                 120                 125

gcc tct gac agc aac gtc tat gac ctc cta aag gac cta gag gaa ggc     432
Ala Ser Asp Ser Asn Val Tyr Asp Leu Leu Lys Asp Leu Glu Glu Gly
    130                 135                 140

atc caa acg ctg atg ggg agg ctg gaa gat ggc agc ccc cgg act ggg     480
Ile Gln Thr Leu Met Gly Arg Leu Glu Asp Gly Ser Pro Arg Thr Gly
145                 150                 155                 160

cag atc ttc aag cag acc tac agc aag ttc gac aca aac tca cac aac     528
Gln Ile Phe Lys Gln Thr Tyr Ser Lys Phe Asp Thr Asn Ser His Asn
                165                 170                 175

gat gac gca cta ctc aag aac tac ggg ctg ctc tac tgc ttc agg aag     576
Asp Asp Ala Leu Leu Lys Asn Tyr Gly Leu Leu Tyr Cys Phe Arg Lys
            180                 185                 190

gac atg gac aag gtc gag aca ttc ctg cgc atc gtg cag tgc cgc tct     624
Asp Met Asp Lys Val Glu Thr Phe Leu Arg Ile Val Gln Cys Arg Ser
        195                 200                 205

gtg gag ggc agc tgt ggc ttc taa                                    648
Val Glu Gly Ser Cys Gly Phe
    210                 215
```

FIGURE 10

```
Met Lys Leu Lys Arg Leu Met Ala Ala Met Thr Phe Val Ala Ala Gly
1               5                  10                  15

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

Pro Phe Asp Asn Ala Met Leu Arg Ala His Arg Leu His Gln Leu Ala
        35                  40                  45

Phe Asp Thr Tyr Gln Glu Phe Glu Glu Ala Tyr Ile Pro Lys Glu Gln
    50                  55                  60

Lys Tyr Ser Phe Leu Gln Asn Pro Gln Thr Ser Leu Cys Phe Ser Glu
65                  70                  75                  80

Ser Ile Pro Thr Pro Ser Asn Arg Glu Glu Thr Gln Gln Lys Ser Asn
                85                  90                  95

Leu Glu Leu Leu Arg Ile Ser Leu Leu Leu Ile Gln Ser Trp Leu Glu
            100                 105                 110

Pro Val Gln Phe Leu Arg Ser Val Phe Ala Asn Ser Leu Val Tyr Gly
        115                 120                 125

Ala Ser Asp Ser Asn Val Tyr Asp Leu Leu Lys Asp Leu Glu Glu Gly
    130                 135                 140

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

Gln Ile Phe Lys Gln Thr Tyr Ser Lys Phe Asp Thr Asn Ser His Asn
                165                 170                 175

Asp Asp Ala Leu Leu Lys Asn Tyr Gly Leu Leu Tyr Cys Phe Arg Lys
            180                 185                 190

Asp Met Asp Lys Val Glu Thr Phe Leu Arg Ile Val Gln Cys Arg Ser
        195                 200                 205

Val Glu Gly Ser Cys Gly Phe
    210                 215
```

FIGURE 11