Figure 1.

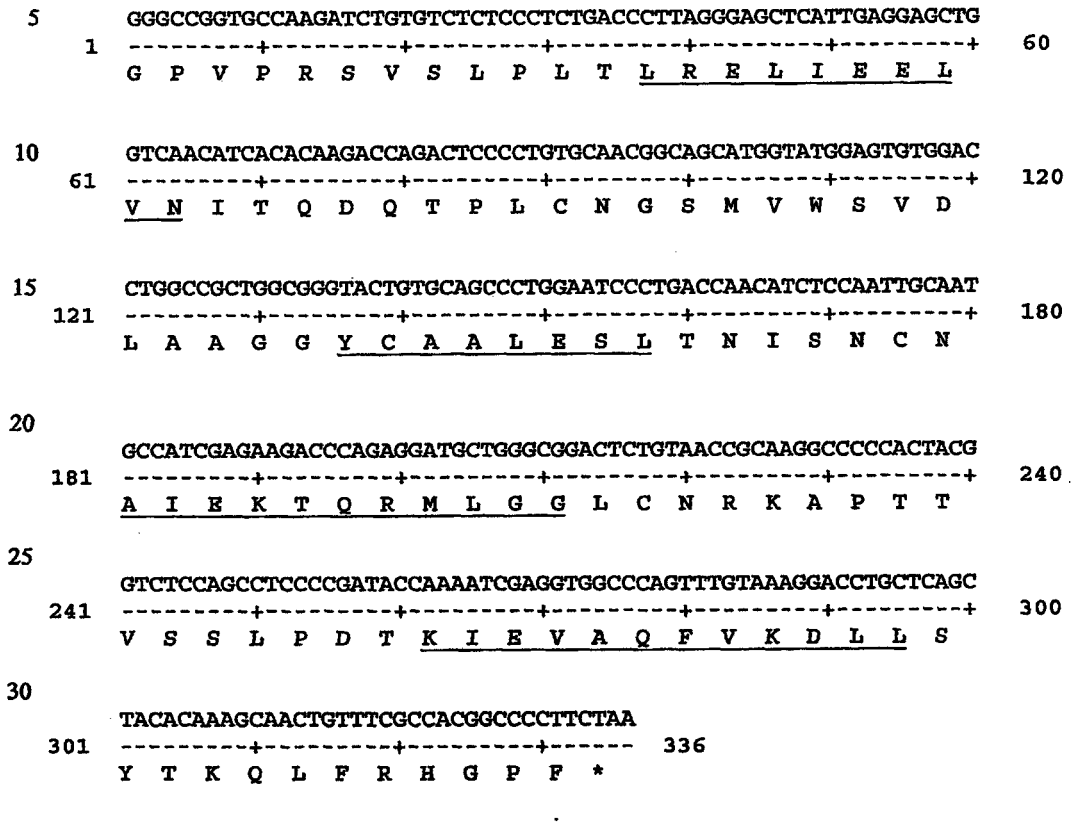
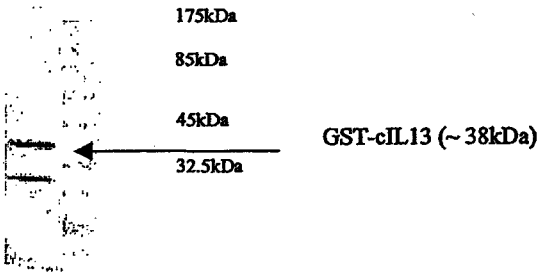

5
GGGCCGGTGCCAAGATCTGTGTCTCTCCCTCTGACCCTTAGGGAGCTCATTGAGGAGCTG
1
60
G P V P R S V S L P L T L R E L I E E L
10
GTCAACATCACACAAGACCAGACTCCCCTGTGCAACGGCAGCATGGTATGGAGTGTGGAC
61
120
V N I T Q D Q T P L C N G S M V W S V D
15
CTGGCCGCTGGCGGGTACTGTGCAGCCCTGGAATCCCTGACCAACATCTCCAATTGCAAT
121
180
L A A G G Y C A A L E S L T N I S N C N
20
GCCATCGAGAAGACCCAGAGGATGCTGGGCGGACTCTGTAACCGCAAGGCCCCCACTACG
181
240
A I E K T Q R M L G G L C N R K A P T T
25
GTCTCCAGCCTCCCCGATACCAAAATCGAGGTGGCCCAGTTTGTAAAGGACCTGCTCAGC
241
300
V S S L P D T K I E V A Q F V K D L L S
30
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301
336
Y T K Q L F R H G P F *

Figure 2.



5

Figure 3

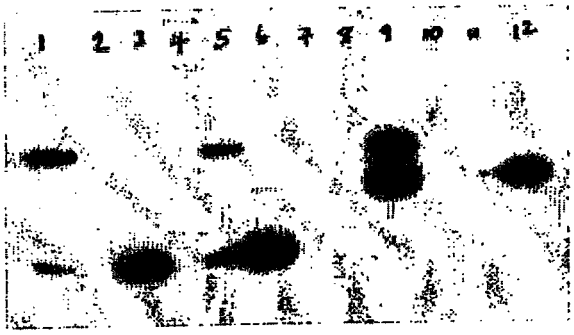
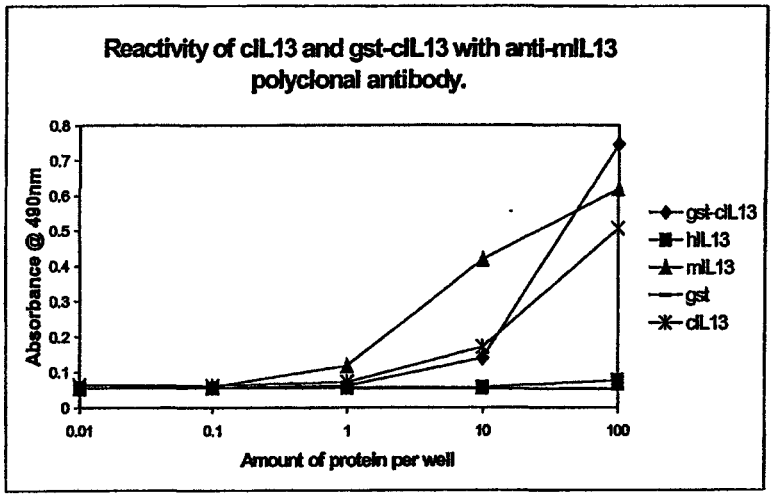
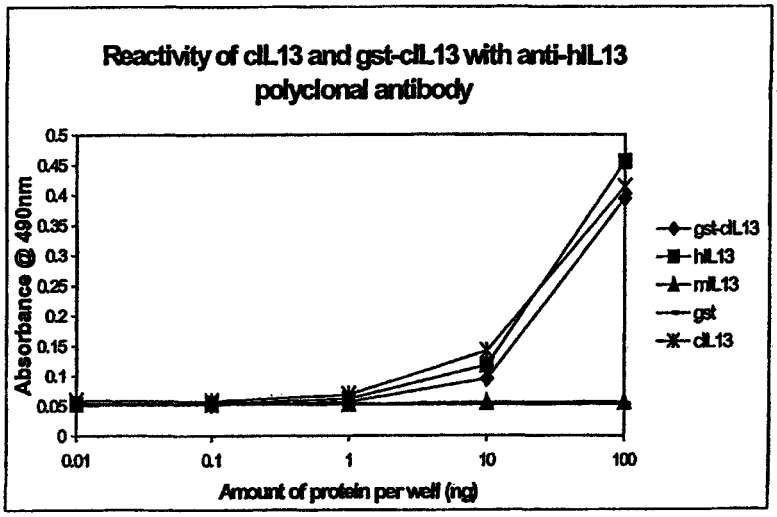


Figure 4


Reactivity of clL13 and gst-clL13 with anti-mlL13 polyclonal antibody.
Absorbance @ 490nm
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.01
0.1
1
10
100
Amount of protein per well
gst-clL13
hlL13
mlL13
gst
clL13


Reactivity of clL13 and gst-clL13 with anti-hlL13 polyclonal antibody
Absorbance @ 490nm
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
0.01
0.1
1
10
100
Amount of protein per well (ng)
gst-clL13
hlL13
mlL13
gst
clL13

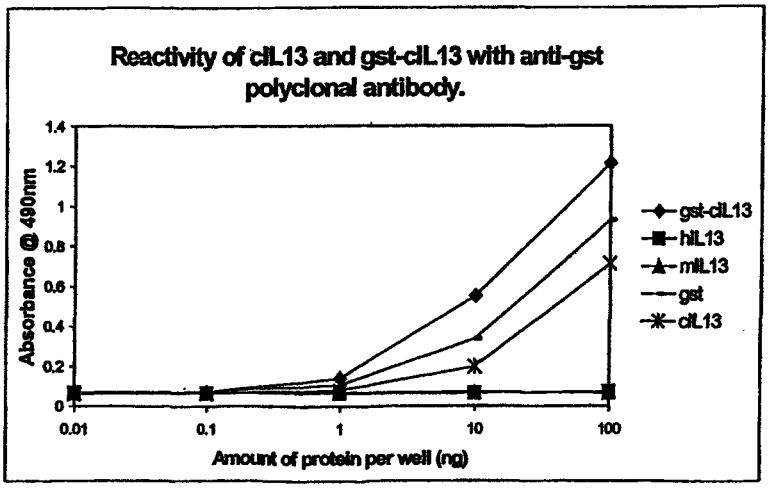

Reactivity of clL13 and gst-clL13 with anti-gst polyclonal antibody.
Absorbance @ 490nm
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0.01
0.1
1
10
100
Amount of protein per well (ng)
gst-clL13
hlL13
mlL13
gst
clL13

Figure 5

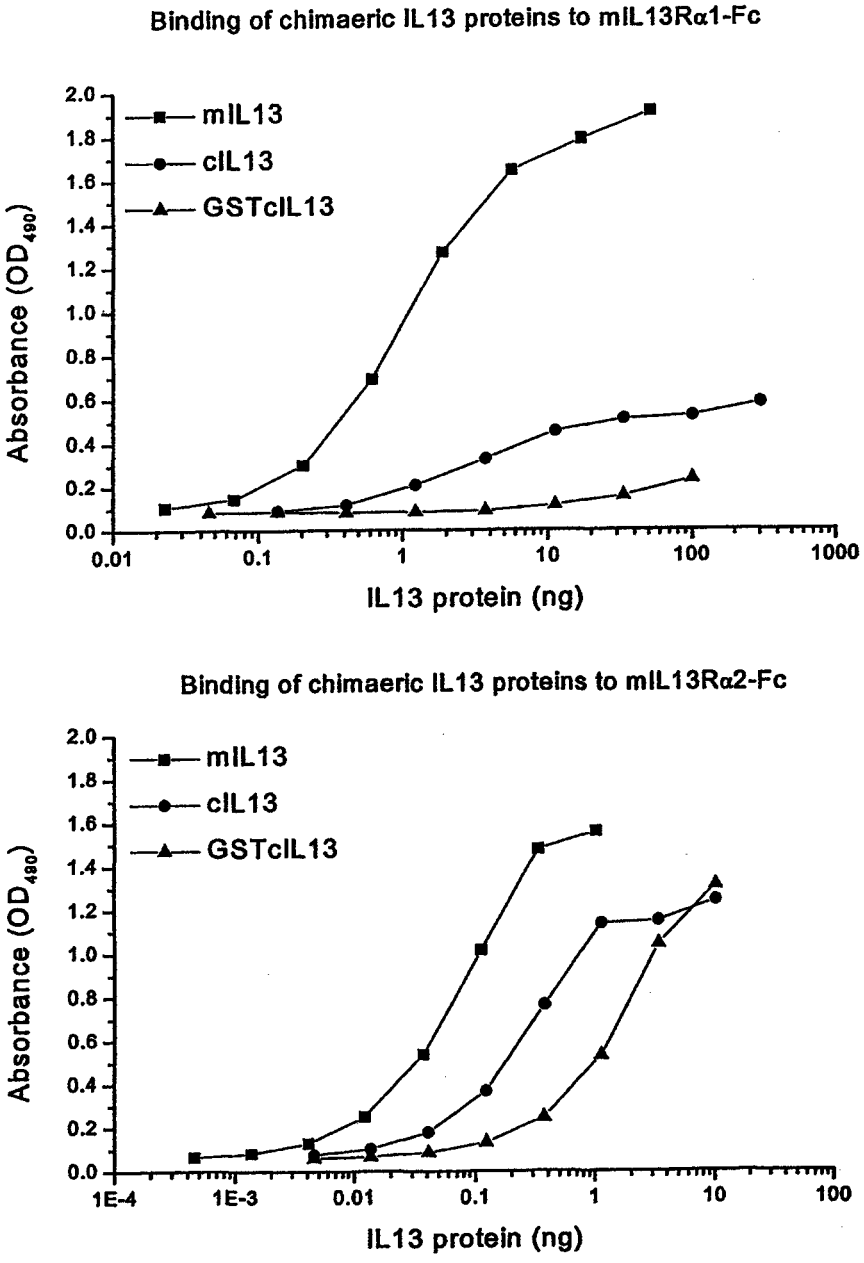

Binding of chimaeric IL13 proteins to mIL13Rα1-Fc
mIL13
cIL13
GSTcIL13
Absorbance (OD490)
IL13 protein (ng)
Binding of chimaeric IL13 proteins to mIL13Rα2-Fc
mIL13
cIL13
GSTcIL13
Absorbance (OD490)
IL13 protein (ng)

Figure 6

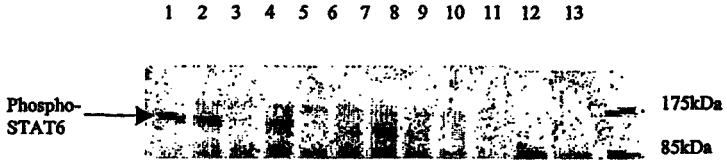


Figure 7a

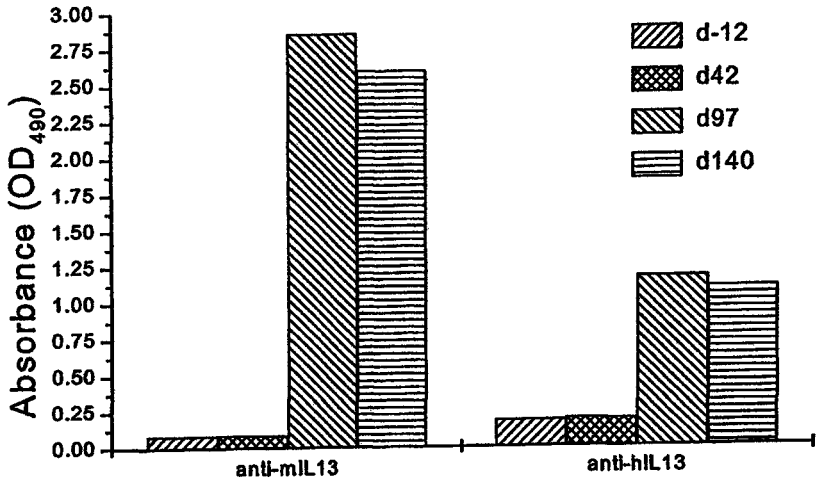


Figure 7b

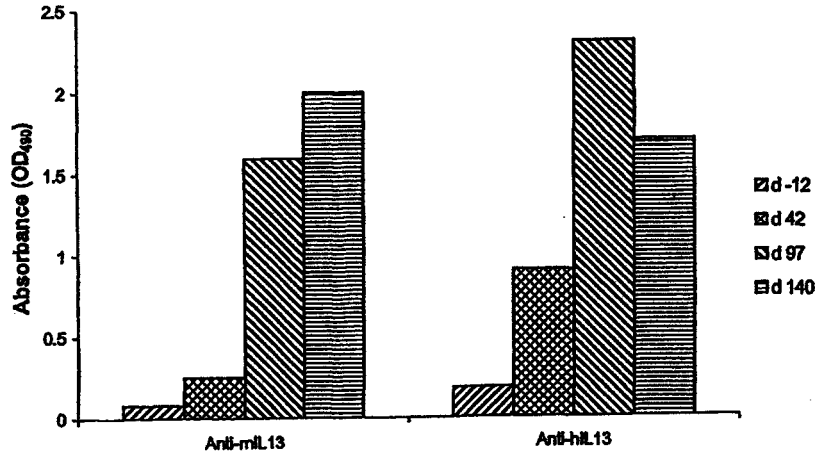


Figure 8

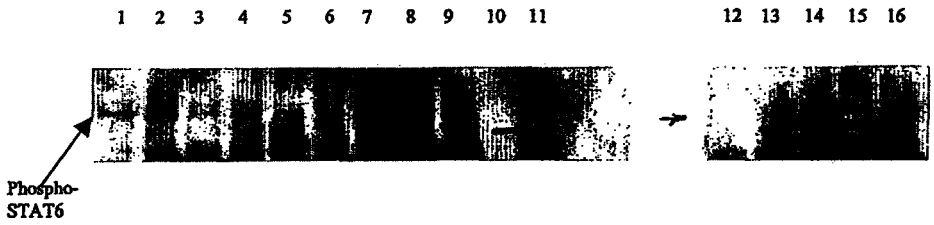


Figure 9

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---------+---------+---------+---------+---------+---------+   60
M  A  L  L  L  T  T  V  I  A  L  T  C  L  G  G  F  A  S  P

GGCCCTGTGCCTCCCTCTACAGCCCTTAAGGAGCTTATTGAGGAGCTGAGCAACATCACC
---------+---------+---------+---------+---------+---------+  120
G  P  V  P  P  S  T  A  L  K  E  L  I  E  E  L  S  N  I  T

CAGAACCAGAAGGCTCCGCTCTGCAATGGCAGCATGGTTTGGAGCATCAACCTGACAGCT
---------+---------+---------+---------+---------+---------+  180
Q  N  Q  K  A  P  L  C  N  G  S  M  V  W  S  I  N  L  T  A

GGCATGTTCTGTGTAGCCCTGGATTCCCTGATCAACGTGTCAGGCTGCAGTGCCATCTAC
---------+---------+---------+---------+---------+---------+  240
G  M  F  C  V  A  L  D  S  L  I  N  V  S  G  C  S  A  I  Y

AGGACCCAGAGGATATTGCATGGCTTCTGCCCGCACAAGGTCTCAGCTGGGCAGTTTTCC
---------+---------+---------+---------+---------+---------+  300
R  T  Q  R  I  L  H  G  F  C  P  H  K  V  S  A  G  Q  F  S

AGCTTGCATGTCCGAGACACCAAAATCGAAGTAGCCCACTTTATAACAAAACTGCTCTTA
---------+---------+---------+---------+---------+---------+  360
S  L  H  V  R  D  T  K  I  E  V  A  H  F  I  T  K  L  L  L

CATTTAAAGAAACTTTTTCGCGAGGGACGGTTCAACTGA
---------+---------+---------+---------  399
H  L  K  K  L  F  R  E  G  R  F  N  *
```

Figure 10

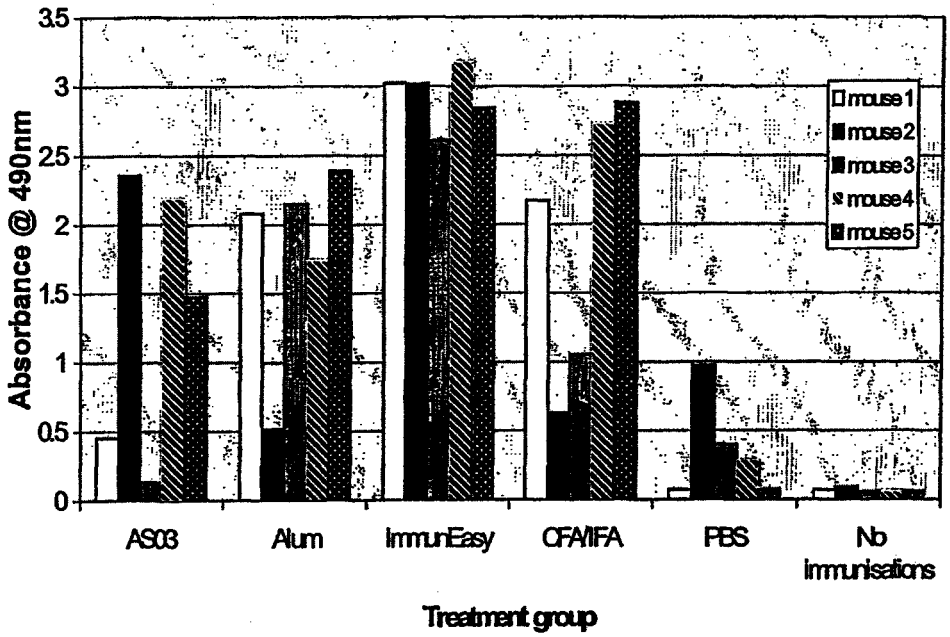

Absorbance @ 490nm
3.5
3
2.5
2
1.5
1
0.5
0
mouse1
mouse2
mouse3
mouse4
mouse5
AS03
Alum
ImmunEasy
CFA/IFA
PBS
No immunisations
Treatment group

Figure 11

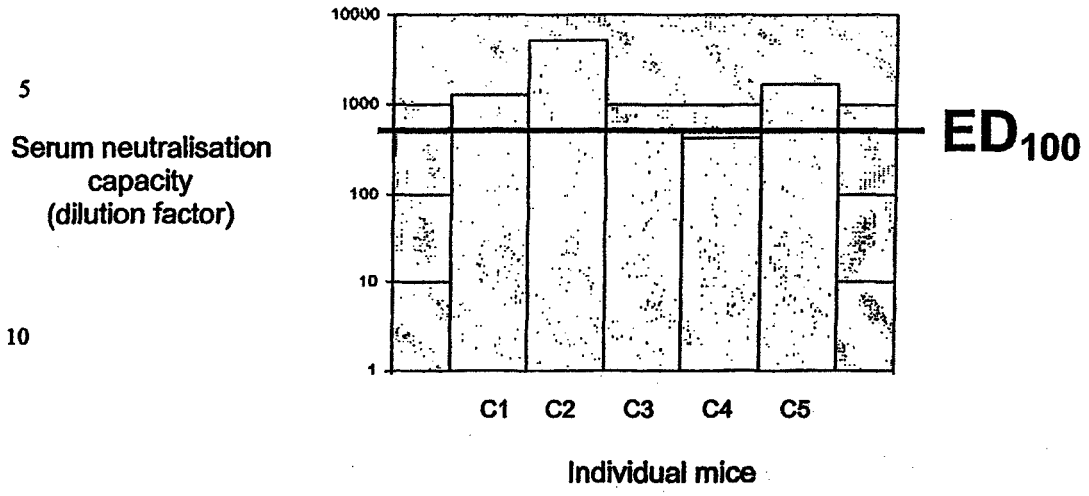

Serum neutralisation capacity (dilution factor)
10000
1000
100
10
1
ED100
C1
C2
C3
C4
C5
Individual mice

Figure 12

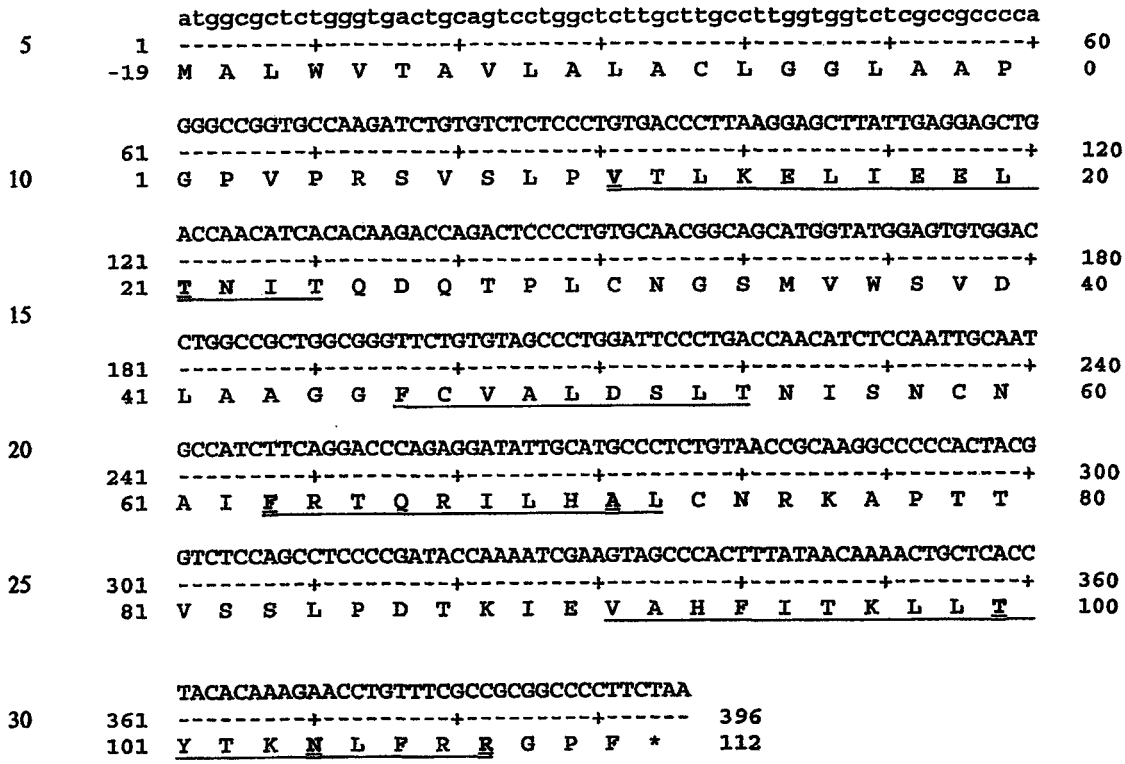
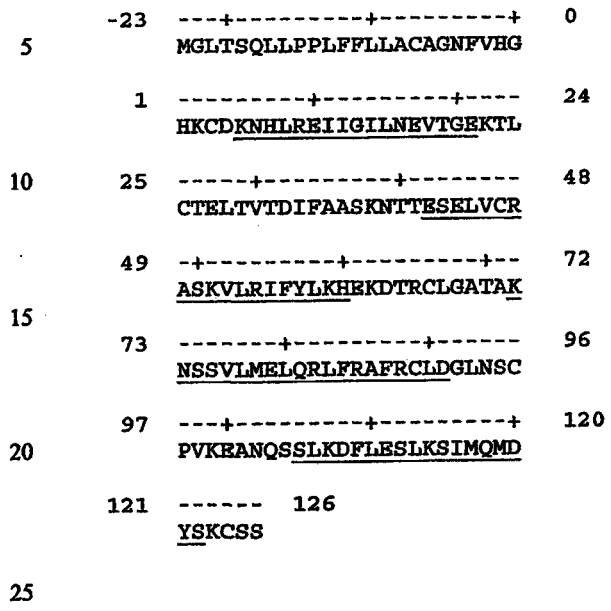

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61 120
1 G P V P R S V S L P V T L K E L I E E L 20
ACCAACATCACACAAGACCAGACTCCCCTGTGCAACGGCAGCATGGTATGGAGTGTGGAC
121 180
21 T N I T Q D Q T P L C N G S M V W S V D 40
CTGGCCGCTGGCGGGTTCTGTGTAGCCCTGGATTCCCTGACCAACATCTCCAATTGCAAT
181 240
41 L A A G G F C V A L D S L T N I S N C N 60
GCCATCTTCAGGACCCAGAGGATATTGCATGCCCTCTGTAACCGCAAGGCCCCCACTACG
241 300
61 A I F R T Q R I L H A L C N R K A P T T 80
GTCTCCAGCCTCCCCGATACCAAAATCGAAGTAGCCCACTTTATAACAAAACTGCTCACC
301 360
81 V S S L P D T K I E V A H F I T K L L T 100
TACACAAAGAACCTGTTTCGCCGCGGCCCCTTCTAA
361 396
101 Y T K N L F R R G P F * 112

Figure 13


-23 ---+---------+---------+ 0
MGLTSQLLPPLFFLLACAGNFVHG
1 ---------+---------+---- 24
HKCDKNHLRRIIGILNEVTGEKTL
25 -----+---------+-------- 48
CTELTVTDIFAASKNTTESELVCR
49 -+---------+---------+-- 72
ASKVLRIFYLKHEKDTRCLGATAK
73 -------+---------+------ 96
NSSVLMELQRLFRAFRCLDGLNSC
97 ---+---------+---------+ 120
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121 ------ 126
YSKCSS

SEQUENCE LISTING

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<120> Vaccine

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<213> Artificial Sequence

<220>
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1 5 10

<210> 2
<211> 8
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gtgtggacct ggc 73

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<211> 72
<212> DNA
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<211> 71

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gccatcgaga agacccagag gatgctgggc ggactctgta accgcaaggc ccccactacg 240
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<211> 111

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

<210> 21
<211> 399
<212> DNA
<213> Artificial Sequence

<220>
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cagaaccaga aggctccgct ctgcaatggc agcatggttt ggagcatcaa cctgacagct 180
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<212> PRT
<213> Artificial Sequence

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Phe Ala Ser Pro Gly Pro Val Pro Pro Ser Thr Ala Leu Lys Glu Leu
20 25 30
Ile Glu Glu Leu Ser Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys
35 40 45
Asn Gly Ser Met Val Trp Ser Ile Asn Leu Thr Ala Gly Met Phe Cys
50 55 60
Val Ala Leu Asp Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile Tyr
65 70 75 80
Arg Thr Gln Arg Ile Leu His Gly Phe Cys Pro His Lys Val Ser Ala
85 90 95

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Gly Gln Phe Ser Ser Leu His Val Arg Asp Thr Lys Ile Glu Val Ala
            100                 105                 110
His Phe Ile Thr Lys Leu Leu Leu His Leu Lys Lys Leu Phe Arg Glu
        115                 120                 125
Gly Arg Phe Asn
    130
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            20                  25                  30
Leu Lys Glu Leu Ile Glu Glu Leu Thr Asn Ile Thr Gln Asp Gln Thr
        35                  40                  45
Pro Leu Cys Asn Gly Ser Met Val Trp Ser Val Asp Leu Ala Ala Gly
    50                  55                  60
Gly Phe Cys Val Ala Leu Asp Ser Leu Thr Asn Ile Ser Asn Cys Asn
65                  70                  75                  80
Ala Ile Phe Arg Thr Gln Arg Ile Leu His Ala Leu Cys Asn Arg Lys
                85                  90                  95
Ala Pro Thr Thr Val Ser Ser Leu Pro Asp Thr Lys Ile Glu Val Ala
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Gly Pro Phe
    130
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<210> 25
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<220>
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<400> 25

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            20                  25                  30
Arg Glu Ile Ile Gly Ile Leu Asn Glu Val Thr Gly Glu Lys Thr Leu
        35                  40                  45
Cys Thr Glu Leu Thr Val Thr Asp Ile Phe Ala Ala Ser Lys Asn Thr
    50                  55                  60
Thr Glu Ser Glu Leu Val Cys Arg Ala Ser Lys Val Leu Arg Ile Phe
65                  70                  75                  80
Tyr Leu Lys His Glu Lys Asp Thr Arg Cys Leu Gly Ala Thr Ala Lys
                85                  90                  95
Asn Ser Ser Val Leu Met Glu Leu Gln Arg Leu Phe Arg Ala Phe Arg
            100                 105                 110
Cys Leu Asp Gly Leu Asn Ser Cys Pro Val Lys Glu Ala Asn Gln Ser
        115                 120                 125
Ser Leu Lys Asp Phe Leu Glu Ser Leu Lys Ser Ile Met Gln Met Asp
    130                 135                 140
Tyr Ser Lys Cys Ser Ser
145                 150
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7