VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q   l  l  e   s  g  g  g   l  v  q   p  g  g   s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a   a  s  g   f  t  f  s   s  y  a   m  s  w   v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k   g  l  e   w  v  s  a   i  s  g   s  g  g   s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
       a  d  s   v  k  g   r  f  t  i   s  r  d   n  s  k   n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTAT ATTACTGTGC GAAAGATGGT
       l  q  m   n  s  l   r  a  e  d   t  a  v   y  y  c   a  k  d  g
301  AGCAGTGGCT GGTACGTACC ACACTGGTTC GACCCCTGGG GCCAGGGCAC CCTGGTCACC
       s  s  g   w  y  v   p  h  w  f   d  p  w   g  g  g   t  l  v  t
361  GTCTCCTCA  (SEQ ID NO:1)
       v  s  s  (SEQ ID NO:2)
```

Fig. 1A

VH PROTEIN SEQUENCE

```
                                        (SEQ ID NO:3)          (SEQ ID NO:4)
  1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
 61  ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKDG SSGWYVPHWF DPWGQGTLVT
121  VSS (SEQ ID NO:2)                              (SEQ ID NO:5)
```

Fig. 1B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAAGAC GGTAACCATC
       n  f  m   l  t  q   p  h  s  v   s  e  s   p  g  k   t  v  t  i
 61  TCCTGCACTC GCAGCAGTGG CAGCATTGCC AGCAACTATG TGCAGTGGTA CCAACAGCGC
       s  c  t   r  s  s   g  s  i  a   s  n  y   v  q  w   y  q  q  r
121  CCGGGCAGTT CCCCCACCAC TGTCATCTAT GAGGATAACC AGAGACCCTC TGGGGTCCCT
       p  g  s   s  p  t   t  v  i  y   e  d  n   g  r  p   s  g  v  p
181  GATCGGTTCT CTGGCTCCAT CGACAGCTCC TCCAATTCTG CCTCCCTCAC CATCTCTGGG
       d  r  f   s  g  s   i  d  s  s   s  n  s   a  s  l   t  i  s  g
241  CTGAAGACTG AGGACGAGGC TGACTACTAC TGTCAGTCTT ATGATGGCAG CAATCGTTGG
       l  k  t   e  d  e   a  d  y  y   c  q  s   y  d  g   s  n  r  w
301  ATGTTCGGCG GAGGGACCAA GCTGACCGTC CTA  (SEQ ID NO:6)
       m  f  g   g  g  t   k  l  t  v   l  (SEQ ID NO:7)
```

Fig. 1C

VL PROTEIN SEQUENCE

```
                                (SEQ ID NO:8)                (SEQ ID NO:9)
  1  NFMLTQPHSV SESPGKTVTI SCTRSSGSIA SNYVQWYQQR PGSSPTTVIY EDNQRPSGVP
 61  DRFSGSIDSS SNSASLTISG LKTEDEADYY CQSYDGSNRW MFGGGTKLTV L (SEQ ID NO:7)
                                (SEQ ID NO:10)
```

Fig. 1D

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a  a  s  g  f  t  f  s  s  y  a  m  s  w  v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k  g  l  e  w  v  s  a  i  s  g  s  g  g  s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
       a  d  s  v  k  g  r  f  t  i  s  r  d  n  s  k  n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTAT ATTACTGTGC GAAAGATGGT
       l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  a  k  d  g
301  AGCAGTGGCT GGTACGTACC ACACTGGTTC GACCCCTGGG GCCGGGGCAC CCTGGTCACC
       s  s  g  w  y  v  p  h  w  f  d  p  w  g  r  g  t  l  v  t
361  GTCTCGAGT  (SEQ ID NO:102)
       v  s  s  (SEQ ID NO:103)
```

Fig. 1E

VH PROTEIN SEQUENCE

```
                                        (SEQ ID NO:3)          (SEQ ID NO:4)
  1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
 61  ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKDG SSGWYVPHWF DPWGRGTLVT
121  VSS (SEQ ID NO:103)                              (SEQ ID NO:5)
```

Fig. 1F

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAAGAC GGTAACCATC
       n  f  m  l  t  q  p  h  s  v  s  e  s  p  g  k  t  v  t  i
 61  TCCTGCACTC GCAGCAGTGG CAGCATTGTC AGCAACTATG TGCAGTGGTA CCAACAGCGC
       s  c  t  r  s  s  g  s  i  v  s  n  y  v  q  w  y  q  q  r
121  CCGGGCAGTG CCCCCACCAC TGTCATCTAT GAGGATAACC GGAGACCCTC TGGGGTCCCT
       p  g  s  a  p  t  t  v  i  y  e  d  n  r  r  p  s  g  v  p
181  GATCGGTTCT CTGGCTCCAT CGACAGCTCC TCCAATACTG CCTCCCTCAC CATCTCTGGG
       d  r  f  s  g  s  i  d  s  s  s  n  t  a  s  l  t  i  s  g
241  CTGGAGGCTG AGGACGAGGC TGACTACTAC TGTCAGTCTT ATGATGGCAG CAATCGTTGG
       l  e  a  e  d  e  a  d  y  y  c  q  s  y  d  g  s  n  r  w
301  ATGTTCGGCG GAGGGACCAA GCTGACCGTC CTAGGT (SEQ ID NO:104)
       m  f  g  g  g  t  k  l  t  v  l  g (SEQ ID NO:105)
```

Fig. 1G

VL PROTEIN SEQUENCE

```
                                  (SEQ ID NO:106)          (SEQ ID NO:107)
  1  NFMLTQPHSV SESPGKTVTI SCTRSSGSIV SNYVQWYQQR PGSAPTTVIY EDNRRPSGVP
 61  DRFSGSIDSS SNTASLTISG LEAEDEADYY CQSYDGSNRW MFGGGTKLTV LG (SEQ ID NO:105)
                                  (SEQ ID NO:10)
```

Fig. 1H

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a  a  s  g  f  t  f  s  s  y  a  m  s  w  v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k  g  l  e  w  v  s  a  i  s  g  s  g  g  s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
       a  d  s  v  k  g  r  f  t  i  s  r  d  n  s  k  n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTAT ATTACTGTGC GAAAGATCAT
       l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  a  k  d  h
301  AGCAGTGGCT GGTACGTAAT CTCCGGTATG GACGTCTGGG GCCGAGGGAC AATGGTCACC
       s  s  g  w  y  v  i  s  g  m  d  v  w  g  r  g  t  m  v  t
361  GTCTCGAGT (SEQ ID NO:11)
       v  s  s (SEQ ID NO:12)
```

Fig. 2A

VH PROTEIN SEQUENCE

```
                                          (SEQ ID NO:3)        (SEQ ID NO:4)
  1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
 61  ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKDH SSGWYVISGM DVWGRGTMVT
121  VSS (SEQ ID NO:12)                                  (SEQ ID NO:13)
```

Fig. 2B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAAGAC GGTAACCATC
       n  f  m  l  t  q  p  h  s  v  s  e  s  p  g  k  t  v  t  i
 61  TCCTGCACCC GCAGCAGTGG CAGCATTGCC AGCAACTATG TGCAGTGGTA CCAGCAGCGC
       s  c  t  r  s  s  g  s  i  a  s  n  y  v  q  w  y  q  q  r
121  CCGGGCAGTT CCCCCACCAC TGTGATCTCT GAGGATAACC AAAGACCCTC TGGGGTCCCT
       p  g  s  s  p  t  t  v  i  s  e  d  n  q  r  p  s  g  v  p
181  GATCGGTTCT CTGGCTCCGT CGACAGCTCC TCCAACTCTG CCTCCCTCAC CATTTCTGGA
       d  r  f  s  g  s  v  d  s  s  s  n  s  a  s  l  t  i  s  g
241  CTGAGGACTG AGGACGAGGC TGACTATTAC TGTCAGTCTA ATGATTCCGA CAATGTGGTT
       l  r  t  e  d  e  a  d  y  y  c  q  s  n  d  s  d  n  v  v
301  TTCGGCGGAG GGACCAAGCT GACCGTCCTA GGT (SEQ ID NO:14)
       f  g  g  g  t  k  l  t  v  l  g (SEQ ID NO:15)
```

Fig. 2C

VL PROTEIN SEQUENCE

```
                          (SEQ ID NO:16)                  (SEQ ID NO:17)
  1  NFMLTQPHSV SESPGKTVTI SCTRSSGSIA SNYVQWYQQR PGSSPTTVIS EDNQRPSGVP
 61  DRFSGSVDSS SNSASLTISG LRTEDEADYY CQSNDSDNVV FGGGTKLTVL G (SEQ ID NO:15)
                                    (SEQ ID NO:18)
```

Fig. 2D

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a  a  s  g  f  t  f  s  s  y  a  m  s  w  v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k  g  l  e  w  v  s  a  i  s  g  s  g  g  s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATCCCAAGAA CACGCTGTAT
       a  d  s  v  k  g  r  f  t  i  s  r  d  n  p  k  n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTGT ATTACTGTGC GAAGGACCTA
       l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  a  k  d  l
301  ACAGTGGGTG GTCCCTGGTA CTACTTTGAC TACTGGGGCC AAGGAACCCT GGTCACCGTC
       t  v  g  g  p  w  y  y  f  d  y  w  g  q  g  t  l  v  t  v
361  TCGAGT (SEQ ID NO:19)
       s  s (SEQ ID NO:20)
```

Fig. 3A

VH PROTEIN SEQUENCE

```
                                        (SEQ ID NO:3)          (SEQ ID NO:4)
  1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
 61  ADSVKGRFTI SRDNPKNTLY LQMNSLRAED TAVYYCAKDL TVGGPWYYFD YWGQGTLVTV
121  SS (SEQ ID NO:20)                              (SEQ ID NO:21)
```

Fig. 3B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAAGAC GGTAACCATC
       n  f  m  l  t  q  p  h  s  v  s  e  s  p  g  k  t  v  t  i
 61  TCCTGCACCC GCAGCAGTGG CAGCATTGTC AGCAACTATG TGCAGTGGTA CCAGCAGCGC
       s  c  t  r  s  s  g  s  i  v  s  n  y  v  q  w  y  q  q  r
121  CCGGGCAGTG CCCCCACCAC TGTGATCTTT GACGATGACC AAAGACCCTC TGGGGTCCCT
       p  g  s  a  p  t  t  v  i  f  d  d  d  q  r  p  s  g  v  p
181  GGTCGGTTCT CTGGCTCCCT CGACAGCTCC TCCAACTCTG CCTCCCTCAC CATCTCTGGG
       g  r  f  s  g  s  l  d  s  s  s  n  s  a  s  l  t  i  s  g
241  CTGCAGACTG AGGACGAGGC TGACTACTAC TGTCAGTCTT ATGATAGCAG CAATGTGGTA
       l  q  t  e  d  e  a  d  y  y  c  q  s  y  d  s  s  n  v  v
301  TTCGGCGGGG GGACCAAGGT CACCGTCCTA GGT (SEQ ID NO:22)
       f  g  g  g  t  k  v  t  v  l  g (SEQ ID NO:23)
```

Fig. 3C

VL PROTEIN SEQUENCE

```
                                (SEQ ID NO:8)                    (SEQ ID NO:25)
  1  NFMLTQPHSV SESPGKTVTI SCTRSSGSIV SNYVQWYQQR PGSAPTTVIF DDDQRPSGVP
 61  GRFSGSLDSS SNSASLTISG LQTEDEADYY CQSYDSSNVV FGGGTKVTVL G (SEQ ID NO:23)
                                (SEQ ID NO:26)
```

Fig. 3D

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a  a  s  g  f  t  f  s  s  y  a  m  s  w  v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k  g  l  e  w  v  s  a  i  s  g  s  g  g  s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
       a  d  s  v  k  g  r  f  t  i  s  r  d  n  s  k  n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTGT ATTACTGTGC GAAAGATGGA
       l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  a  k  d  g
301  TGGAACGCGC TGGGATGGCT TGAATCCTGG GGCCGGGGCA CCCTGGTCAC
       w  n  a  l  g  w  l  e  s  w  g  r  g  t  l  v
351  CGTCTCGAGT (SEQ ID NO:27)
       t  v  s  s (SEQ ID NO:28)
```

Fig. 4A

VH PROTEIN SEQUENCE

```
                                        (SEQ ID NO:3)        (SEQ ID NO:4)
 1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
61  ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKDG WNALGWLESW GRGTLVTVSS (SEQ
ID NO:28)                                        (SEQ ID NO:29)
```

Fig. 4B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAGGAC GATAACCATC
       n  f  m  l  t  q  p  h  s  v  s  e  s  p  g  r  t  i  t  i
 61  TCCTGCACCC GCAGTGGTGG CAGCATTGGC AGCTACTATG TGCAGTGGTA CCAGCAGCGC
       s  c  t  r  s  g  g  s  i  g  s  y  y  v  q  w  y  q  q  r
121  CCGGGCACTG CCCCCACCAC TGTGATCTAT GACGATAAAA AAAGACCCTC TGGGGTCCCT
       p  g  t  a  p  t  t  v  i  y  d  d  k  k  r  p  s  g  v  p
181  GATCGGTTCT CTGGCTCCAT CGACAGCTCC TCCAACTCTG CCTCCCTCAC CATCTCTGGA
       d  r  f  s  g  s  i  d  s  s  s  n  s  a  s  l  t  i  s  g
241  CTGAAGACTG AGGACGAGGC TGACTACTAT TGTCAGTCTT ATGATAGCAA CAATCTTGTG
       l  k  t  e  d  e  a  d  y  y  c  q  s  y  d  s  n  n  l  v
301  GTTTTCGGCG GAGGGACCAA GGTCACCGTC CTAGGT (SEQ ID NO:30)
       v  f  g  g  g  t  k  v  t  v  l  g (SEQ ID NO:31)
```

Fig. 4C

VL PROTEIN SEQUENCE

```
                                (SEQ ID NO:32)              (SEQ ID NO:33)
 1  NFMLTQPHSV SESPGRTITI SCTRSGGSIG SYYVQWYQQR PGTAPTTVIY DDKKRPSGVP
61  DRFSGSIDSS SNSASLTISG LKTEDEADYY CQSYDSNNLV VFGGGTKVTV LG (SEQ ID NO:31)
                                (SEQ ID NO:34)
```

Fig. 4D

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a  a  s  g  f  t  f  s  s  y  a  m  s  w  v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k  g  l  e  w  v  s  a  i  s  g  s  g  g  s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
       a  d  s  v  k  g  r  f  t  i  s  r  d  n  s  k  n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTAT ATTACTGTGC GAAAGATGGT
       l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  a  k  d  g
301  AGCAGTGGCT GGTACGTACC ACACTGGTTC GACCCCTGGG GCAGGGGGAC AATGGTCACC
       s  s  g  w  y  v  p  h  w  f  d  p  w  g  r  g  t  m  v  t
361  GTCTCGAGT (SEQ ID NO:35)
       v  s  s (SEQ ID NO:36)
```

Fig. 5A

VH PROTEIN SEQUENCE

```
                                          (SEQ ID NO:3)          (SEQ ID NO:4)
  1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
 61  ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKDG SSGWYVPHWF DPWGRGTMVT
121  VSS (SEQ ID NO:36)                                (SEQ ID NO:5)
```

Fig. 5B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAAGAC GGTAACCATC
       n  f  m  l  t  q  p  h  s  v  s  e  s  p  g  k  t  v  t  i
 61  TCCTGCACCC GCAGCAGTGG CACCATTGCC AGCAACTATG TGCAGTGGTA CCAGCAGCGC
       s  c  t  r  s  s  g  t  i  a  s  n  y  v  q  w  y  q  q  r
121  CCGGGCAGTT CCCCCACCAC TGTGATCTAT GAGGATAACC AAAGACCCTC TGGGGTCCCT
       p  g  s  s  p  t  t  v  i  y  e  d  n  q  r  p  s  g  v  p
181  GATCGGTTCT CTGGCTCCAT CGACAGCTCC TCCAACTCTG CCTCCCTCAC CATCTCTGGA
       d  r  f  s  g  s  i  d  s  s  s  n  s  a  s  l  t  i  s  g
241  CTGAAGACTG AGGACGAGGC TGACTACTAC TGTCAGTCTT ATGATAACAG CAATCATTGG
       l  k  t  e  d  e  a  d  y  y  c  q  s  y  d  n  s  n  h  w
301  GTGTTCGGCG GAGGGACCAA GGTCACCGTC CTAGGT (SEQ ID NO:37)
       v  f  g  g  g  t  k  v  t  v  l  g (SEQ ID NO:38)
```

Fig. 5C

VL PROTEIN SEQUENCE

```
                                (SEQ ID NO:39)                (SEQ ID NO:17)
  1  NFMLTQPHSV SESPGKTVTI SCTRSSGTIA SNYVQWYQQR PGSSPTTVIY EDNQRPSGVP
 61  DRFSGSIDSS SNSASLTISG LKTEDEADYY CQSYDNSNHW VFGGGTKVTV LG (SEQ ID NO:38)
                                (SEQ ID NO:40)
```

Fig. 5D

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CAGGGGGGTC CCTGAAACTC
       e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  k  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCAATGCCA TGAGTTGGGT CCGCCAGGCT
       s  c  a  a  s  g  f  t  f  s  s  n  a  m  s  w  v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAACT CTTACTGGTA GTGGTGGTAC CGCATACTAC
       p  g  k  g  l  e  w  v  s  t  l  t  g  s  g  g  t  a  y  y
181  GCAGACTCCG TGGAGGGCCG GTTCAGCATC TCCAGAGACA ATTCCAAGAA CACACTGTAT
       a  d  s  v  e  g  r  f  s  i  s  r  d  n  s  k  n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTAT ATTACTGTGC GAAGGGCACG
       l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  a  k  g  t
301  GAACTCGTGG GAGGAGGACT TGACAACTGG GGCCAAGGCA CCCTGGTCAC
       e  l  v  g  g  g  l  d  n  w  g  q  g  t  l  v
351  CGTCTCGAGT (SEQ ID NO:41)
       t  v  s  s (SEQ ID NO:42)
```

Fig. 6A

VH PROTEIN SEQUENCE

```
                                        (SEQ ID NO:43)      (SEQ ID NO:44)
  1  EVQLLESGGG LVQPGGSLKL SCAASGFTFS SNAMSWVRQA PGKGLEWVST LTGSGGTAYY
 61  ADSVEGRFSI SRDNSKNTLY LQMNSLRAED TAVYYCAKGT ELVGGGLDNW GQGTLVTVSS (SEQ
ID NO:42)                                        (SEQ ID NO:45)
```

Fig. 6B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTCTG TCGGAGTCTC CGGGGAAGAC GGTGACGATC
       n  f  m  l  t  q  p  h  s  l  s  e  s  p  g  k  t  v  t  i
 61  TCCTGCACCG GCAGCGGAGG CAGCATTGCC ACCAACTATG TGCAGTGGTA TCAGCAGCGC
       s  c  t  g  s  g  g  s  i  a  t  n  y  v  q  w  y  q  q  r
121  CCGGGCAGTG CCCCCACCAC TGTGATCCAT GAGGATAACC AAAGACCCTC TGGGGTCCCT
       p  g  s  a  p  t  t  v  i  h  e  d  n  q  r  p  s  g  v  p
181  GATCGGTTCT CTGGCTCCAT CGACGGCTCC TCCAACTCTG CCTCCCTCAC CATCTCTGGA
       d  r  f  s  g  s  i  d  g  s  s  n  s  a  s  l  t  i  s  g
241  CTGCAGCCTG AGGACGAGGC TGATTACTAC TGTCAGTCTT ATGATAGTGA CAATCATCAT
       l  q  p  e  d  e  a  d  y  y  c  q  s  y  d  s  d  n  h  h
301  GTGGTATTCG GCGGAGGGAC CAAGCTGACC GTCCTAGGT (SEQ ID NO:46)
       v  v  f  g  g  g  t  k  l  t  v  l  g (SEQ ID NO:47)
```

Fig. 6C

VL PROTEIN SEQUENCE

```
                          (SEQ ID NO:48)              (SEQ ID NO:17)
  1  NFMLTQPHSL SESPGKTVTI SCTGSGGSIA TNYVQWYQQR PGSAPTTVIH EDNQRPSGVP
 61  DRFSGSIDGS SNSASLTISG LQPEDEADYY CQSYDSDNHH VVFGGGTKLT VLG (SEQ ID NO:47)
                                (SEQ ID NO:49)
```

Fig. 6D

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q   l  l  e   s  g  g  g   l  v  q   p  g  g   s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a   a  s  g   f  t  f  s   s  y  a   m  s  w   v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k   g  l  e   w  v  s  a   i  s  g   s  g  g   s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
       a  d  s   v  k  g   r  f  t  i   s  r  d   n  s  k   n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTGT ATTACTGTGC GAAAGATGGA
       l  q  m   n  s  l   r  a  e  d   t  a  v   y  y  c   a  k  d  g
301  TGGAACGCGC TGGGATGGCT TGAATCCTGG GGCAAGGGGA CAATGGTCAC
       w  n  a   l  g  w   l  e  s  w   g  k  g   t  m  v
351  CGTCTCGAGT (SEQ ID NO:50)
       t  v  s   s (SEQ ID NO:51)
```

Fig. 7A

VH PROTEIN SEQUENCE

(SEQ ID NO:3) (SEQ ID NO:4)

1 EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
61 ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKDG WNALGWLESW GKGTMVTVSS (SEQ
ID NO:51) (SEQ ID NO:29)

Fig. 7B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAAGAC GGTAACCATC
       n  f  m   l  t  q   p  h  s  v   s  e  s   p  g  k   t  v  t  i
 61  TCCTGCACCG GCAGCAGTGG CAGCATTGCC AGCAACTATG TGCAGTGGTA CCAGCAGCGC
       s  c  t   g  s  s   g  s  i  a   s  n  y   v  q  w   y  q  q  r
121  CCGGGCAGTG CCCCCACCAC TGTGATCTAT GAGGATAACC AAAGACCCTC TGGGGTCCCT
       p  g  s   a  p  t   t  v  i  y   e  d  n   q  r  p   s  g  v  p
181  GATCGGTTCT CTGGCTCCAT CGACAGCTCC TCCAACTCTG CCTCCCTCAC CATCTCTGGA
       d  r  f   s  g  s   i  d  s  s   s  n  s   a  s  l   t  i  s  g
241  CTGAAGACTG AGGACGAGGC TGACTACTAC TGTCAGTCTT ATGATAGCAG CAATCAAGAG
       l  k  t   e  d  e   a  d  y  y   c  q  s   y  d  s   s  n  q  e
301  GTGGTATTCG GCGGAGGGAC CAAGCTGACC GTCCTAGGT (SEQ ID NO:53)
       v  v  f   g  g  g   t  k  l  t   v  l  g (SEQ ID NO:54)
```

Fig. 7C

VL PROTEIN SEQUENCE

(SEQ ID NO:55) (SEQ ID NO:17)

1 NFMLTQPHSV SESPGKTVTI SCTGSSGSIA SNYVQWYQQR PGSAPTTVIY EDNQRPSGVP
61 DRFSGSIDSS SNSASLTISG LKTEDEADYY CQSYDSSNQE VVFGGGTKLT VLG (SEQ ID
NO:54) (SEQ ID NO:56)

Fig. 7D

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a  a  s  g  f  t  f  s  s  y  a  m  s  w  v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k  g  l  e  w  v  s  a  i  s  g  s  g  g  s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
       a  d  s  v  k  g  r  f  t  i  s  r  d  n  s  k  n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTAT ATTACTGTGC GAAAGATGGT
       l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  a  k  d  g
301  AGCAGTGGCT GGTACGTACC ACACTGGTTC GACCCCTGGG GCCAGGGAAC CCTGGTCACC
       s  s  g  w  y  v  p  h  w  f  d  p  w  g  q  g  t  l  v  t
361  GTCTCGAGT (SEQ ID NO:57)
       v  s  s (SEQ ID NO:58)
```

Fig. 8A

VH PROTEIN SEQUENCE

```
                                        (SEQ ID NO:3)          (SEQ ID NO:4)
  1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
 61  ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKDG SSGWYVPHWF DPWGQGTLVT
121  VSS (SEQ ID NO:58)                                  (SEQ ID NO:5)
```

Fig. 8B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAAGAC GGTTACCATC
       n  f  m  l  t  q  p  h  s  v  s  e  s  p  g  k  t  v  t  i
 61  TCCTGCACCC GCAGCAGTGG CAGCATTGTC AGCAACTATG TACAGTGGTA CCAGCAGCGC
       s  c  t  r  s  s  g  s  i  v  s  n  y  v  q  w  y  q  q  r
121  CCGGGCAGTT CCCCCACCAC TGTGATCTAT GAGGATAACC AAAGACCCTC TGGGGTCCCT
       p  g  s  s  p  t  t  v  i  y  e  d  n  q  r  p  s  g  v  p
181  GATCGGTTCT CTGGCTCCAT CGACAGCTCC TCCAACTCTG CCTCCCTCAC CATCTCTGGA
       d  r  f  s  g  s  i  d  s  s  s  n  s  a  s  l  t  i  s  g
241  CTGAAGACTG AGGACGAGGC TGACTACTAC TGTCAGTCTT ATGATAGCAA CAATTTTTGG
       l  k  t  e  d  e  a  d  y  y  c  q  s  y  d  s  n  n  f  w
301  GTGTTCGGCG GAGGGACCAA GCTGACCGTC CTAGGT (SEQ ID NO:59)
       v  f  g  g  g  t  k  l  t  v  l  g (SEQ ID NO:60)
```

Fig. 8C

VL PROTEIN SEQUENCE

```
                                  (SEQ ID NO:8)                (SEQ ID NO:17)
  1  NFMLTQPHSV SESPGKTVTI SCTRSSGSIV SNYVQWYQQR PGSSPTTVIY EDNQRPSGVP
 61  DRFSGSIDSS SNSASLTISG LKTEDEADYY CQSYDSNNFW VFGGGTKLTV LG (SEQ ID
NO:60)
                                        (SEQ ID NO:61)
```

Fig. 8D

VH NUCLEOTIDE SEQUENCE

```
   1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
        e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  r  l
  61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
        s  c  a  a  s  g  f  t  f  s  s  y  a  m  s  w  v  r  q  a
 121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
        p  g  k  g  l  e  w  v  s  a  i  s  g  s  g  g  s  t  y  y
 181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
        a  d  s  v  k  g  r  f  t  i  s  r  d  n  s  k  n  t  l  y
 241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTGT ATTACTGTGT GAAAAGGTCC
        l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  v  k  r  s
 301  TTTGATAGTG GTGGGTCCTT TGAGTACTGG GGCCAGGGGA CAATGGTCAC
        f  d  s  g  g  s  f  e  y  w  g  q  g  t  m  v
 351  CGTCTCGAGT (SEQ ID NO:62)
      t  v  s  s (SEQ ID NO:63)
```

Fig. 9A

VH PROTEIN SEQUENCE

```
                                                (SEQ ID NO:3)        (SEQ ID NO:4)
  1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
 61  ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCVKRS FDSGGSFEYW GQGTMVTVSS (SEQ
ID NO:63)                                                (SEQ ID NO:64)
```

Fig. 9B

VL NUCLEOTIDE SEQUENCE

```
   1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAAGAC GGTCACCATC
        n  f  m  l  t  q  p  h  s  v  s  e  s  p  g  k  t  v  t  i
  61  TCCTGCACCC GCAGCAGTGG CTACATTGCC AGCTCCTATG TGCAGTGGTA CCAGCAGCGC
        s  c  t  r  s  s  g  y  i  a  s  s  y  v  q  w  y  q  q  r
 121  CCGGGCAGTT CCCCCACCAC TGTAATCTTT GAGGATGACC GGAGACCCTC TGGGGTCCCT
        p  g  s  s  p  t  t  v  i  f  e  d  d  r  r  p  s  g  v  p
 181  GATCGGTTCT CTGGCTCCAT CGACGGCTCC TCCAACTCTG CCTCCCTCAC CATCTCTGGA
        d  r  f  s  g  s  i  d  g  s  s  n  s  a  s  l  t  i  s  g
 241  CTGAGGACTG AGGACGAGGC TGACTACTAC TGTCAGTCTT ATGATGACAC CACTCCCTGG
        l  r  t  e  d  e  a  d  y  y  c  q  s  y  d  d  t  t  p  w
 301  GTGTTCGGCG GAGGGACCAA GCTGACCGTC CTAGGT (SEQ ID NO:65)
        v  f  g  g  g  t  k  l  t  v  l  g (SEQ ID NO:66)
```

Fig. 9C

VL PROTEIN SEQUENCE

```
                                (SEQ ID NO:8)                    (SEQ ID NO:25)
  1  NFMLTQPHSV SESPGKTVTI SCTRSSGYIA SSYVQWYQQR PGSSPTTVIF EDDRRPSGVP
 61  DRFSGSIDGS SNSASLTISG LRTEDEADYY CQSYDDTTPW VFGGGTKLTV LG (SEQ ID NO:66)
                                  (SEQ ID NO:26)
```

Fig. 9D

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a  a  s  g  f  t  f  s  s  y  a  m  s  w  v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k  g  l  e  w  v  s  a  i  s  g  s  g  g  s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
       a  d  s  v  k  g  r  f  t  i  s  r  d  n  s  k  n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTGT ATTACTGTGC GAGAGTCGGC
       l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  a  r  v  g
301  AGCTGGTACC TGGAAGATTT TGATATCTGG GGCCGGGGGA CAATGGTCAC
       s  w  y  l  e  d  f  d  i  w  g  r  g  t  m  v
351  CGTCTCGAGT (SEQ ID NO:67)
     t  v  s  s (SEQ ID NO:68)
```

Fig. 10A

VH PROTEIN SEQUENCE

```
                                        (SEQ ID NO:3)        (SEQ ID NO:4)
  1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
 61  ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCARVG SWYLEDFDIW GRGTMVTVSS (SEQ
ID NO:68)                                        (SEQ ID NO:69)
```

Fig. 10B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAAGAC GGTTACCATC
       n  f  m  l  t  q  p  h  s  v  s  e  s  p  g  k  t  v  t  i
 61  TCCTGCACCC GCAGCAGTGG CAGCATTGCC AGCAACTATG TTCACTGGTA TCAGCAGCGC
       s  c  t  r  s  s  g  s  i  a  s  n  y  v  h  w  y  q  q  r
121  CCGGGCAGTT CACCCACCAC TGTGATCTAT GAGGATAACC GAAGACCCTC TGGGGTCCCT
       p  g  s  s  p  t  t  v  i  y  e  d  n  r  r  p  s  g  v  p
181  GCTCGGTTCT CTGGCTCCAT CGACAGCTCC TCCAACTCTG CCTCCCTCAC CATCTCTGGA
       a  r  f  s  g  s  i  d  s  s  s  n  s  a  s  l  t  i  s  g
241  CTGGAGACTG ACGACGAGGC TGACTACTAC TGTCAGTCTT CTGATACCAC CTATCATGGA
       l  e  t  d  d  e  a  d  y  y  c  q  s  s  d  t  t  y  h  g
301  GGTGTGGTAT TCGGCGGAGG GACCAAGCTG ACCGTCCTAG GT (SEQ ID NO:70)
       g  v  v  f  g  g  g  t  k  l  t  v  l  g (SEQ ID NO:71)
```

Fig. 10C

VL PROTEIN SEQUENCE

```
                                (SEQ ID NO:72)              (SEQ ID NO:9)
  1  NFMLTQPHSV SESPGKTVTI SCTRSSGSIA SNYVHWYQQR PGSSPTTVIY EDNRRPSGVP
 61  ARFSGSIDSS SNSASLTISG LETDDEADYY CQSSDTTYHG GVVFGGGTKL TVLG (SEQ ID NO:71)
                                (SEQ ID NO:73)
```

Fig. 10D

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a  a  s  g  f  t  f  s  s  y  a  m  s  w  v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k  g  l  e  w  v  s  a  i  s  g  s  g  g  s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
       a  d  s  v  k  g  r  f  t  i  s  r  d  n  s  k  n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTGT ATTACTGTGC GAAAGGCGGT
       l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  a  k  g  g
301  AACTACGGTG ATTACTTCGA CTACTTTGAC TACTGGGGCA GAGGGACAAT GGTCACCGTC
       n  y  g  d  y  f  d  y  f  d  y  w  g  r  g  t  m  v  t  v
361  TCGAGT (SEQ ID NO:74)
       s  s (SEQ ID NO:75)
```

Fig. 11A

VH PROTEIN SEQUENCE

```
                                        (SEQ ID NO:3)          (SEQ ID NO:4)
  1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
 61  ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKGG NYGDYFDYFD YWGRGTMVTV
121  SS (SEQ ID NO:75)                              (SEQ ID NO:76)
```

Fig. 11B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAAGAC GGTAACCATC
       n  f  m  l  t  q  p  h  s  v  s  e  s  p  g  k  t  v  t  i
 61  TCCTGCACCC GCAGCAGTGG CAGCATTGCC AGCAATTATG TGCAGTGGTA CCAGCAGCGC
       s  c  t  r  s  s  g  s  i  a  s  n  y  v  q  w  y  q  q  r
121  CCGGGCAGTG CCCCCACCAT TGTGATCTAT GAAGATAACC AAAGACCCTC TGGGGTCCCT
       p  g  s  a  p  t  i  v  i  y  e  d  n  q  r  p  s  g  v  p
181  CATCGGTTCT CTGGCTCCAT CGACAGCTCC TCCAACTCTG CCTCCCTCAC CATCTCTGGA
       h  r  f  s  g  s  i  d  s  s  s  n  s  a  s  l  t  i  s  g
241  CTGAAGACTG AGGACGAGGC TGACTACTAC TGTCAGTCTT ATGAGGGGTT CGGCGGAGGG
       l  k  t  e  d  e  a  d  y  y  c  q  s  y  e  g  f  g  g  g
301  ACCAAGCTGA CCGTCCTAGG T (SEQ ID NO:77)
       t  k  l  t  v  l  g (SEQ ID NO:78)
```

Fig. 11C

VL PROTEIN SEQUENCE

```
                                (SEQ ID NO:16)                (SEQ ID NO:17)
  1  NFMLTQPHSV SESPGKTVTI SCTRSSGSIA SNYVQWYQQR PGSAPTIVIY EDNQRPSGVP
 61  HRFSGSIDSS SNSASLTISG LKTEDEADYY CQSYEGFGGG TKLTVLG (SEQ ID NO:78)
                                (SEQ ID NO:79)
```

Fig. 11D

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a  a  s  g  f  t  f  s  s  y  a  m  s  w  v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k  g  l  e  w  v  s  a  i  s  g  s  g  g  s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACTATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
       a  d  s  v  k  g  r  f  t  i  s  r  d  n  s  k  n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTGT ATTACTGTGC GAAAGATGGA
       l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  a  k  d  g
301  TGGAACGCGC TGGGATGGCT TGAATCCTGG GGCCAGGGGA CAATGGTCAC
       w  n  a  l  g  w  l  e  s  w  g  q  g  t  m  v
351  CGTCTCGAGT (SEQ ID NO:80)
     t  v  s  s (SEQ ID NO:81)
```

Fig. 12A

VH PROTEIN SEQUENCE

```
                                        (SEQ ID NO:3)        (SEQ ID NO:4)
  1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
 61  ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKDG WNALGWLESW GQGTMVTVSS (SEQ
ID NO:81)                                          (SEQ ID NO:29)
```

Fig. 12B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACGCTGTG TCGGAGTCTC CGGGGAAGAC GGTGACCATT
       n  f  m  l  t  q  p  h  a  v  s  e  s  p  g  k  t  v  t  i
 61  TCCTGCACCG GCAGAAATGG CAACATTGCC AGCAACTATG TGCAGTGGTA CCAGCAGCGC
       s  c  t  g  r  n  g  n  i  a  s  n  y  v  q  w  y  q  q  r
121  CCGGACAGTG CCCCCACCCT TATAATCTTT GAAGATACCC AAAGACCCTC TGGGGTCCCT
       p  d  s  a  p  t  l  i  i  f  e  d  t  q  r  p  s  g  v  p
181  ACTCGGCTCT CAGGCTCCAT CGACACCTCC TCCAATTCTG CCTCCCTCAT CATCTCTTCA
       t  r  l  s  g  s  i  d  t  s  s  n  s  a  s  l  i  i  s  s
241  TTGAGGACTG AGGACGAGGC TGATTACTAC TGTCAATCTT CTGATTCCAA CAGGGTGCTG
       l  r  t  e  d  e  a  d  y  y  c  q  s  s  d  s  n  r  v  l
301  TTCGGCGGAG GGACCAAGGT CACCGTCCTA GGT (SEQ ID NO:82)
       f  g  g  g  t  k  v  t  v  l  g (SEQ ID NO:83)
```

Fig. 12C

VL PROTEIN SEQUENCE

```
                                  (SEQ ID NO:84)              (SEQ ID NO:85)
  1  NFMLTQPHAV SESPGKTVTI SCTGRNGNIA SNYVQWYQQR PDSAPTLIIF EDTQRPSGVP
 61  TRLSGSIDTS SNSASLIISS LRTEDEADYY CQSSDSNRVL FGGGTKVTVL G (SEQ ID NO:83)
                                  (SEQ ID NO:86)
```

Fig. 12D

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a  a  s  g  f  t  f  s  s  y  a  m  s  w  v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k  g  l  e  w  v  s  a  i  s  g  s  g  g  s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
       a  d  s  v  k  g  r  f  t  i  s  r  d  n  s  k  n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTGT ATTACTGTGC GAAAGATTTT
       l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  a  k  d  f
301  TGGGTTATTA CGAGTGGGAA TGACTACTGG GGGCGGGGGA CCACGGTCAC
       w  v  i  t  s  g  n  d  y  w  g  r  g  t  t  v
351  CGTCTCGAGT (SEQ ID NO:87)
     t  v  s  s (SEQ ID NO:88)
```

Fig. 13A

VH PROTEIN SEQUENCE

```
                                        (SEQ ID NO:3)        (SEQ ID NO:4)
 1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
61  ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKDF WVITSGNDYW GRGTTVTVSS
   (SEQ ID NO:88)                                (SEQ ID NO:89)
```

Fig. 13B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAAGAC GGTGACCATC
       n  f  m  l  t  q  p  h  s  v  s  e  s  p  g  k  t  v  t  i
 61  TCCTGCACCC GCAGCAGTGG CAGCATTGCT AGCAATTATG TGCAGTGGTA CCAGCAGCGC
       s  c  t  r  s  s  g  s  i  a  s  n  y  v  q  w  y  q  q  r
121  CCGGGCAGTT CCCCCACCAC TGTGATCTTT GAAGATAACC GAAGACCCTC TGGGGTCCCT
       p  g  s  s  p  t  t  v  i  f  e  d  n  r  r  p  s  g  v  p
181  GATCGGTTTT CTGGCTCCAT CGACACCTCC TCCAACTCTG CCTCCCTCAC CATCTCTGGA
       d  r  f  s  g  s  i  d  t  s  s  n  s  a  s  l  t  i  s  g
241  CTGAAGACTG AGGACGAGGC TGACTACTAC TGTCAGTCTT TTGATAGCAC CAATCTTGTG
       l  k  t  e  d  e  a  d  y  y  c  q  s  f  d  s  t  n  l  v
301  GTGTTCGGCG GAGGGACCAA GCTGACCGTC CTAGGT (SEQ ID NO:90)
       v  f  g  g  g  t  k  l  t  v  l  g (SEQ ID NO:91)
```

Fig. 13C

VL PROTEIN SEQUENCE

```
                          (SEQ ID NO:16)                (SEQ ID NO:9)
 1  NFMLTQPHSV SESPGKTVTI SCTRSSGSIA SNYVQWYQQR PGSSPTTVIF EDNRRPSGVP
61  DRFSGSIDTS SNSASLTISG LKTEDEADYY CQSFDSTNLV VFGGGTKLTV LG (SEQ ID NO:91)
                                  (SEQ ID NO:92)
```

Fig. 13D

VH NUCLEOTIDE SEQUENCE

```
  1  GAGGTGCAGC TGTTGGAGTC TGGGGGAGGC TTGGTACAGC CTGGGGGGTC CCTGAGACTC
       e  v  q  l  l  e  s  g  g  g  l  v  q  p  g  g  s  l  r  l
 61  TCCTGTGCAG CCTCTGGATT CACCTTTAGC AGCTATGCCA TGAGCTGGGT CCGCCAGGCT
       s  c  a  a  s  g  f  t  f  s  s  y  a  m  s  w  v  r  q  a
121  CCAGGGAAGG GGCTGGAGTG GGTCTCAGCT ATTAGTGGTA GTGGTGGTAG CACATACTAC
       p  g  k  g  l  e  w  v  s  a  i  s  g  s  g  g  s  t  y  y
181  GCAGACTCCG TGAAGGGCCG GTTCACCATC TCCAGAGACA ATTCCAAGAA CACGCTGTAT
       a  d  s  v  k  g  r  f  t  i  s  r  d  n  s  k  n  t  l  y
241  CTGCAAATGA ACAGCCTGAG AGCCGAGGAC ACGGCCGTGT ATTACTGTGC GAAAGATGGA
       l  q  m  n  s  l  r  a  e  d  t  a  v  y  y  c  a  k  d  g
301  TGGAACGCGC TGGGATGGCT TGAATCCTGG GGGAAGGGGA CCACGGTCAC
       w  n  a  l  g  w  l  e  s  w  g  k  g  t  t  v
351  CGTCTCGAGT (SEQ ID NO:93)
     t  v  s  s (SEQ ID NO:94)
```

Fig. 14A

VH PROTEIN SEQUENCE

```
                                        (SEQ ID NO:3)        (SEQ ID NO:4)
 1  EVQLLESGGG LVQPGGSLRL SCAASGFTFS SYAMSWVRQA PGKGLEWVSA ISGSGGSTYY
61  ADSVKGRFTI SRDNSKNTLY LQMNSLRAED TAVYYCAKDG WNALGWLESW GKGTTVTVSS (SEQ
ID NO:94)                                        (SEQ ID NO:29)
```

Fig. 14B

VL NUCLEOTIDE SEQUENCE

```
  1  AATTTTATGC TGACTCAGCC CCACTCTGTG TCGGAGTCTC CGGGGAAGAC GGTAACCATC
       n  f  m  l  t  q  p  h  s  v  s  e  s  p  g  k  t  v  t  i
 61  TCCTGCGCCG GCAGCAGTGG CAGCATTGCC AGCAACTATG TGCAGTGGTA CCAGCAGCGC
       s  c  a  g  s  s  g  s  i  a  s  n  y  v  q  w  y  q  q  r
121  CCGGGCAGTG CCCCCACCGC TGTGATCTAT GAGGATAACC AAAGACCCTC TGGGGTCCCT
       p  g  s  a  p  t  a  v  i  y  e  d  n  q  r  p  s  g  v  p
181  GATCGATTCT CTGGCTCCAT CGACAGCTCC TCCAACTCTG CCTCCCTCAC CATCTCTGGA
       d  r  f  s  g  s  i  d  s  s  s  n  s  a  s  l  t  i  s  g
241  CTGAAGACTG AGGACGAGGC TGACTACTAC TGTCAATCTT ACTCTTACAA CAATCAGGTC
       l  k  t  e  d  e  a  d  y  y  c  q  s  y  s  y  n  n  q  v
301  GTGTTCGGCG GAGGGACCAA GGTCACCGTC CTAGGT (SEQ ID NO:95)
       v  f  g  g  g  t  k  v  t  v  l  g (SEQ ID NO:96)
```

Fig. 14C

VL PROTEIN SEQUENCE

```
                          (SEQ ID NO:97)                (SEQ ID NO:17)
 1  NFMLTQPHSV SESPGKTVTI SCAGSSGSIA SNYVQWYQQR PGSAPTAVIY EDNQRPSGVP
61  DRFSGSIDSS SNSASLTISG LKTEDEADYY CQSYSYNNQV VFGGGTKVTV LG (SEQ ID NO:96)
                                    (SEQ ID NO:98)
```

Fig. 14D

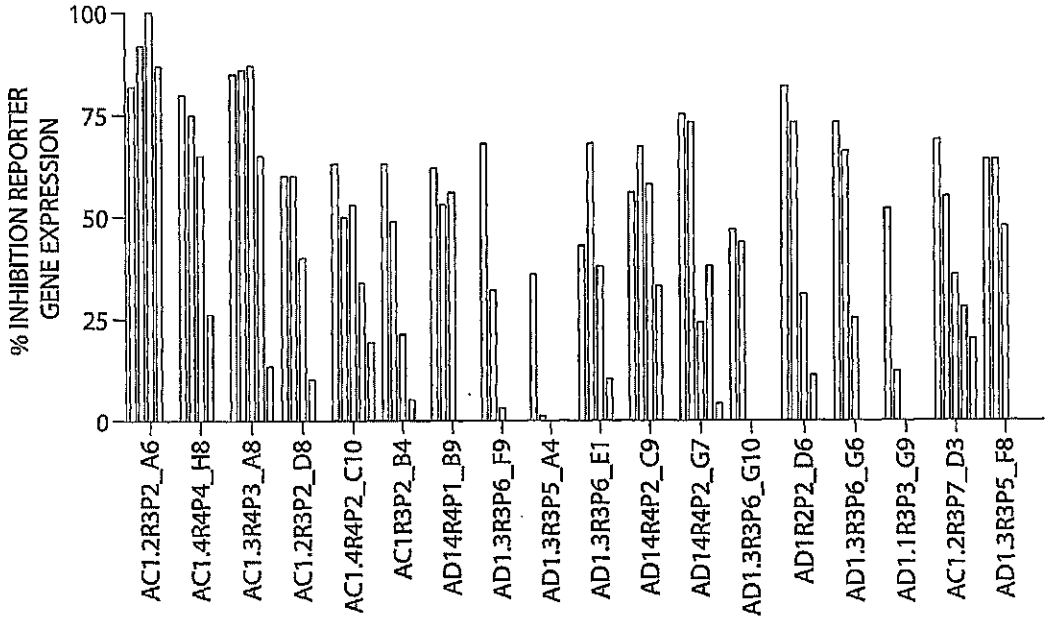

% INHIBITION REPORTER GENE EXPRESSION
100
75
50
25
0
AC1.2R3P2_A6
AC1.4R4P4_H8
AC1.3R4P3_A8
AC1.2R3P2_D8
AC1.4R4P2_C10
AC1R3P2_B4
AD14R4P1_B9
AD1.3R3P6_F9
AD1.3R3P5_A4
AD1.3R3P6_E1
AD14R4P2_C9
AD14R4P2_G7
AD1.3R3P6_G10
AD1R2P2_D6
AD1.3R3P6_G6
AD1.1R3P3_G9
AC1.2R3P7_D3
AD1.3R3P5_F8

Fig. 15

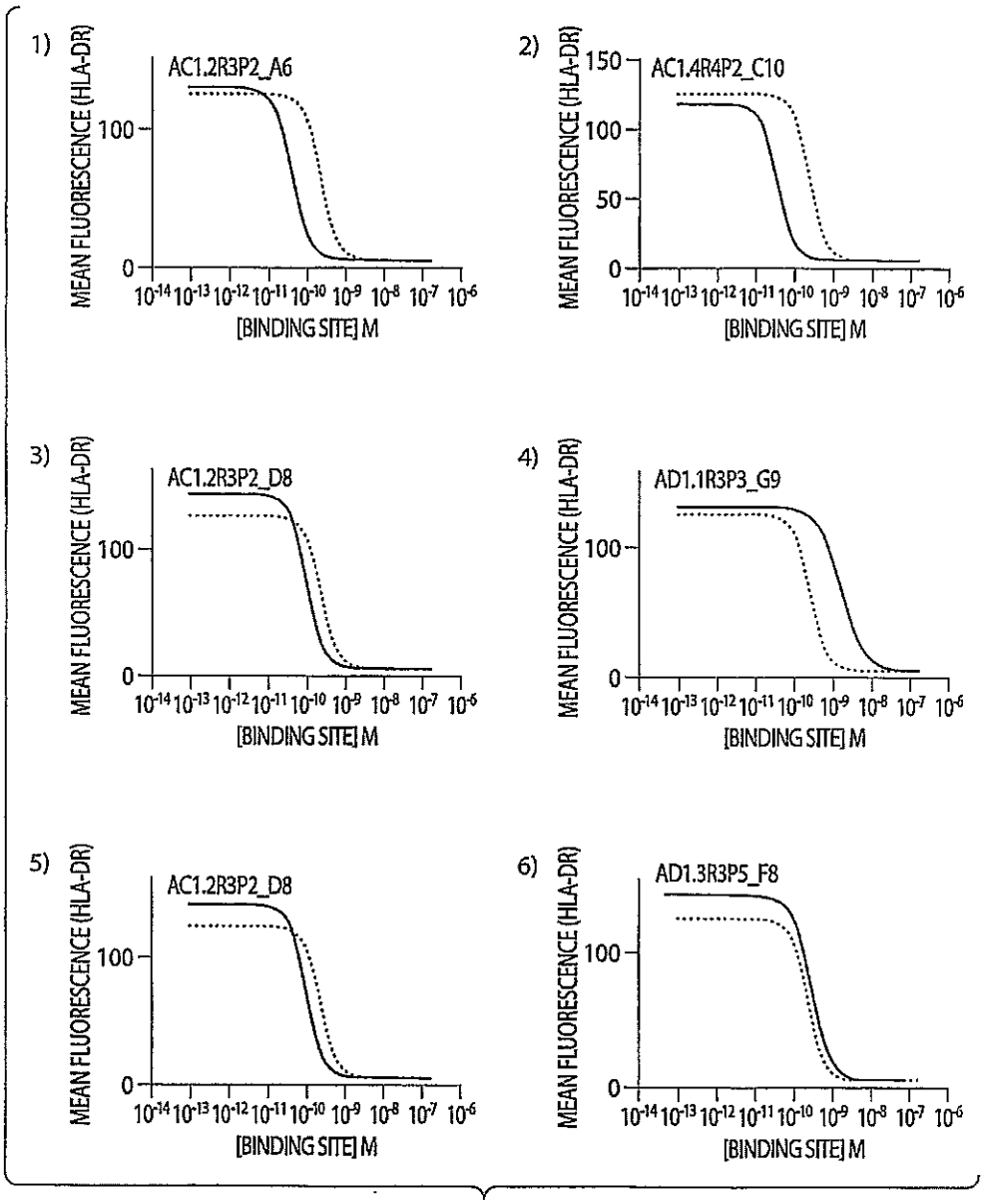

1)
AC1.2R3P2_A6
2)
AC1.4R4P2_C10
3)
AC1.2R3P2_D8
4)
AD1.1R3P3_G9
5)
AC1.2R3P2_D8
6)
AD1.3R3P5_F8
MEAN FLUORESCENCE (HLA-DR)
[BINDING SITE] M

Fig. 16

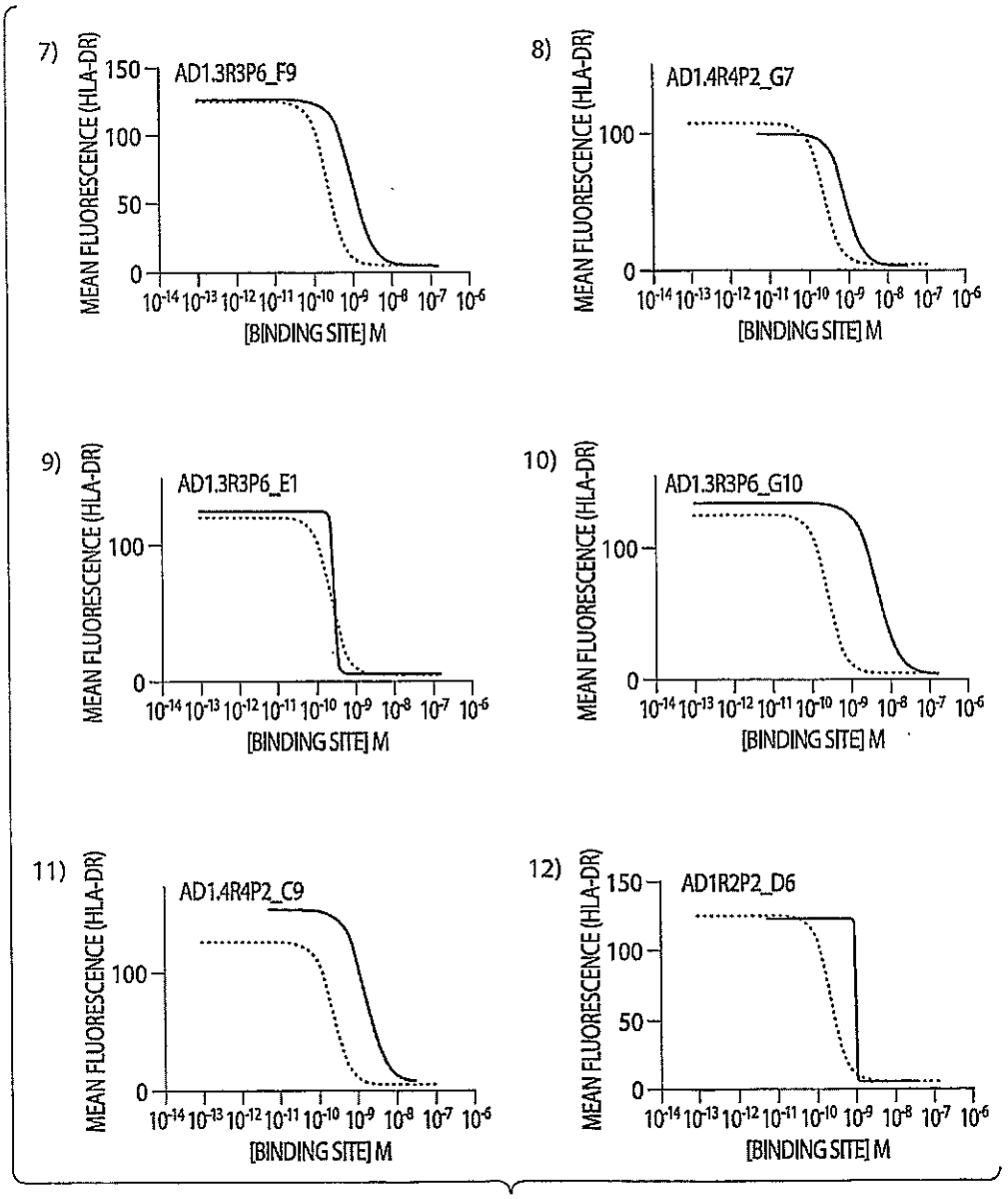

7)
AD1.3R3P6_F9
8)
AD1.4R4P2_G7
9)
AD1.3R3P6_E1
10)
AD1.3R3P6_G10
11)
AD1.4R4P2_C9
12)
AD1R2P2_D6
MEAN FLUORESCENCE (HLA-DR)
[BINDING SITE] M

Fig. 16 Cont.

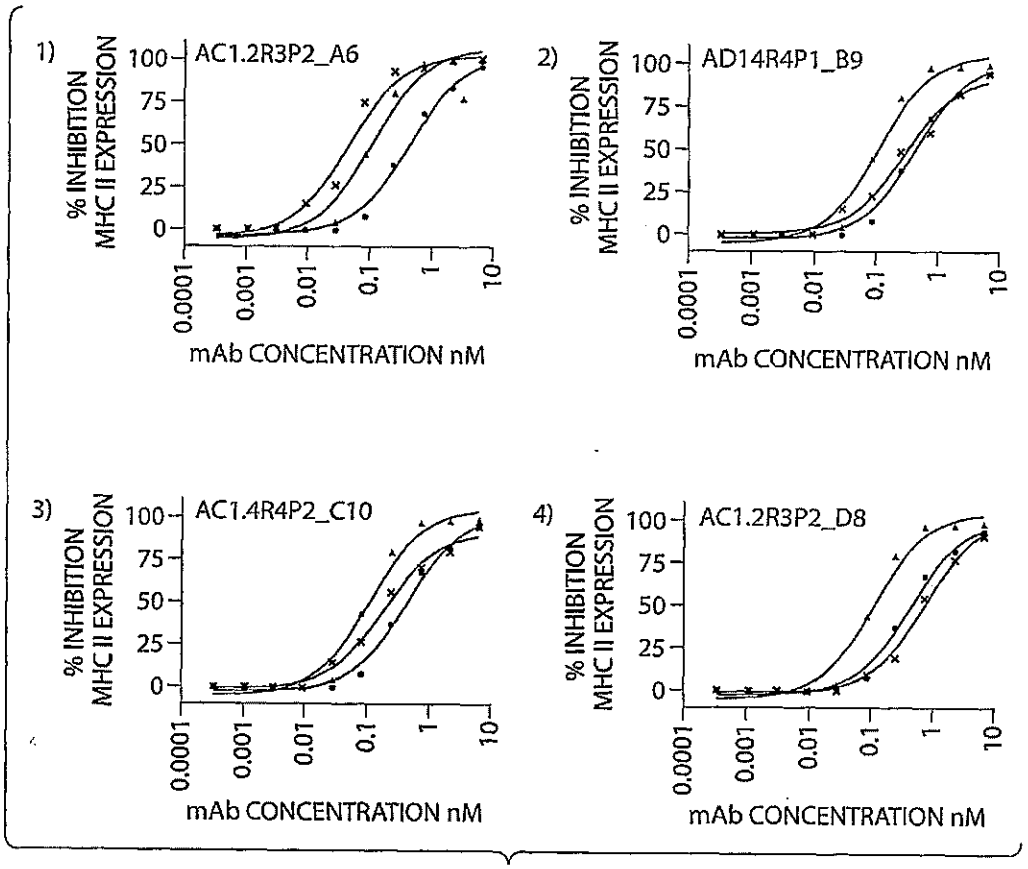

1)
AC1.2R3P2_A6
% INHIBITION MHC II EXPRESSION
100
75
50
25
0
0.0001
0.001
0.01
0.1
1
10
mAb CONCENTRATION nM
2)
AD14R4P1_B9
% INHIBITION MHC II EXPRESSION
mAb CONCENTRATION nM
3)
AC1.4R4P2_C10
% INHIBITION MHC II EXPRESSION
mAb CONCENTRATION nM
4)
AC1.2R3P2_D8
% INHIBITION MHC II EXPRESSION
mAb CONCENTRATION nM

Fig. 17

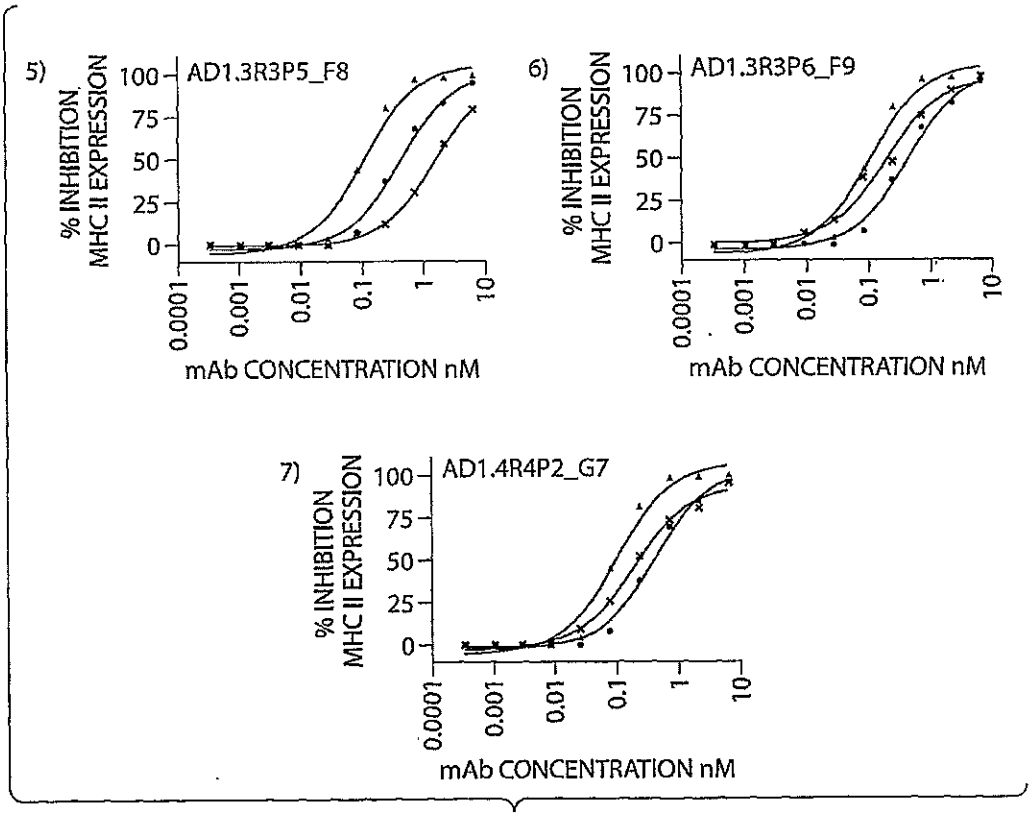

5)
AD1.3R3P5_F8
% INHIBITION MHC II EXPRESSION
100
75
50
25
0
0.0001
0.001
0.01
0.1
1
10
mAb CONCENTRATION nM
6)
AD1.3R3P6_F9
% INHIBITION MHC II EXPRESSION
100
75
50
25
0
0.0001
0.001
0.01
0.1
1
10
mAb CONCENTRATION nM
7)
AD1.4R4P2_G7
% INHIBITION MHC II EXPRESSION
100
75
50
25
0
0.0001
0.001
0.01
0.1
1
10
mAb CONCENTRATION nM

Fig. 17 Cont.

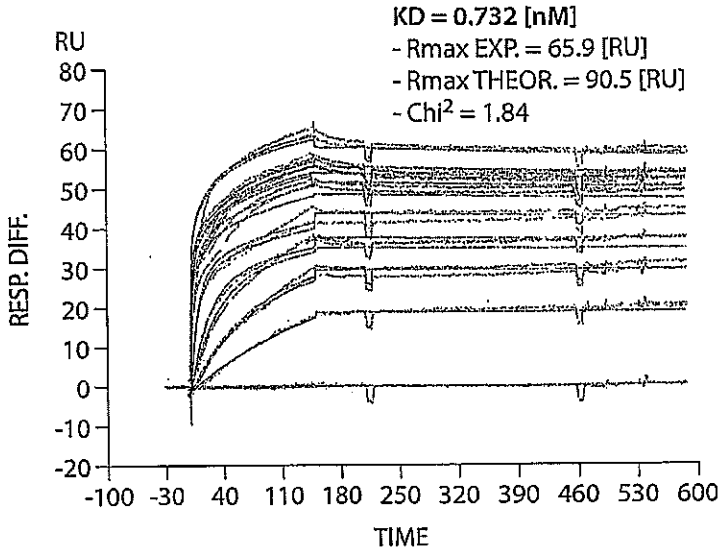

KD = 0.732 [nM]
- Rmax EXP. = 65.9 [RU]
- Rmax THEOR. = 90.5 [RU]
- Chi² = 1.84
RU
RESP. DIFF.
80
70
60
50
40
30
20
10
0
-10
-20
-100 -30 40 110 180 250 320 390 460 530 600
TIME

Fig. 18

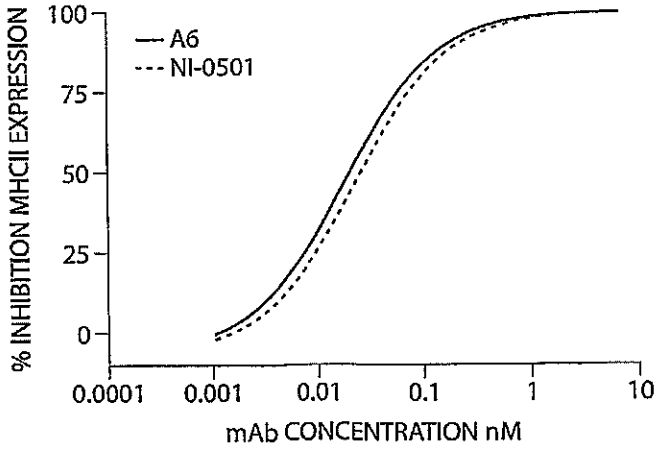

— A6
--- NI-0501
% INHIBITION MHCII EXPRESSION
100
75
50
25
0
0.0001 0.001 0.01 0.1 1 10
mAb CONCENTRATION nM

Fig. 19

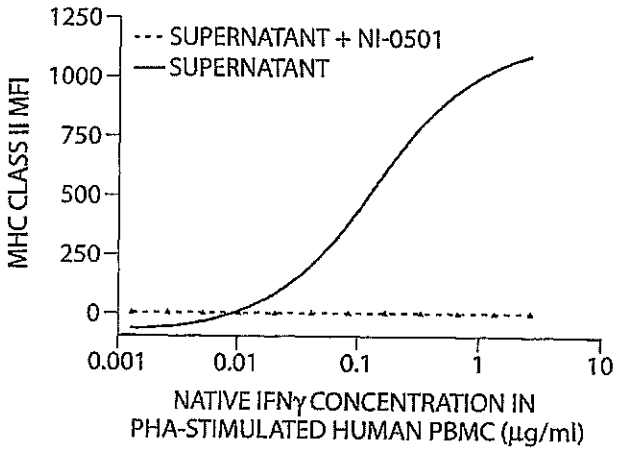

1250
1000
750
500
250
0
MHC CLASS II MFI
--- SUPERNATANT + NI-0501
— SUPERNATANT
0.001
0.01
0.1
1
10
NATIVE IFNγ CONCENTRATION IN
PHA-STIMULATED HUMAN PBMC (µg/ml)

Fig. 20

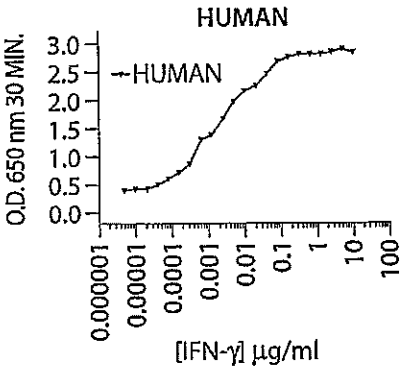


Fig. 21A

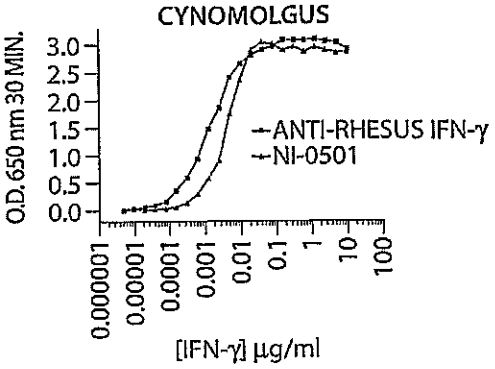


Fig. 21B

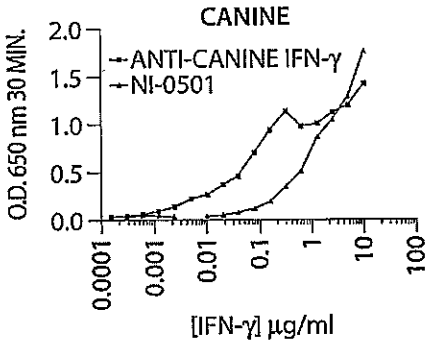


Fig. 21C

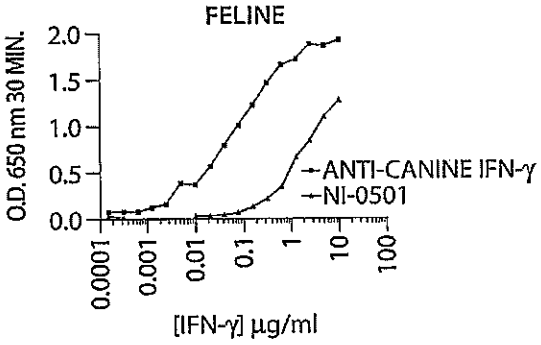


Fig. 21D

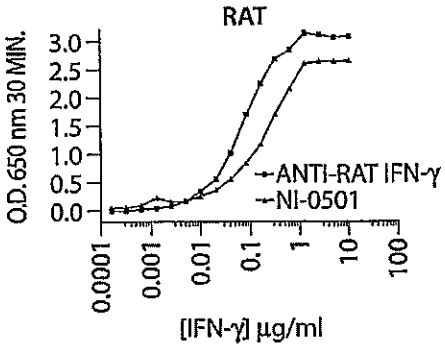


Fig. 21E

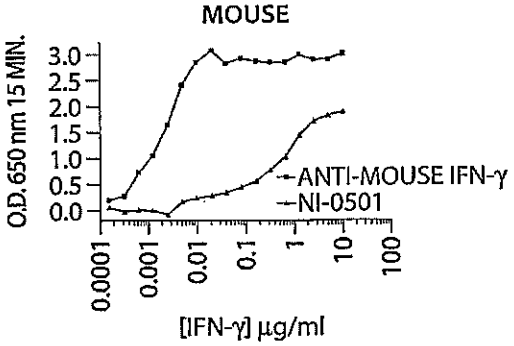


Fig. 21F

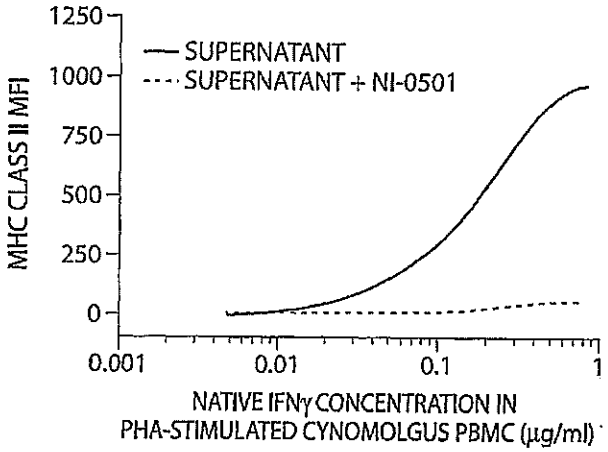

1250
1000
750
500
250
0
MHC CLASS II MFI
SUPERNATANT
SUPERNATANT + NI-0501
0.001
0.01
0.1
1
NATIVE IFNγ CONCENTRATION IN
PHA-STIMULATED CYNOMOLGUS PBMC (µg/ml)

Fig. 22

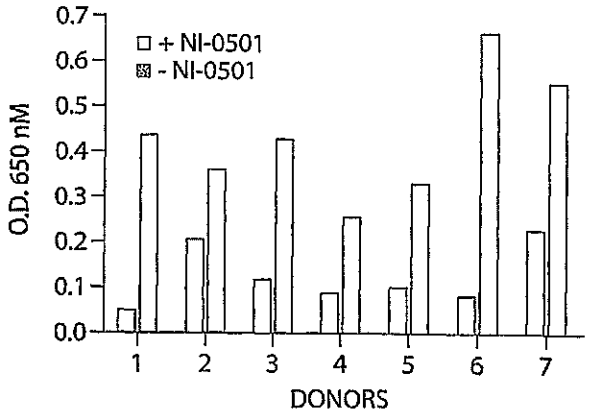

0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
O.D. 650 nM
+ NI-0501
- NI-0501
1
2
3
4
5
6
7
DONORS

Fig. 23