```
PMP1C2          qvqlvesggg lvqpggslrl scaasGFTFS D.....YWMY wvrqapgkgl  class I
PMP1G11         qvqlqesggg mvqpggslrl scaasGFDFG V.....SWMY wvrqapgkgl
PMP1H6          evqlvesggg lvqpggslrl scatsGFDFS V.....SWMY wvrqapgkgl
PMP3D10         qvqlvesggg lvqaggslsl scaasGRSFT G.....YYMG wfrqapgker  class III
PMP5F10         evqlvesggg lvqaggslsl scsasGRSLS N.....YYMG wfrqapgker
PMP1G5          qvqlvesggg lvqaggslrl scaasGRTFS EPSGYTYTIG wfrqapgker  class II
PMP1H2          qvkleesggg lvqpgdslrl scaasGRTFS DYSGYTYTVG wfrqapgker
PMP3G2          avqlvesggg lvqpgdslrl scaasGRTFS DYSGYTYTVG wfrqapgker
PMP1D2          avqlvdsggg lvqaggslrl scaasGRTFS AHSV..YTMG wfrqapgker  class IIb

PMP1C2          ewvseINTNG LITKYPDSVK Grftisrdna kntlylqmns lkpedtalyy
PMP1G11         ewvseINTNG LITKYPDSVK Grftisrdna kttlylqmns lkpedtalyy
PMP1H6          ewvseINTNG LITKYVDSVK Grftisrdna kntlylqmds lipedtalyy
PMP3D10         qllasISWRG DNTYYKESVK Grftisrdda kntiylqmns lkpedtavyy
PMP5F10         ellgnISWRG YNIYYKDSVK Grftisrdda kntiylqmnr lkpedtavyy
PMP1G5          efvarIYWSS GLTYYADSVK Grftisrdia kntvdllmns lkpedtavyy
PMP1H2          efvarIYWSS GNTYYADSVK Grftisrdia kntvdllmnn lepedtavyy
PMP3G2          efvarIYWSS GNTYYADSVK Grftisrdia kntvdllmnn lepedtavyy
PMP1D2          efvarIYWSS ANTYYADSVK Grftisrdna kntvdllmnc lkpedtavyy

PMP1C2          carS..... ...PSGFNrg qgtqvtvss
PMP1G11         carS..... ...PSGSFrg qgtqvtvss
PMP1H6          carS..... ...PSGSFrg qgtqvtvss
PMP3D10         caaS.ILPLS DDPGWNTNwg qgtqvtvss
PMP5F10         caaS.ILPLS DDPGWNTYwg qgtqvtvss
PMP1G5          caaRDGIPTS RSVGSYNYwg qgtqvtvss
PMP1H2          caaRDGIPTS RSVESYNYwg qgtqvtvss
PMP3G2          caaRDGIPTS RSVESYNYwg qgtqvtvss
PMP1D2          caaRDGIPTS RSVEAYNYwg qgtqvtvss
```

Figure 1

```
Hum+, Rhe+, Mou+ > PMP6G8    avqlvesggg lvqpggslrl tctasGFTFR SFGMSwvrqa pgkdqewvsa A
Hum+, Rhe+, Mou- > PMP6A5    qvqlaesggg lvqpggslrl tctasGFTFG SFGMSwvrqa pgeglewvsa
Hum+, Rhe+, Mou+ > PMP6A6    avqlvesggg lvqpgnslrl scaasGFTFR SFGMSwvrqa pgkepewvss B
Hum+, Rhe+, Mou+ > PMP6C1    avqlvdsggg lvqpggslrl scaasGFSFG SFGMSwvrqy pgkepewvss
Hum+, Rhe+, Mou+ > PMP6A8    avqlvesggg lvqgggslrl acaasERIFD LNLMGwyrqg pgnerelvat C
Hum+, Rhe+, Mou+ > PMP6B4    evqlvesggg lvqeggslrl acaasERIWD INLLGwyrqg pgnerelvat
Hum+, Rhe-, Mou- > PMP6G7    qvqlvesggg lvqpggslrl scaasGFTFS NYWMYwvrva pgkglerisr D

        PMP6G8                ISADSSTKNY ADSVKGrfti srdnakkmly lemnslkped tavyycviGR
        PMP6A5                ISADSSDKRY ADSVKGrfti srdnakkmly lemnslksed tavyycviGR
        PMP6A6                ISGSGSDTLY ADSVKGrfti srdnakttly lqmnslkped tavyyctiGG
        PMP6C1                INGRGDDTRY ADSVKGrfsi srdnakntly lqmnslkped taeyyctiGR
        PMP6A8                ITVG.DSTNY ADSVKGrfti smdytkqtvy lhmnslrped tglyyckiRR
        PMP6B4                ITVG.DSTSY ADSVKGrfti srdydkntly lqmnslrped tglyyckiRR
        PMP6G7                ISTGGGYSYY ADSVKGrfti srdnakntly lqmnslkped talyycakDR

        PMP6G8                GSPs..... ..spgtqvtv ss
        PMP6A5                GSPa..... ..sqgtqvtv ss
        PMP6A6                SLSRs..... ..sqgtqvtv ss
        PMP6C1                SVSRS..... .rtqgtqvtv ss
        PMP6A8                TWHSEL.... .wgqgtqvtv ss
        PMP6B4                TWHSEL.... .wgqgtqvtv ss
        PMP6G7                EAQVDTLDFD Yrgqgtqvtv ss
```

Figure 2

Screening of albumin specific nanobodies versus human SA

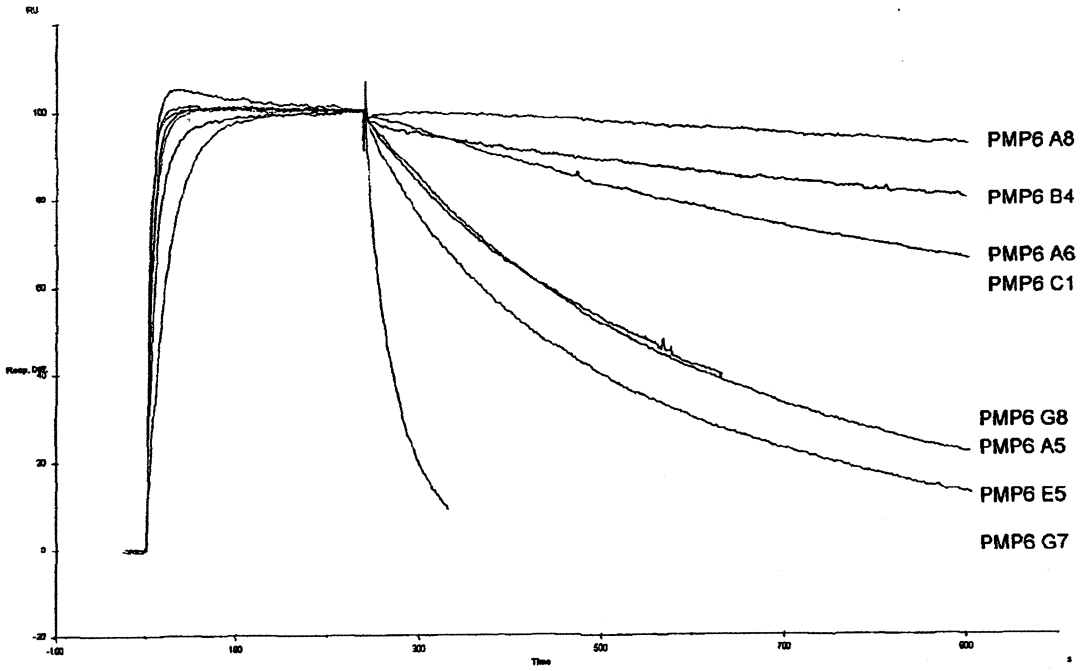


Figure 3

Screening of albumin specific nanobodies versus rhesus SA

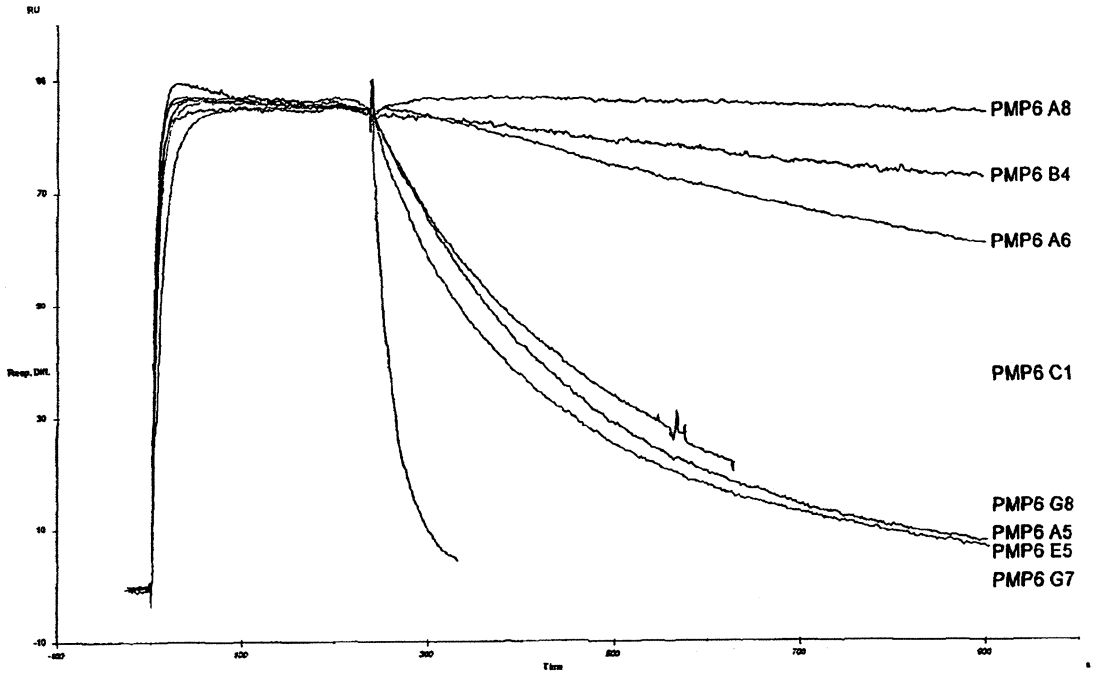


Figure 4

Screening of albumin specific nanobodies versus mouse SA

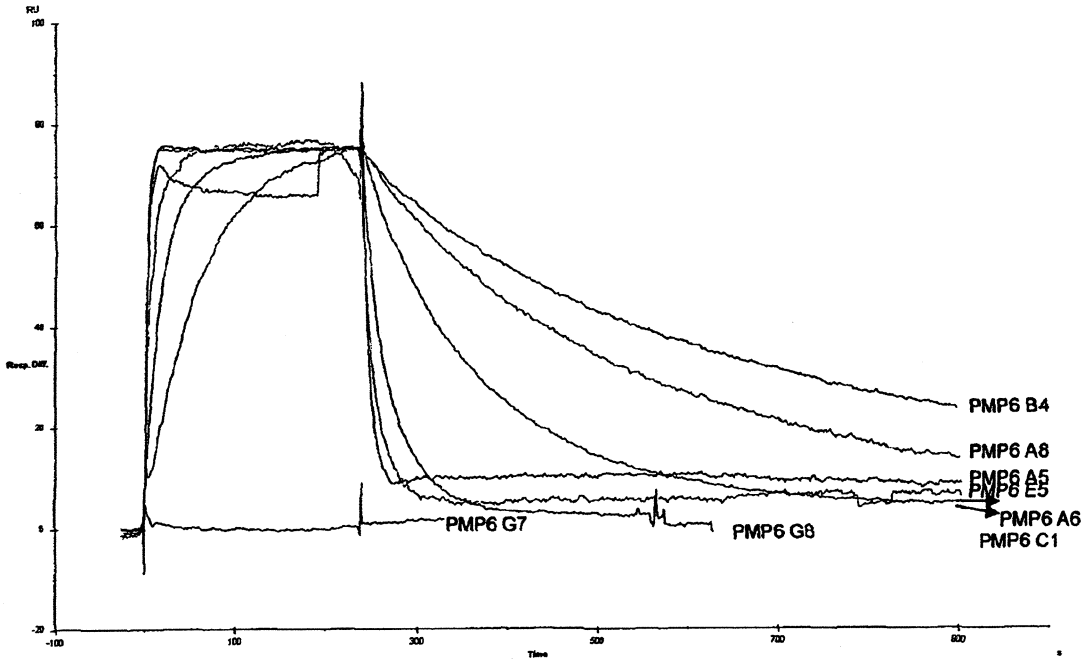


Figure 5

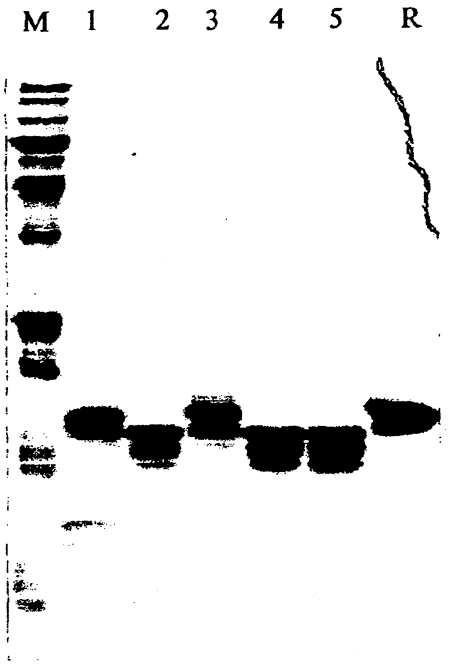
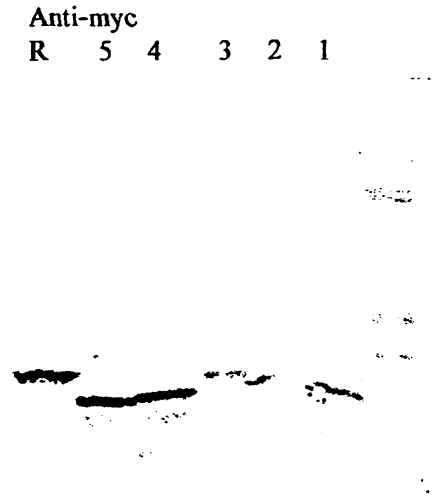


Figure 6



1: TNF2
2: TNF1
3: TNF3
4: ALB1
5: ALB2
R: 100ng of reference nanobody

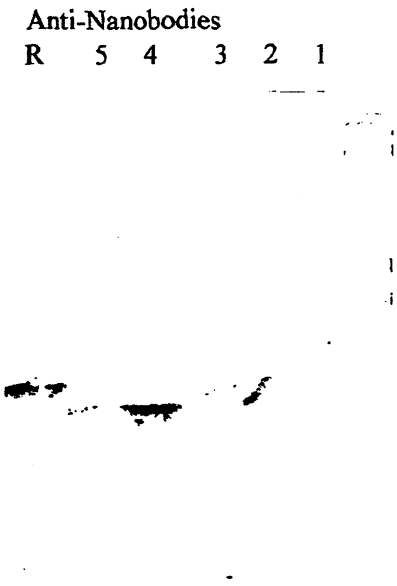


Figure 7

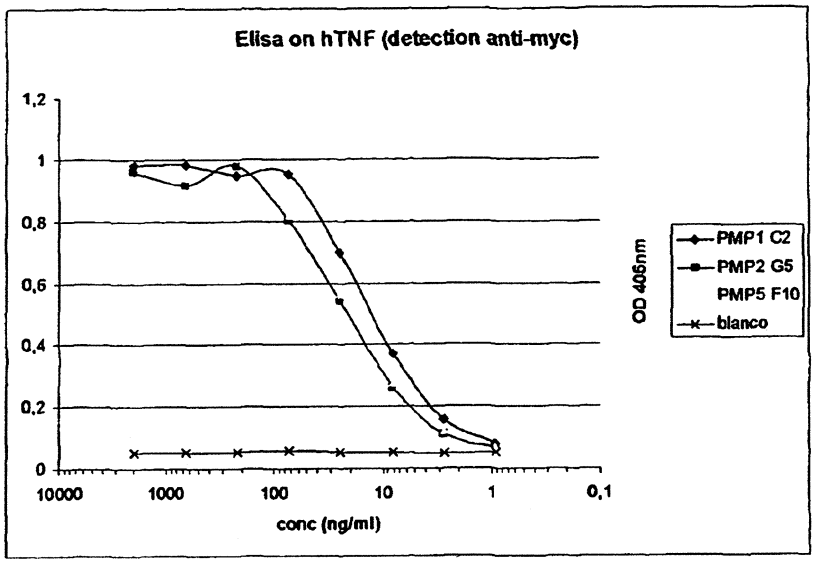


Figure 8

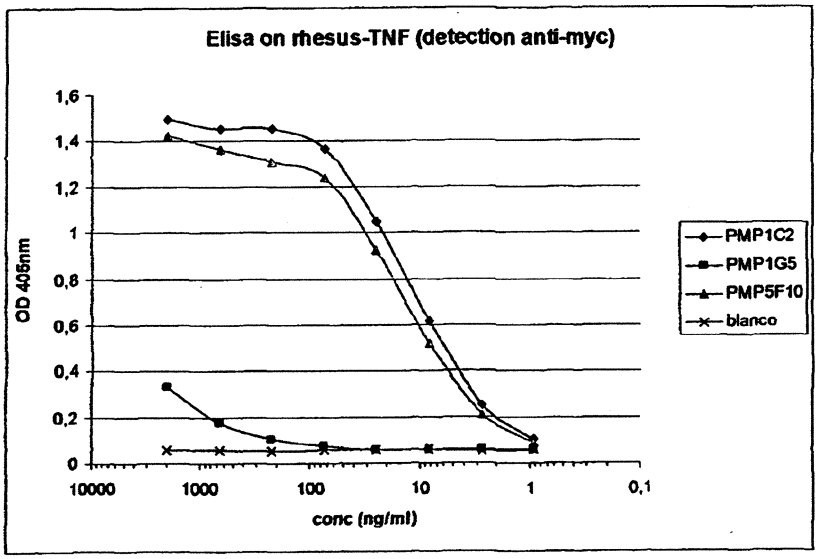


Figure 9

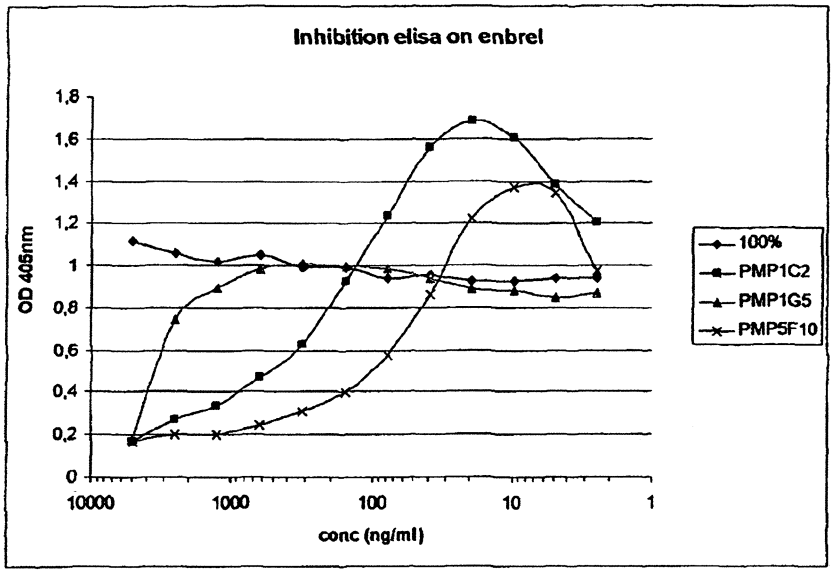


Figure 10

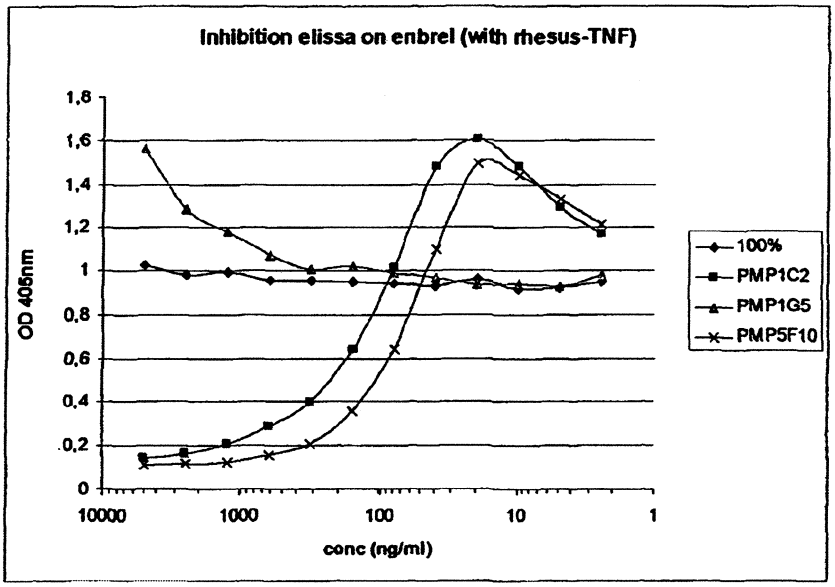


Figure 11

PMP1 C2, PMP1 G5 & PMP5 F10 versus human TNF (normalized data)

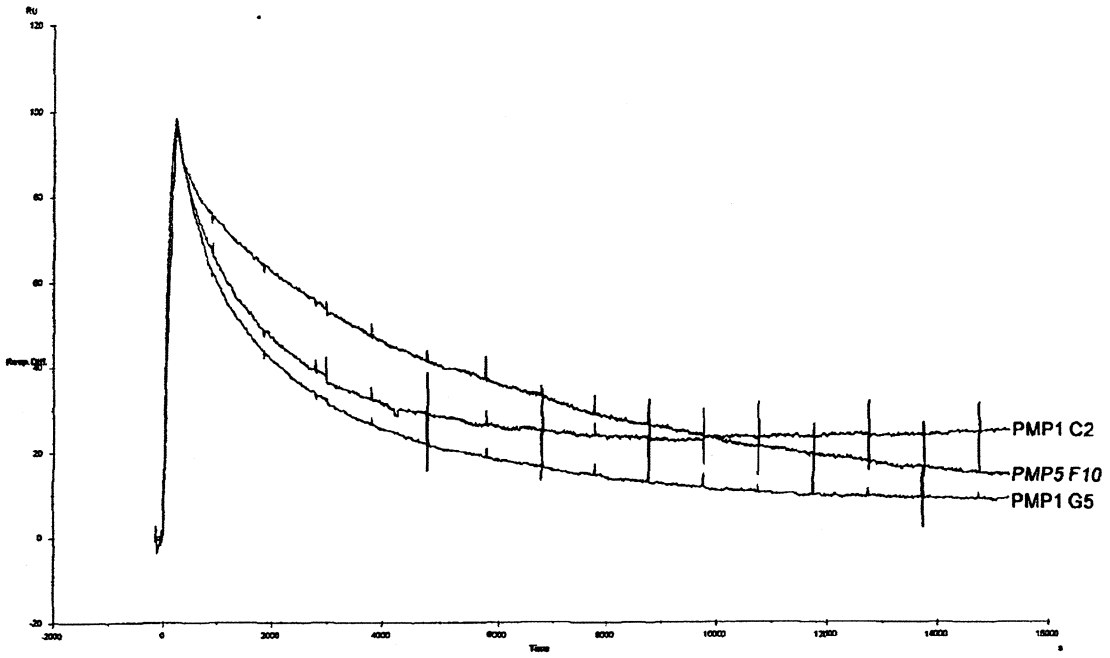


Figure 12

PMP1 C2, PMP1 G5 & PMP5 F10 versus rhesus TNF (normalized data)

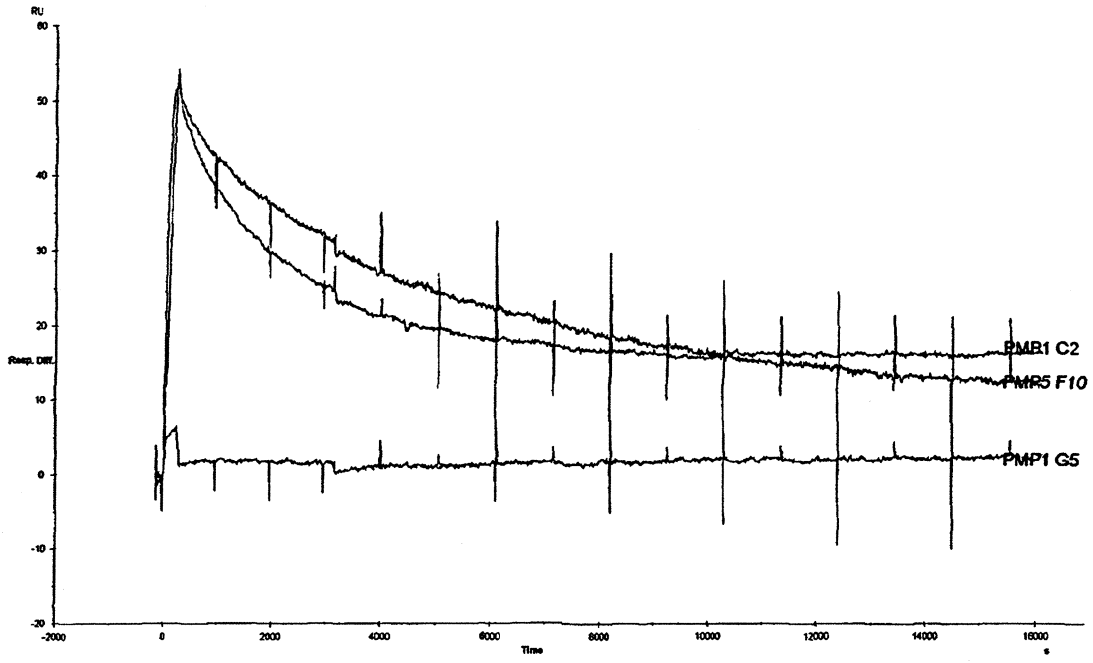


Figure 13

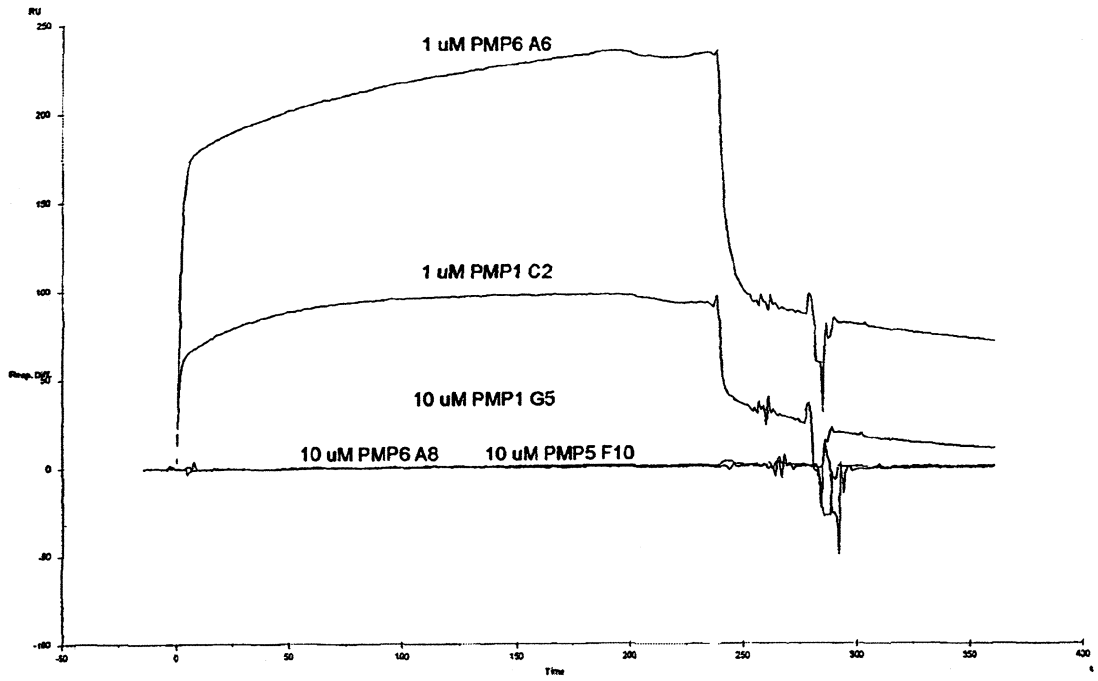

RU
250
200
150
100
50
0
-50
-100
1 uM PMP6 A6
1 uM PMP1 C2
10 uM PMP1 G5
10 uM PMP6 A8
10 uM PMP5 F10
0
50
100
150
200
250
300
350
400
Time

Figure 14

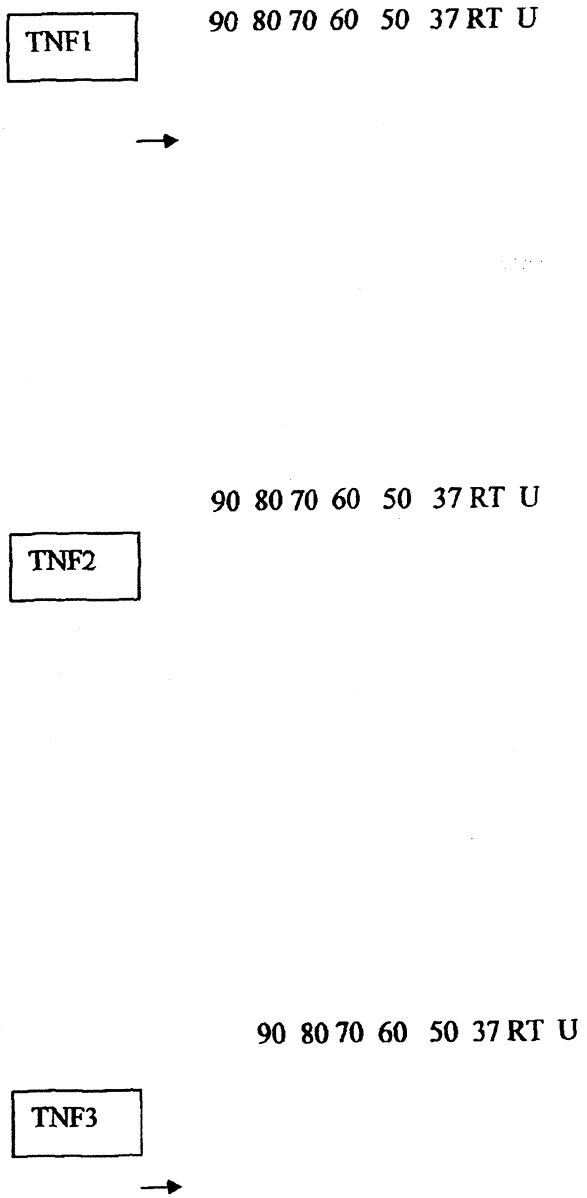

TNF1
90 80 70 60 50 37 RT U
TNF2
90 80 70 60 50 37 RT U
TNF3
90 80 70 60 50 37 RT U

Figure 15

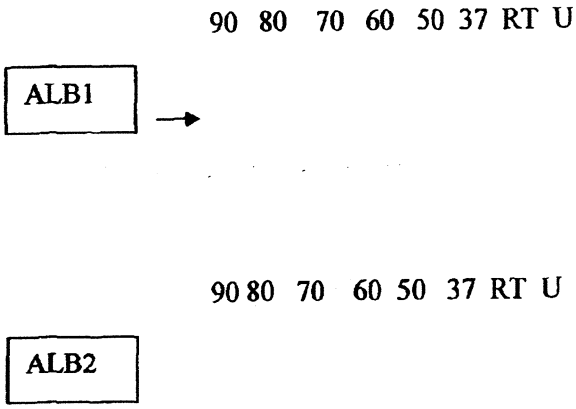
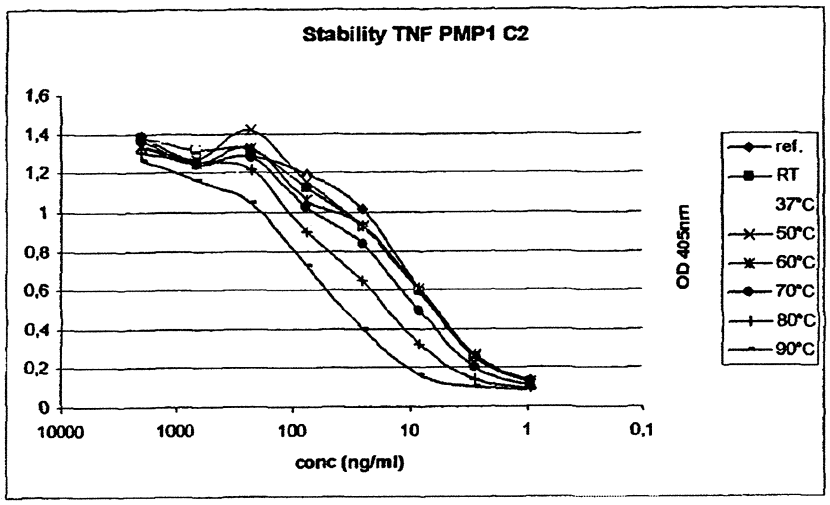
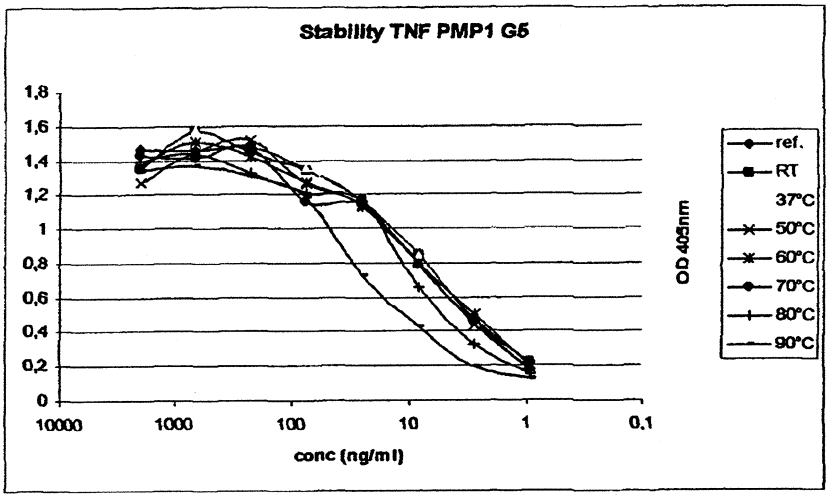


Figure 15 - continued


Stability TNF PMP1 C2
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
10000
1000
100
10
1
0,1
conc (ng/ml)
OD 405nm
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C


Stability TNF PMP1 G5
1,8
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
10000
1000
100
10
1
0,1
conc (ng/ml)
OD 405nm
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C

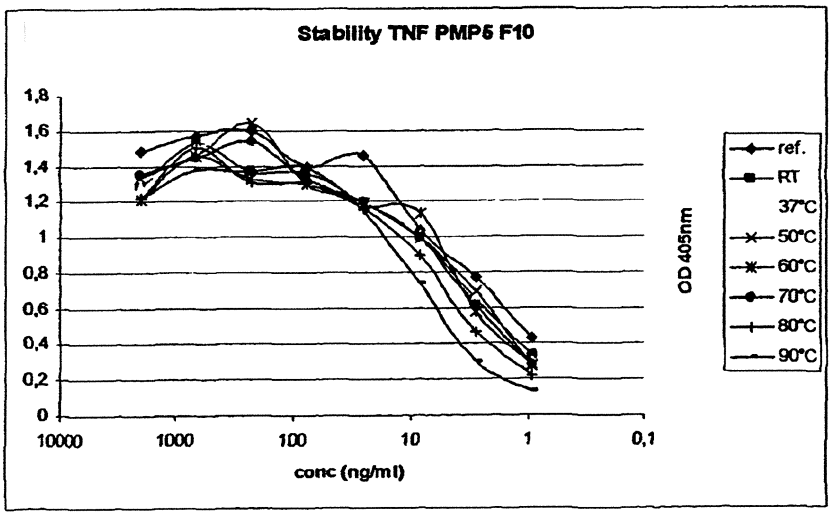
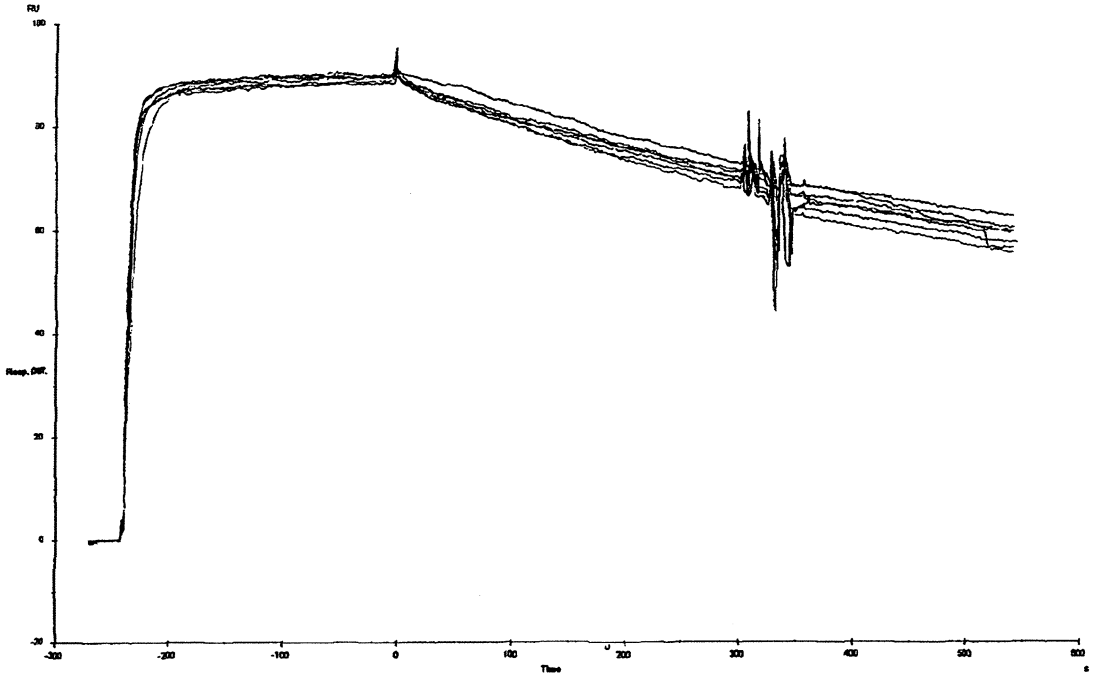

Stability TNF PMP5 F10
1,8
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
10000
1000
100
10
1
0,1
conc (ng/ml)
OD 405nm
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C

Figure 16



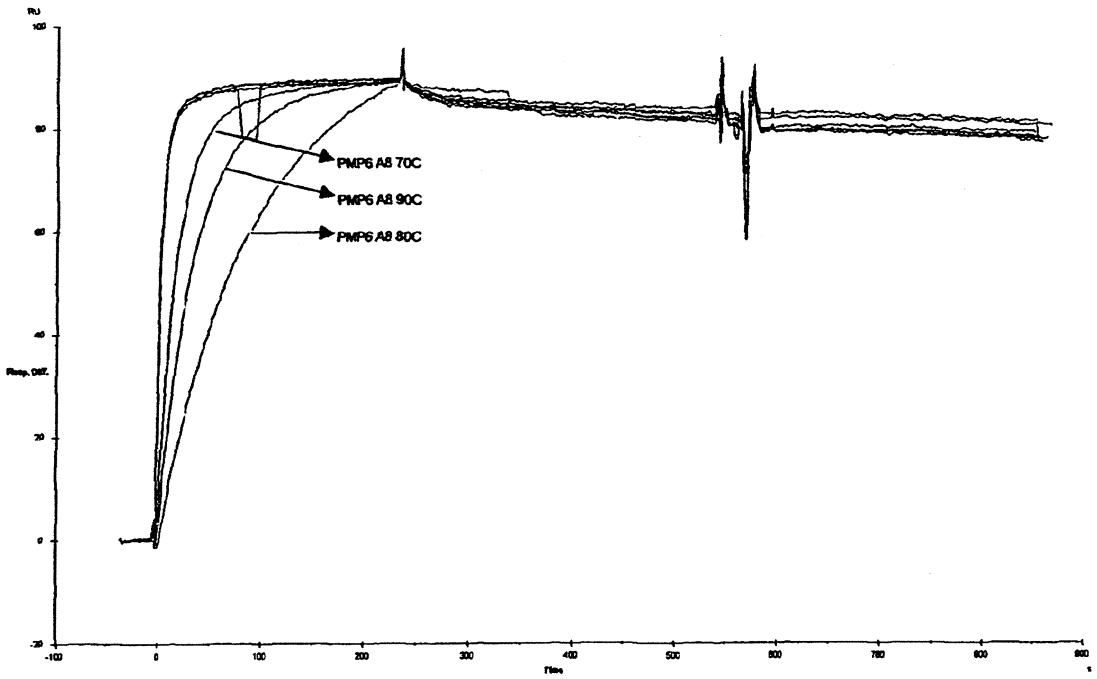


Figure 17

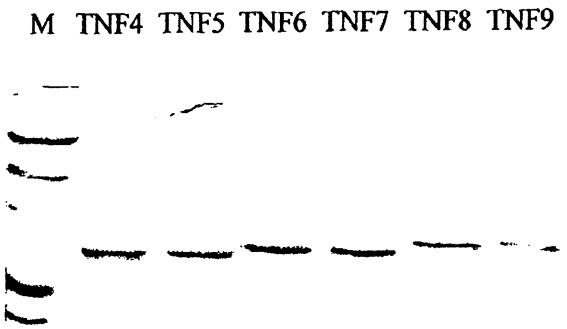
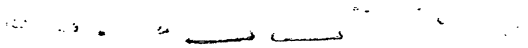


Figure 18

Anti-myc
TNF9 TNF8 TNF7 TNF6 TNF5 TNF4



Anti-NB
TNF9 TNF8 TNF7 TNF6 TNF5 TNF4

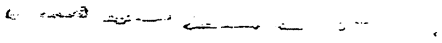


Figure 19

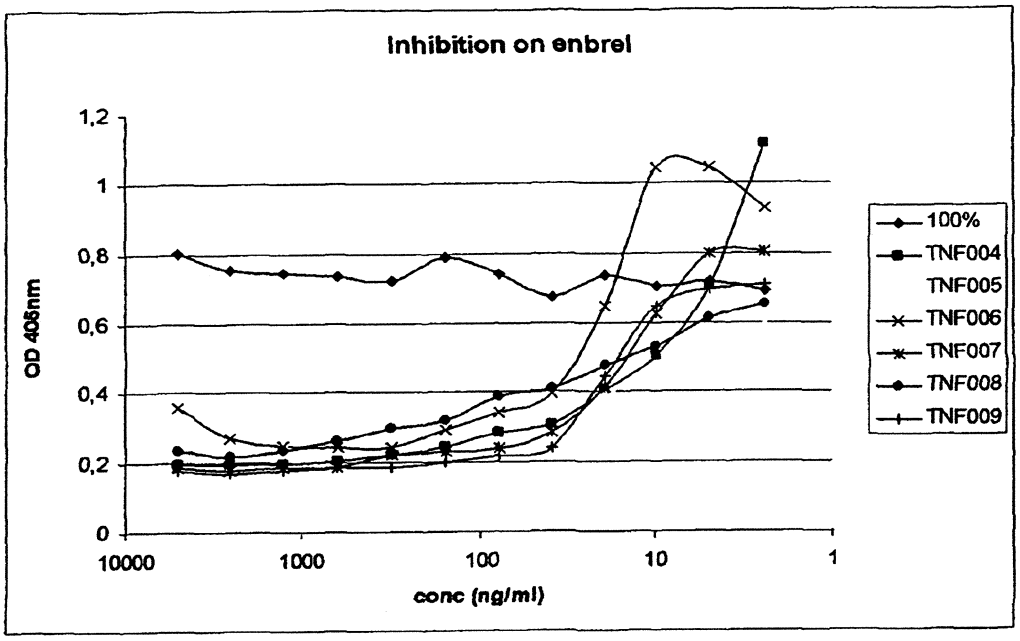
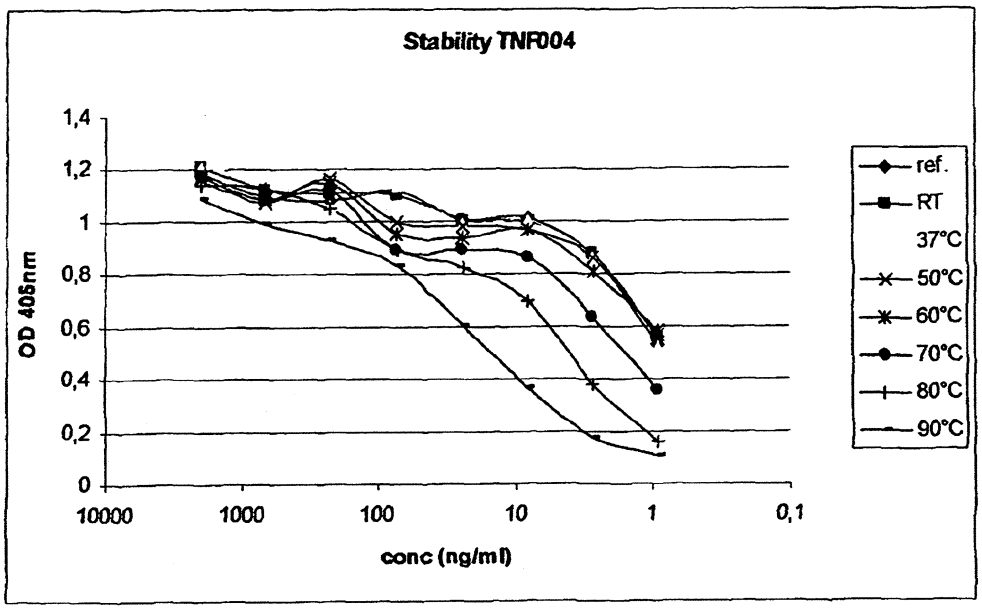

Inhibition on enbrel
OD 405nm
1,2
1
0,8
0,6
0,4
0,2
0
10000
1000
100
10
1
conc (ng/ml)
100%
TNF004
TNF005
TNF006
TNF007
TNF008
TNF009

Figure 20


Stability TNF004
OD 405nm
1,4
1,2
1
0,8
0,6
0,4
0,2
0
10000
1000
100
10
1
0,1
conc (ng/ml)
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C

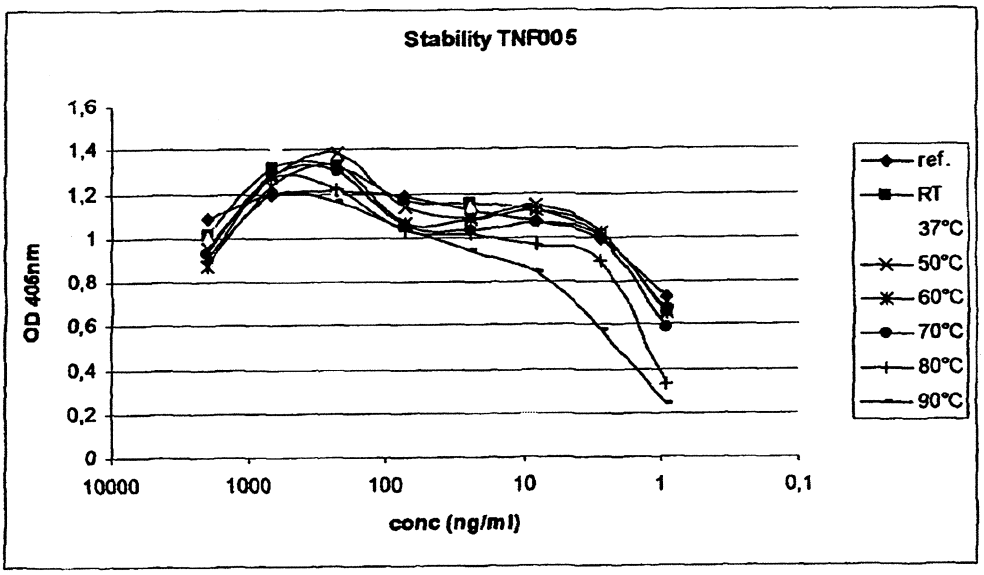
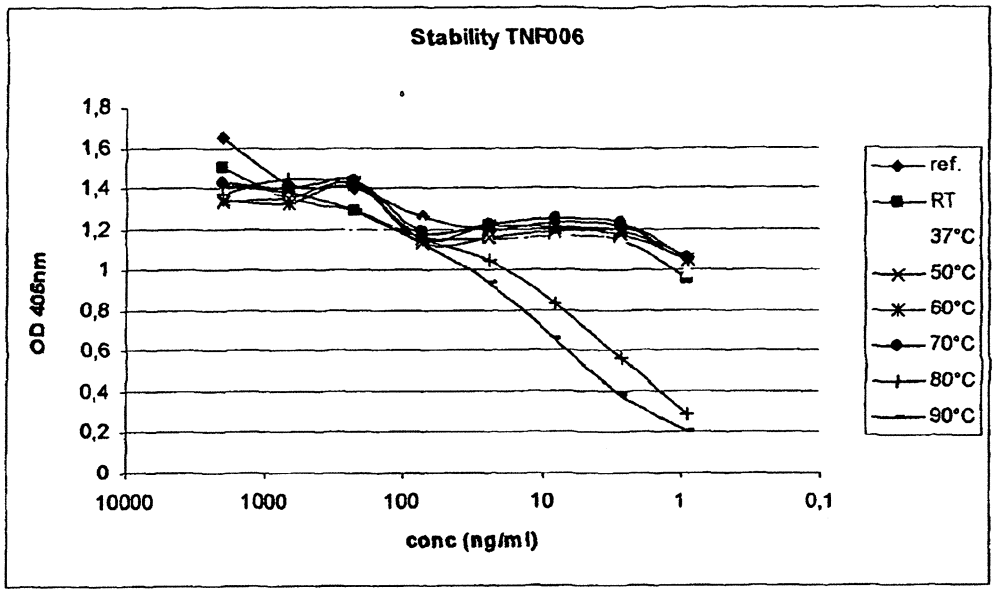

Stability TNF005
OD 405nm
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
10000
1000
100
10
1
0,1
conc (ng/ml)
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C

Figure 21



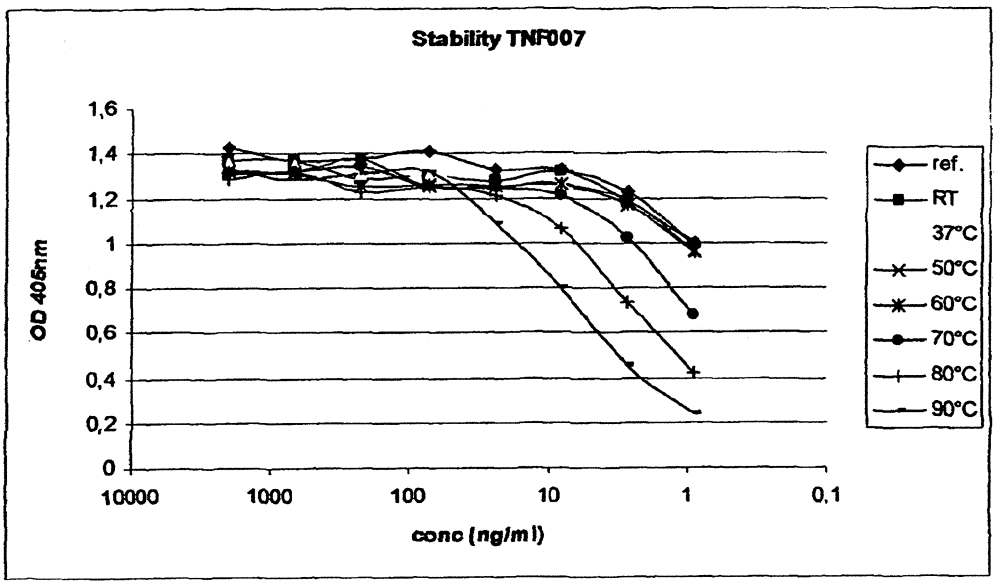
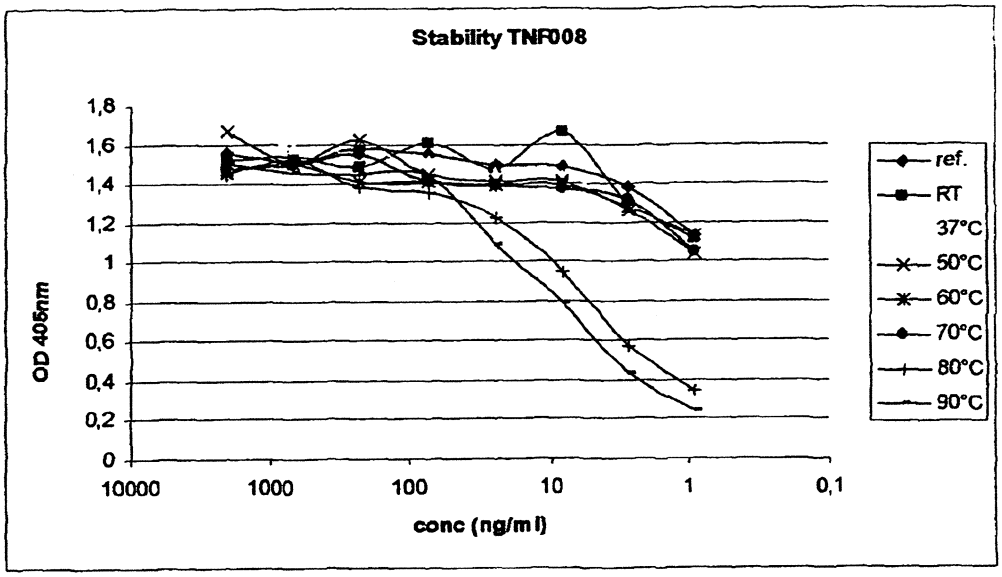


Figure 21 - continued



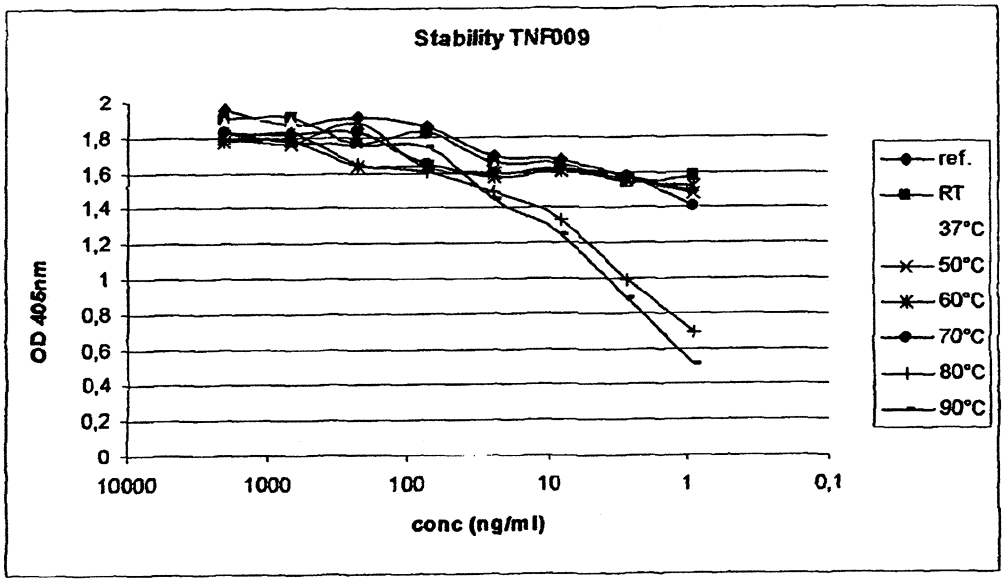


Figure 21 - continued

```
TNF1:
DP51    EVQLVESGGGLVQPGGSLRLSCAASGFTFS SYSMN WVRQAPGKGLEWVS YISSSSSTIYY(SEQ
ID NO: 472)
DP53    EVQLVESGGGLVQPGGSLRLSCAASGFTFS SYWMH WVRQAPGKGLVWVS RINSDGSSTSY(SEQ
ID NO: 473)
TNF1    QVQLVESGGGLVQPGGSLRLSCAASGFTFS DYWMY WVRQAPGKGLEWVS EINTNGLITKY
TNF13   EVQLVESGGGLVQPGGSLRLSCAASGFTFS DYWMY WVRQAPGKGLEWVS EINTNGLITKY
TNF14   EVQLVESGGGLVQPGGSLRLSCAASGFTFS DYWMY WVRQAPGKGLEWVS EINTNGLITKY
         ****************************  * *  ********** ***  *        *

DP51    ADSVKG RFTISRDNAKNSLYLQMNSLRDEDTAVYYCAR ------ WGQGTLVTVSS (SEQ ID
NO: 472 - continued)
DP53    ADSVKG RFTISRDNAKNTLYLQMNSLRAEDTAVYYCAR ------ WGQGTLVTVSS (SEQ ID
NO: 473 - continued)
TNF1    PDSVKG RFTISRDNAKNTLYLQMNSLKPEDTALYYCAR SPSGFN RGQGTQVTVSS
TNF13   PDSVKG RFTISRDNAKNTLYLQMNSLKPEDTAVYYCAR SPSGFN RGQGTQVTVSS
TNF14   PDSVKG RFTISRDNAKNTLYLQMNSLKPEDTALYYCAR SPSGFN RGQGTLVTVSS
         ***** ********** ********  **** *****         **** *****
```

Figure 22

```
TNF2:
DP54    EVQLVESGGGLVQPGGSLRLSCAASGFTFS -----SYWMS WVRQAPGKGLEWVANIKQDGSEKYY
(SEQ ID NO: 474)
TNF2    QVQLVESGGGLVQAGGSLRLSCAASGRTFS EPSGYTYTIG WFRQAPGKEREFVARIYWSSGLTYY
TNF15   EVQLVESGGGLVQPGGSLRLSCAASGRTFS EPSGYTYTIG WFRQAPGKGREFVARIYWSSGLTYY
TNF16   EVQLVESGGGLVQPGGSLRLSCAASGFTFS EPSGYTYTIG WFRQAPGKGREFVARIYWSSGLTYY
TNF17   EVQLVESGGGLVQPGGSLRLSCAASGRTFS EPSGYTYTIG WFRQAPGKGREFVARIYWSSGLTYY
TNF18   EVQLVESGGGLVQPGGSLRLSCAASGRTFS EPSGYTYTIG WFRQAPGKGREFVARIYWSSGLTYY
TNF19   EVQLVESGGGLVQPGGSLRLSCAASGRTFS EPSGYTYTIG WFRQAPGKGREFVARIYWSSGLTYY
         ************ ************ ***       *    * ******  * ** *       **

DP54    VDSVKG RFTISRDNAKNSLYLQMNSLRAEDTAVYYCAR --------------- WGQGTLVTVSS
(SEQ ID NO: 474 - continued)
TNF2    ADSVKG RFTISRDIAKNTVDLLMNSLKPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTQVTVSS
TNF15   ADSVKG RFTISRDIAKNTVDLQMNSLKPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTQVTVSS
TNF16   ADSVKG RFTISRDIAKNTVDLQMNSLKPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTQVTVSS
TNF17   ADSVKG RFTISRDNAKNTVDLQMNSLKPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTQVTVSS
TNF18   ADSVKG RFTISRDIAKNTVDLQMNSLRPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTQVTVSS
TNF19   ADSVKG RFTISRDIAKNTVDLQMNSLKPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTLVTVSS
         ***** ******* ***   * ****  *********                  ***** *****
```

Figure 23

```
TNF3:
DP29    EVQLVESGGGLVQPGGSLRLSCAASGFTFS DHYMDWVRQAPGKGLEWVG RTRNKANSYTTEYAAS
(SEQ ID NO: 475)
TNF3    EVQLVESGGGLVQAGGSLSLSCSASGRSLS NYYMGWFRQAPGKERELLG NI--SWRGYNIYYKDS
TNF20   EVQLVESGGGLVQPGGSLRLSCAASGRSLS NYYMGWFRQAPGKGRELLG NI--SWRGYNIYYKDS
TNF21   EVQLVESGGGLVQPGGSLRLSCAASGFTFS NYYMGWFRQAPGKGRELLG NI--SWRGYNIYYKDS
TNF22   EVQLVESGGGLVQPGGSLRLSCAASGRSLS NYYMGWFRQAPGKGRELLG NI--SWRGYNIYYKDS
TNF23   EVQLVESGGGLVQPGGSLRLSCAASGRSLS NYYMGWFRQAPGKGRELLG NI--SWRGYNIYYKDS
         ************* **** *** ***   *   ** * ******  *  *         *   *  *

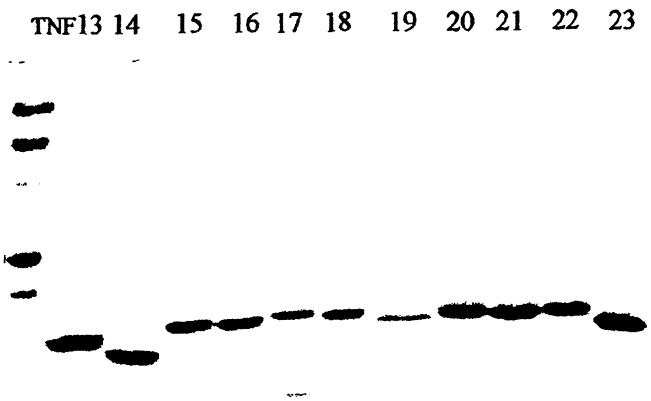
DP29    VKG RFTISRDDSKNSLYLQMNSLKTEDTAVYYCAR--------------- WGQGTLVTVSS
(SEQ ID NO: 475 - continued)
TNF3    VKG RFTISRDDAKNTIYLQMNRLKPEDTAVYYCAA SILPLSDDPGWNTY WGQGTQVTVSS
TNF20   VKG RFTISRDDSKNTIYLQMNSLKPEDTAVYYCAA SILPLSDDPGWNTY WGQGTQVTVSS
TNF21   VKG RFTISRDDSKNTIYLQMNSLKPEDTAVYYCAA SILPLSDDPGWNTY WGQGTQVTVSS
TNF22   VKG RFTISRDDSKNTIYLQMNSLKTEDTAVYYCAA SILPLSDDPGWNTY WGQGTQVTVSS
TNF23   VKG RFTISRDDSKNTIYLQMNSLKPEDTAVYYCAA SILPLSDDPGWNTY WGQGTLVTVSS
         *** ******** **  ***** ** *********                  ***** *****
```

Figure 24

```
ALB1:
DP51  EVQLVESGGGLVQPGGSLRLSCAASGFTFS SYSMN WVRQAPGKGLEWVS YISSSSSTIYYADSVKG
DP53  EVQLVESGGGLVQPGGSLRLSCAASGFTFS SYWMH WVRQAPGKGLVWVS RINSDGSSTSYADSVKG
ALB1  AVQLVESGGGLVQPGNSLRLSCAASGFTFR SFGMS WVRQAPGKEPEWVS SISGSGSDTLYADSVKG
ALB3  EVQLVESGGGLVQPGGSLRLSCAASGFTFR SFGMS WVRQAPGKEPEWVS SISGSGSDTLYADSVKG
ALB4  EVQLVESGGGLVQPGGSLRLSCAASGFTFS SFGMS WVRQAPGKEPEWVS SISGSGSDTLYADSVKG
ALB5  EVQLVESGGGLVQPGGSLRLSCAASGFTFR SFGMS WVRQAPGKGLEWVS SISGSGSDTLYADSVKG
      ************** ************  *  *  ********   *** *   ** * *******

DP51    RFTISRDNAKNSLYLQMNSLRDEDTAVYYCAR ------ WGQGTLVTVSS
DP53    RFTISRDNAKNTLYLQMNSLRAEDTAVYYCAR ------ WGQGTLVTVSS
ALB1    RFTISRDNAKTTLYLQMNSLKPEDTAVYYCTI GGSLSR SSQGTQVTVSS
ALB3    RFTISRDNAKTTLYLQMNSLKPEDTAVYYCTI GGSLSR SSQGTQVTVSS
ALB4    RFTISRDNAKTTLYLQMNSLKPEDTAVYYCTI GGSLSR SSQGTQVTVSS
ALB5    RFTISRDNAKTTLYLQMNSLKPEDTAVYYCTI GGSLSR SSQGTQVTVSS
        ********** *********  ******** .          *********
```

Figure 25



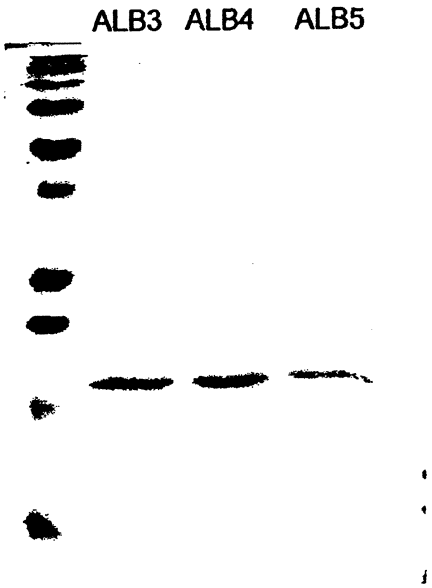


Figure 26

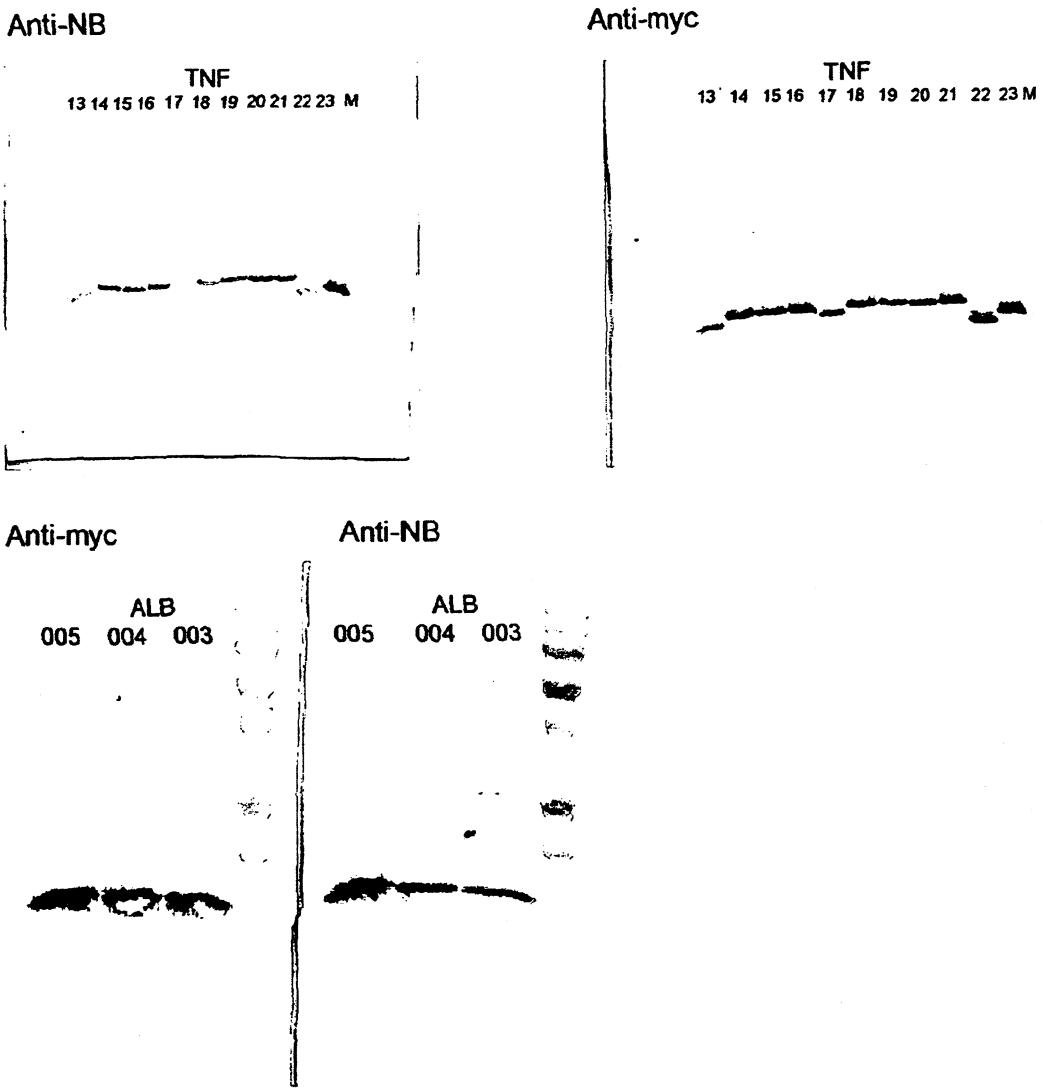

Anti-NB
TNF
13 14 15 16 17 18 19 20 21 22 23 M
Anti-myc
TNF
13 14 15 16 17 18 19 20 21 22 23 M
Anti-myc
ALB
005 004 003
Anti-NB
ALB
005 004 003

Figure 27

1G5 WT and humanized versions versus human TNF (normalized data)

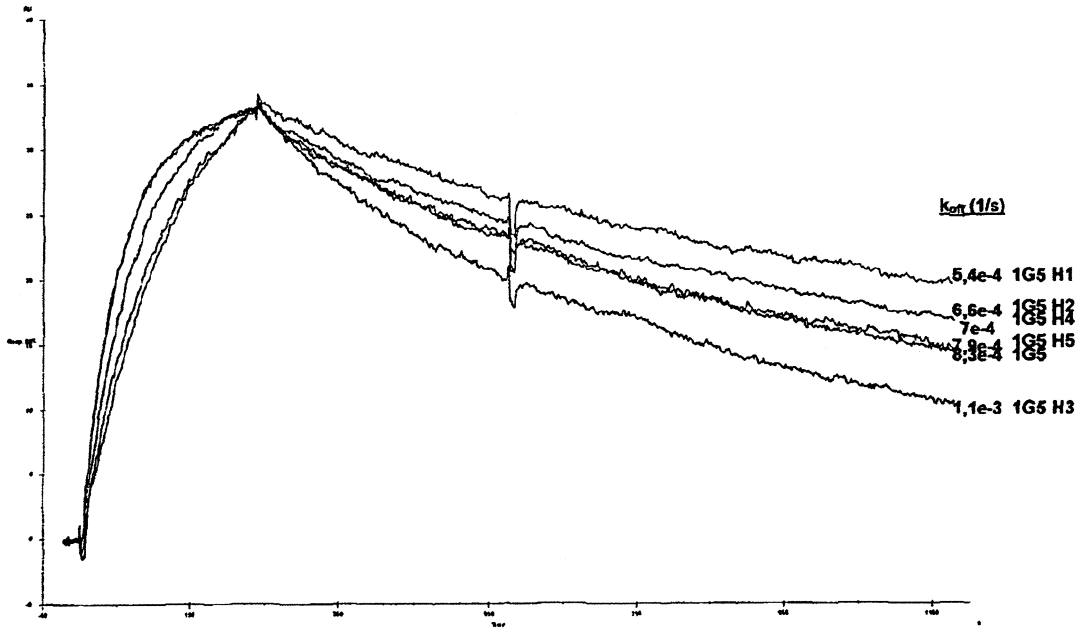


Figure 28

6A6 WT and humanized versions versus human SA (normalized data)

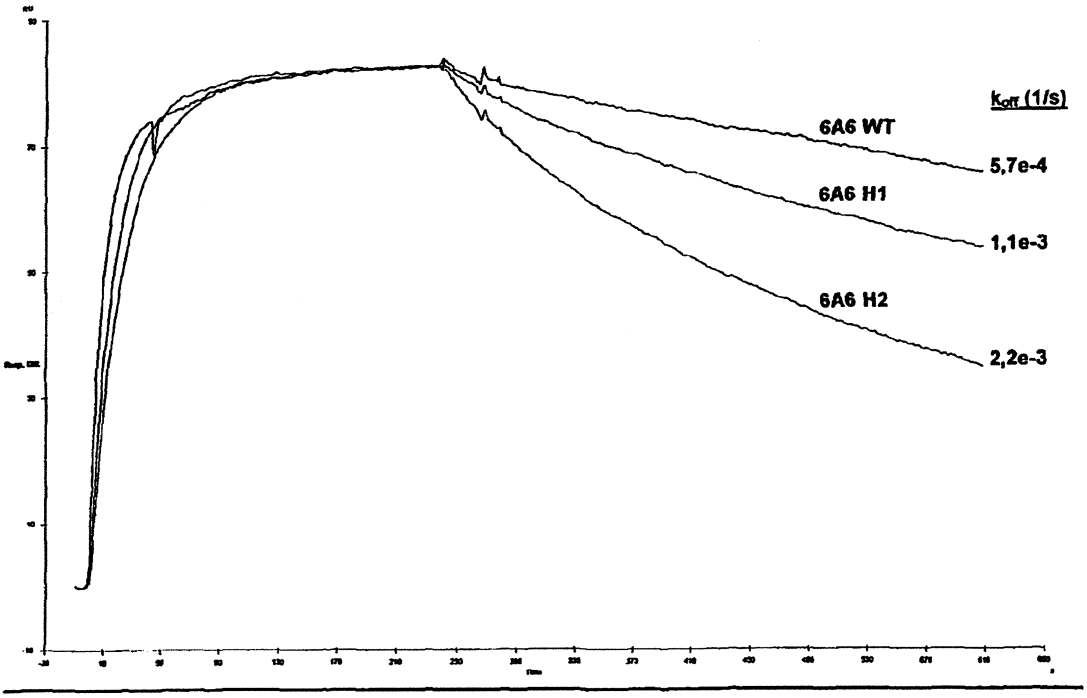
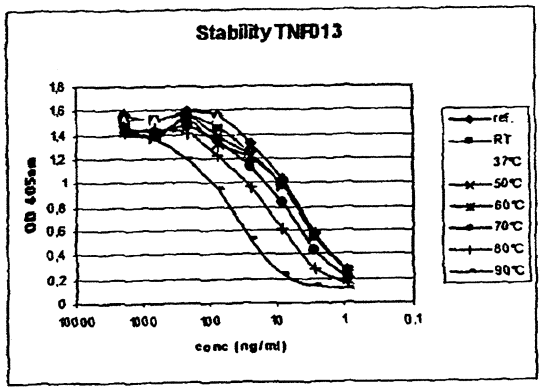
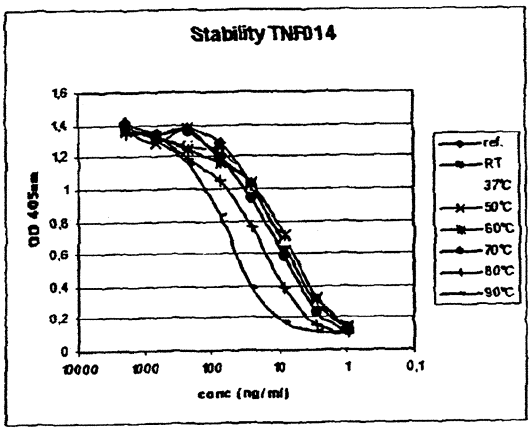


Figure 29


Stability TNF013
OD 405nm
1,8
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
10000
1000
100
10
1
0,1
conc (ng/ml)
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C


Stability TNF014
OD 405nm
1,6
1,4
1,2
1
0,8
0,6
0,4
0,2
0
10000
1000
100
10
1
0,1
conc (ng/ml)
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C

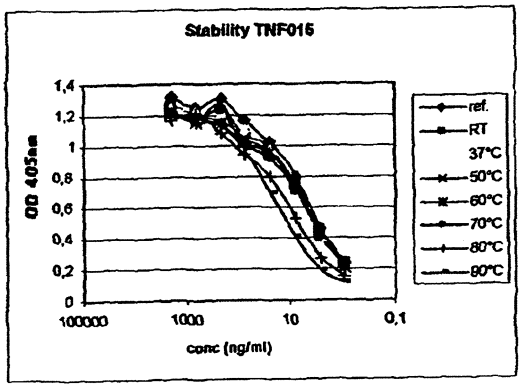
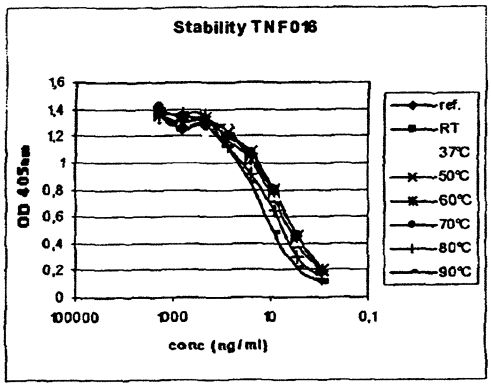
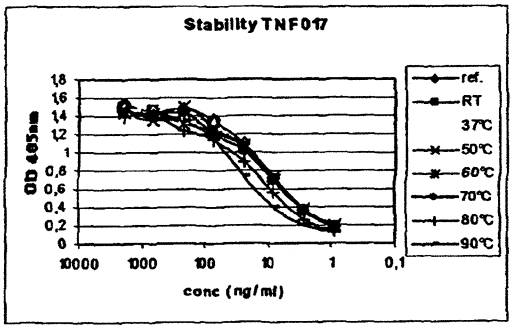
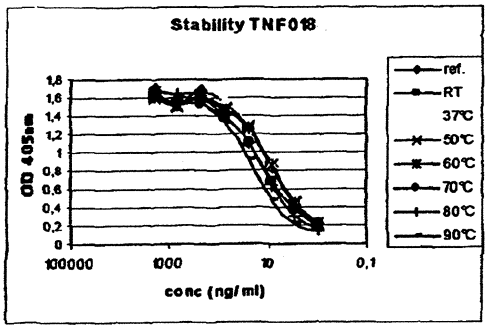

Stability TNF015
OD 405nm
1,4
1,2
1
0,8
0,6
0,4
0,2
0
100000
1000
10
0,1
conc (ng/ml)
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C

Figure 30







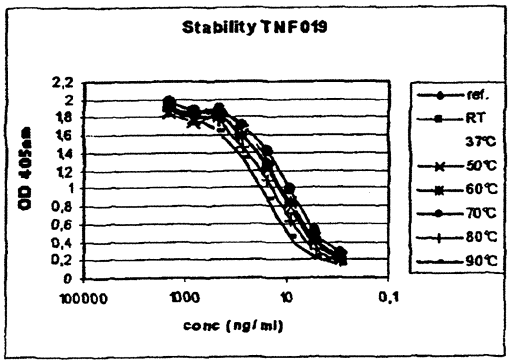
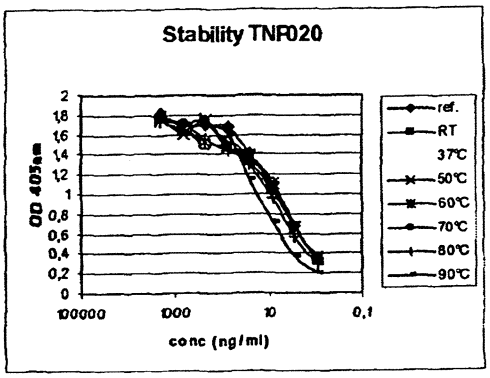
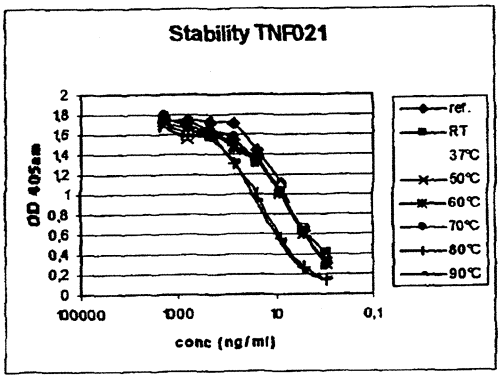
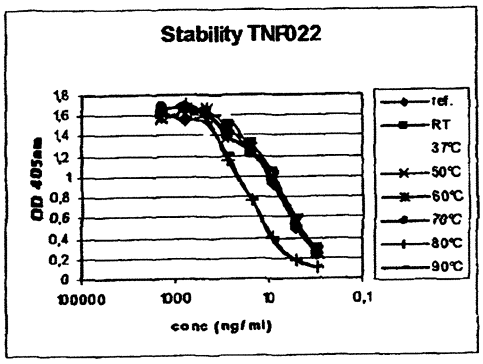


Figure 30 - continued







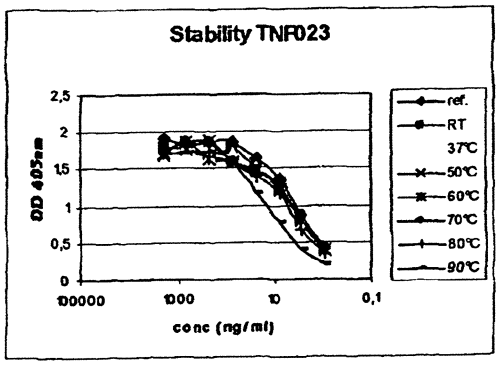


Figure 30 - continued

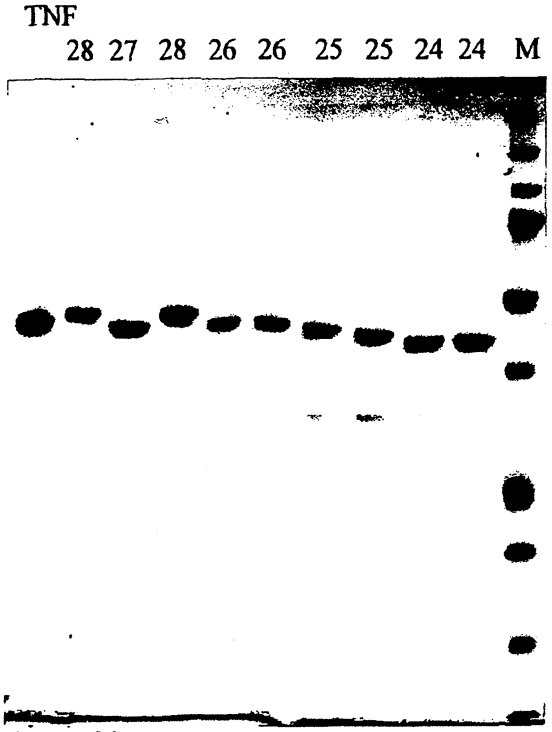
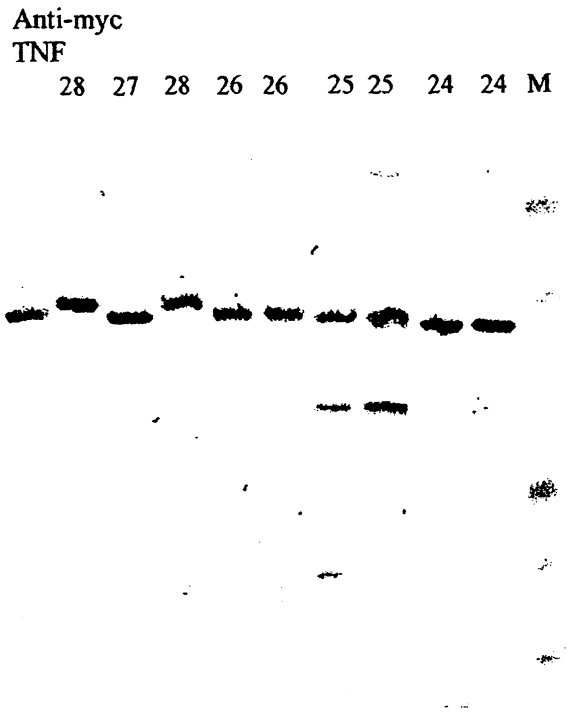


Figure 31


Anti-myc
TNF
28 27 28 26 26 25 25 24 24 M

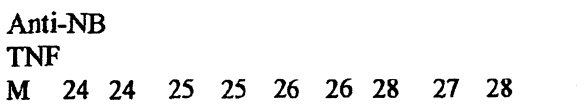

Anti-NB
TNF
M 24 24 25 25 26 26 28 27 28

Figure 32

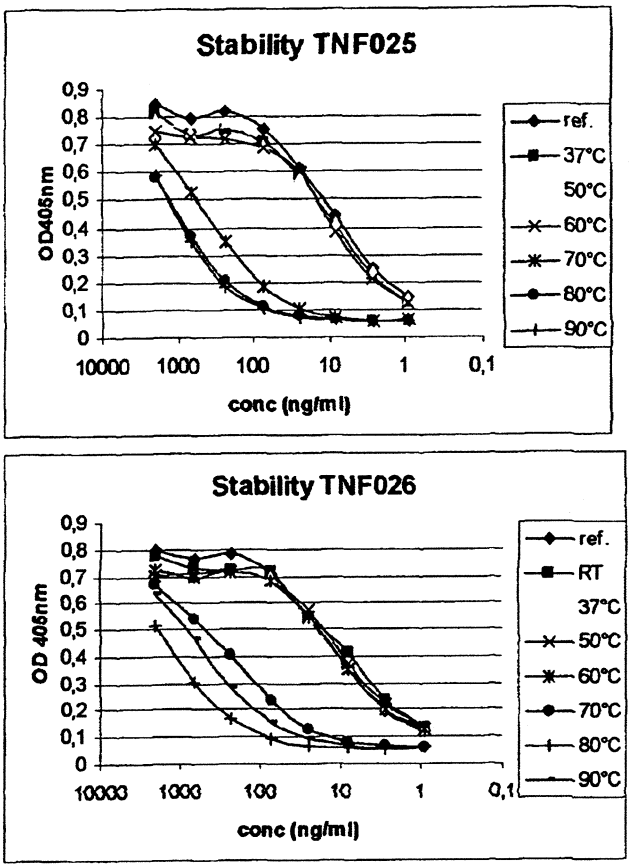

Stability TNF025
OD405nm
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
10000
1000
100
10
1
0,1
conc (ng/ml)
ref.
37°C
50°C
60°C
70°C
80°C
90°C
Stability TNF026
OD 405nm
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
10000
1000
100
10
1
0,1
conc (ng/ml)
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C

Figure 33

```
TNF1:
DP51    EVQLVESGGGLVQPGGSLRLSCAASGFTFS SYSMN WVRQAPGKGLEWVS YISSSSSTIYY
DP53    EVQLVESGGGLVQPGGSLRLSCAASGFTFS SYWMH WVRQAPGKGLVWVS RINSDGSSTSY
TNF1    QVQLVESGGGLVQPGGSLRLSCAASGFTFS DYWMY WVRQAPGKGLEWVS EINTNGLITKY
TNF13   EVQLVESGGGLVQPGGSLRLSCAASGFTFS DYWMY WVRQAPGKGLEWVS EINTNGLITKY
TNF14   EVQLVESGGGLVQPGGSLRLSCAASGFTFS DYWMY WVRQAPGKGLEWVS EINTNGLITKY
TNF29   EVQLVESGGGLVQPGGSLRLSCAASGFTFS DYWMY WVRQAPGKGLEWVS EINTNGLITKY
TNF30   EVQLVESGGGLVQPGGSLRLSCAASGFTFS DYWMY WVRQAPGKGLEWVS EINTNGLITKY
        e

DP51    ADSVKG RFTISRDNAKNSLYLQMNSLRDEDTAVYYCAR ------ WGQGTLVTVSS
DP53    ADSVKG RFTISRDNAKNTLYLQMNSLRAEDTAVYYCAR ------ WGQGTLVTVSS
TNF1    PDSVKG RFTISRDNAKNTLYLQMNSLKPEDTALYYCAR SPSGFN RGQGTQVTVSS
TNF13   PDSVKG RFTISRDNAKNTLYLQMNSLKPEDTAVYYCAR SPSGFN RGQGTQVTVSS
TNF14   PDSVKG RFTISRDNAKNTLYLQMNSLKPEDTALYYCAR SPSGFN RGQGTLVTVSS
TNF29   PDSVKG RFTISRDNAKNTLYLQMNSLKPEDTAVYYCAR SPSGFN RGQGTLVTVSS
TNF30   PDSVKG RFTISRDNAKNTLYLQMNSLRPEDTAVYYCAR SPSGFN RGQGTLVTVSS
                                  ii    b                e
```

Figure 34

```
TNF2:
DP54    EVQLVESGGGLVQPGGSLRLSCAASGFTFS -----SYWMS WVRQAPGKGLEWVANIKQDGSEKYY
TNF2    QVQLVESGGGLVQAGGSLRLSCAASGRTFS EPSGYTYTIG WFRQAPGKEREFVARIYWSSGLTYY
TNF15   EVQLVESGGGLVQPGGSLRLSCAASGRTFS EPSGYTYTIG WFRQAPGKGREFVARIYWSSGLTYY
TNF16   EVQLVESGGGLVQPGGSLRLSCAASGFTFS EPSGYTYTIG WFRQAPGKGREFVARIYWSSGLTYY
TNF17   EVQLVESGGGLVQPGGSLRLSCAASGRTFS EPSGYTYTIG WFRQAPGKGREFVARIYWSSGLTYY
TNF18   EVQLVESGGGLVQPGGSLRLSCAASGRTFS EPSGYTYTIG WFRQAPGKGREFVARIYWSSGLTYY
TNF19   EVQLVESGGGLVQPGGSLRLSCAASGRTFS EPSGYTYTIG WFRQAPGKGREFVARIYWSSGLTYY
TNF31   EVQLVESGGGLVQPGGSLRLSCAASGFTFS EPSGYTYTIG WFRQAPGKGREFVARIYWSSGLTYY
TNF32   EVQLVESGGGLVQPGGSLRLSCAASGFTFS EPSGYTYTIG WFRQAPGKGREFVARIYWSSGLTYY
        e           i           e               b      ei b

DP54    VDSVKG RFTISRDNAKNSLYLQMNSLRAEDTAVYYCAR --------------- WGQGTLVTVSS
TNF2    ADSVKG RFTISRDIAKNTVDLLMNSLKPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTQVTVSS
TNF15   ADSVKG RFTISRDIAKNTVDLQMNSLKPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTQVTVSS
TNF16   ADSVKG RFTISRDIAKNTVDLQMNSLKPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTQVTVSS
TNF17   ADSVKG RFTISRDNAKNTVDLQMNSLKPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTQVTVSS
TNF18   ADSVKG RFTISRDIAKNTVDLQMNSLRPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTQVTVSS
TNF19   ADSVKG RFTISRDIAKNTVDLQMNSLKPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTLVTVSS
TNF31   ADSVKG RFTISRDIAKNTVDLQMNSLRPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTQVTVSS
TNF32   ADSVKG RFTISRDIAKNTVDLQMNSLRPEDTAVYYCAA RDGIPTSRSVGSYNY WGQGTLVTVSS
                    e   bbb b    ii         b                      e
```

Figure 35

```
TNF3:
DP29   EVQLVESGGGLVQPGGSLRLSCAASGFTFS DHYMD WVRQAPGKGLEWVG RTRNKANSYTTEYAAS
TNF3   EVQLVESGGGLVQAGGSLSLSCSASGRSLS NYYMG WFRQAPGKERELLG NI--SWRGYNIYYKDS
TNF20  EVQLVESGGGLVQPGGSLRLSCAASGRSLS NYYMG WFRQAPGKGRELLG NI--SWRGYNIYYKDS
TNF21  EVQLVESGGGLVQPGGSLRLSCAASGFTFS NYYMG WFRQAPGKGRELLG NI--SWRGYNIYYKDS
TNF22  EVQLVESGGGLVQPGGSLRLSCAASGRSLS NYYMG WFRQAPGKGRELLG NI--SWRGYNIYYKDS
TNF23  EVQLVESGGGLVQPGGSLRLSCAASGRSLS NYYMG WFRQAPGKGRELLG NI--SWRGYNIYYKDS
TNF33  EVQLVESGGGLVQPGGSLRLSCAASGRSLS NYYMG WFRQAPGKGRELLG NI--SWRGYNIYYKDS
                i    i   i   ebi         b      ei bb

DP29     VKG RFTISRDDSKNSLYLQMNSLKTEDTAVYYCAR -------------- WGQGTLVTVSS
TNF3     VKG RFTISRDDAKNTIYLQMNRLKPEDTAVYYCAA SILPLSDDPGWNTY WGQGTQVTVSS
TNF20    VKG RFTISRDDSKNTIYLQMNSLKPEDTAVYYCAA SILPLSDDPGWNTY WGQGTQVTVSS
TNF21    VKG RFTISRDDSKNTIYLQMNSLKPEDTAVYYCAA SILPLSDDPGWNTY WGQGTQVTVSS
TNF22    VKG RFTISRDDSKNTIYLQMNSLKTEDTAVYYCAA SILPLSDDPGWNTY WGQGTQVTVSS
TNF23    VKG RFTISRDDSKNTIYLQMNSLKPEDTAVYYCAA SILPLSDDPGWNTY WGQGTLVTVSS
TNF33    VKG RFTISRDDSKNTIYLQMNSLRPEDTAVYYCAA SILPLSDDPGWNTY WGQGTLVTVSS
                   e  bb     i ii         b                      e
```

Figure 36

```
ALB1:
DP51  EVQLVESGGGLVQPGGSLRLSCAASGFTFS SYSMN WVRQAPGKGLEWVS YISSSSSTIYYADSVKG
DP53  EVQLVESGGGLVQPGGSLRLSCAASGFTFS SYWMH WVRQAPGKGLVWVS RINSDGSSTSYADSVKG
ALB1  AVQLVESGGGLVQPGNSLRLSCAASGFTFR SFGMS WVRQAPGKEPEWVS SISGSGSDTLYADSVKG
ALB3  EVQLVESGGGLVQPGGSLRLSCAASGFTFR SFGMS WVRQAPGKEPEWVS SISGSGSDTLYADSVKG
ALB4  EVQLVESGGGLVQPGGSLRLSCAASGFTFS SFGMS WVRQAPGKEPEWVS SISGSGSDTLYADSVKG
ALB5  EVQLVESGGGLVQPGGSLRLSCAASGFTFR SFGMS WVRQAPGKGLEWVS SISGSGSDTLYADSVKG
ALB6  EVQLVESGGGLVQPGNSLRLSCAASGFTFR SFGMS WVRQAPGKGLEWVS SISGSGSDTLYADSVKG
ALB7  EVQLVESGGGLVQPGNSLRLSCAASGFTFR SFGMS WVRQAPGKGLEWVS SISGSGSDTLYADSVKG
ALB8  EVQLVESGGGLVQPGNSLRLSCAASGFTFS SFGMS WVRQAPGKGLEWVS SISGSGSDTLYADSVKG
ALB9  EVQLVESGGGLVQPGNSLRLSCAASGFTFS SFGMS WVRQAPGKGLEWVS SISGSGSDTLYADSVKG
ALB10 EVQLVESGGGLVQPGNSLRLSCAASGFTFS SFGMS WVRQAPGKGLEWVS SISGSGSDTLYADSVKG
      e              i             i              ei

DP51    RFTISRDNAKNSLYLQMNSLRDEDTAVYYCAR ------ WGQGTLVTVSS
DP53    RFTISRDNAKNTLYLQMNSLRAEDTAVYYCAR ------ WGQGTLVTVSS
ALB1    RFTISRDNAKTTLYLQMNSLKPEDTAVYYCTI GGSLSR SSQGTQVTVSS
ALB3    RFTISRDNAKTTLYLQMNSLKPEDTAVYYCTI GGSLSR SSQGTQVTVSS
ALB4    RFTISRDNAKTTLYLQMNSLKPEDTAVYYCTI GGSLSR SSQGTQVTVSS
ALB5    RFTISRDNAKTTLYLQMNSLKPEDTAVYYCTI GGSLSR SSQGTQVTVSS
ALB6    RFTISRDNAKTTLYLQMNSLKPEDTAVYYCTI GGSLSR SSQGTLVTVSS
ALB7    RFTISRDNAKTTLYLQMNSLRPEDTAVYYCTI GGSLSR SSQGTLVTVSS
ALB8    RFTISRDNAKTTLYLQMNSLRPEDTAVYYCTI GGSLSR SSQGTLVTVSS
ALB9    RFTISRDNAKNTLYLQMNSLRPEDTAVYYCTI GGSLSR SSQGTLVTVSS
ALB10   RFTISRDNAKNTLYLQMNSLRPEDTAVYYCTI GGSLSR SGQGTLVTVSS
              i         ii        bb        ib   i
```

Figure 37

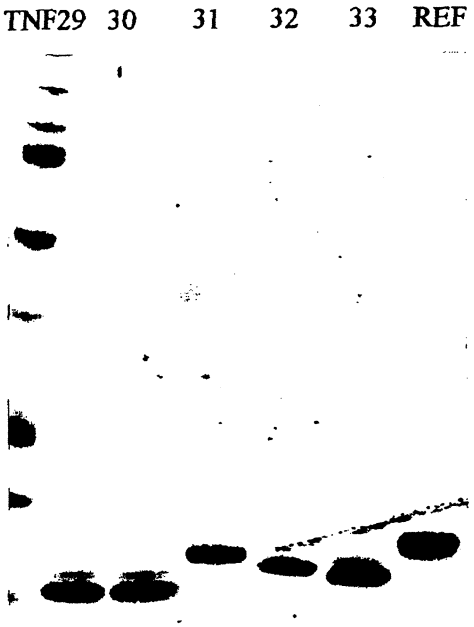


Figure 38

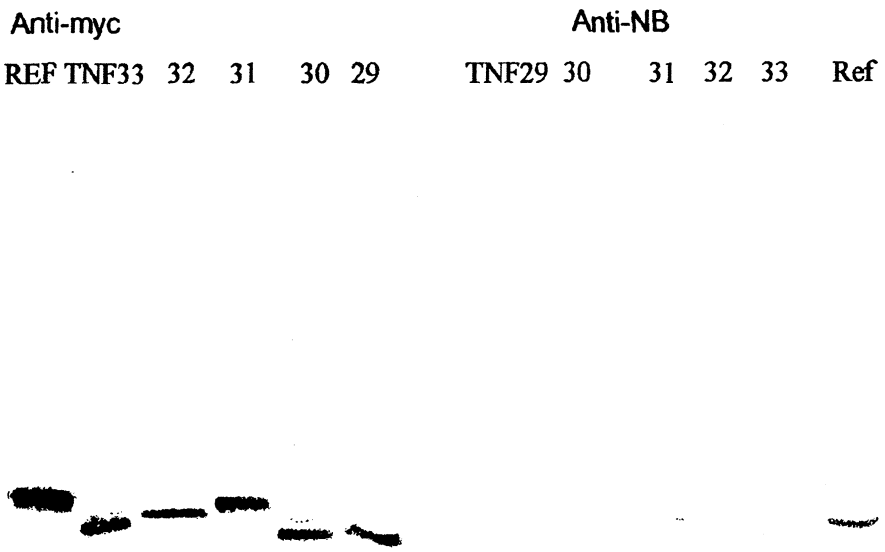
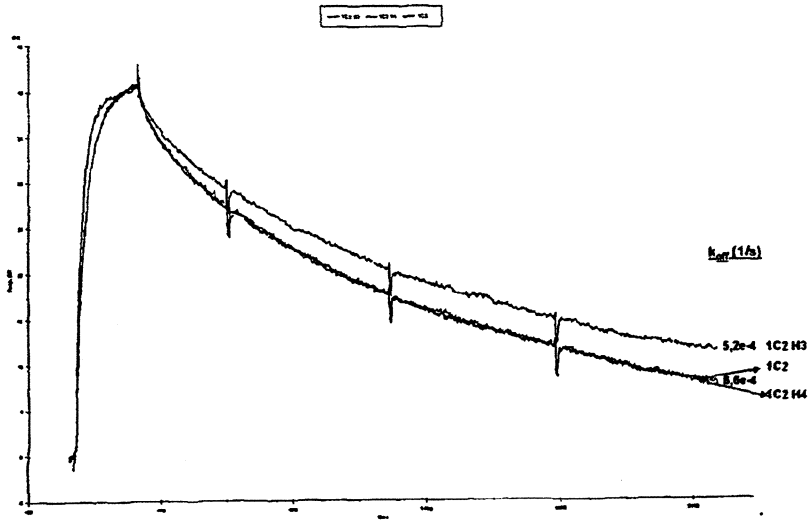


Figure 39

1C2 WT and humanized versions versus human TNF (normalized data)



1G5 WT and humanized versions versus human TNF (normalized data)

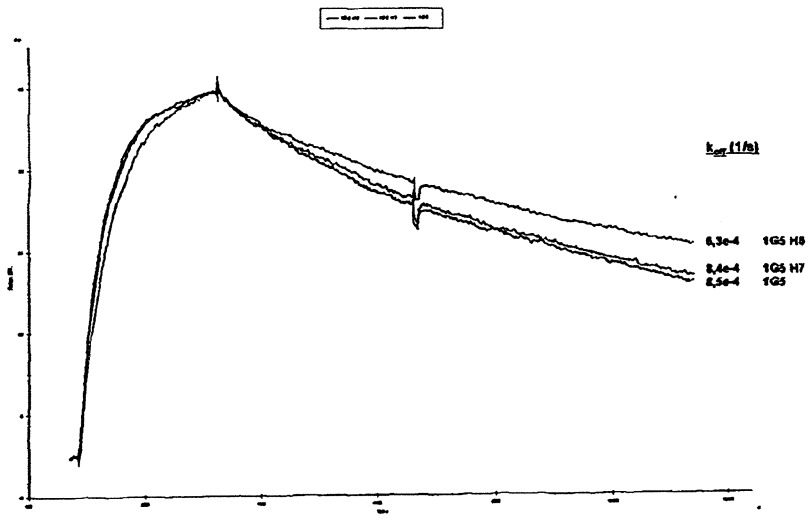


Figure 40

5F10 WT and humanized versions versus human TNF (normalized data)

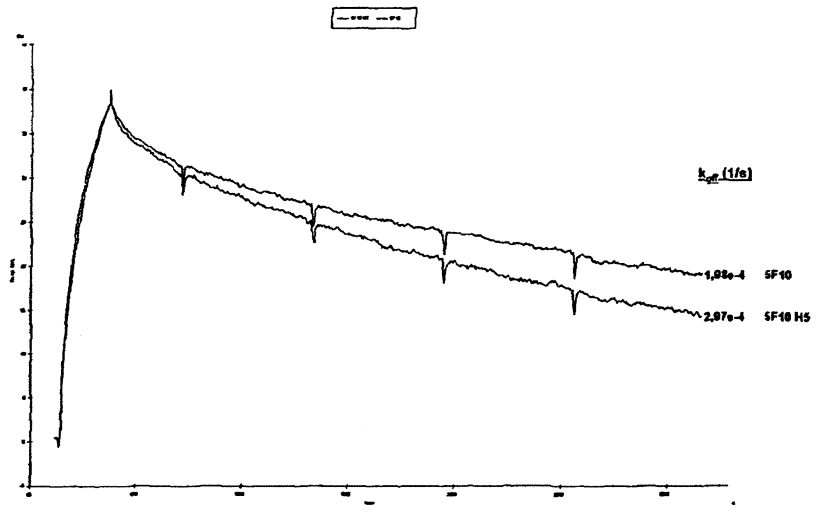
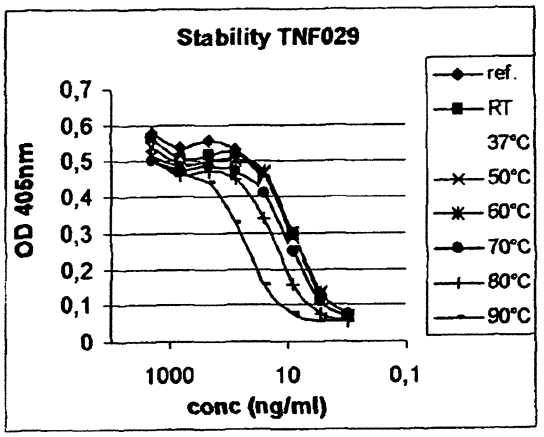
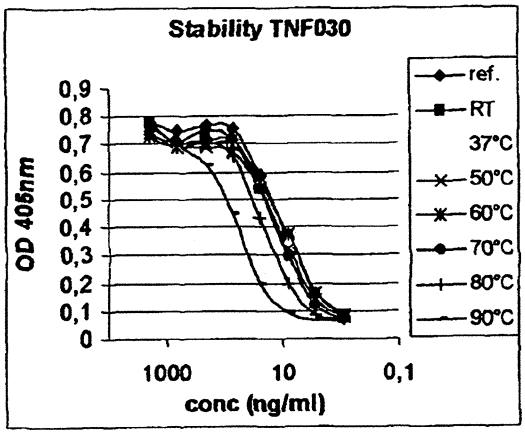
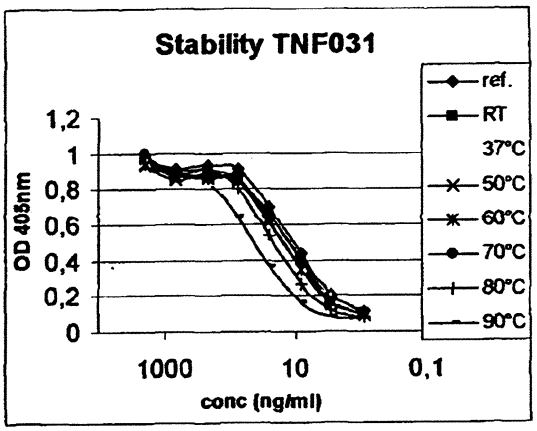
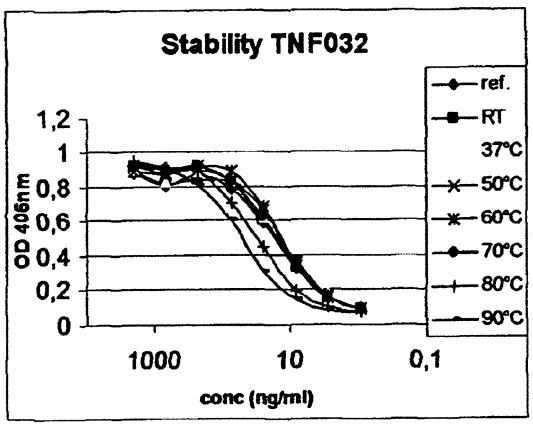


Figure 40 - continued


Stability TNF029
OD 405nm
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
1000
10
0,1
conc (ng/ml)
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C


Stability TNF030
OD 405nm
0,9
0,8
0,7
0,6
0,5
0,4
0,3
0,2
0,1
0
1000
10
0,1
conc (ng/ml)
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C


Stability TNF031
OD 405nm
1,2
1
0,8
0,6
0,4
0,2
0
1000
10
0,1
conc (ng/ml)
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C


Stability TNF032
OD 405nm
1,2
1
0,8
0,6
0,4
0,2
0
1000
10
0,1
conc (ng/ml)
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C

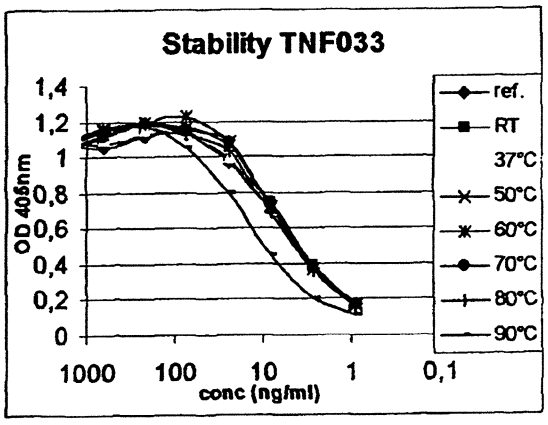

Stability TNF033
OD 405nm
1,4
1,2
1
0,8
0,6
0,4
0,2
0
1000
100
10
1
0,1
conc (ng/ml)
ref.
RT
37°C
50°C
60°C
70°C
80°C
90°C

Figure 41



Figure 42

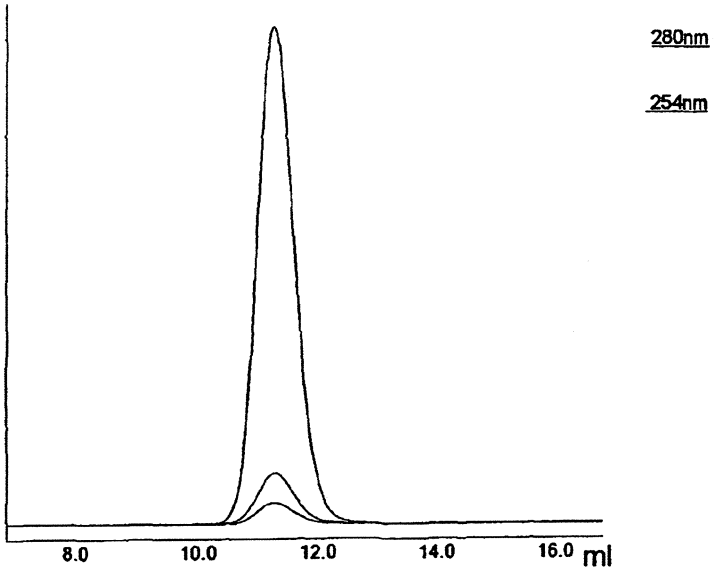


Figure 43

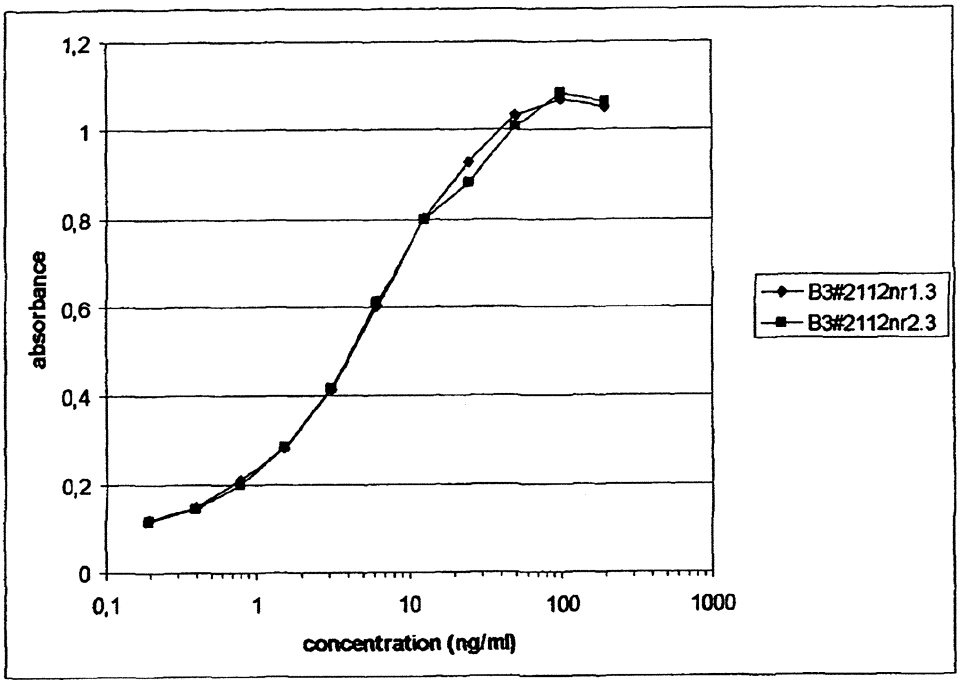


Figure 44

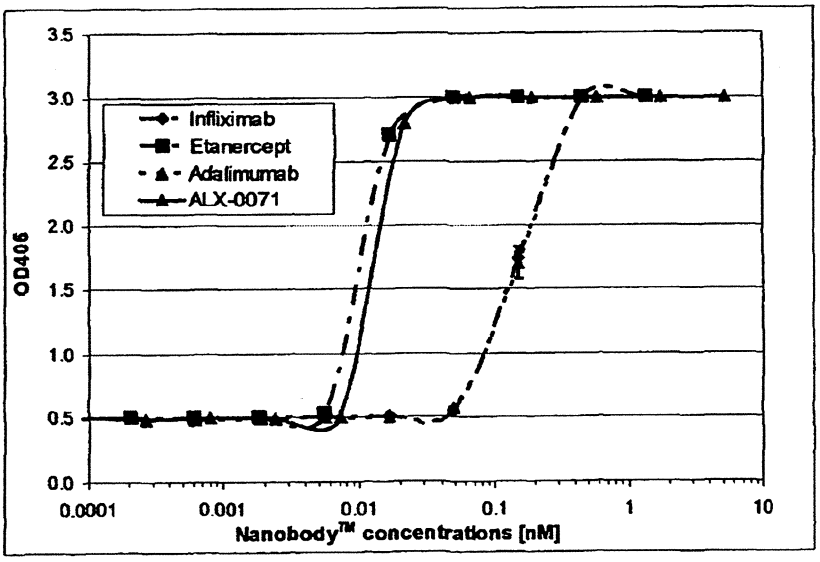


Figure 45

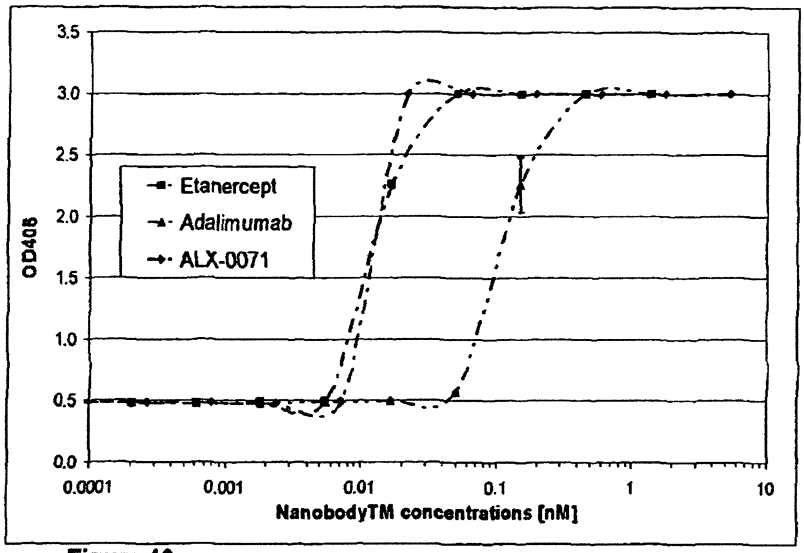


Figure 46

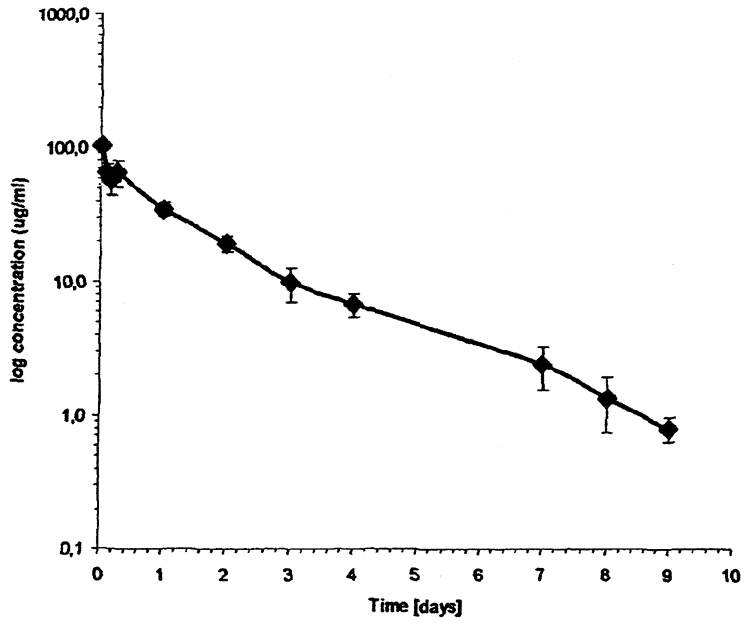


Figure 47

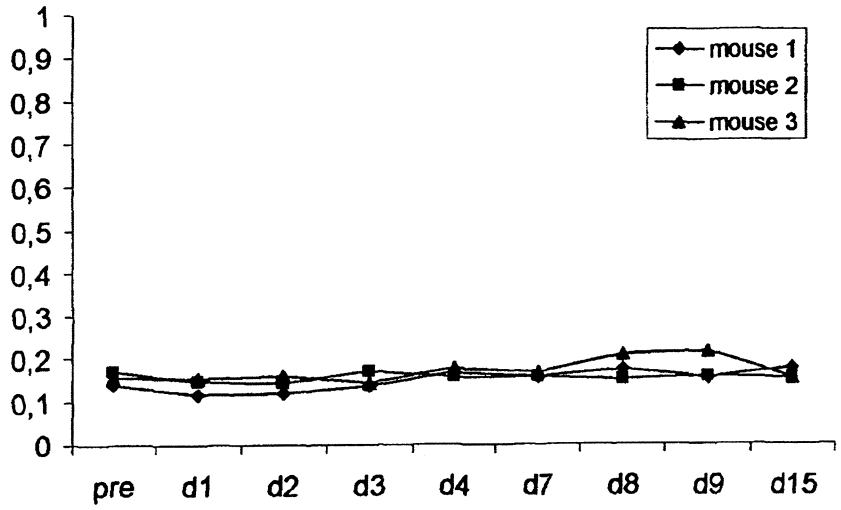


Figure 48

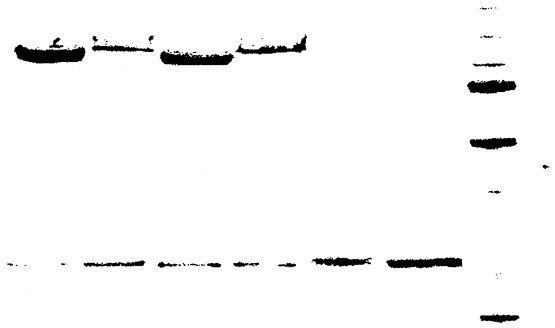


Figure 49

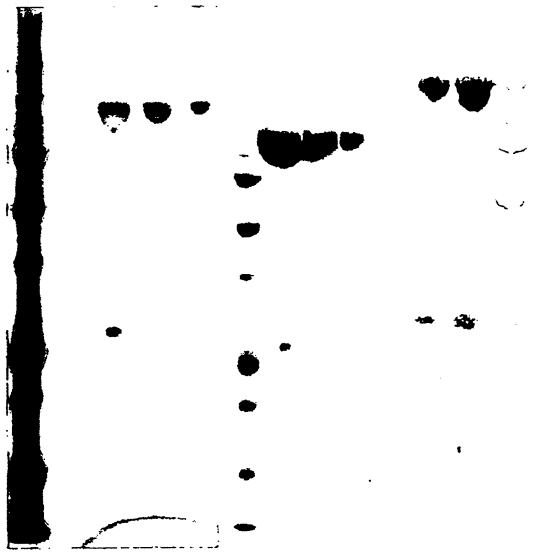


Figure 50

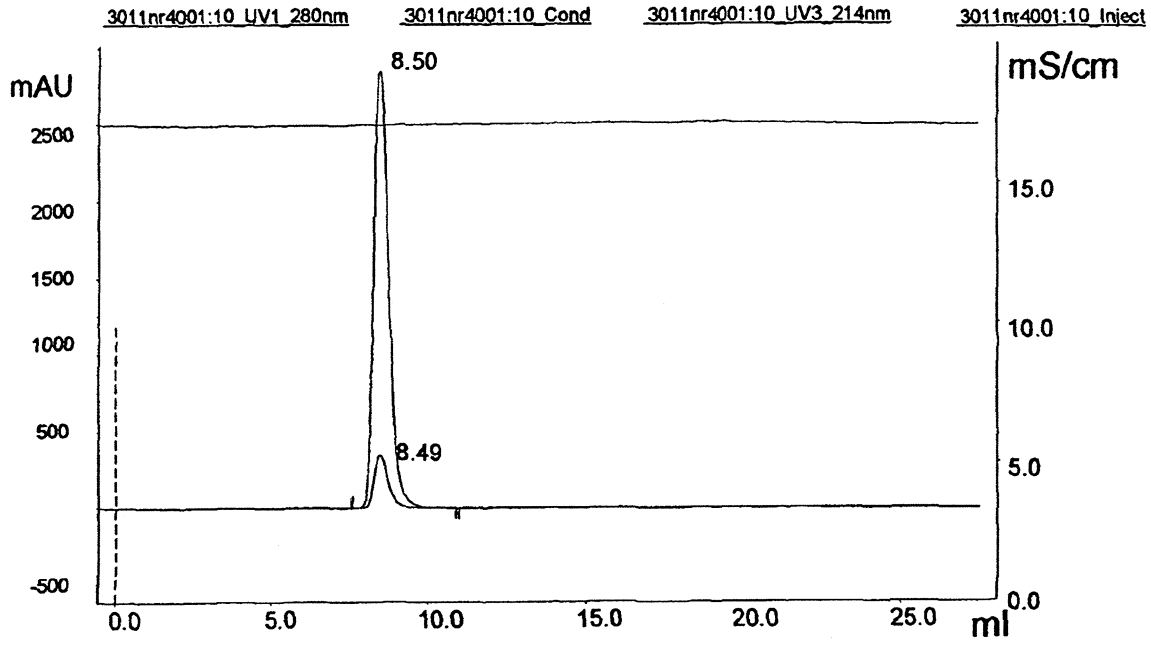


Figure 51

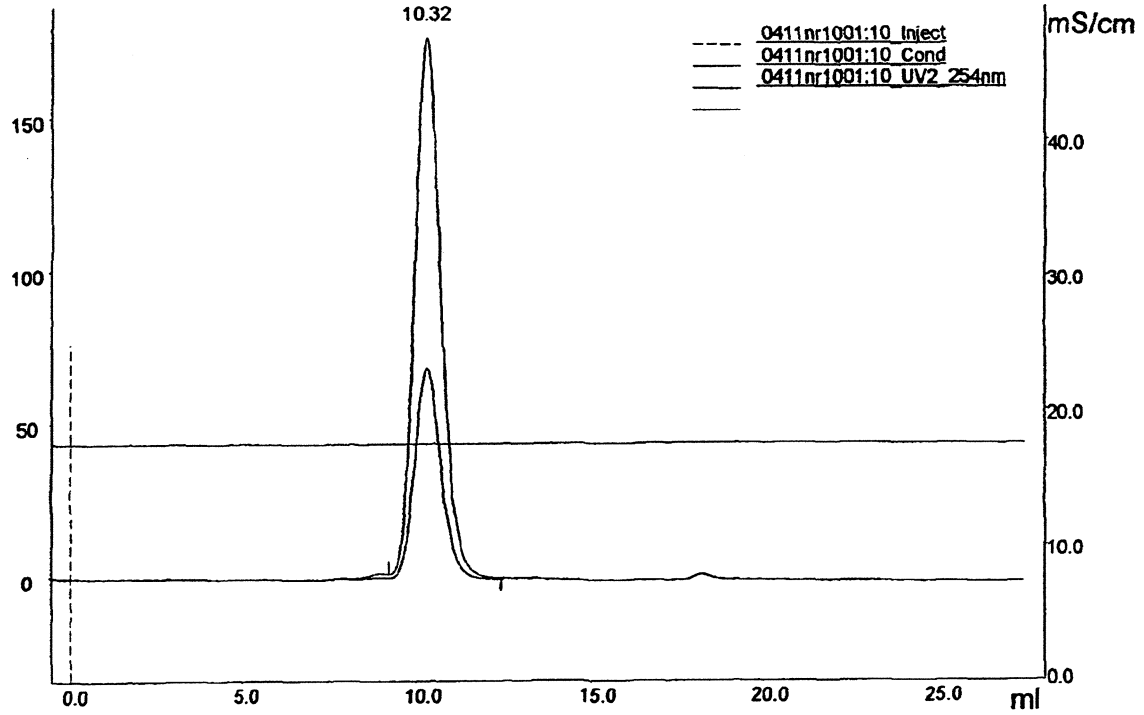


Figure 52

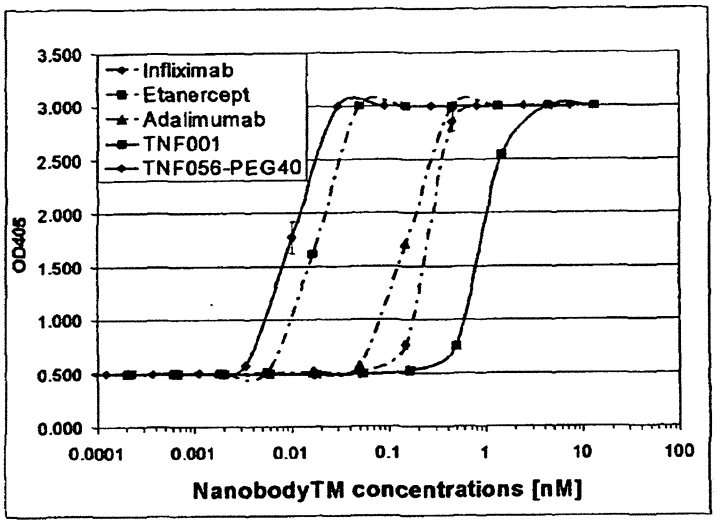


Figure 53

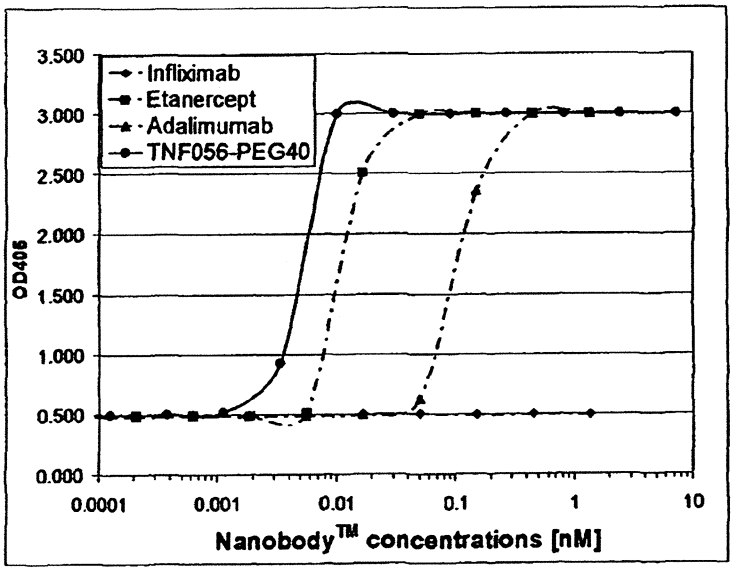


Figure 54

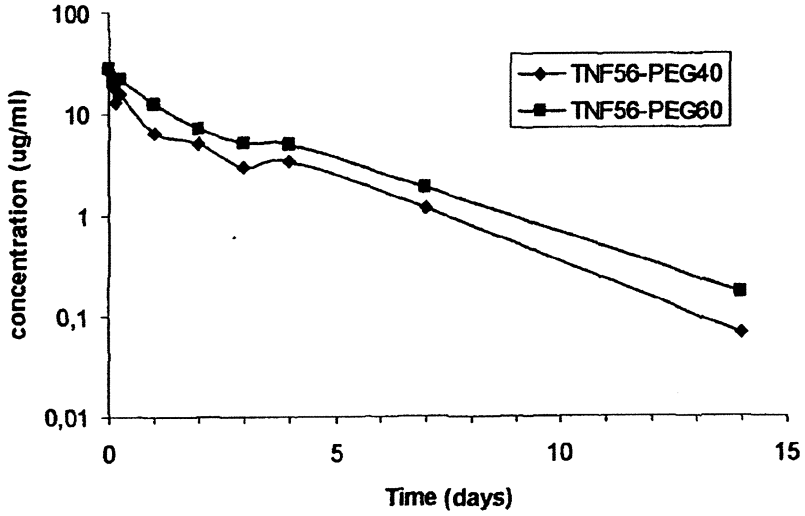


Figure 55

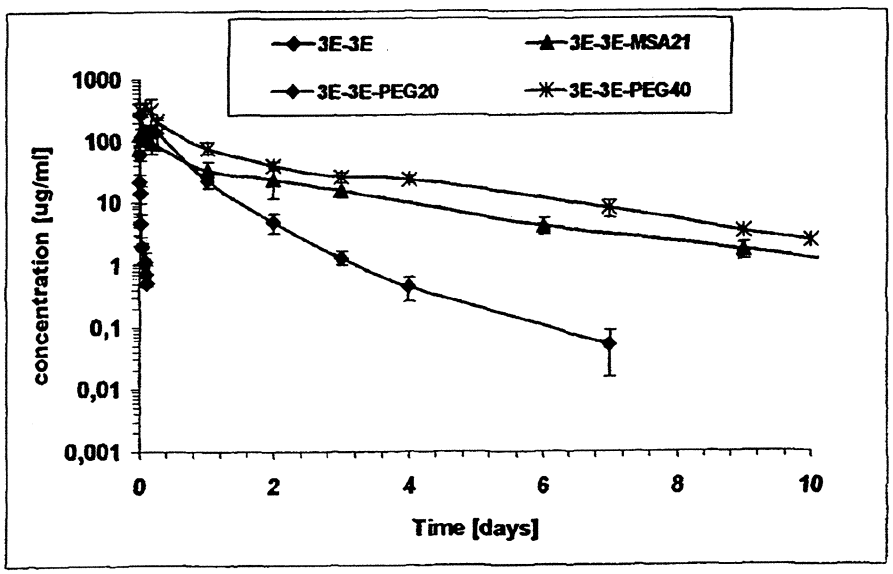


Figure 56

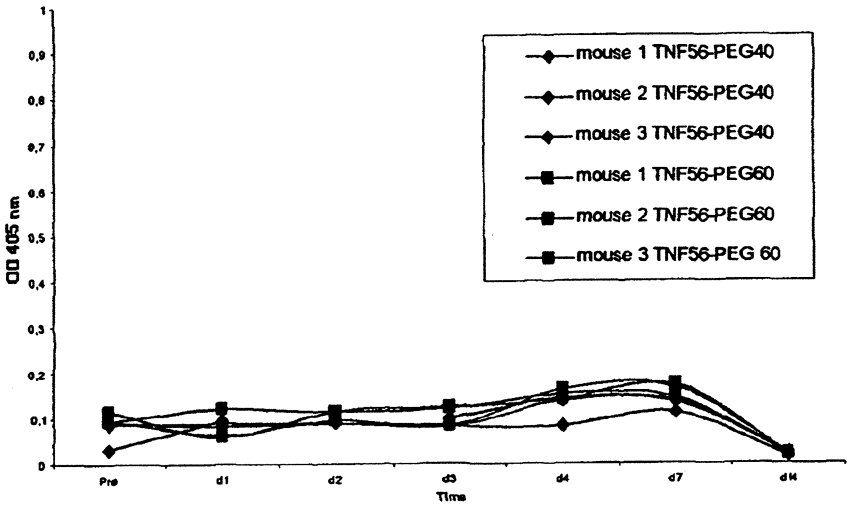


Figure 57

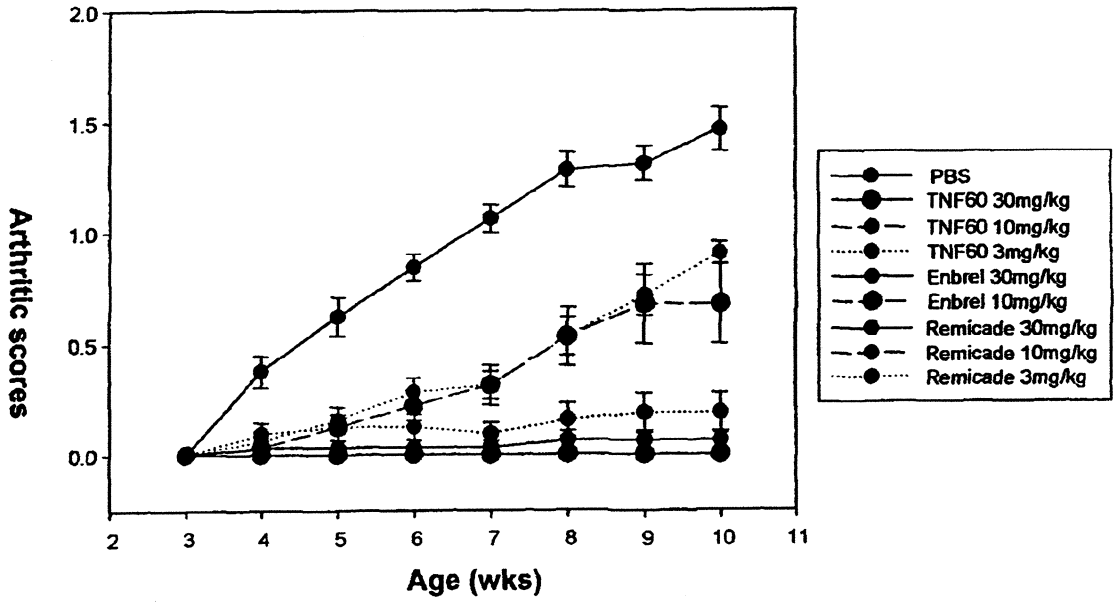


Figure 58

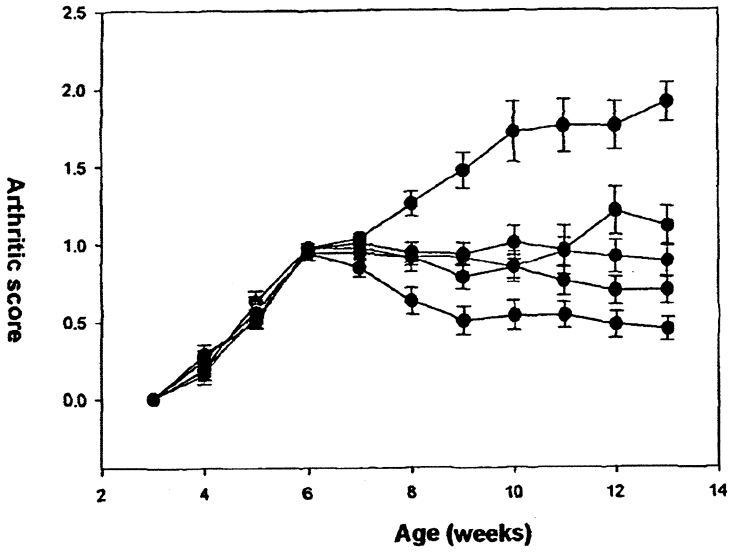


Figure 59

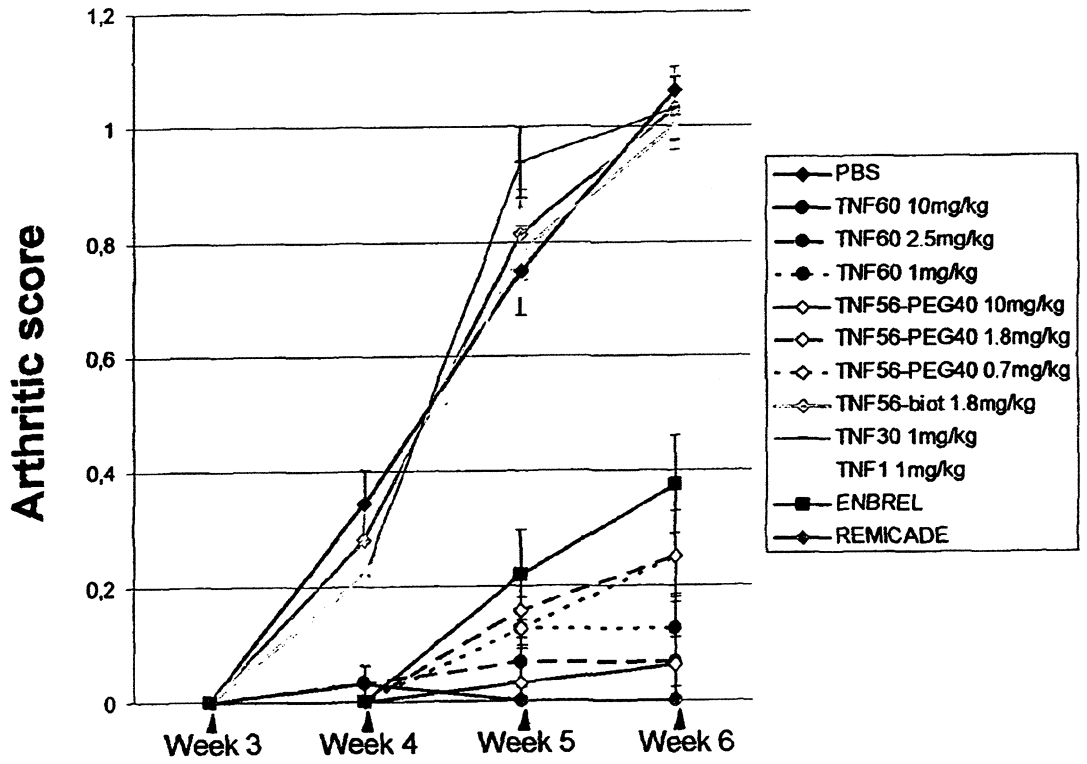


Figure 60

```
                    1                                                  50
PMP1C2+M13rev   (1) QVQLV SGGGLVQ GGSLRLSCA SGF FS     -----  W RQAPGK L
VHH1A           (1) QVQL  SGGGLVQ GGSLRLSCATSGFDFSVS -----  W RQAPGK L
VHH3E           (1) QVQL  SGGGLVQ GGSLRLSCA SG  FS  SGYT   GWFRQAPGKE
VHH3G           (1) QVQL  SGGGLVQAGGSLRLSCAVSG  FSA S--V   GWFRQAPGKE
Consensus       (1) QVQLQESGGGLVQPGGSLRLSCAASGRTFSDHW   YTMYWVRQAPGKGR
                   51                                                 100
PMP1C2+M13rev  (46) E V EINTNG ITKYPDSVKGRF ISRD AKNT  L M  L PEDTA YY
VHH1A          (46) E V EINTNG ITKYVDSVKGRF ISRD AKNT  L MD L IPEDTA YY
VHH3E          (51) E V  I    G T Y DSVKGRFAISRDIAKNT DLTM NLEPEDTA YY
VHH3G          (49) E V  I    A T Y DSVKGRF ISRD AKNT DLLM  L PEDTA YY
Consensus      (51) EFVARIYWSSLNTYYADSVKGRFTISRDNAKNTLYLQMNSLKPEDTALYY
                   101                 129
PMP1C2+M13rev  (96) CA ------SP--  G -NRGQGTQVTVSS
VHH1A          (96) CA ------SP--  GS- RGQGTQVTVSS
VHH3E         (101) CAA     S   E     GQGTQVTVSS
VHH3G          (99) CAA     S   G     GQGTQVTVSS
Consensus     (101) CARRDGIPTSRSVSSYNYWGQGTQVTVSS
```

Figure 61



Figure 62