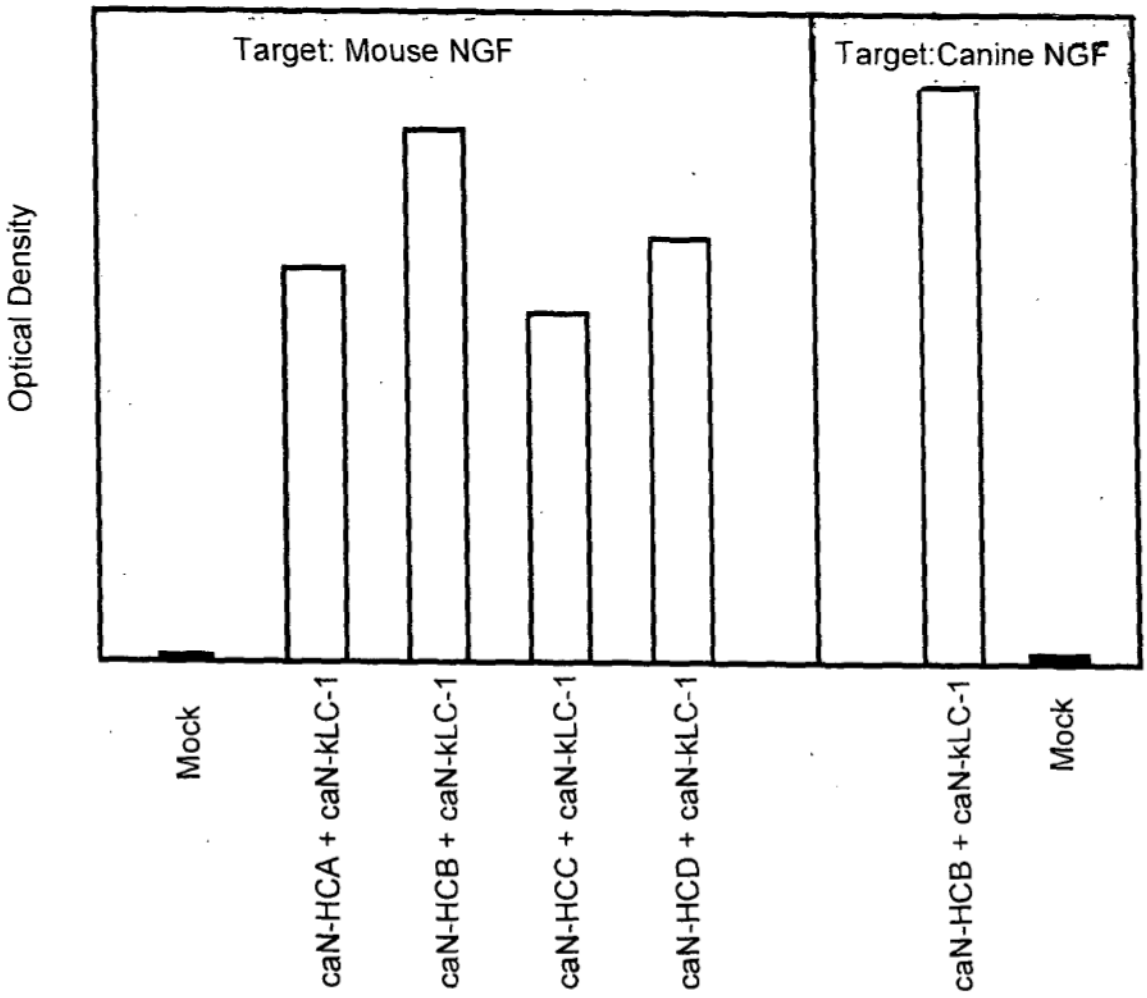

Target: Mouse NGF
Target:Canine NGF
Optical Density
Mock
caN-HCA + caN-kLC-1
caN-HCB + caN-kLC-1
caN-HCC + caN-kLC-1
caN-HCD + caN-kLC-1
caN-HCB + caN-kLC-1
Mock

Figure 1

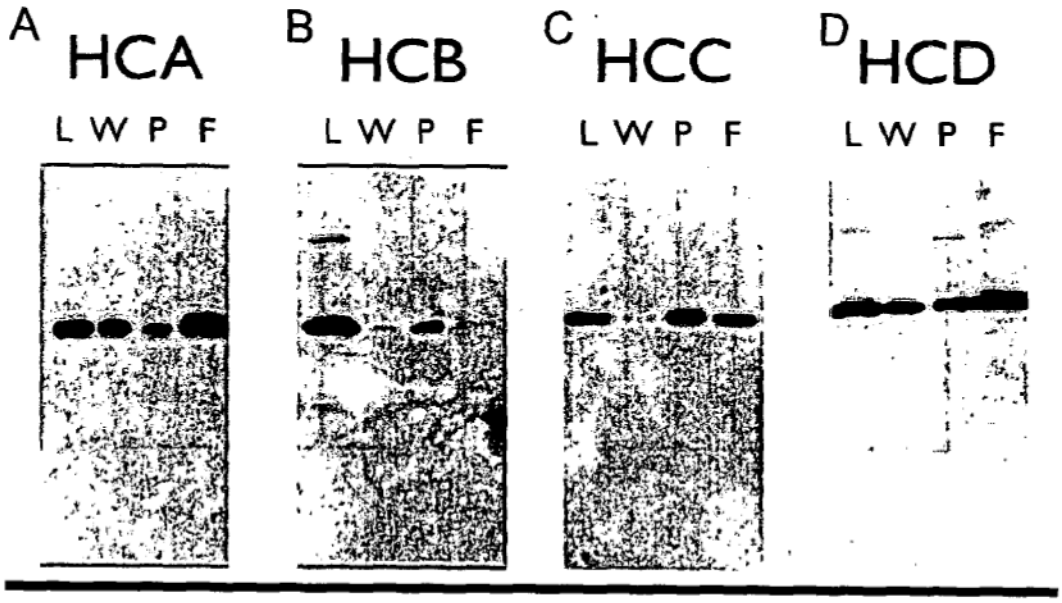


Figure 2

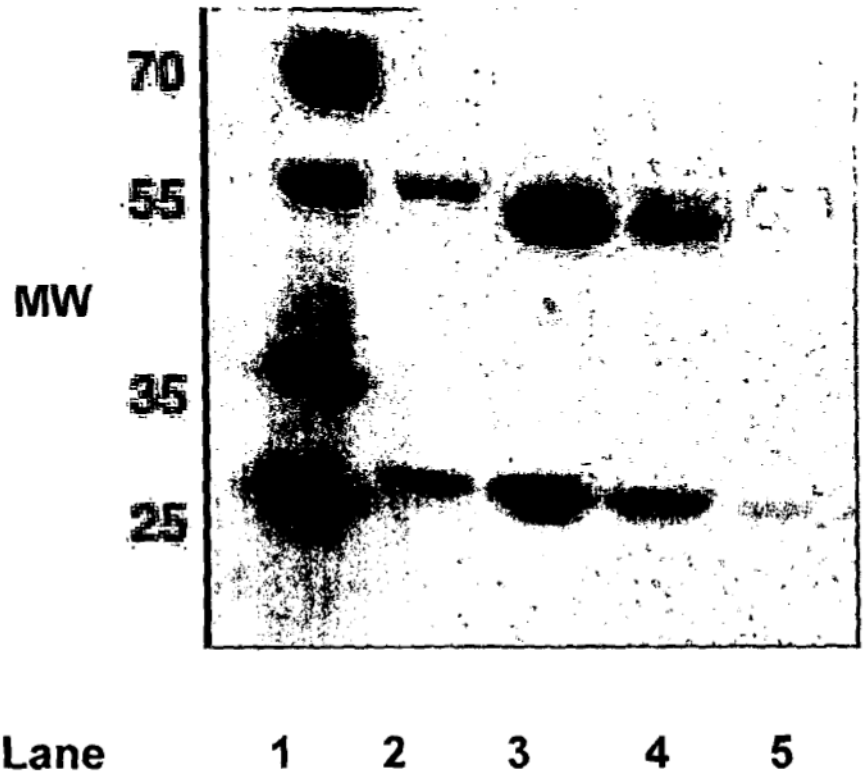


Figure 3

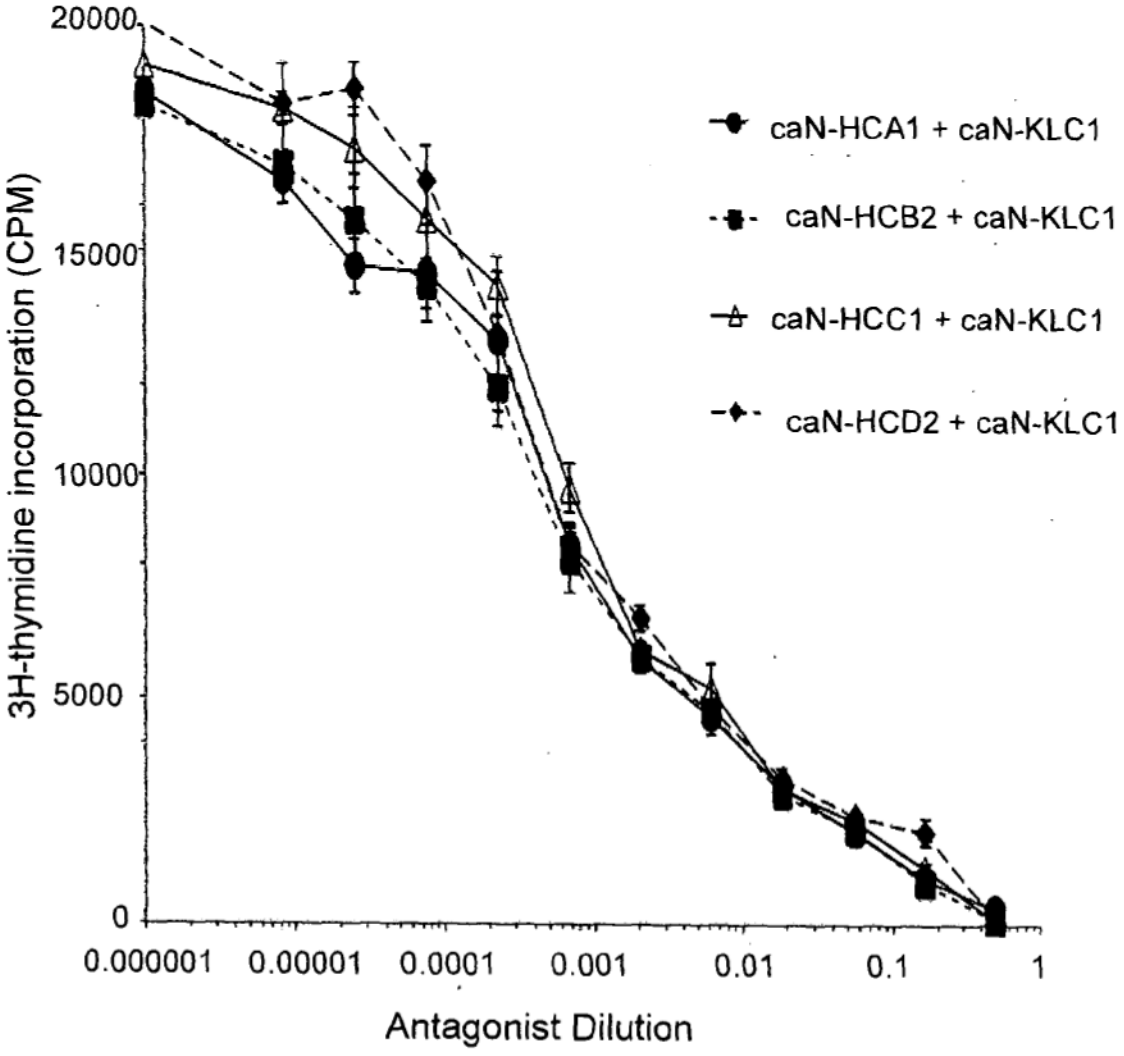

20000
15000
10000
5000
0
3H-thymidine incorporation (CPM)
0.000001
0.00001
0.0001
0.001
0.01
0.1
1
Antagonist Dilution
caN-HCA1 + caN-KLC1
caN-HCB2 + caN-KLC1
caN-HCC1 + caN-KLC1
caN-HCD2 + caN-KLC1

Figure 4

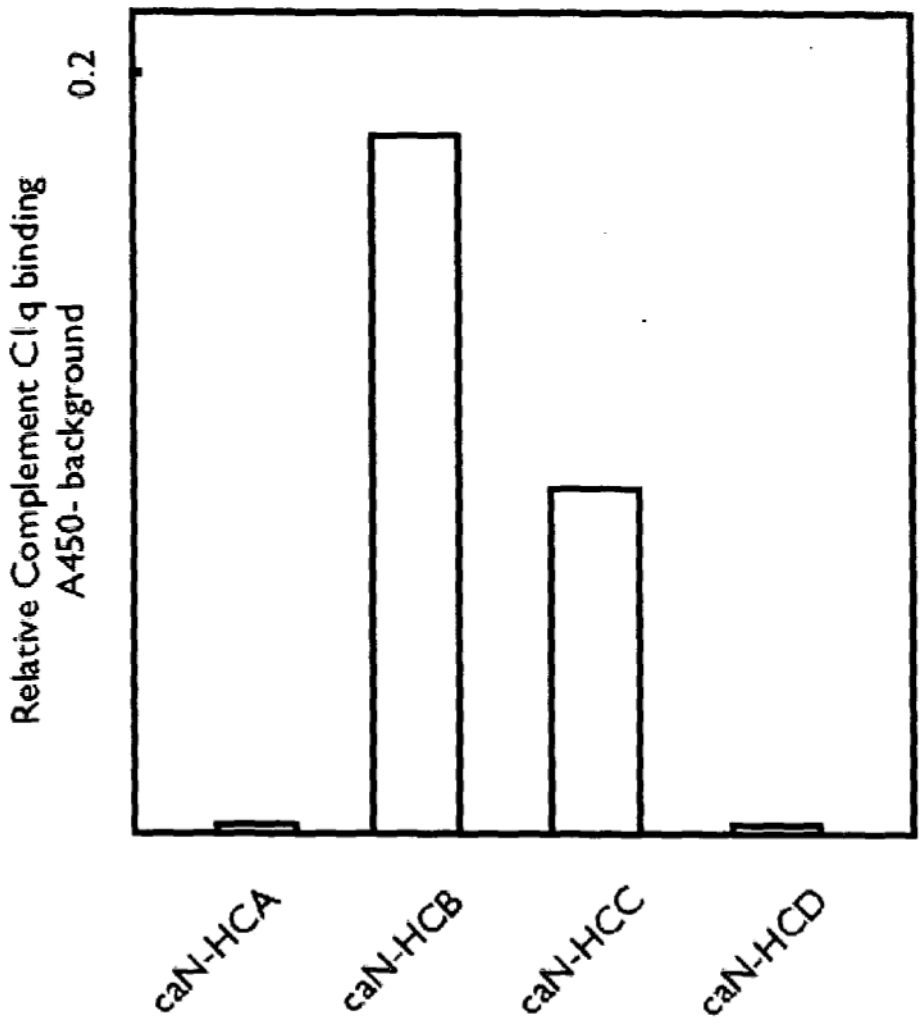

Relative Complement C1q binding
A450- background
0.2
caN-HCA
caN-HCB
caN-HCC
caN-HCD

Figure 5

```
                                  * ** *   *
Caninised VL    DIQMTQSPASLSLSQEEKVTITCRASEDIYNALAWYQQKP
40

                 ** *                          *   *   *
Caninised VL    GQAPKLLIYNTDTLHTGVPSRFSGSGSGTEYSLTINSLES
80

                     *                 *   *
Caninised VL    EDVAVYFCQHYFHYPRTFGAGTKVELK 107
```

Figure 6 – Light chain variable domain

```
                  *   *   **  * **  * * *
Caninised VH      EVQLVESGGDLVNPGGTLTLSCVVSGFSLTNNNVNWVRQA
40

                  *       *                           *
Caninised VH      LGRGLEWVGGVWAGGATDYNSALKSRLTITRDTSKSTVFL
80

                  82ABC                 100ABCDEF       *
Caninised VH      KMHSLQSEDTATYYCARDGGYSSSTLYAMDAWGQGTLVTVSS
113
```

Figure 7 – Heavy chain variable domain

DIQMTQSPASLSLSQEEKVTITCRASEDIYNALAWYQ
QKPGQAPKLLIYNTDTLHTGVPSRFSGSGSGTEYSLTI
NSLESEDVAVYFCQHYFHYPRTFGAGTKVELKRNDA
QPAVYLFQPSPDQLHTGSASVVCLLNSFYPKDINVKW
KVDGVIQDTGIQESVTEQDKDSTYSLSSTLTMSSTEYL
SHELYSCEITHKSLPSTLIKSFQRSECQRVD

Figure 8 – Caninised anti-NGF VL canine kappa light chain (caN-kLC)

EVQLVESGGDLVNPGGTLTLSCVVSGFSLTNNNVNWVR
QALGRGLEWVGGVWAGGATDYNSALKSRLTITRDTSKS
TVFLKMHSLQSEDTATYYCARDGGYSSSTLYAMDAWG
QGTLVTVSSASTTAPSVFPLAPSCGSTSGSTVALACLVS
GYFPEPVTVSWNSGSLTSGVHTFPSVLQSSGLHSLSSMV
TVPSSRWPSETFTCNVVHPASNTKVDKPVFNECRCTDTP
PCPVPEPLGGPSVLIFPPKPKDILRITRTPEVTCVVLDLGR
EDPEVQISWFVDGKEVHTAKTQSREQQFNGTYRVVSVL
PIEHQDWLTGKEFKCRVNHIDLPSPIERTISKARGRAHKP
SVYVLPPSPKELSSSDTVSITCLIKDFYPPDIDVEWQSNG
QQEPERKHRMTPPQLDEDGSYFLYSKLSVDKSRWQQG
DPFTCAVMHETLQNHYTDLSLSHSPGK

Figure 9 – Caninised anti-NGF VH canine IgG-A heavy chain (caN-HCA)

EVQLVESGGDLVNPGGTLTLSCVVSGFSLTNNNVNWVR
QALGRGLEWVGGVWAGGATDYNSALKSRLTITRDTSKS
TVFLKMHSLQSEDTATYYCARDGGYSSSTLYAMDAWG
QGTLVTVSSASTTAPSVFPLAPSCGSTSGSTVALACLVS
GYFPEPVTVSWNSGSLTSGVHTFPSVLQSSGLYSLSSMV
TVPSSRWPSETFTCNVAHPASKTKVDKPVPKRENGRVP
RPPDCPKCPAPEMLGGPSVFIFPPKPKDTLLIARTPEVTC
VVVDLDPEDPEVQISWFVDGKQMQTAKTQPREEQFNGT
YRVVSVLPIGHQDWLKGKQFTCKVNNKALPSPIERTISKA
RGQAHQPSVYVLPPSREELSKNTVSLTCLIKDFYPPDIDV
EWQSNGQQEPESKYRTTPPQLDEDGSYFLYSKLSVDKS
RWQRGDTFICAVMHEALHNHYTQESLSHSPGK

Figure 10 – Caninised anti-NGF VH canine IgG-B heavy chain (caN-HCB)

EVQLVESGGDLVNPGGTLTLSCVVSGFSLTNNNVNWVR
QALGRGLEWVGGVWAGGATDYNSALKSRLTITRDTSKS
TVFLKMHSLQSEDTATYYCARDGGYSSSTLYAMDAWG
QGTLVTVSSASTTAPSVFPLAPSCGSQSGSTVALACLVS
GYIPEPVTVSWNSVSLTSGVHTFPSVLQSSGLYSLSSMV
TVPSSRWPSETFTCNVAHPATNTKVDKPVAKECECKCN
CNNCPCPGCGLLGGPSVFIFPPKPKDILVTARTPTVTCVV
VDLDPENPEVQISWFVDSKQVQTANTQPREEQSNGTYR
VVSVLPIGHQDWLSGKQFKCKVNNKALPSPIEEIISKTPG
QAHQPNVYVLPPSRDEMSKNTVTLTCLVKDFFPPEIDVE
WQSNGQQEPESKYRMTPPQLDEDGSYFLYSKLSVDKSR
WQRGDTFICAVMHEALHNHYTQISLSHSPGK

Figure 11 – Caninised anti-NGF VH canine IgG-C heavy chain (caN-HCC)

EVQLVESGGDLVNPGGTLTLSCVVSGFSLTNNNVNWVR
QALGRGLEWVGGVWAGGATDYNSALKSRLTITRDTSKS
TVFLKMHSLQSEDTATYYCARDGGYSSSTLYAMDAWG
QGTLVTVSSASTTAPSVFPLAPSCGSTSGSTVALACLVS
GYFPEPVTVSWNSGSLTSGVHTFPSVLQSSGLYSLSSTV
TVPSSRWPSETFTCNVVHPASNTKVDKPVPKESTCKCIS
PCPVPESLGGPSVFIFPPKPKDILRITRTPEITCVVLDLGRE
DPEVQISWFVDGKEVHTAKTQPREQQFNSTYRVVSVLPI
EHQDWLTGKEFKCRVNHIGLPSPIERTISKARGQAHQPS
VYVLPPSPKELSSSDTVTLTCLIKDFYPPEIDVEWQSNGQ
PEPESKYHTTAPQLDEDGSYFLYSKLSVDKSRWQQGDT
FTCAVMHEALQNHYTDLSLSHSPGK

Figure 12 – Caninised anti-NGF VH canine IgG-D heavy chain (caN-HCD)

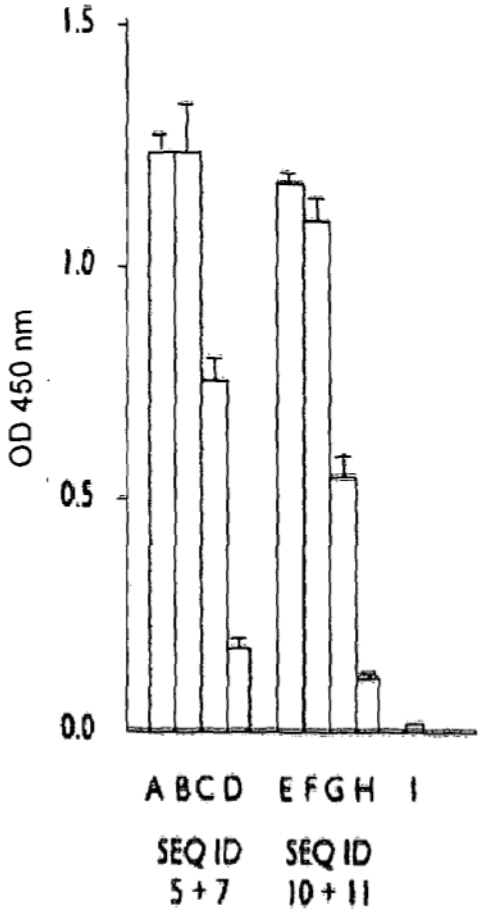


Figure 13A

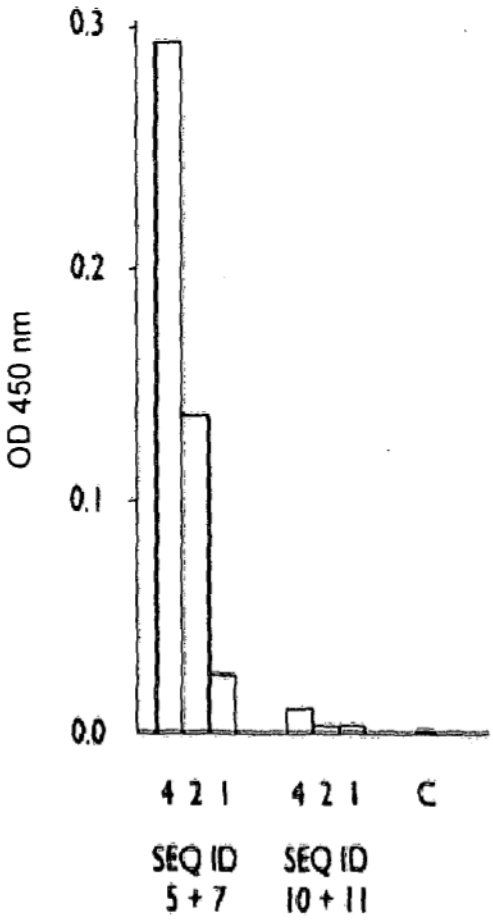


Figure 13B

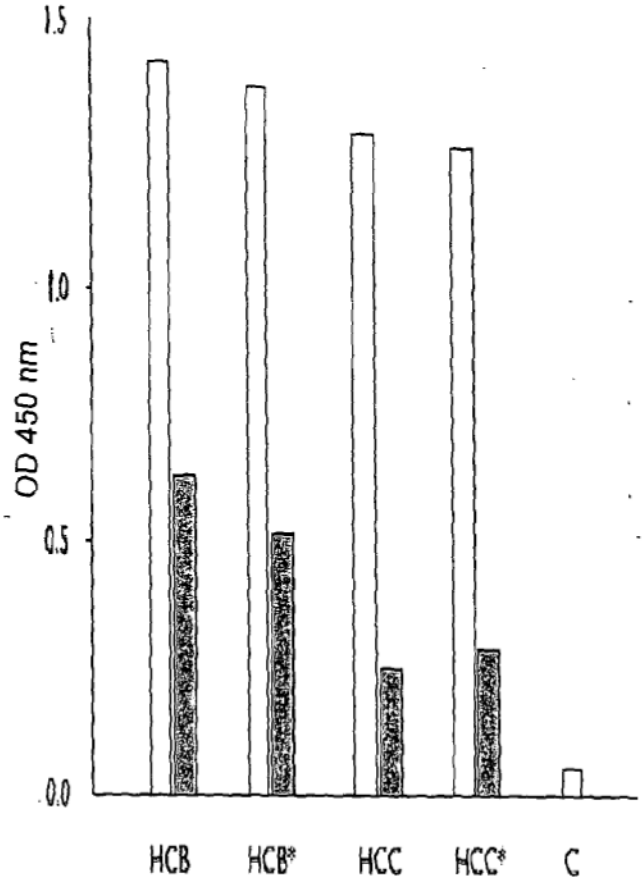


Figure 14A

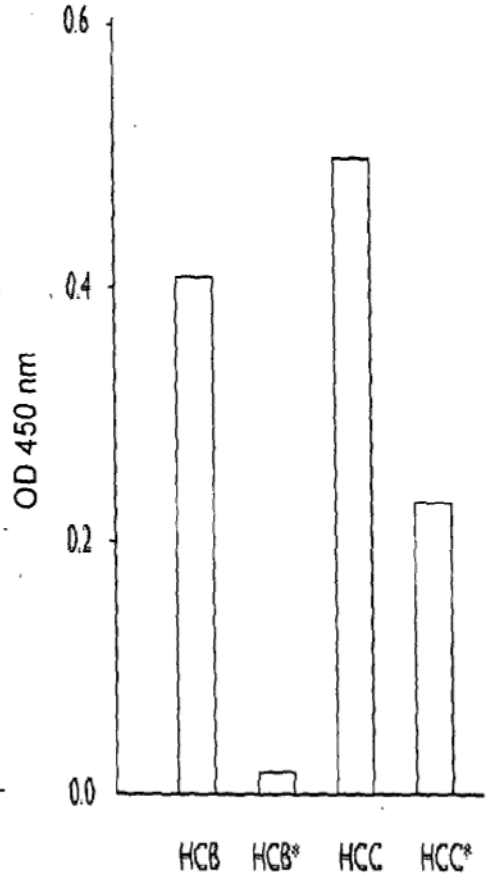


Figure 14B

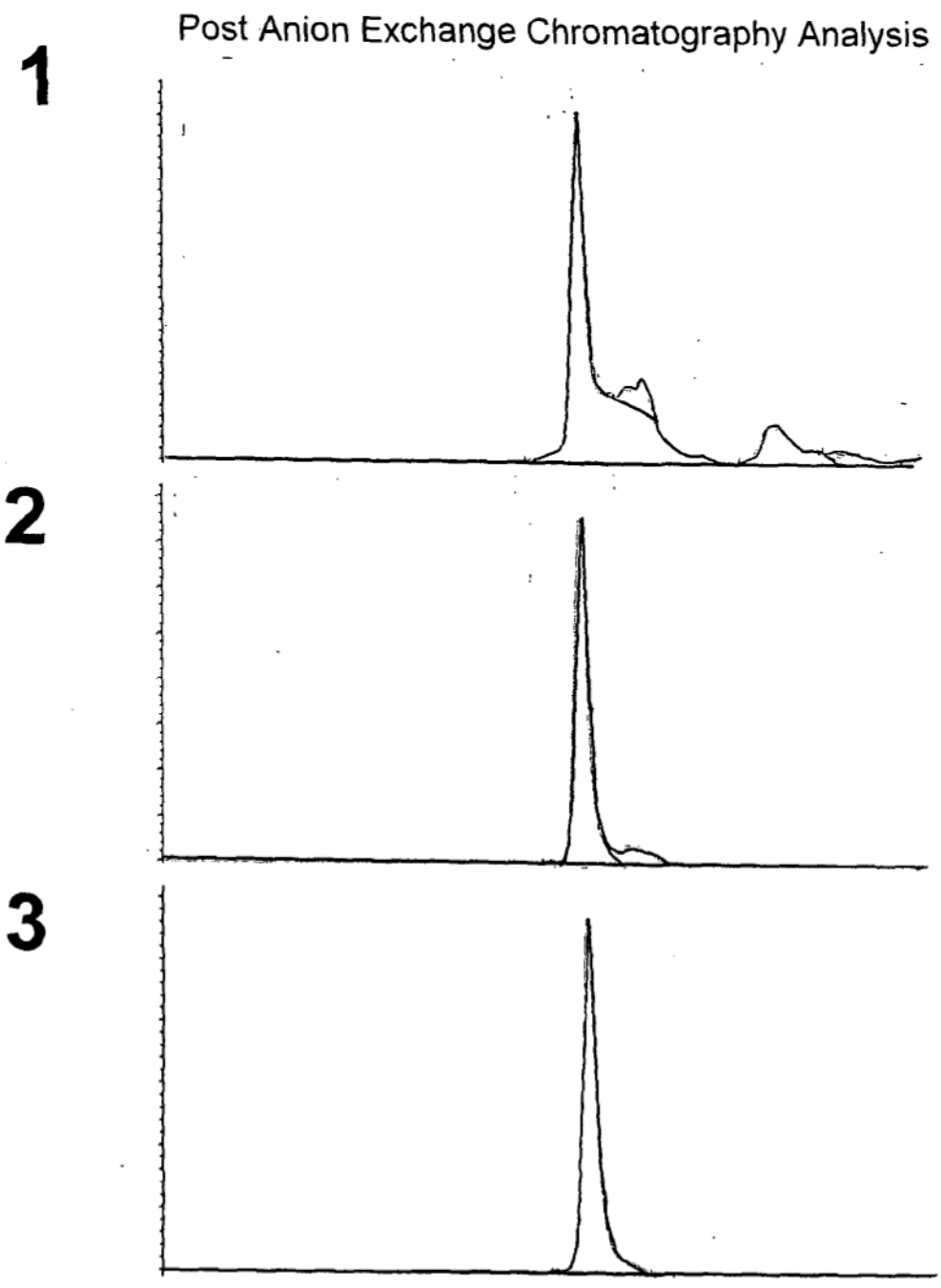


Figure 15A

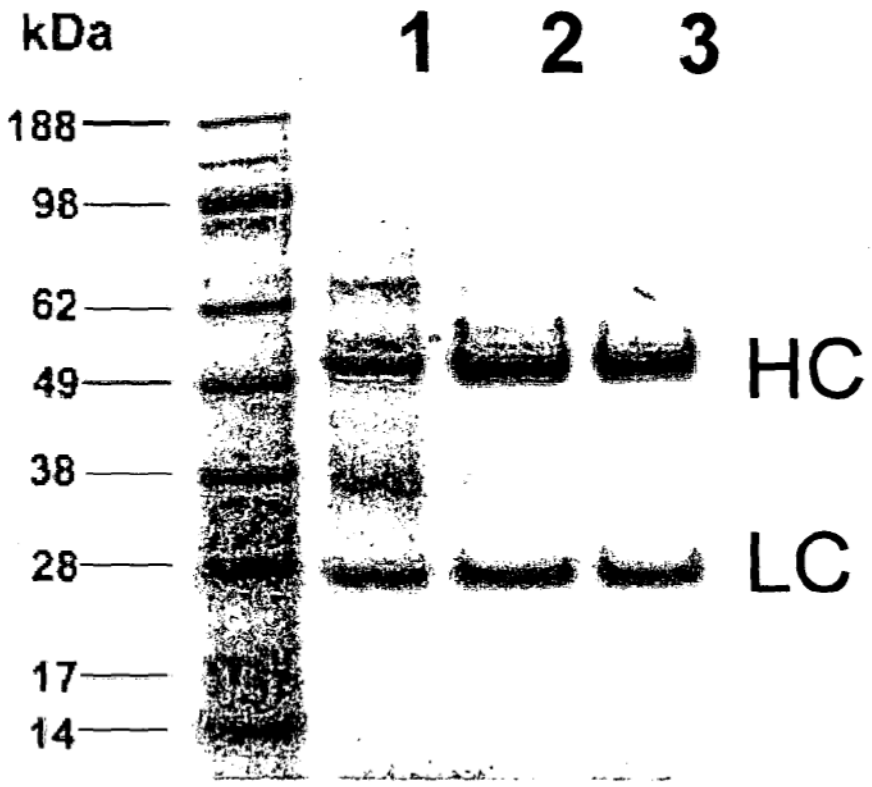


Figure 15B

SDS-PAGE

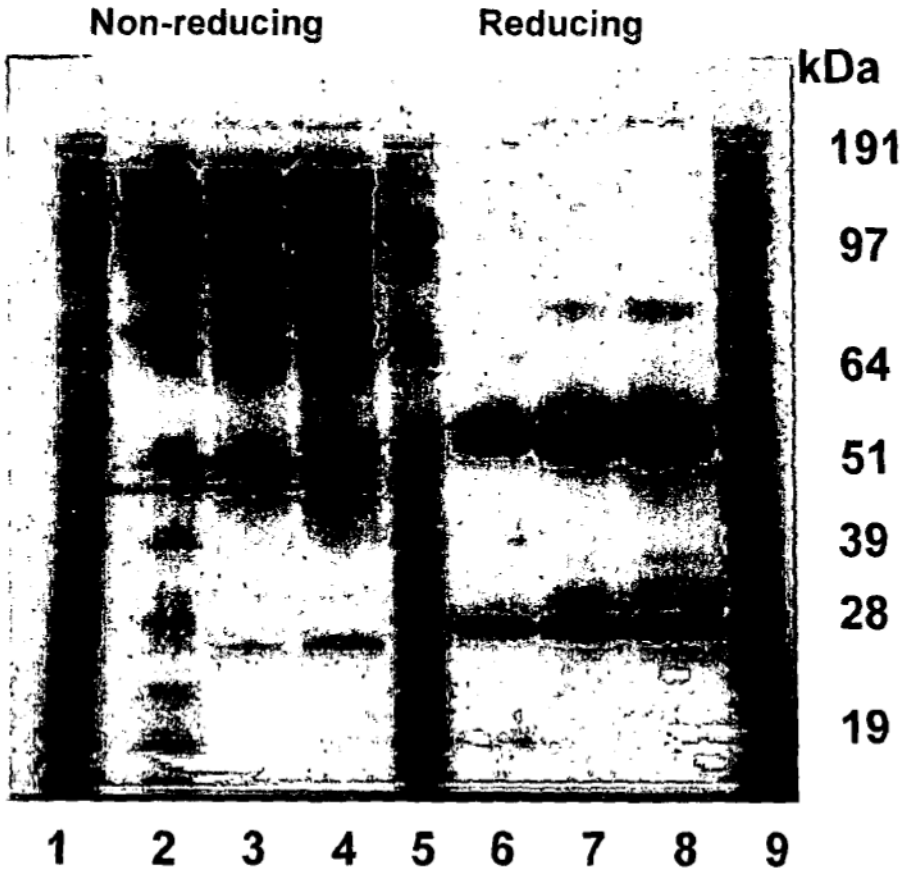
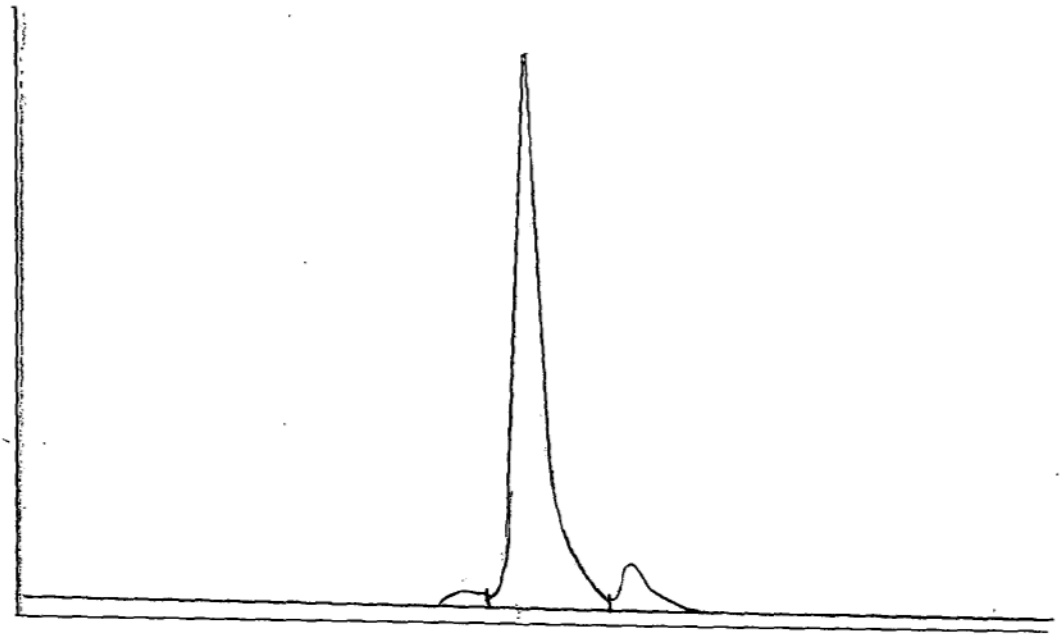


Figure 15C



Peak Retention time (Mins)	Approximate MW (KDa)	% of Total Peak area
8.05	353	2.6
9.17	156	89.7
11.18	36	7.7

Figure 15D

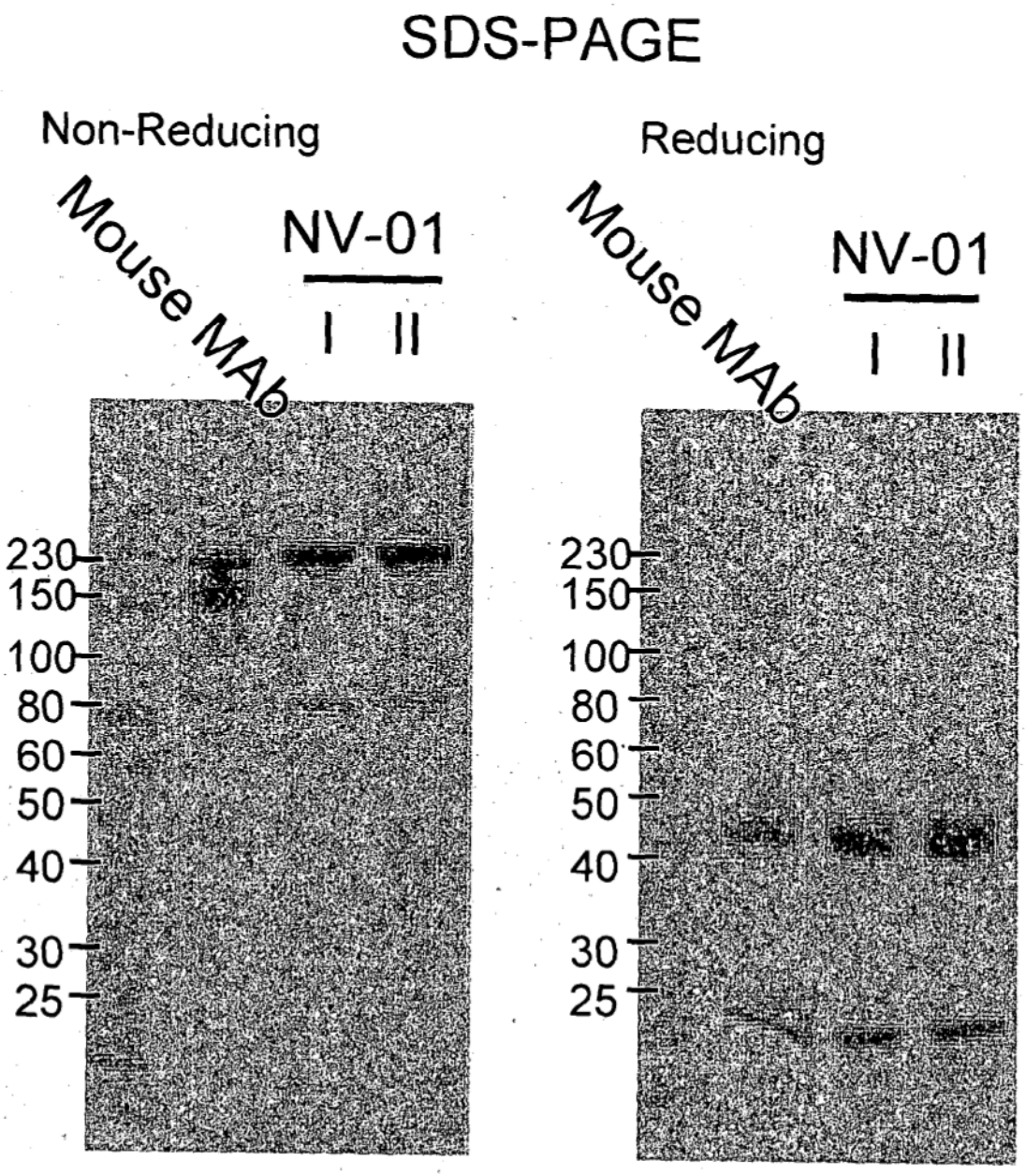

SDS-PAGE
Non-Reducing
Mouse MAb
NV-01
I II
230
150
100
80
60
50
40
30
25
Reducing
Mouse MAb
NV-01
I II
230
150
100
80
60
50
40
30
25

Figure 16A

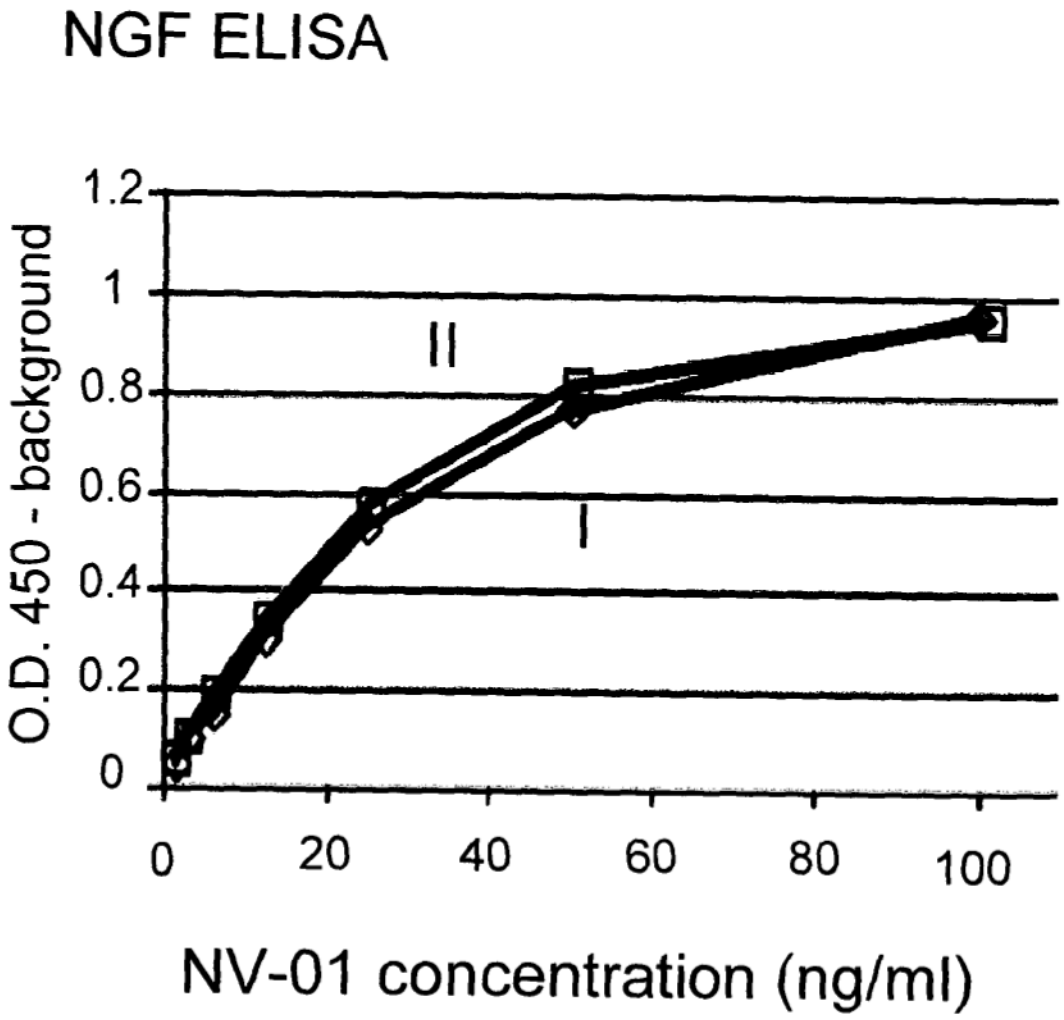

NGF ELISA
O.D. 450 - background
1.2
1
0.8
0.6
0.4
0.2
0
II
I
0
20
40
60
80
100
NV-01 concentration (ng/ml)

Figure 16B

Study Day			-1	1	3	7
Animal ID	Sex	Age on Study Day 0 (months)				
68305	M	11	9.6	10.0	9.9	10.0
26885	F	19	9.2	9.9	9.5	9.8
32886	F	11	9.4	9.9	9.7	10.0

Study Day	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Animal ID															
68305	38.2	38.6	38.6	38.5	38.4	38.5	38.4	38.3	38.7	38.2	38.3	38.9	38.4	38.6	38.5
26886	37.8	38.2	38.0	38.2	38.4	37.7	38.1	38.2	38.4	38.2	38.4	38.6	38.5	38.4	38.6
32886	36.8	38.7	38.9	38.8	38.7	38.8	38.7	38.5	38.8	38.7	38.3	39.2	38.7	38.7	38.8

Figure 17

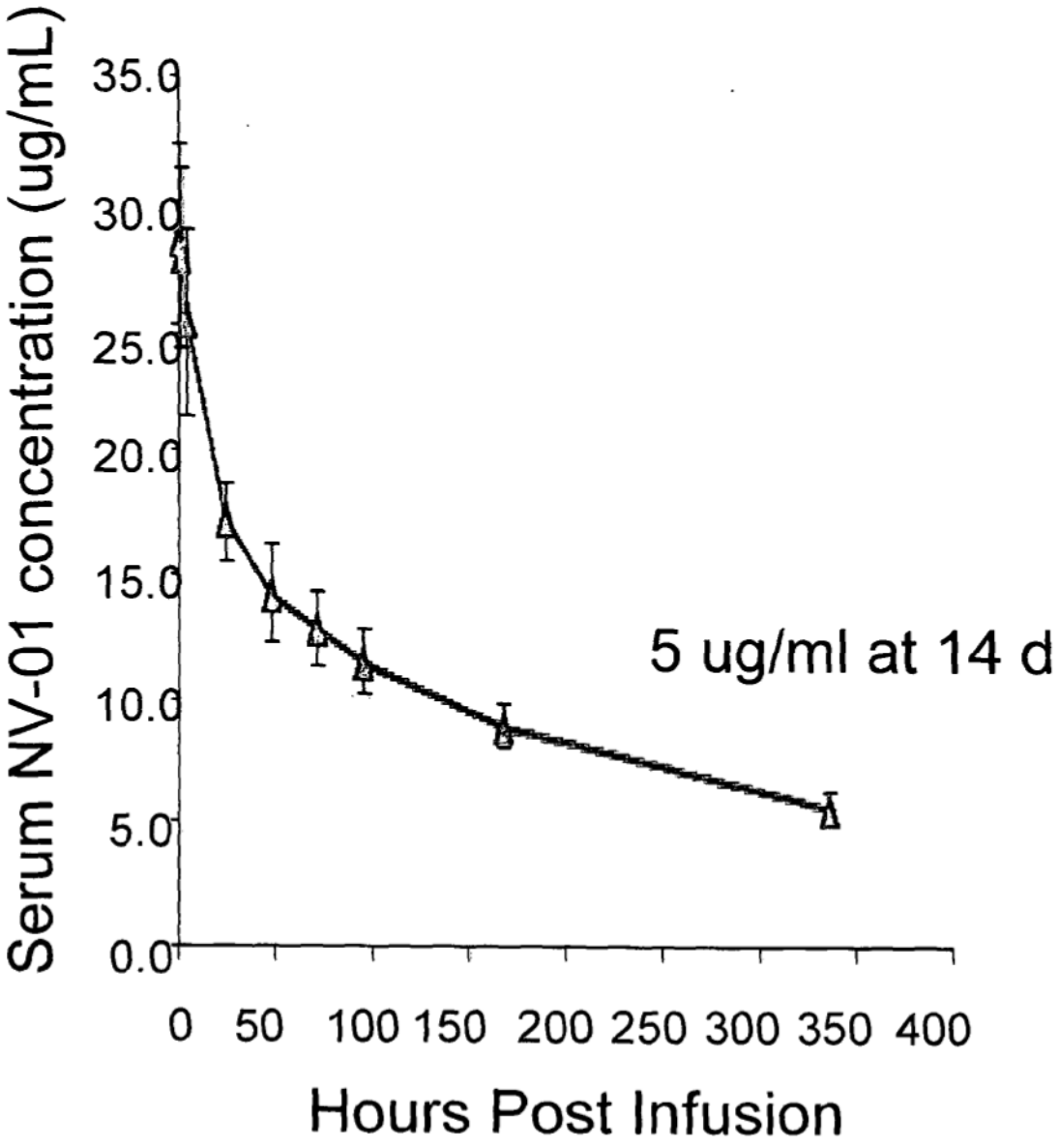

Serum NV-01 concentration (ug/mL)
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
0
50
100
150
200
250
300
350
400
Hours Post Infusion
5 ug/ml at 14 d

Figure 18

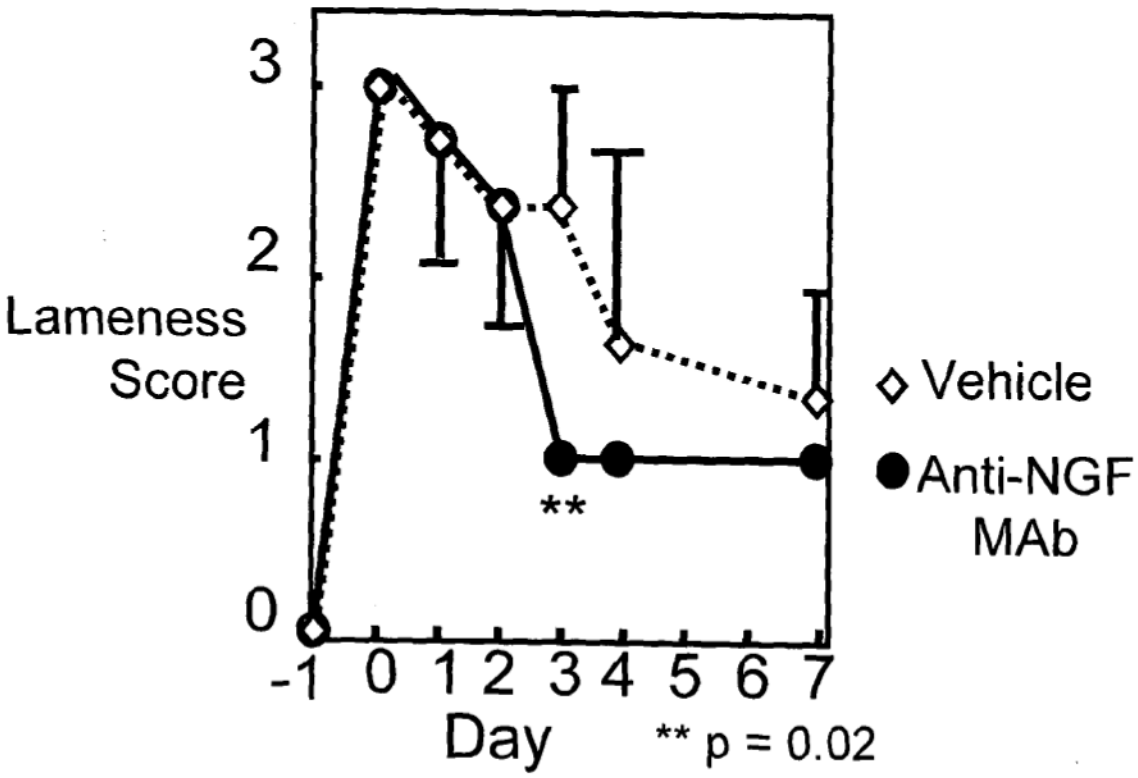

3
2
1
0
Lameness Score
-1 0 1 2 3 4 5 6 7
Day
**
** p = 0.02
◇ Vehicle
● Anti-NGF MAb

Figure 19