Figure 1

```
ATG GAA GCC CCA GCT CAG CTT CTC TTC CTC CTG CTA CTC TGG CTC CCA GAT ACC ACC GGA
 M   E   A   P   A   Q   L   L   F   L   L   L   L   W   L   P   D   T   T   G

GAA ATT GTG TTG ACA CAG TCT CCA GCC ACC CTG TCT TTG TCT CCA GGG GAA AGA GCC ACC
 E   I   V   L   T   Q   S   P   A   T   L   S   L   S   P   G   E   R   A   T

CTC TCC TGC AGG GCC AGT CAG AGT GTT AGC AGC TAC TTA GCC TGG TAC CAA CAG AAA CCT
 L   S   C   R   A   S   Q   S   V   S   S   Y   L   A   W   Y   Q   Q   K   P

GGC CAG GCT CCC AGG CTC CTC ATC TAT GAT GCA TCC AAC AGG GCC ACT GGC ATC CCA GCC
 G   Q   A   P   R   L   L   I   Y   D   A   S   N   R   A   T   G   I   P   A

AGG TTC AGT GGC AGT GGG TCT GGG ACA GAC TTC ACT CTC ACC ATC AGC AGC CTA GAG CCT
 R   F   S   G   S   G   S   G   T   D   F   T   L   T   I   S   S   L   E   P

GAA GAT TTT GCA GTT TAT TAC TGT CAG CAG CGT AGC AAC TGG CCG ATC ACC TTC GGC CAA
 E   D   F   A   V   Y   Y   C   Q   Q   R   S   N   W   P   I   T   F   G   Q

GGG ACA CGA CTG GAG ATT AAA CGA ACT GTG GCT GCA CCA TCT GTC TTC ATC TTC CCG CCA
 G   T   R   L   E   I   K   R   T   V   A   A   P   S   V   F   I   F   P   P

TCT GAT GAG CAG TTG AAA TCT GGA ACT GCC TCT GTT GTG TGC CTG CTG AAT AAC TTC TAT
 S   D   E   Q   L   K   S   G   T   A   S   V   V   C   L   L   N   N   F   Y

CCC AGA GAG GCC AAA GTA CAG TGG AAG GTG GAT AAC GCC CTC CAA TCG GGT AAC TCC CAG
 P   R   E   A   K   V   Q   W   K   V   D   N   A   L   Q   S   G   N   S   Q

GAG AGT GTC ACA GAG CAG GAC AGC AAG GAC AGC ACC TAC AGC CTC AGC AGC ACC CTG ACG
 E   S   V   T   E   Q   D   S   K   D   S   T   Y   S   L   S   S   T   L   T

CTG AGC AAA GCA GAC TAC GAG AAA CAC AAA GTC TAC GCC TGC GAA GTC ACC CAT CAG GGC
 L   S   K   A   D   Y   E   K   H   K   V   Y   A   C   E   V   T   H   Q   G

CTG AGC TCG CCC GTC ACA AAG AGC TTC AAC AGG GGA GAG TGT TAG
 L   S   S   P   V   T   K   S   F   N   R   G   E   C
```

Figure 2

```
ATG GAG TTT GGG CTG AGC TGG GTT TTC CTT GTT GCT ATT TTA GAA GGT GTC CAG TGT GAG
 M   E   F   G   L   S   W   V   F   L   V   A   I   L   E   G   V   Q   C   E

GTG CAG CTG GTG GAG TCT GGG GGA GGC TTG GTC CAG CCT GGG GGG TCC CTG AGA CTC TCC
 V   Q   L   V   E   S   G   G   G   L   V   Q   P   G   G   S   L   R   L   S

TGT GCA GCT TCT GGA TTC ACC TTT AGT AAC TAT TGG ATG AGC TGG GTC CGC CAG GCT CCG
 C   A   A   S   G   F   T   F   S   N   Y   W   M   S   W   V   R   Q   A   P

GGG AAA GGG CTG GAG TGG GTG GCC ACC ATA AAG CAA GAT GGA AGT CAG AAA AAC TAT GTG
 G   K   G   L   E   W   V   A   T   I   K   Q   D   G   S   Q   K   N   Y   V

GAC TCT GTG AAG GGC CGA TTC ACC ATC TCC AGA GAC AAC GCC AAG AAC TCA CTG TAT CTG
 D   S   V   K   G   R   F   T   I   S   R   D   N   A   K   N   S   L   Y   L

CGA TTG AAC AGC CTG AGA GCC GAG GAC ACG GCT GTG TAT TAC TGT GCG ACT GAA CTC TTC
 R   L   N   S   L   R   A   E   D   T   A   V   Y   Y   C   A   T   E   L   F

GAT CTC TGG GGC CGT GGC TCC CTG GTC ACC GTC TCC TCA GCC TCC ACC AAG GGC CCA TCG
 D   L   W   G   R   G   S   L   V   T   V   S   S   A   S   T   K   G   P   S

GTC TTC CCC CTG GCA CCC TCC TCC AAG AGC ACC TCT GGG GGC ACA GCG GCC CTG GGC TGC
 V   F   P   L   A   P   S   S   K   S   T   S   G   G   T   A   A   L   G   C

CTG GTC AAG GAC TAC TTC CCC GAA CCG GTG ACG GTG TCG TGG AAC TCA GGC GCC CTG ACC
 L   V   K   D   Y   F   P   E   P   V   T   V   S   W   N   S   G   A   L   T

AGC GGC GTG CAC ACC TTC CCG GCT GTC CTA CAG TCC TCA GGA CTC TAC TCC CTC AGC AGC
 S   G   V   H   T   F   P   A   V   L   Q   S   S   G   L   Y   S   L   S   S

GTG GTG ACC GTG CCC TCC AGC AGC TTG GGC ACC CAG ACC TAC ATC TGC AAC GTG AAT CAC
 V   V   T   V   P   S   S   S   L   G   T   Q   T   Y   I   C   N   V   N   H

AAG CCC AGC AAC ACC AAG GTG GAC AAG AGA GTT GAG CCC AAA TCT TGT GAC AAA ACT CAC
 K   P   S   N   T   K   V   D   K   R   V   E   P   K   S   C   D   K   T   H

ACA TGC CCA CCG TGC CCA TAA
 T   C   P   P   C   P
```

Figure 3

DNA sequence light chain variable part:

gaaattgtgttgacacagtctccagccaccctgtctttgtctccaggggaaagagccaccctctcctgcagggcc
agtcagagtgttagcagctacttagcctggtaccaacagaaacctggccaggctcccaggctcctcatctatgat
gcatccaacagggccactggcatcccagccaggttcagtggcagtgggtctgggacagacttcactctcaccat
cagcagcctagagcctgaagattttgcagtttattactgtcagcagcgtagcaactggccgatcaccttcggcca
agggacaaagcttgaaatcaaa

DNA sequence heavy chain variable part:

gaggtgcagctggtggagtctgggggaggcttggtccagcctgggggtccctgagactctcctgtgcagcttct
ggattcacctttagtaactattggatgagctgggtccgccaggctccggggaaagggctggagtgggtggccac
cataaagcaagatggaagtcagaaaaactatgtggactctgtgaagggccgattcaccatctccagagacaa
cgccaagaactcactgtatctgcgattgaacagcctgagagccgaggacacggctgtgtattactgtgcgactg
aactcttcgatctctggggccgtggctccctggtcaccgtctcctca

Figure 4

6A3 IgG4 light chain variable and constant part, including leader sequence:

LEADER ***CDRL-1***
*MSVLTQVLALLLLWLTGTRC*EIVLTQSPATLSLSPGERATLSC**RASQSVSSYLA**
WY
CDRL-2
CDRL-3
QQKPGQAPRLLIY**DASNRAT**GIPARFSGSGSGTDFTLTISSLEPEDFAVYYC**QQ**
RSN
Cκ
WPITFGQGT**KL**EIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQ
WKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQ
GLSSPVTKSFNRGEC

6A3 IgG4 heavy chain complete aa-sequence including leader, CH1, hinge region, CH2 and CH3:

LEADER
CDR-H1
*MAWVWTLPFLMAAAQSVQA*EVQLVESGGGLVQPGGSLRLSCAAS**GFTFSNY**
WM
CDR-H2
SWVRQAPGKGLEWVA**TIKQDGSQKNYVDSVKG**RFTISRDNAKNSLYLRLNSLR
AE ***CDR-H3***
DTAVYYCAT**ELFDL**WGRGSLVTVSS
CH1
ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTF
PAV ***HINGE***
LQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRV
ESKYGPPCPSCP
CH2
APEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSQEDPEVQFNWYVDGVE
VHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTIS
KAK
CH3
GQPREPQVYTLPPSQEEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYK
TTPPVLDSDGSFFLYSRLTVDKSRWQEGNVFSCSVMHEALHNHYTQKSLSLSL
GK

Figure 5

6A3 IgG1 light chain with CDRs:

Leader
M E A P A Q L L F L L L W L P D T T G

E I V L T Q S P A T L S L S P G E R A T
CDR-L1
L S C R A S Q S V S S Y L A W Y Q Q K P
CDR-L2
G Q A P R L L I Y D A S N R A T G I P A

R F S G S G S G T D F T L T I S S L E P
CDR-L3
E D F A V Y Y C Q Q R S N W P I T F G Q

G T R L E I K R T V A A P S V F I F P P

S D E Q L K S G T A S V V C L L N N F Y

P R E A K V Q W K V D N A L Q S G N S Q

E S V T E Q D S K D S T Y S L S S T L T

L S K A D Y E K H K V Y A C E V T H Q G

L S S P V T K S F N R G E C

6A3 IgG1 heavy chain with CDRs:

Leader
M E F G L S W V F L V A I L E G V Q C E

V Q L V E S G G G L V Q P G G S L R L S
CDR-H1
C A A S G F T F S N Y W M S W V R Q A P
CDR-H2
G K G L E W V A T I K Q D G S Q K N Y V

D S V K G R F T I S R D N A K N S L Y L
CDR-H3
R L N S L R A E D T A V Y Y C A T E L F

D L W G R G S L V T V S S A S T K G P S

V F P L A P S S K S T S G G T A A L G C

L V K D Y F P E P V T V S W N S G A L T

S G V H T F P A V L Q S S G L Y S L S S

V V T V P S S S L G T Q T Y I C N V N H

K P S N T K V D K R V E P K S C D K T H

T C P P C P

Figure 6

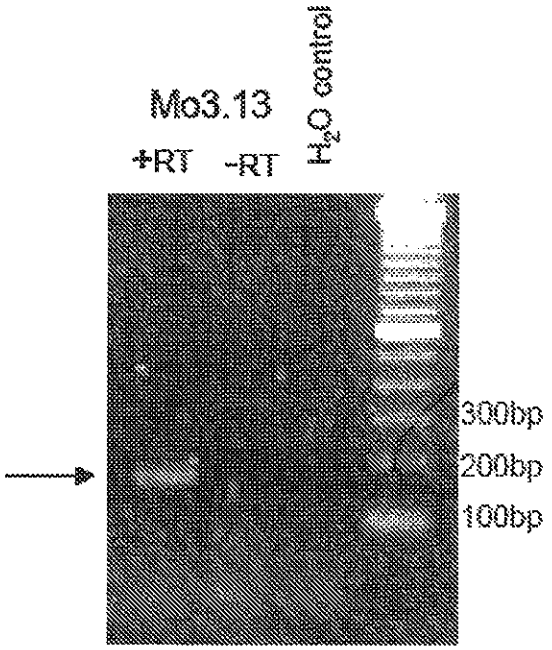


Figure 7

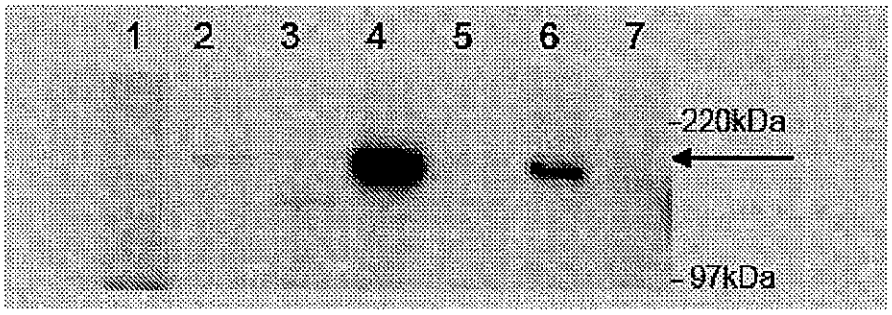
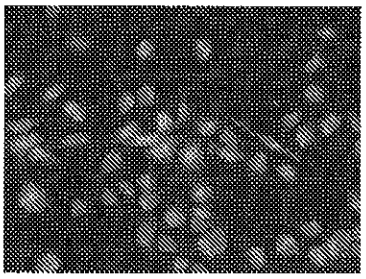


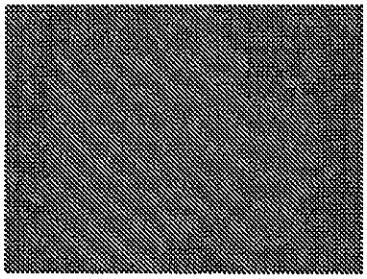
Figure 8

Figure 8a:

MO3.13 cells

5mM 6A3 IgG4



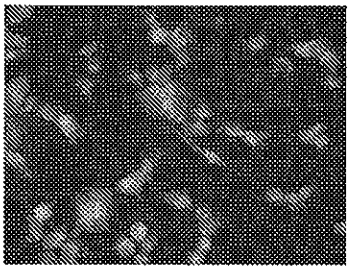


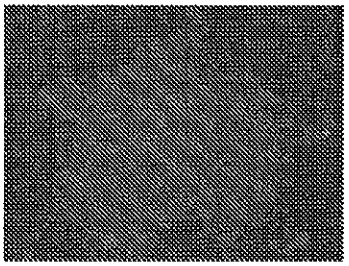
Secondary Antibody only

Figure 8b:

HOG cells

5mM 6A3 IgG4





Secondary Antibody only

Figure 9

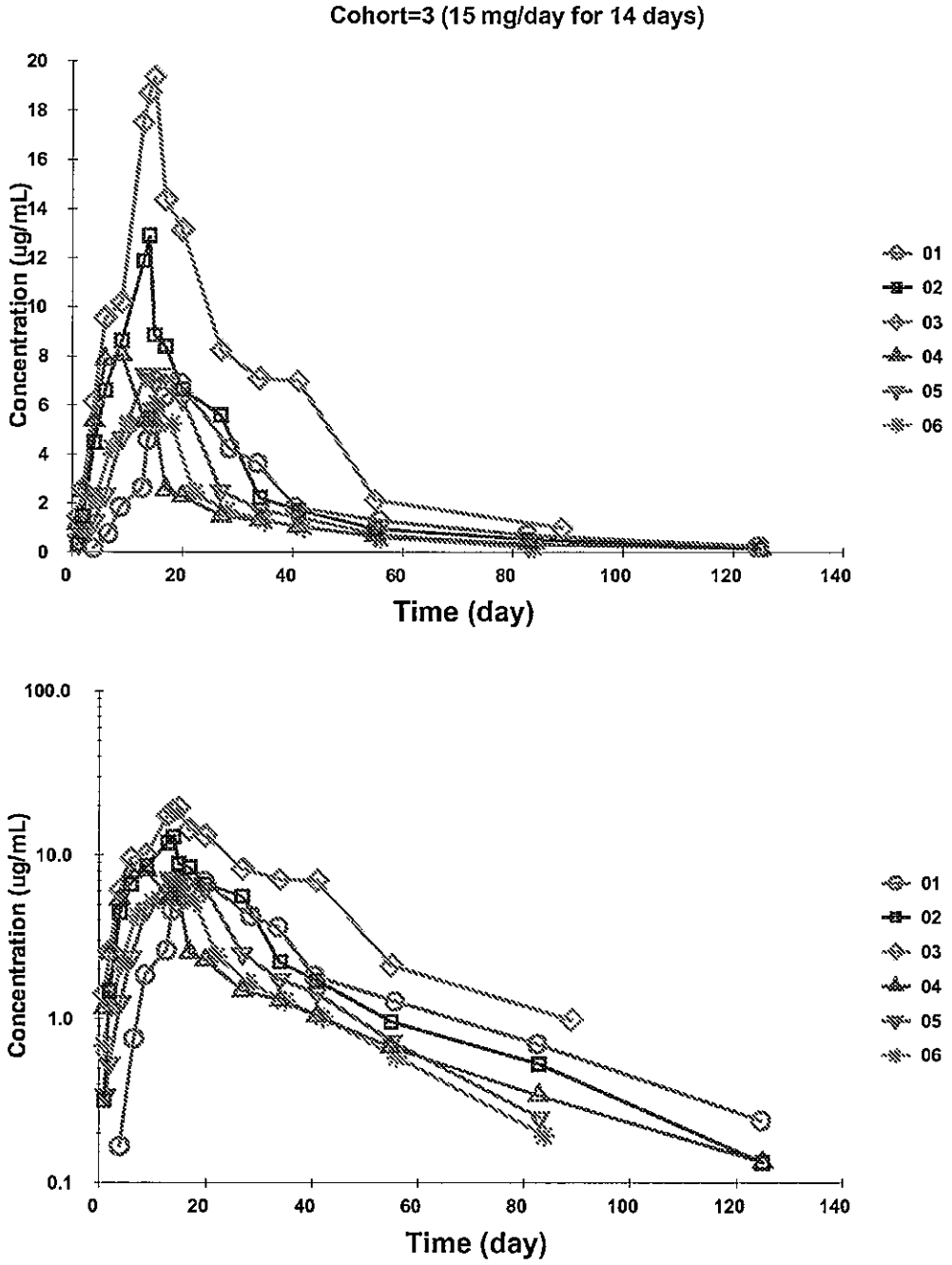

Cohort=3 (15 mg/day for 14 days)
Concentration (ug/mL)
Time (day)
01
02
03
04
05
06
100.0
10.0
1.0
0.1

Figure 10

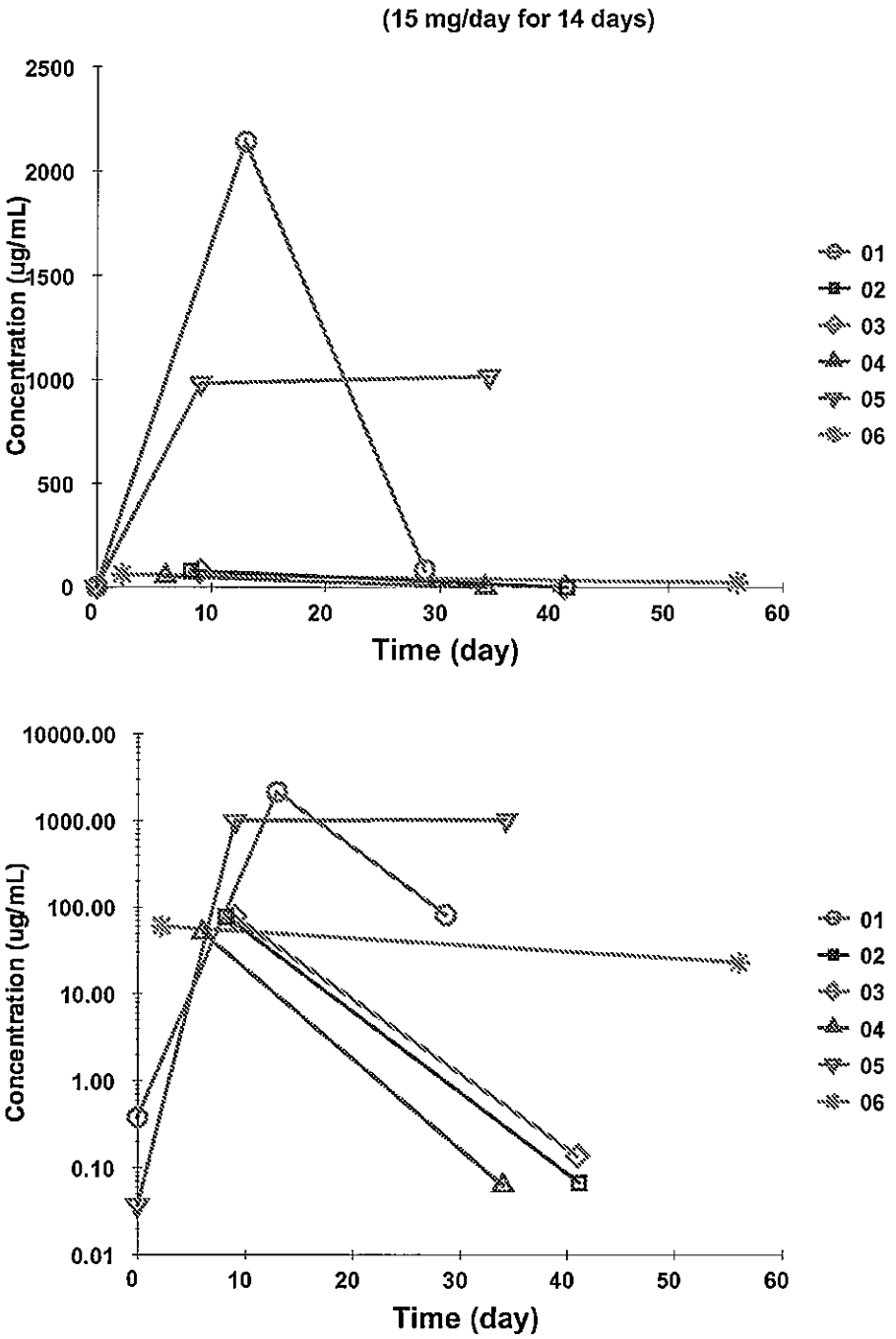
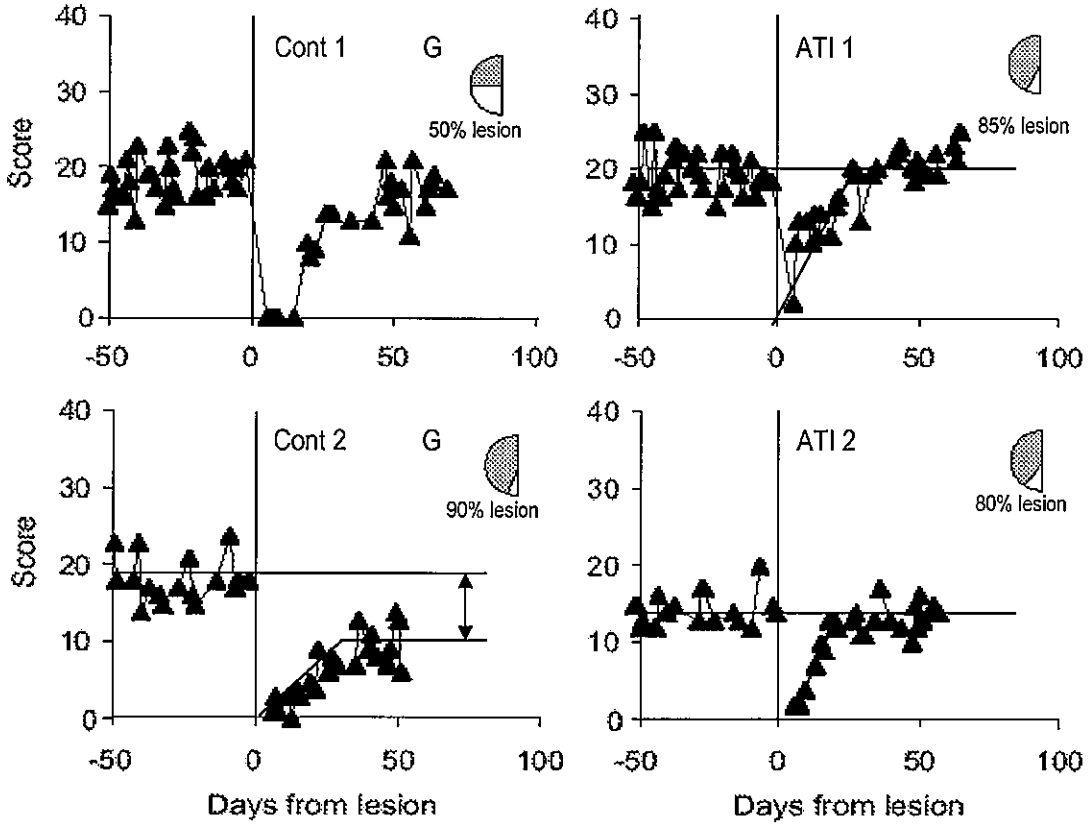

(15 mg/day for 14 days)
Concentration (ug/mL)
2500
2000
1500
1000
500
0
0
10
20
30
40
50
60
Time (day)
01
02
03
04
05
06
Concentration (ug/mL)
10000.00
1000.00
100.00
10.00
1.00
0.10
0.01
0
10
20
30
40
50
60
Time (day)
01
02
03
04
05
06

Figure 11


Cont 1
G
50% lesion
ATI 1
85% lesion
Cont 2
G
90% lesion
ATI 2
80% lesion
Score
Days from lesion
40
30
20
10
0
-50
0
50
100