**Figure 1**

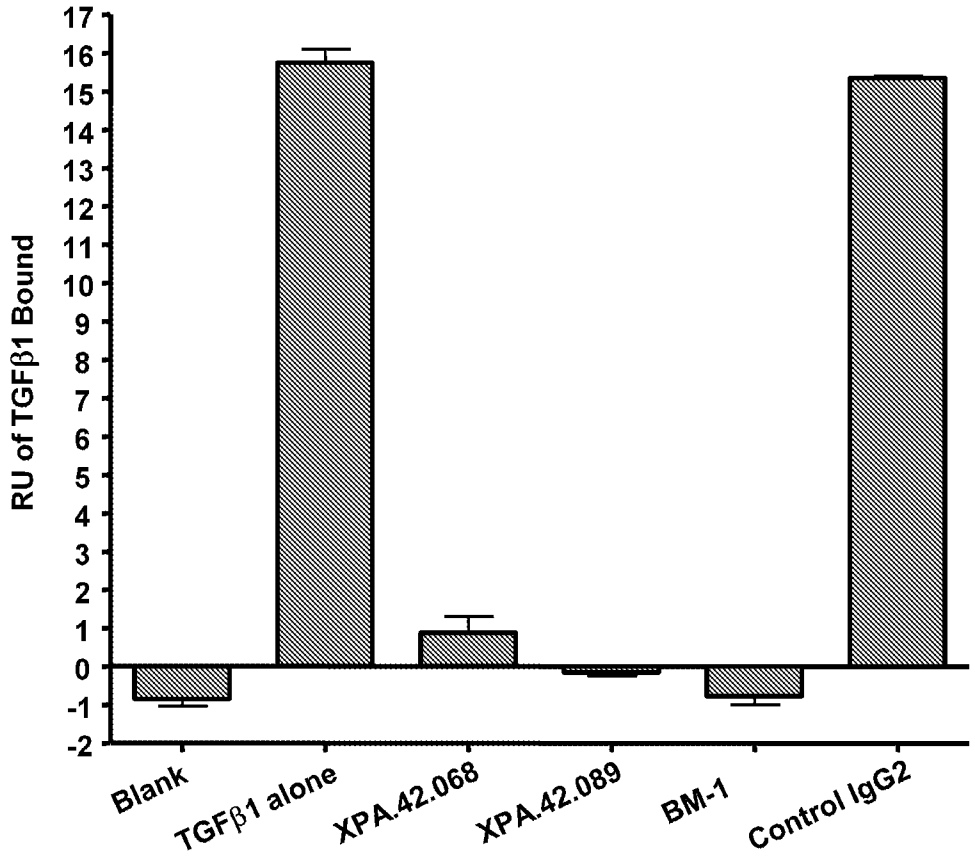
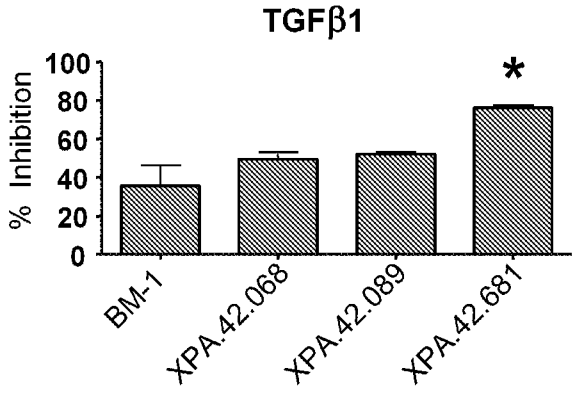
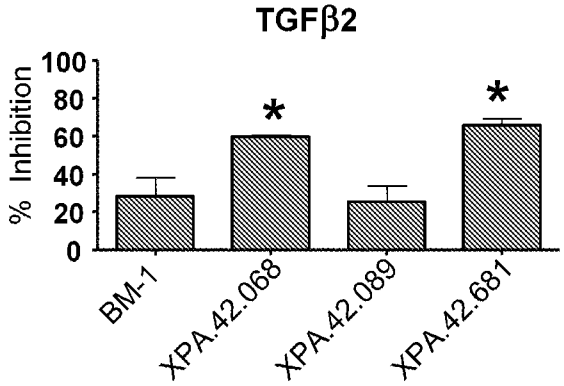

RU of TGFβ1 Bound
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
-1
-2
Blank
TGFβ1 alone
XPA.42.068
XPA.42.089
BM-1
Control IgG2

**Figure 2**

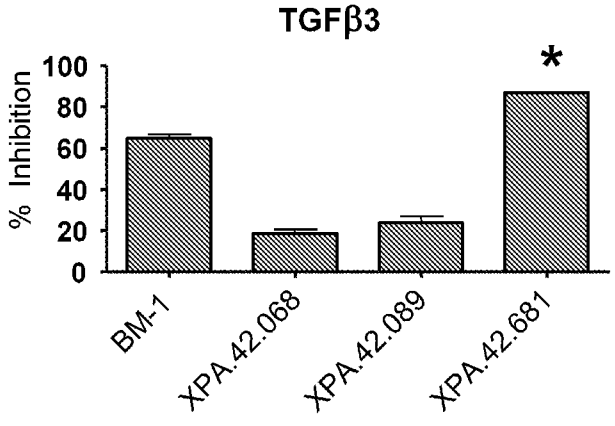
A.




B.




C.




*p<0.05

**Figure 3**

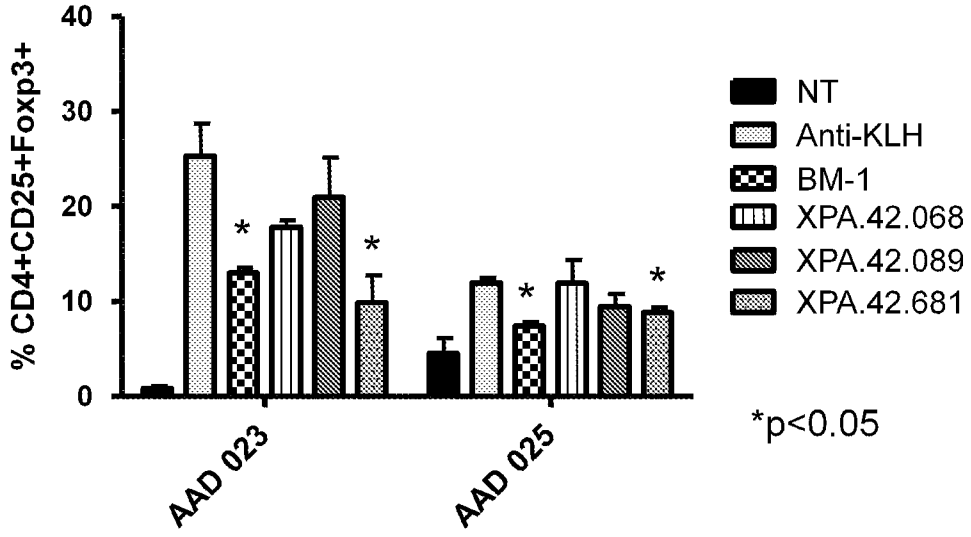

% CD4+CD25+Foxp3+
40
30
20
10
0
*
*
*
*
AAD 023
AAD 025
NT
Anti-KLH
BM-1
XPA.42.068
XPA.42.089
XPA.42.681
*p<0.05

**Figure 4**

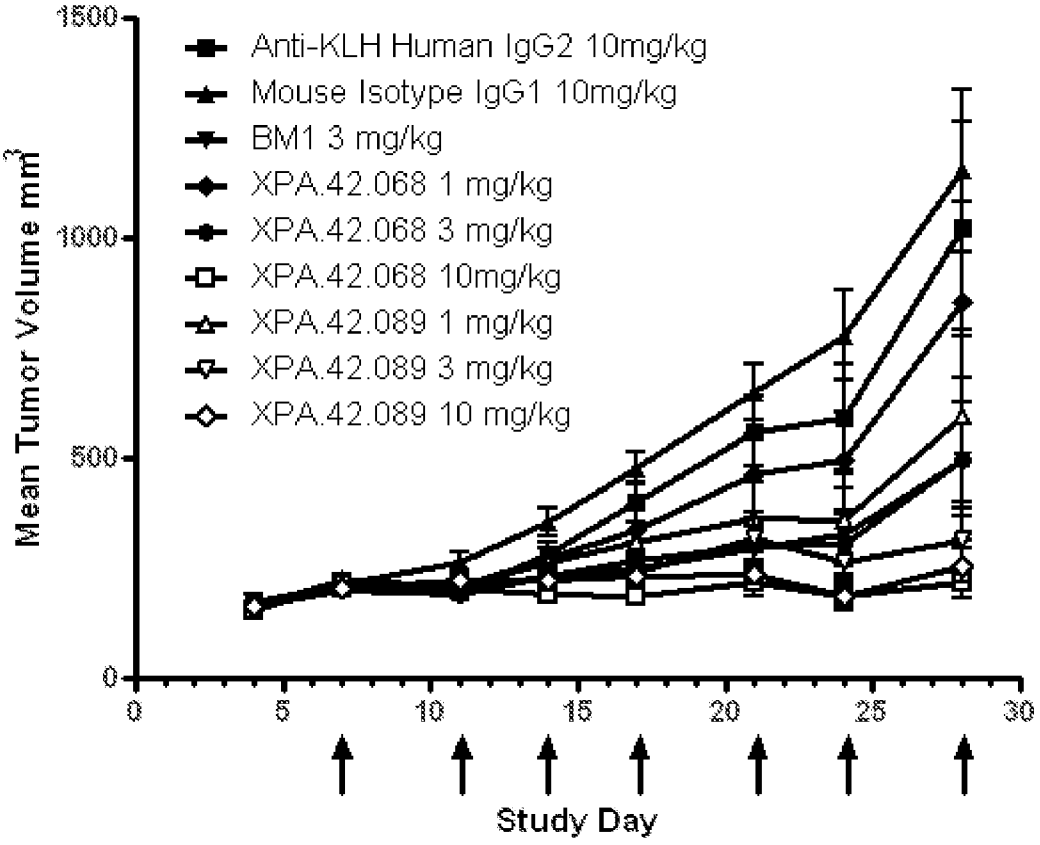

Anti-KLH Human IgG2 10mg/kg
Mouse Isotype IgG1 10mg/kg
BM1 3 mg/kg
XPA.42.068 1 mg/kg
XPA.42.068 3 mg/kg
XPA.42.068 10mg/kg
XPA.42.089 1 mg/kg
XPA.42.089 3 mg/kg
XPA.42.089 10 mg/kg
Mean Tumor Volume mm3
1500
1000
500
0
0
5
10
15
20
25
30
Study Day

**Figure 5**

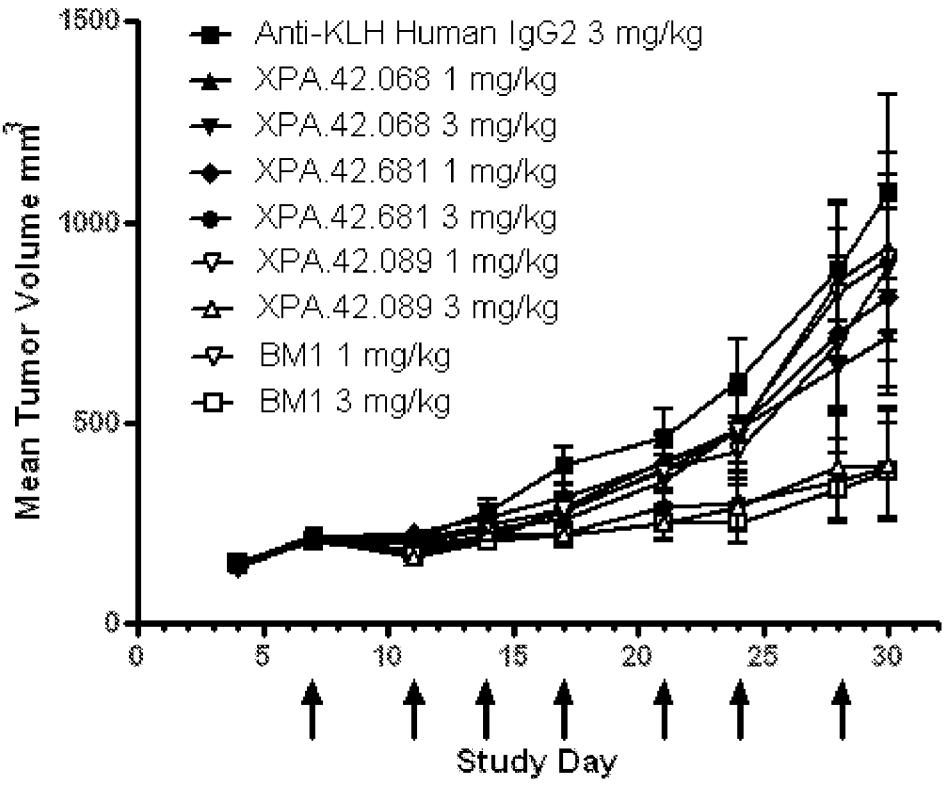

Anti-KLH Human IgG2 3 mg/kg
XPA.42.068 1 mg/kg
XPA.42.068 3 mg/kg
XPA.42.681 1 mg/kg
XPA.42.681 3 mg/kg
XPA.42.089 1 mg/kg
XPA.42.089 3 mg/kg
BM1 1 mg/kg
BM1 3 mg/kg
Mean Tumor Volume mm3
1500
1000
500
0
0
5
10
15
20
25
30
Study Day

**Figure 6**

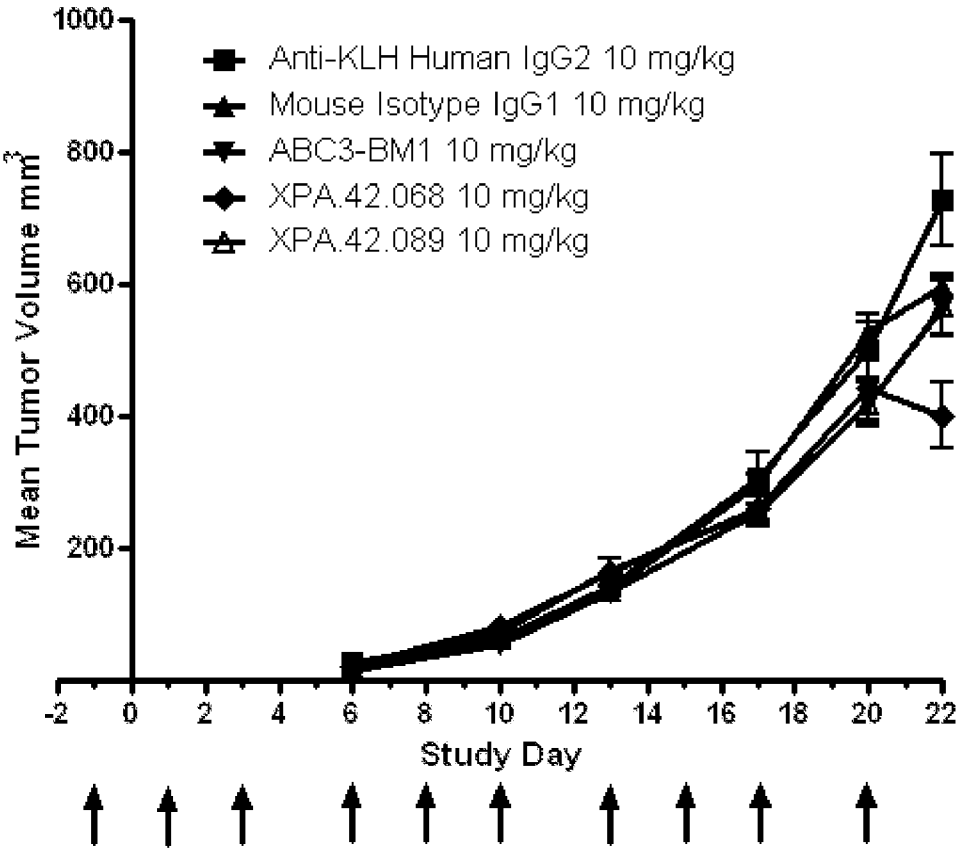

Anti-KLH Human IgG2 10 mg/kg
Mouse Isotype IgG1 10 mg/kg
ABC3-BM1 10 mg/kg
XPA.42.068 10 mg/kg
XPA.42.089 10 mg/kg
Mean Tumor Volume mm3
1000
800
600
400
200
-2
0
2
4
6
8
10
12
14
16
18
20
22
Study Day

**Figure 7**

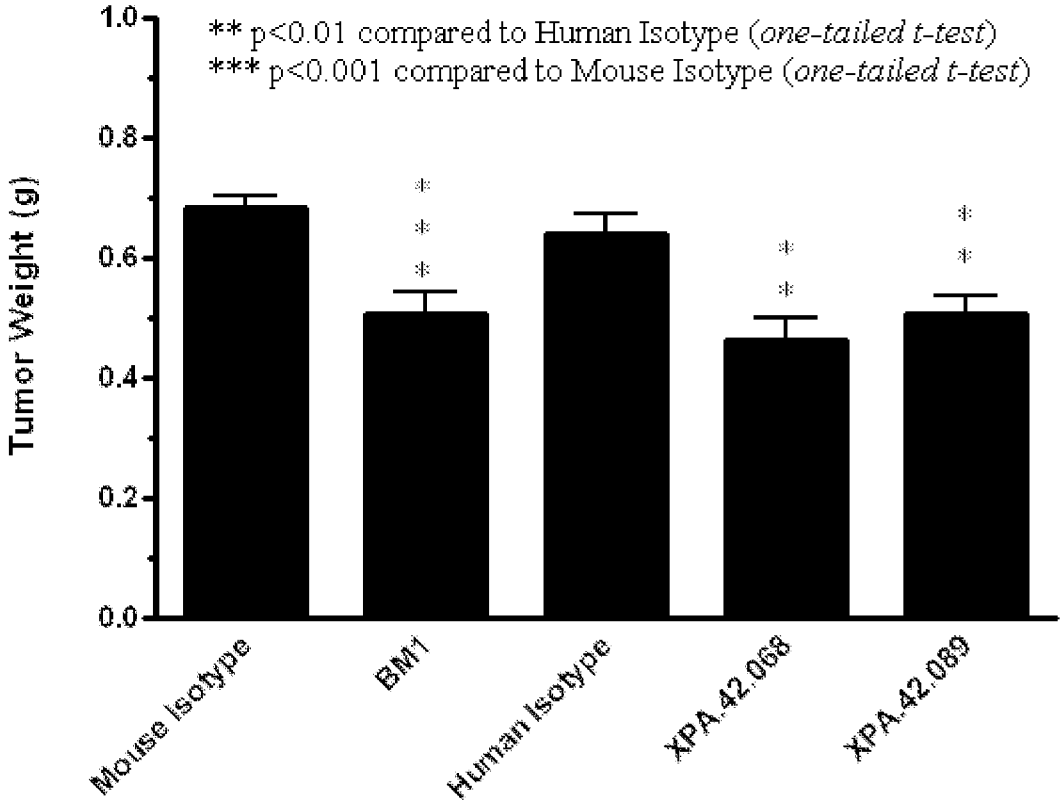

** p<0.01 compared to Human Isotype (one-tailed t-test)
*** p<0.001 compared to Mouse Isotype (one-tailed t-test)
Tumor Weight (g)
1.0
0.8
0.6
0.4
0.2
0.0
Mouse Isotype
BM1
Human Isotype
XPA.42.068
XPA.42.089

**Figure 8**

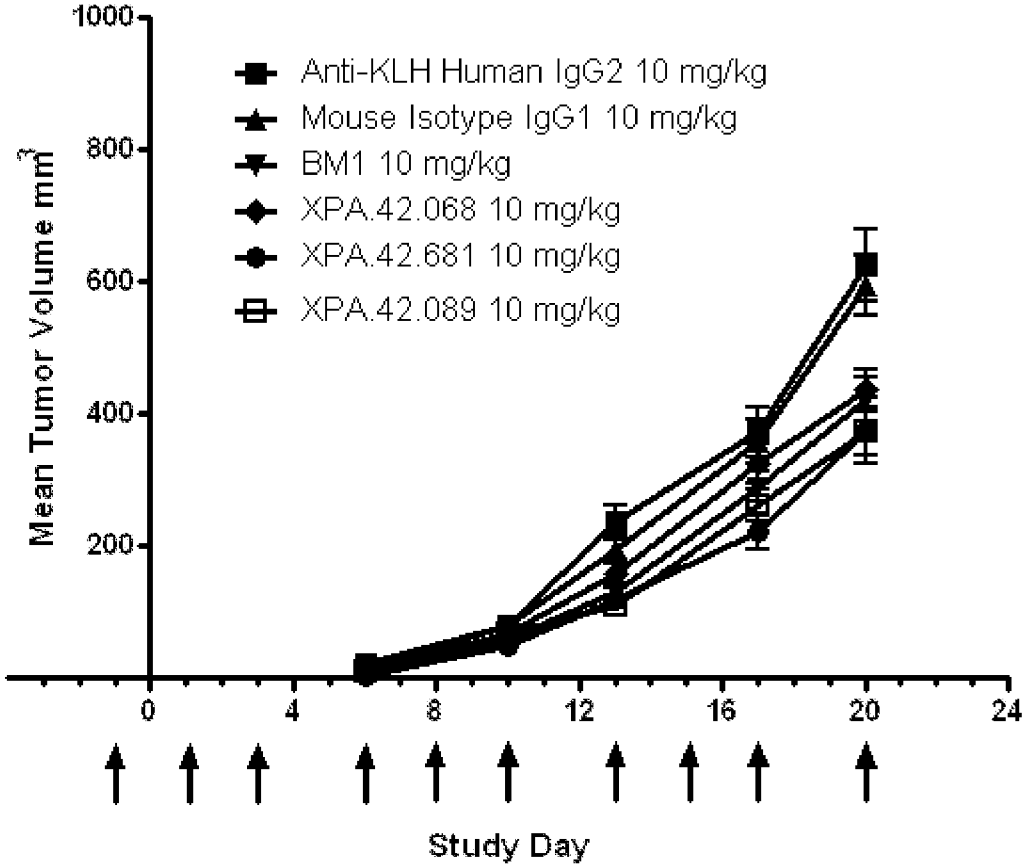

1000
800
600
400
200
Mean Tumor Volume mm3
Anti-KLH Human IgG2 10 mg/kg
Mouse Isotype IgG1 10 mg/kg
BM1 10 mg/kg
XPA.42.068 10 mg/kg
XPA.42.681 10 mg/kg
XPA.42.089 10 mg/kg
0
4
8
12
16
20
24
Study Day

**Figure 9**

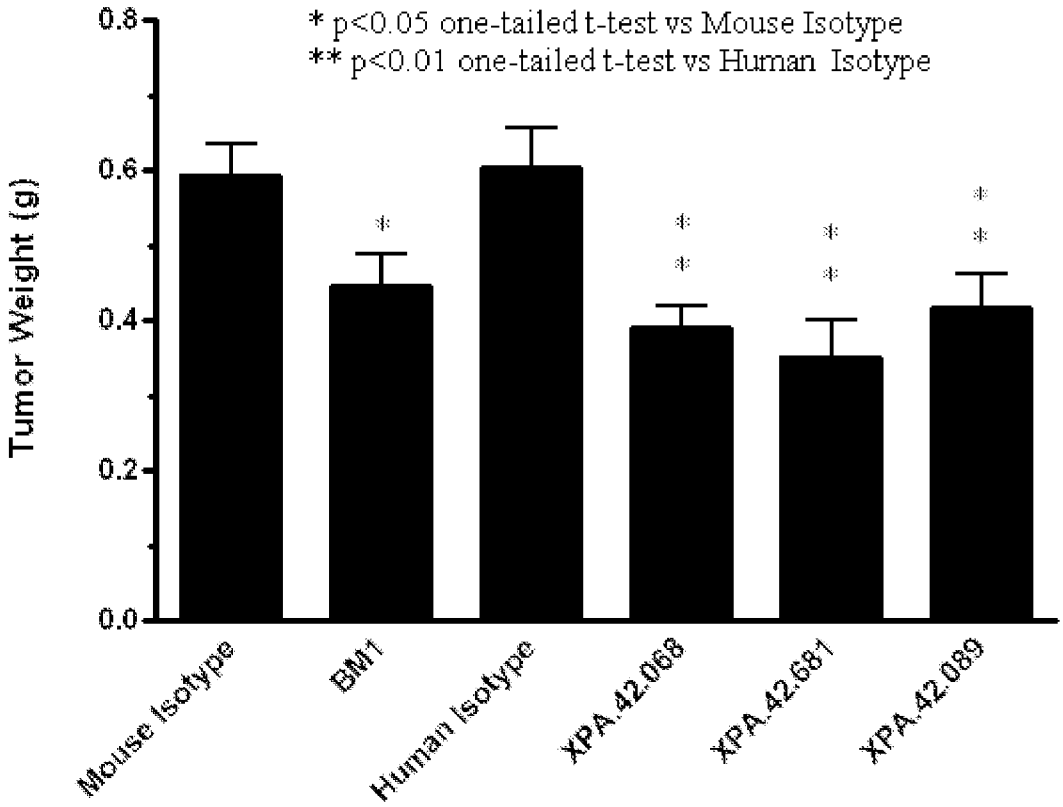

* p<0.05 one-tailed t-test vs Mouse Isotype
** p<0.01 one-tailed t-test vs Human Isotype
Tumor Weight (g)
0.8
0.6
0.4
0.2
0.0
Mouse Isotype
BM1
Human Isotype
XPA.42.068
XPA.42.681
XPA.42.089

**Figure 10**

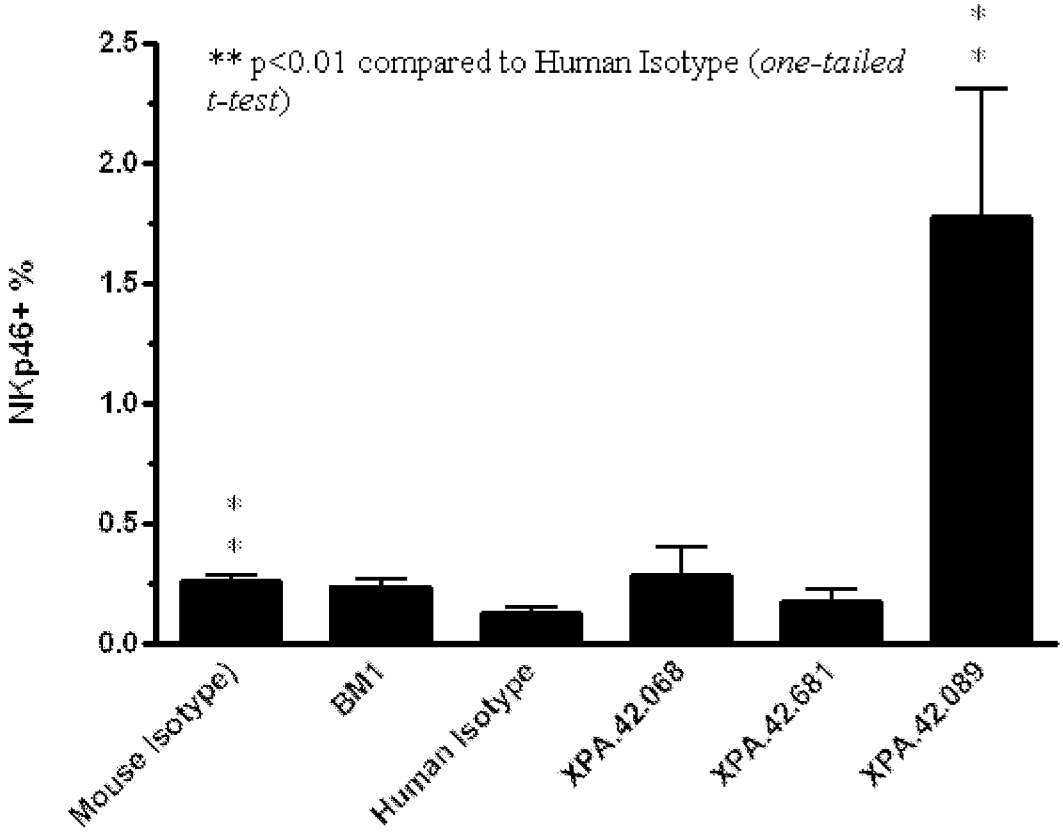

** p<0.01 compared to Human Isotype (one-tailed t-test)
NKp46+ %
2.5
2.0
1.5
1.0
0.5
0.0
*
*
*
*
Mouse Isotype)
BM1
Human Isotype
XPA.42.068
XPA.42.681
XPA.42.089

**Figure 11**

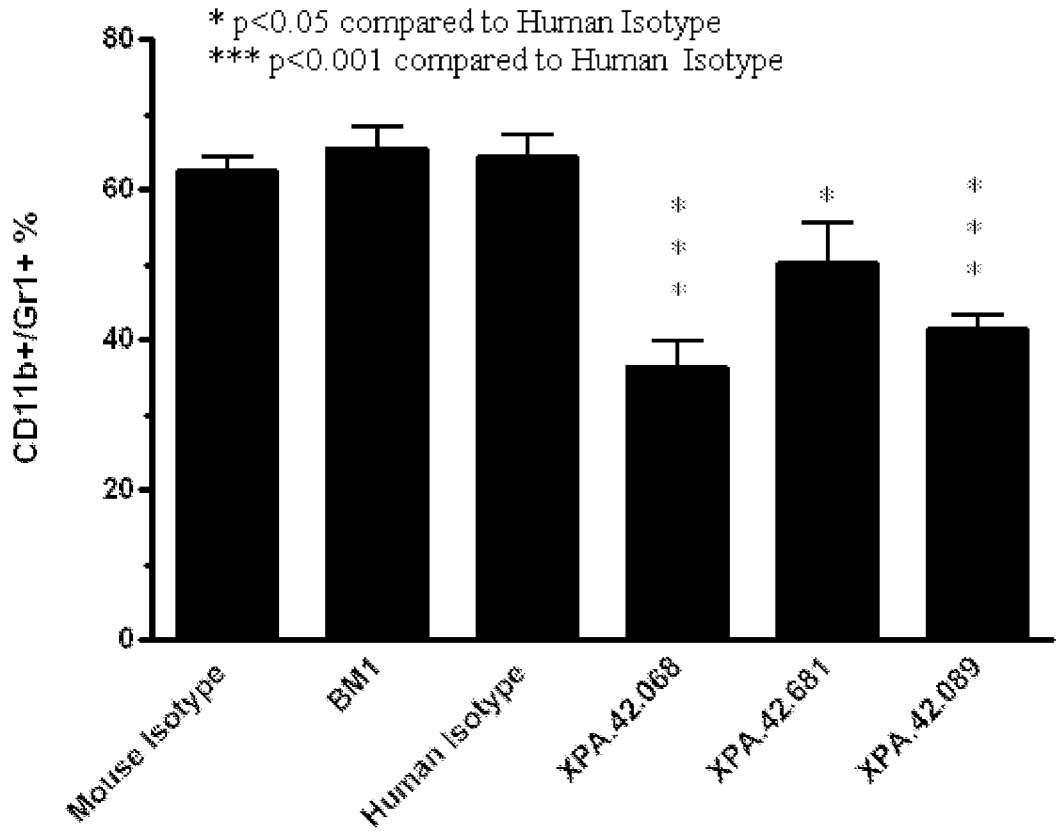

* p<0.05 compared to Human Isotype
*** p<0.001 compared to Human Isotype
CD11b+/Gr1+ %
80
60
40
20
0
Mouse Isotype
BM1
Human Isotype
XPA.42.068
XPA.42.681
XPA.42.089

**Figure 12**

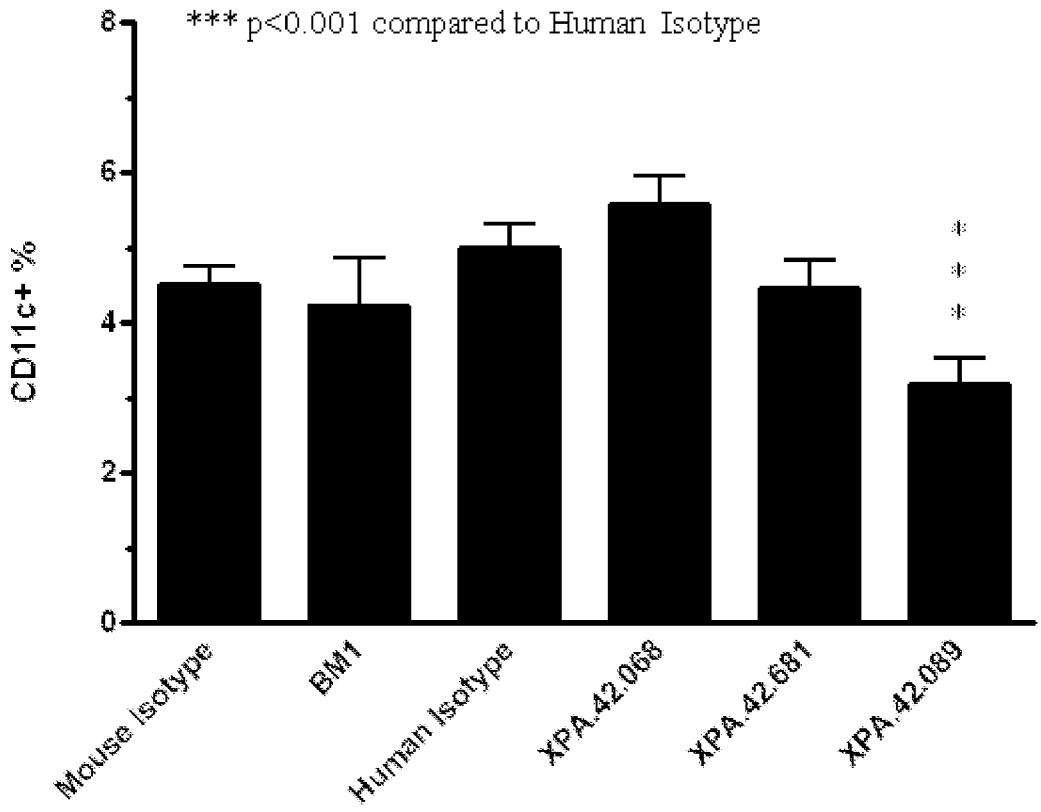

*** p<0.001 compared to Human Isotype
CD11c+ %
8
6
4
2
0
*
*
*
Mouse Isotype
BM1
Human Isotype
XPA.42.068
XPA.42.681
XPA.42.089

**Figure 13**

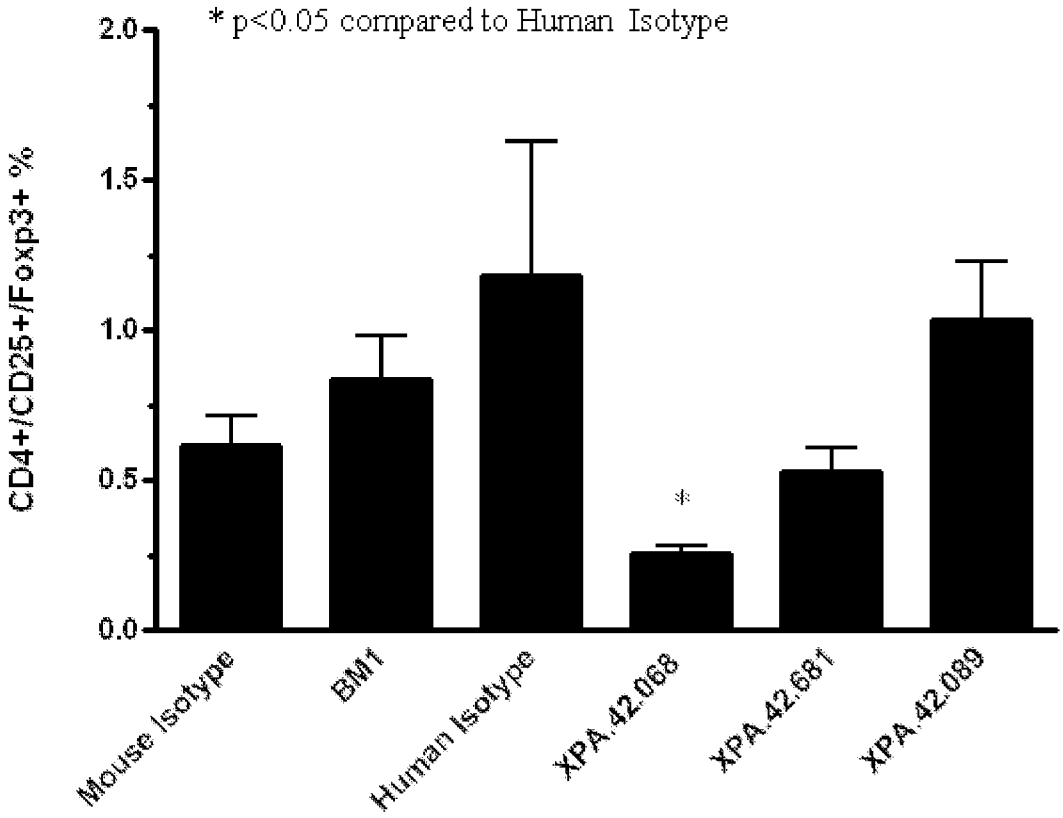

* p<0.05 compared to Human Isotype
CD4+/CD25+/Foxp3+ %
2.0
1.5
1.0
0.5
0.0
*
Mouse Isotype
BM1
Human Isotype
XPA.42.068
XPA.42.681
XPA.42.089

**Figure 14**

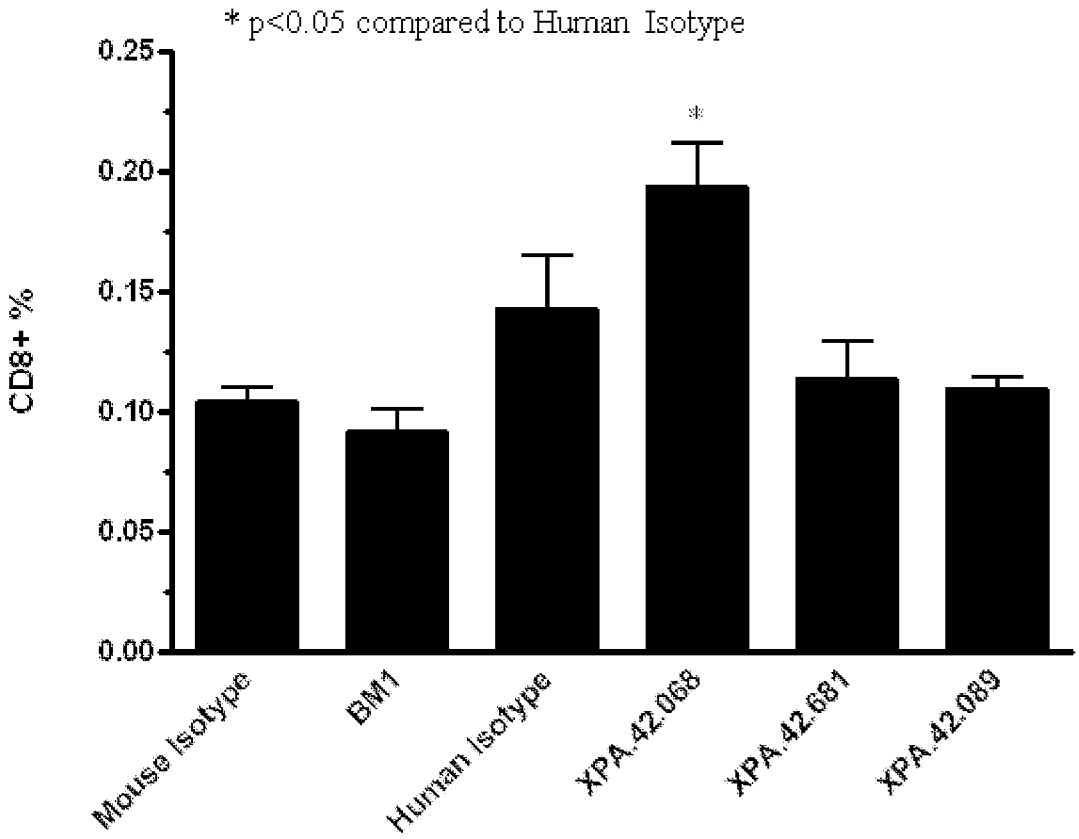

* p<0.05 compared to Human Isotype
CD8+ %
0.25
0.20
0.15
0.10
0.05
0.00
*
Mouse Isotype
BM1
Human Isotype
XPA.42.068
XPA.42.681
XPA.42.089

**Figure 15**

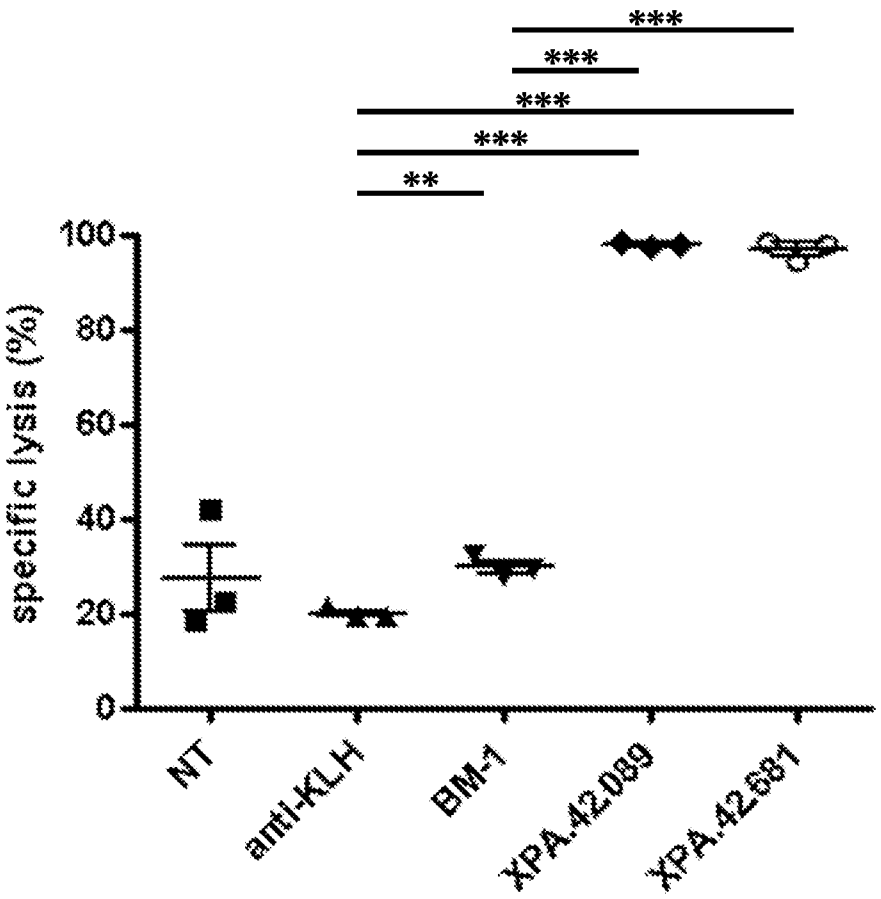

***
***
***
***
**
specific lysis (%)
100
80
60
40
20
0
NT
anti-KLH
BM-1
XPA.42.089
XPA.42.681

**Figure 16**

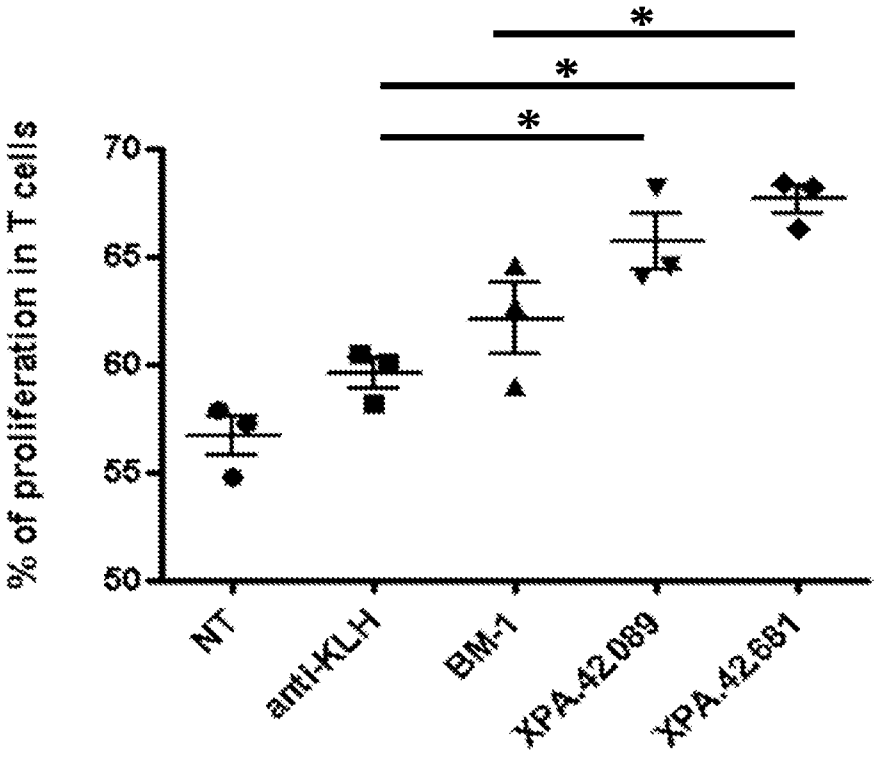

*
*
*
% of proliferation in T cells
70
65
60
55
50
NT
antiHKLH
BM-1
XPA.42.089
XPA.42.681

Figure 17

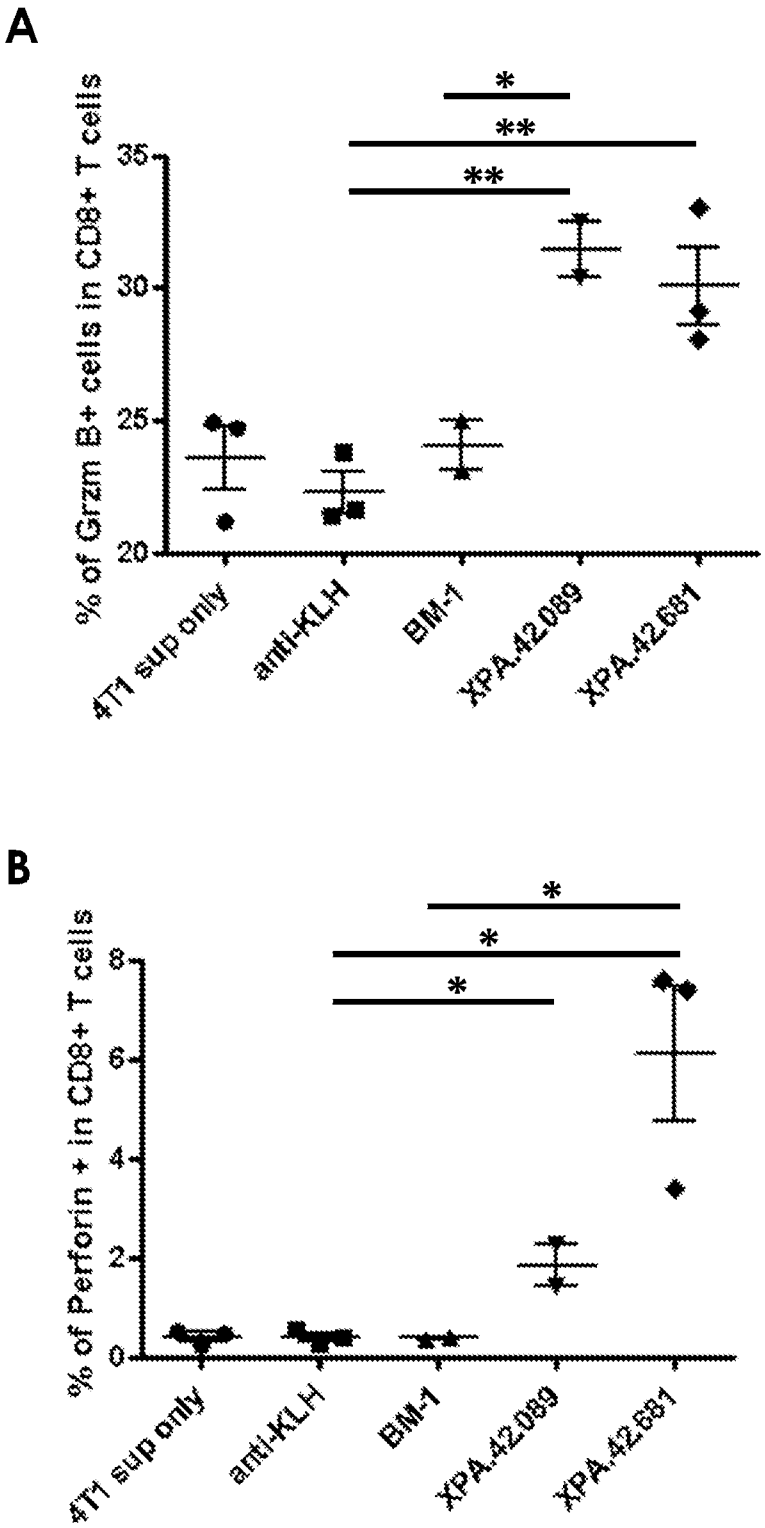

A
% of Grzm B+ cells in CD8+ T cells
35
30
25
20
*
**
**
4T1 sup only
anti-KLH
BM-1
XPA.42.089
XPA.42.681
B
% of Perforin + in CD8+ T cells
8
6
4
2
0
*
*
*
4T1 sup only
anti-KLH
BM-1
XPA.42.089
XPA.42.681

**Figure 18**

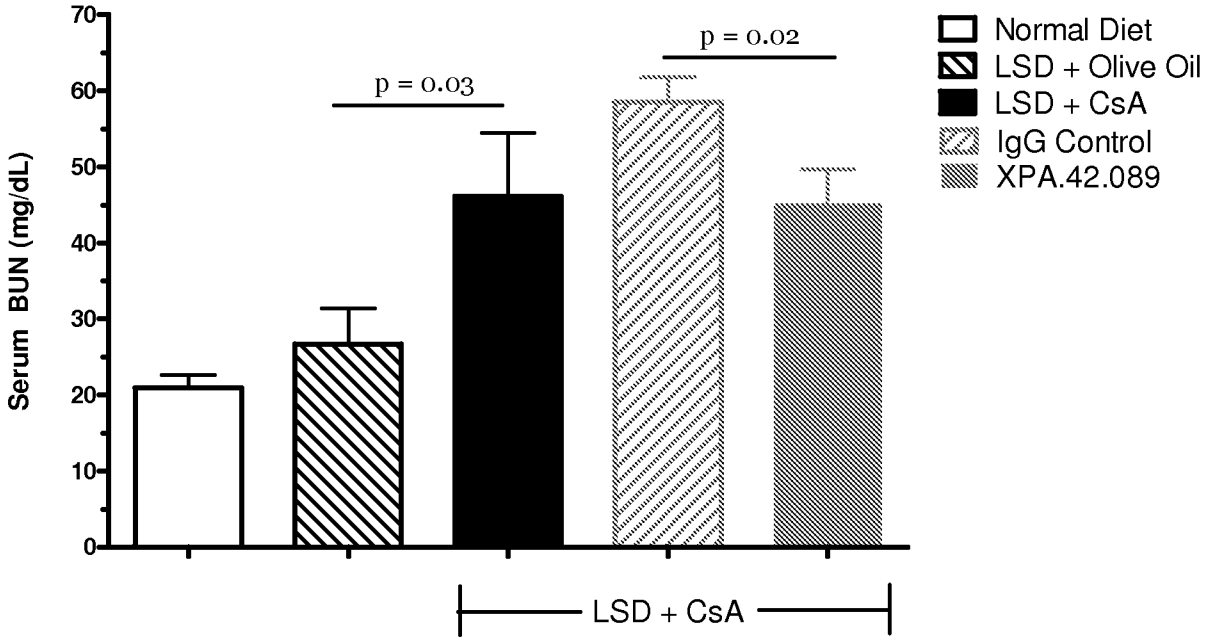

Serum BUN (mg/dL)
70
60
50
40
30
20
10
0
p = 0.03
p = 0.02
Normal Diet
LSD + Olive Oil
LSD + CsA
IgG Control
XPA.42.089
LSD + CsA

**Figure 19**

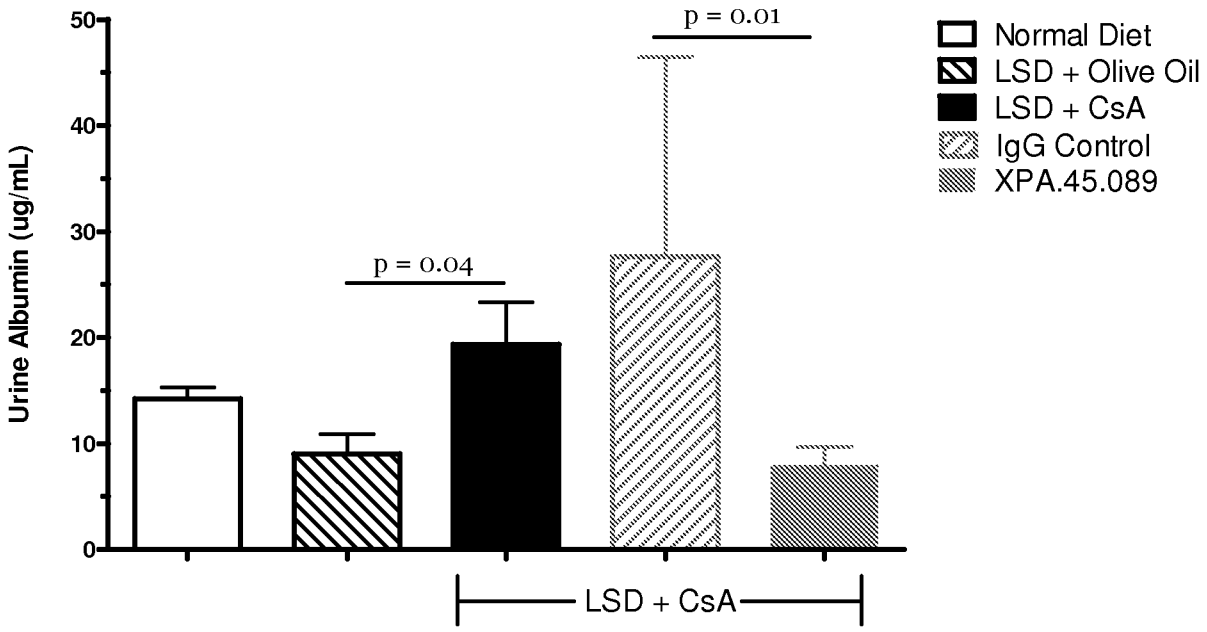

Urine Albumin (ug/mL)
50
40
30
20
10
0
p = 0.04
p = 0.01
LSD + CsA
Normal Diet
LSD + Olive Oil
LSD + CsA
IgG Control
XPA.45.089

**Figure 20**

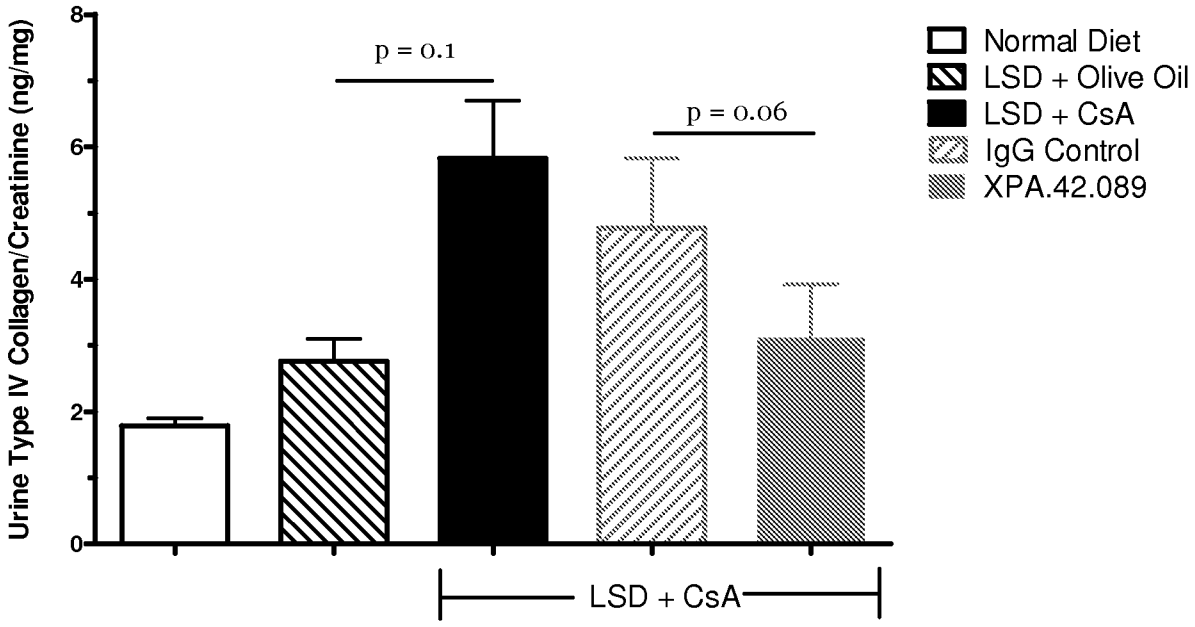
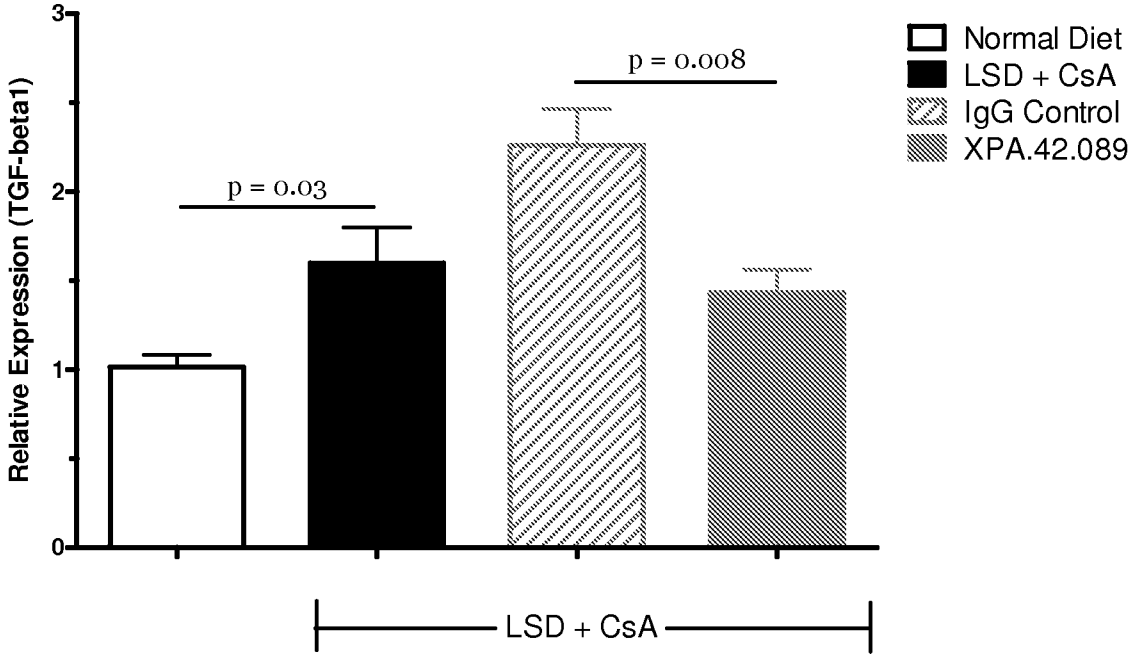

Urine Type IV Collagen/Creatinine (ng/mg)
8
6
4
2
0
p = 0.1
p = 0.06
LSD + CsA
Normal Diet
LSD + Olive Oil
LSD + CsA
IgG Control
XPA.42.089

**Figure 21**

**A**




**B**

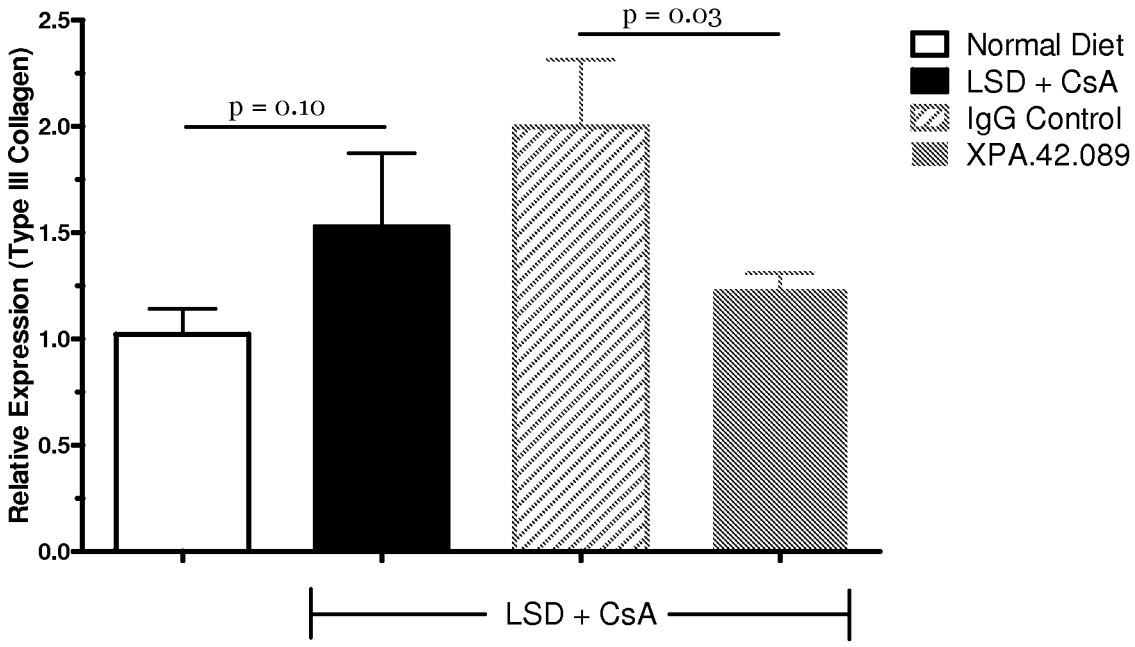
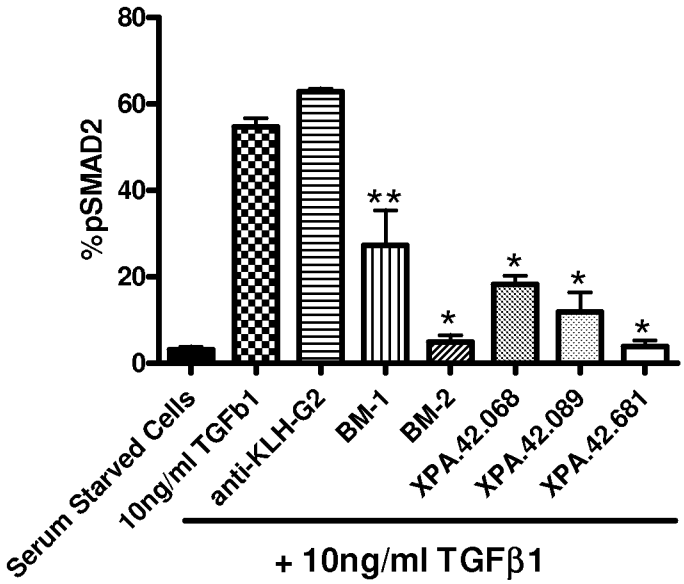



**Figure 22**




**p<0.05 vs TGFβ1

*p<0.006 vs TGFβ1

Table 1

| SEQ ID NO | Clone | Sequence |
|---|---|---|
| 1 | XPA.42.068 heavy chain DNA Sequence | caggttcagc tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60<br>tcctgcaagg cttctggata caccttcacc ggctactata tgcactgggt gcgacaggcc 120<br>cctggacaag ggcttgagtg gatgggatgg atcaacccta acactggtgg cacaaactat 180<br>gcacagaagt ttcagggcag ggtcaccatg accagggaca cgtccatcag cacagcctac 240<br>atggagctga gcaggctgag atctgacgac acggccgttt attactgtgc gagatcattc 300<br>ctgtggctgg ttccctctga tgcttttgat atctggggcc aagggacaat ggtcaccgtc 360<br>tcttca 366 |
| 2 | XPA.42.068 heavy chain Amino Acid Sequence | QVQLVQSGAE VKKPGASVKV SCKAS**GYTFT GYY**MHWVRQA PGQGLEWMGW **INPNTGGT**NY 60<br>AQKFQGRVTM TRDTSISTAY MELSRLRSDD TAVYYC**ARSF LWLVPSDAFD I**WGQGTMVTV 120<br>SS 122 |
| 3 | XPA.42.068 light chain DNA Sequence | tcttctgagc tgactcagcc accctcagtg tccgtggccc caggagagaa ggccaggatt 60<br>acctgtgggg ggaataacat tggacgtaaa agtgtacatt ggtaccagca gaggccaggc 120<br>caggcccctg ttgtggtcct ctactatgat agagtcagac cctcagggat ccctgagcga 180<br>ttttctggct ccaactctgg gaacacggcc accctgacca tcaccagggt cgaagccggg 240<br>gatgaggccg actatttttg tcaggtgtgg gataacacta gtgagcatgt ggtcttcggc 300<br>ggaggcaccc agctgaccgt cctaggc 327 |
| 4 | XPA.42.068 light chain Amino Acid Sequence | SSELTQPPSV SVAPGEKARI TCGGN**NIGRK S**VHWYQQRPG QAPVVVLY**YD R**VRPSGIPER 60<br>FSGSNSGNTA TLTITRVEAG DEADYFC**QVW DNTSEHV**VFG GGTQLTVLG 109 |
| 5 | XPA.42.089 heavy chain DNA Sequence | caggtgcagc tggtacagtc tggggctgag gtgaagaagc ctgggtcctc ggtgaaggtc 60<br>tcctgcaagg cttctggagg caccttcagc agctatgcta tcagctgggt gcgacaggcc 120<br>cctggacaag ggcttgagtg gatgggaggg atcatcccta tctttggtac agcaaactac 180<br>gcacagaagt tccagggcag agtcacgatt accgcggacg aatccacgag cacagcctac 240<br>atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc gaggggacta 300<br>tgggaggttc gggcccttcc gtcggtctac tggggccagg gaaccctggt caccgtctcc 360<br>tca 363 |
| 6 | XPA.42.089 heavy chain Amino Acid Sequence | QVQLVQSGAE VKKPGSSVKV SCKAS**GGTFS SYA**ISWVRQA PGQGLEWMGG **IIPIFGTA**NY 60<br>AQKFQGRVTI TADESTSTAY MELSSLRSED TAVYYC**ARGL WEVRALPSVY** WGQGTLVTVS 120<br>S 121 |
| 7 | XPA.42.089 light chain DNA Sequence | tcctatgagc tgacacagcc accctcagtg tccgtggccc cgggacagac ggccagaatt 60<br>acctgtgggg caaatgacat tggaagtaaa agtgtccact ggtaccagca gaaggcaggc 120<br>caggcccctg tactggtcgt ctctgaagat atcatccggc cctcagggat ccctgagcga 180<br>atctctggct ccaactctgg gaacacggcc accctgacca tcagcagggt cgaagccggg 240<br>gatgaggccg actattactg tcaagtttgg gatagggata gtgatcaata tgtctttgga 300<br>actgggacca aggtcaccgt cctaggc 327 |
| 8 | XPA.42.089 light chain Amino Acid Sequence | SYELTQPPSV SVAPGQTARI TCGAN**DIGSK S**VHWYQQKAG QAPVLVVS**ED I**IRPSGIPER 60<br>ISGSNSGNTA TLTISRVEAG DEADYYC**QVW DRDSDQY**VFG TGTKVTVLG 109 |

Table 1

| | | |
|---|---|---|
| 9 | XPA.42.681 heavy chain DNA Sequence | caggttcagc tggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaaggtc 60<br>tcctgcaagg cttctggata caccttcacc ggctactata tgcactgggt gcgacaggcc 120<br>cctggacaag ggcttgagtg gatgggatgg atcaacccta acactggtgg cacaaactat 180<br>gcacagaagt ttcagggcag ggtcaccatg accagggaca cgtccatcag cacagcctac 240<br>atggagctga gcaggctgag atctgacgac acggccgttt attactgtgc gagatcattc 300<br>ctgtggctgg ttccctctga tgcttttgat atctggggcc aagggacaat ggtcaccgtc 360<br>tcttca 366 |
| 10 | XPA.42.681 heavy chain Amino Acid Sequence | QVQLVQSGAE VKKPGASVKV SCKAS**GYTFT GYY**MHWVRQA PGQGLEWMGW **INPNTGGT**NY 60<br>AQKFQGRVTM TRDTSISTAY MELSRLRSDD TAVYYC**ARSF LWLVPSDAFD I**WGQGTMVTV 120<br>SS 122 |
| 11 | XPA.42.681 light chain DNA Sequence | tcctatgtgc tgactcagcc accctcagtg tccgtggccc caggaaagac ggccaggatt 60<br>acctgtgggg gaaacaacat tggatttaga agtgtgcact ggtaccaaca gaagtcaggc 120<br>caggcccctg tcctggtcat ctattttgat cgcgcccggc cctcagggat ccctgagcga 180<br>ttctctgcct ccaactctga gaacacggcc accctgacca tcaggagggt cgaagccggg 240<br>gatgaggccg actattactg tcaggtgtgg gatagtgaca gtgatgatct agtcttcggc 300<br>ggaggcaccc agctgaccgt cctaggt 327 |
| 12 | XPA.42.681 light chain Amino Acid Sequence | SYVLTQPPSV SVAPGKTARI TCGGN**NIGFR S**VHWYQQKSG QAPVLVIY**FD R**ARPSGIPER 60<br>FSASNSENTA TLTIRRVEAG DEADYYC**QVW DSDSDDLV**FG GGTQLTVLG 109 |
| 13 | XPA.42.068 – H-CDR1 | GYTFTGYY |
| 14 | XPA.42.068 – H-CDR2 | INPNTGGT |
| 15 | XPA.42.068 – H-CDR3 | ARSFLWLVPS DAFDI |
| 16 | XPA.42.068 – L-CDR1 | NIGRKS |
| 17 | XPA.42.068 – L-CDR2 | YDR |
| 18 | XPA.42.068 – L-CDR3 | QVWDNTSEHV |
| 19 | XPA.42-089 – H-CDR1 | GGTFSSYA |
| 20 | XPA.42-089 – H-CDR2 | IIPIFGTA |
| 21 | XPA.42-089 – H-CDR3 | ARGLWEVRAL PSVY |
| 22 | XPA.42-089 – L-CDR1 | DIGSKS |
| 23 | XPA.42-089 – L-CDR2 | EDI |
| 24 | XPA.42-089 – L-CDR3 | QVWDRDSDQY |
| 25 | XPA.42-681 – H-CDR1 | GYTFTGYY |
| 26 | XPA.42-681 – H-CDR2 | INPNTGGT |
| 27 | XPA.42-681 – H-CDR3 | ARSFLWLVPS DAFDI |
| 28 | XPA.42-681 – L-CDR1 | NIGFRS |
| 29 | XPA.42-681 – L-CDR2 | FDR |
| 30 | XPA.42-681 – L-CDR3 | QVWDSDSDDL V |