Fig 1A

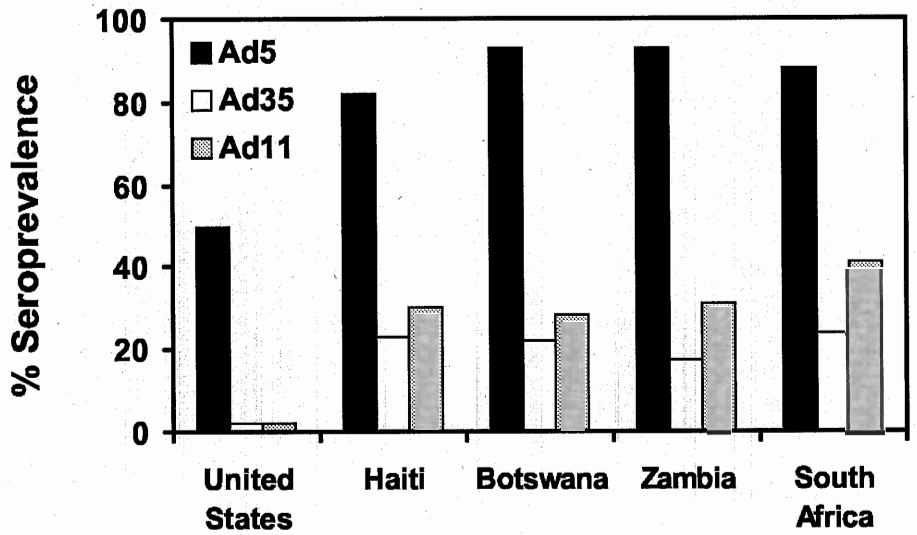

100
80
60
40
20
0
% Seroprevalence
Ad5
Ad35
Ad11
United States
Haiti
Botswana
Zambia
South Africa

Fig 1B

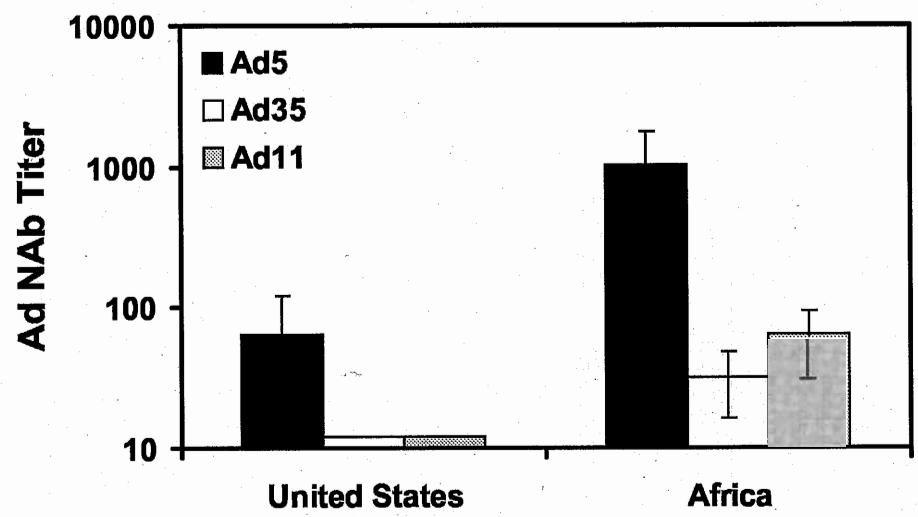

10000
1000
100
10
Ad NAb Titer
Ad5
Ad35
Ad11
United States
Africa

Fig 1C

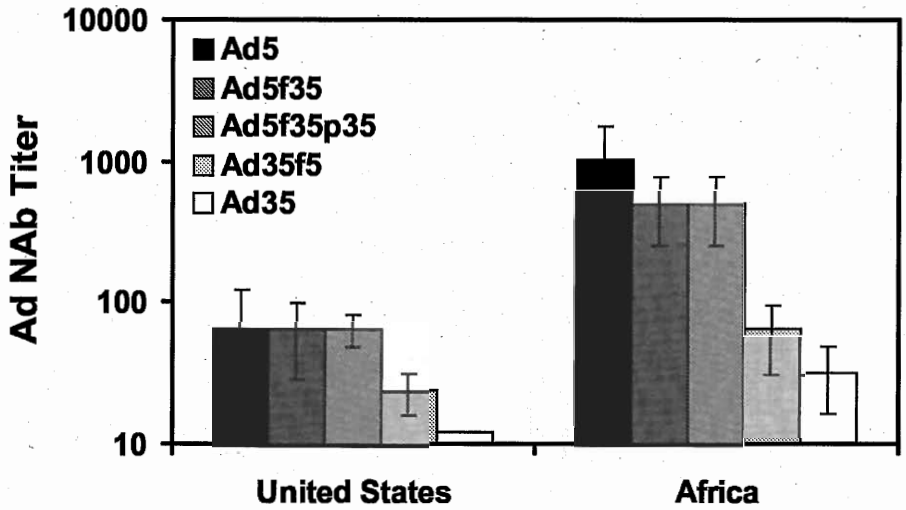

10000
1000
100
10
Ad NAb Titer
Ad5
Ad5f35
Ad5f35p35
Ad35f5
Ad35
United States
Africa

**Fig. 2A.**

ATGACCAAGAGAGTCCGGCTCAGTGACTCCTTCAACCCTGTCTACCCGTACGAAGAT
GAAAGCACCTCCCAACACCCCTTTATAAACCCAGGGTTTATTTCCCCAAATGGCTTC
ACACAAAGCCCAGACGGAGTTCTTACTTTAAAATGTTTAACCCCACTAACAACCACA
GGCGGATCTCTACAGCTAAAAGTGGGAGGGGGACTTACAGTGGATGACACTGATGGT
ACCTTACAAGAAAACATACGTGCTACAGCACCCATTACTAAAAATAATCACTCTGTA
GAACTATCCATTGGAAATGGATTAGAAACTCAAAACAATAAACTATGTGCCAAATTG
GGAAATGGGTTAAAATTTAACAACGGTGACATTTGTATAAAGGATAGTATTAACACT
TTGTGGACCACACCAGCTCCATCTCCTAACTGTAGACTAAATGCAGAGAAAGATGCT
AAACTCACTTTGGTCTTAACAAAATGTGGCAGTCAAATACTTGCTACAGTTTCAGTT
TTGGCTGTTAAAGGCAGTTTGGCTCCAATATCTGGAACAGTTCAAAGTGCTCATCTT
ATTATAAGATTTGACGAAAATGGAGTGCTACTAAACAATTCCTTCCTGGACCCAGAA
TATTGGAACTTTAGAAATGGAGATCTTACTGAAGGCACAGCCTATACAAACGCTGTT
GGATTTATGCCTAACCTATCAGCTTATCCAAAATCTCACGGTAAAACTGCCAAAAGT
AACATTGTCAGTCAAGTTTACTTAAACGGAGACAAAACTAAACCTGTAACACTAACC
ATTACACTAAACGGTACACAGGAAACAGGAGACACAACTCCAAGTGCATACTCTATG
TCATTTTCATGGGACTGGTCTGGCCACAACTACATTAATGAAATATTTGCCACATCC
TCTTACACTTTTTCATACATTGCCCAAGAATAAGCTAGC

**Fig. 2B.**

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

**Fig. 2C**

ATGACCAAGAGAGTCCGGCTCAGTGACTCCTTCAACCCTGTCTACCCgtacgACACG
GAAACCGGTCCTCCAACTGTGCCTTTTCTTACTCCTCCCTTTGTATCCCCCAATGGG
TTTCAAGAGAGTCCCCCTGGGGTACTCTCTTTGCGCCTATCCGAACCTCTAGTTACC
TCCAATGGCATGCTTGCGCTCAAAATGGGCAACGGCCTCTCTCTGGACGAGGCCGGC
AACCTTACCTCCCAAAATGTAACCACTGTGAGCCCACCTCTCAAAAAAACCAAGTCA
AACATAAACCTGGAAATATCTGCACCCCTCACAGTTACCTCAGAAGCCCTAACTGTG
GCTGCCGCCGCACCTCTAATGGTCGCGGGCAACACACTCACCATGCAATCACAGGCC
CCGCTAACCGTGCACGACTCCAAACTTAGCATTGCCACCCAAGGACCCCTCACAGTG
TCAGAAGGAAAGCTAGCCCTGCAAACATCAGGCCCCCTCACCACCACCGATAGCAGT
ACCCTTACTATCACTGCCTCACCCCCTCTAACTACTGCCACTGGTAGCTTGGGCATT
GACTTGAAAGAGCCCATTTATACACAAAATGGAAAACTAGGACTAAAGTACGGGGCT
CCTTTGCATGTAACAGACGACCTAAACACTTTGACCGTAGCAACTGGTCCAGGTGTG
ACTATTAATAATACTTCCTTGCAAACTAAAGTTACTGGAGCCTTGGGTTTTGATTCA
CAAGGCAATATGCAACTTAATGTAGCAGGAGGACTAAGGATTGATTCTCAAAACAGA
CGCCTTATACTTGATGTTAGTTATCCGTTTGATGCTCAAAACCAACTAAATCTAAGA
CTAGGACAGGGCCCTCTTTTTATAAACTCAGCCCACAACTTGGATATTAACTACAAC
AAAGGCCTTTACTTGTTTACAGCTTCAAACAATTCCAAAAAGCTTGAGGTTAACCTA
AGCACTGCCAAGGGGTTGATGTTTGACGCTACAGCCATAGCCATTAATGCAGGAGAT
GGGCTTGAATTTGGTTCACCTAATGCACCAAACACAAATCCCCTCAAAACAAAAATT
GGCCATGGCCTAGAATTTGATTCAAACAAGGCTATGGTTCCTAAACTAGGAACTGGC
CTTAGTTTTGACAGCACAGGTGCCATTACAGTAGGAAACAAAAATAATGATAAGCTA
ACTTTGTGGACCACACCAGCTCCATCTCCTAACTGTAGACTAAATGCAGAGAAAGAT
GCTAAACTCACTTTGGTCTTAACAAAATGTGGCAGTCAAATACTTGCTACAGTTTCA
GTTTTGGCTGTTAAAGGCAGTTTGGCTCCAATATCTGGAACAGTTCAAAGTGCTCAT
CTTATTATAAGATTTGACGAAAATGGAGTGCTACTAAACAATTCCTTCCTGGACCCA
GAATATTGGAACTTTAGAAATGGAGATCTTACTGAAGGCACAGCCTATACAAACGCT
GTTGGATTTATGCCTAACCTATCAGCTTATCCAAAATCTCACGGTAAAACTGCCAAA
AGTAACATTGTCAGTCAAGTTTACTTAAACGGAGACAAAACTAAACCTGTAACACTA
ACCATTACACTAAACGGTACACAGGAAACAGGAGACACAACTCCAAGTGCATACTCT
ATGTCATTTTCATGGGACTGGTCTGGCCACAACTACATTAATGAAATATTTGCCACA
TCCTCTTACACTTTTTCATACATTGCCCAAGAATAA

**Fig. 2D**

MTKRVRLSDSFNPVYPYDTETGPPTVPFLTPPFVSPNGFQESPPGVLSLRLSEPLVT
SNGMLALKMGNGLSLDEAGNLTSQNVTTVSPPLKKTKSNINLEISAPLTVTSEALTV
AAAAPLMVAGNTLTMQSQAPLTVHDSKLSIATQGPLTVSEGKLALQTSGPLTTTDSS
TLTITASPPLTTATGSLGIDLKEPIYTQNGKLGLKYGAPLHVTDDLNTLTVATGPGV
TINNTSLQTKVTGALGFDSQGNMQLNVAGGLRIDSQNRRLILDVSYPFDAQNQLNLR
LGQGPLFINSAHNLDINYNKGLYLFTASNNSKKLEVNLSTAKGLMFDATAIAINAGD
GLEFGSPNAPNTNPLKTKIGHGLEFDSNKAMVPKLGTGLSFDSTGAITVGNKNNDKL
TLWTTPAPSPNCRLNAEKDAKLTLVLTKCGSQILATVSVLAVKGSLAPISGTVQSAH
LIIRFDENGVLLNNSFLDPEYWNFRNGDLTEGTAYTNAVGFMPNLSAYPKSHGKTAK
SNIVSQVYLNGDKTKPVTLTITLNGTQETGDTTPSAYSMSFSWDWSGHNYINEIFAT
SSYTFSYIAQE

**Fig. 2E**

ATGACCAAGAGAGTCCGGCTCAGTGACTCCTTCAACCCTGTCTACCCGTACGAAGAT
GAAAGCACCTCCCAACACCCCTTTATAAACCCAGGGTTTATTTCCCCAAATGGCTTC
ACACAAAGCCCAGACGGAGTTCTTACTTTAAAATGTTTAACCCCACTAACAACCACA
GGCGGATCTCTACAGCTAAAAGTGGGAGGGGGACTTACAGTGGATGACACTGATGGT
ACCTTACAAGAAAACATACGTGCTACAGCACCCATTACTAAAAATAATCACTCTGTA
GAACTATCCATTGGAAATGGATTAGAAACTCAAAACAATAAACTATGTGCCAAATTG
GGAAATGGGTTAAAATTTAACAACGGTGACATTTGTATAAAGGATAGTATTAACACC
CTGTGGACAACCCCTGACACATCTCCAAATTGCAAAATGAGTACAGAAAAGGATTCT
AAACTTACGTTGACACTTACAAAGTGTGGAAGTCAGGTTCTGGGAAATGTATCTTTA
CTTGCAGTTACAGGTGAATATCATCAAATGACTGCTACTACAAAGAAGGATGTAAAA
ATATCTTTACTATTTGATGAGAATGGAATTCTATTACCATCTTCGTCCCTTAGCAAA
GATTATTGGAATTACAGAAGTGATGATTCTATTGTATCTCAAAAATATAATAATGCA
GTTCCATTCATGCCAAACCTGACAGCTTATCCAAAACCAAGCGCTCAAAATGCAAAA
AACTATTCAAGAACTAAAATCATAAGTAATGTCTACTTAGGTGCTCTTACCTACCAA
CCTGTAATTATCACTATTGCATTTAATCAGGAAACTGAAAATGGATGTGCTTATTCT
ATAACATTTACCTTCACTTGGCAAAAAGACTATTCTGCCCAACAGTTTGATGTTACA
TCTTTTACCTTCTCATATCTTACCCAAGAGAACAAAGACAAAGACTAA

**Fig. 2F**

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

**Fig. 2G**

ATGACCAAGAGAGTCCGGCTCAGTGACTCCTTCAACCCTGTCTACCCGTACGAAGAT
GAAAGCACCTCCCAACACCCCTTTATAAACCCAGGGTTTATTTCCCCAAATGGCTTC
ACACAAAGCCCAGACGGAGTTCTTACTTTAAAATGTTTAACCCCACTAACAACCACA
GGCGGATCTCTACAGCTAAAAGTGGGAGGGGGACTTACAGTGGATGACACTGATGGT
ACCTTACAAGAAAACATACGTGCTACAGCACCCATTACTAAAAATAATCACTCTGTA
GAACTATCCATTGGAAATGGATTAGAAACTCAAAACAATAAACTATGTGCCAAATTG
GGAAATGGGTTAAAATTTAACAACGGTGACATTTGTATAAAGGATAGTATTAACACC
CTTTGGACAACTCCAGACCCATCTCCAAACTGCAAAGTTTCAGAAGAGAAGGATTCC
AAGCTTACTCTAGTTTTAACAAAGTGCGGAAGTCAGATTCTGGCCAGTGTATCATTG
CTTGTTGTTAAAGGGAAGTTTGCCAATATTAACAATAAAACAAACCCAGGCGAGGAC
TATAAAAAATTTTCAGTTAAATTATTGTTTGATGCCAATGGTAAATTATTGACAGGA
TCAAGCCTAGATGGAAATTATTGGAATTATAAAAACAAGGATAGTGTGATTGGGTCT
CCTTATGAAAATGCCGTTCCTTTTATGCCTAATTCCACAGCTTATCCTAAAATCATC
AATAATGGAACAGCTAATCCTGAAGATAAAAAAAGTGCAGCCAAAAAAACTATTGTC
ACTAATGTGTACCTAGGGGGAGATGCAGCTAAACCCGTGGCTACCACTATTAGTTTC
AACAAAGAAACTGAATCTAATTGTGTTTATTCTATAACCTTTGACTTTGCTTGGAAC
AAAACTTACAAAAATGTTCCATTTGATTCATCTTCGCTAACATTTTCATATATTGCC
CAAGATGCCGAAGACAAAAACGAATAA

**Fig. 2H**

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

Fig 3

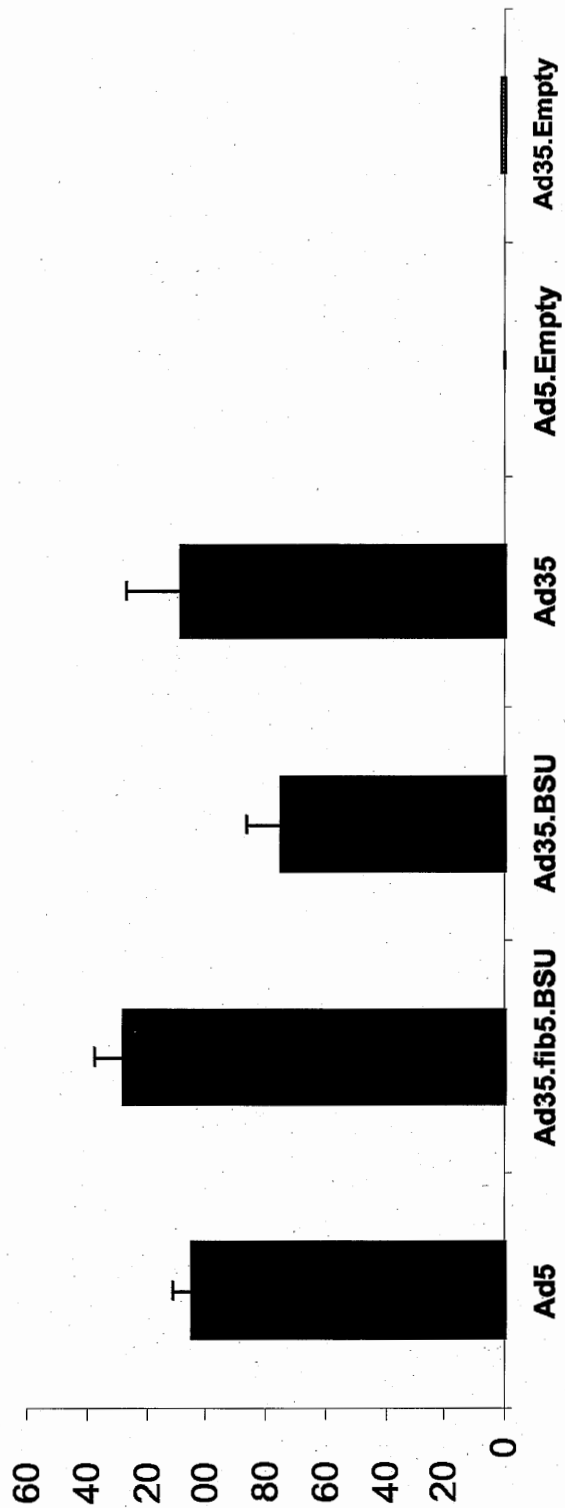

160
140
120
100
80
60
40
20
0
Ad5
Ad35.fib5.BSU
Ad35.BSU
Ad35
Ad5.Empty
Ad35.Empty

Fig. 4A

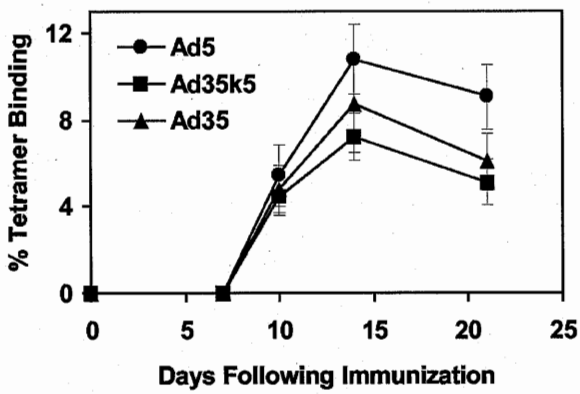

% Tetramer Binding
12
8
4
0
Ad5
Ad35k5
Ad35
0
5
10
15
20
25
Days Following Immunization

Fig. 4B

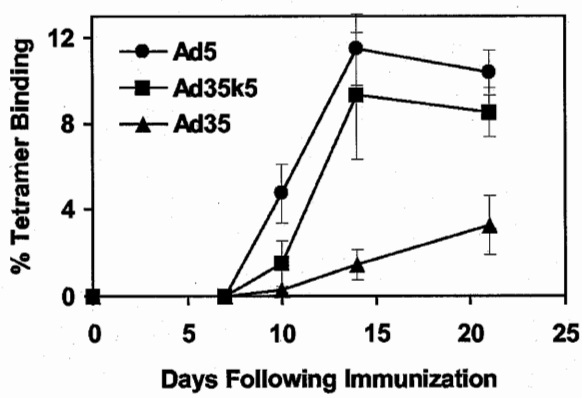

% Tetramer Binding
12
8
4
0
Ad5
Ad35k5
Ad35
0
5
10
15
20
25
Days Following Immunization

Fig. 4C

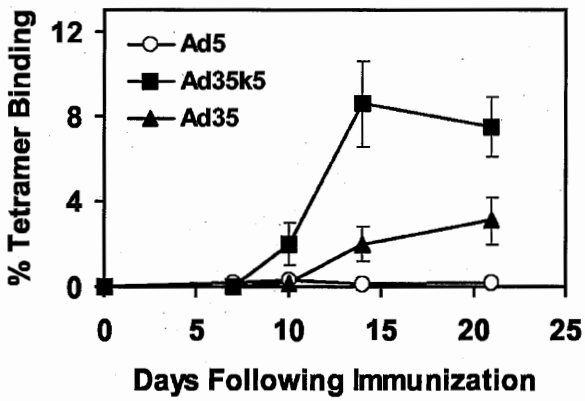

% Tetramer Binding
12
8
4
0
Ad5
Ad35k5
Ad35
0
5
10
15
20
25
Days Following Immunization

Fig. 4D

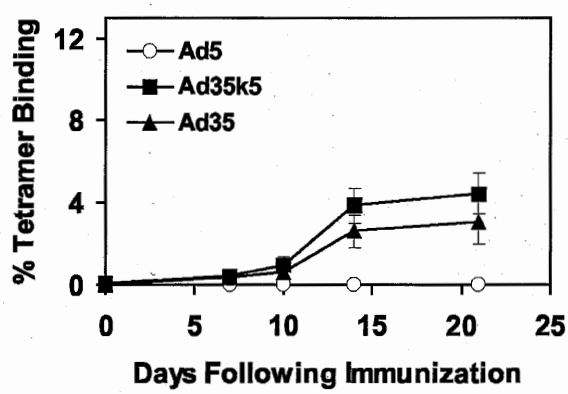

% Tetramer Binding
12
8
4
0
Ad5
Ad35k5
Ad35
0
5
10
15
20
25
Days Following Immunization

Fig. 5A

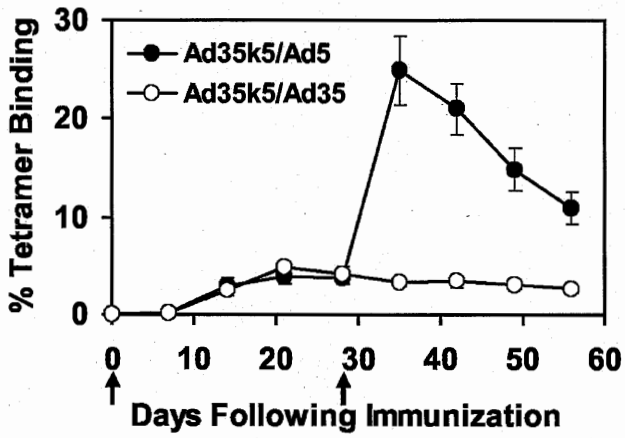

% Tetramer Binding
30
20
10
0
Ad35k5/Ad5
Ad35k5/Ad35
0
10
20
30
40
50
60
Days Following Immunization

Fig. 5B

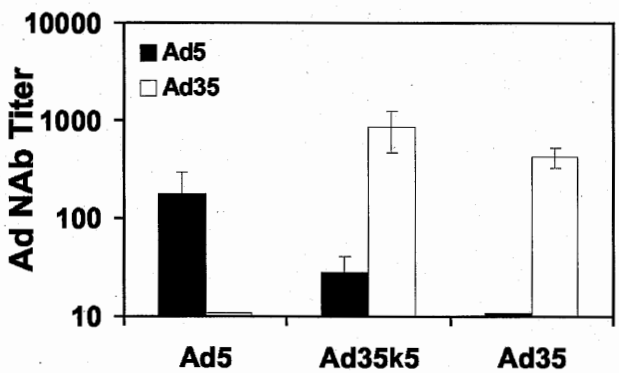

Ad NAb Titer
10000
1000
100
10
Ad5
Ad35
Ad5
Ad35k5
Ad35

Fig. 6A

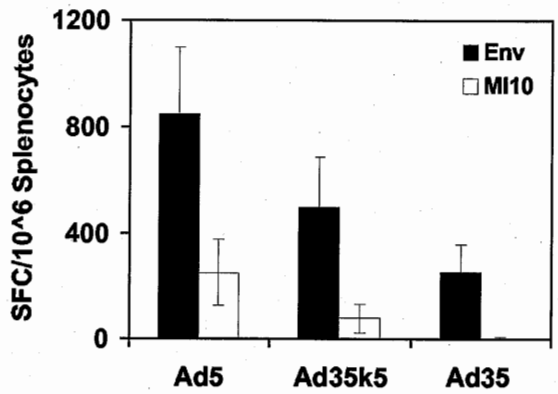

1200
800
400
0
SFC/10^6 Splenocytes
Env
MI10
Ad5
Ad35k5
Ad35

Fig. 6B

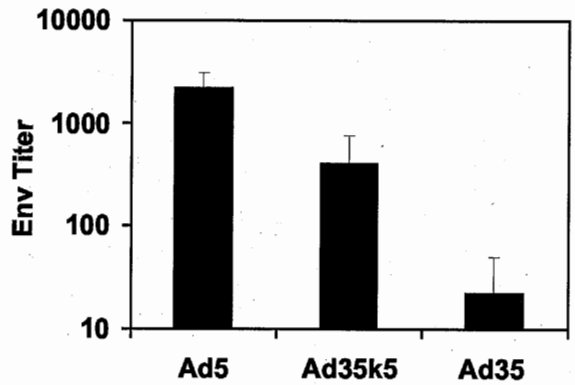

10000
1000
100
10
Env Titer
Ad5
Ad35k5
Ad35

Fig. 7A

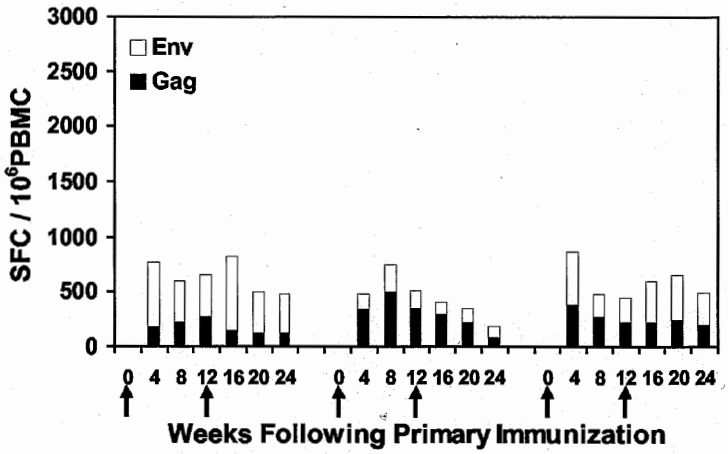

Ad5
Env
Gag
SFC / 10^6PBMC
3000
2500
2000
1500
1000
500
0
0 4 8 12 16 20 24 0 4 8 12 16 20 24 0 4 8 12 16 20 24
Weeks Following Primary Immunization

Fig. 7B

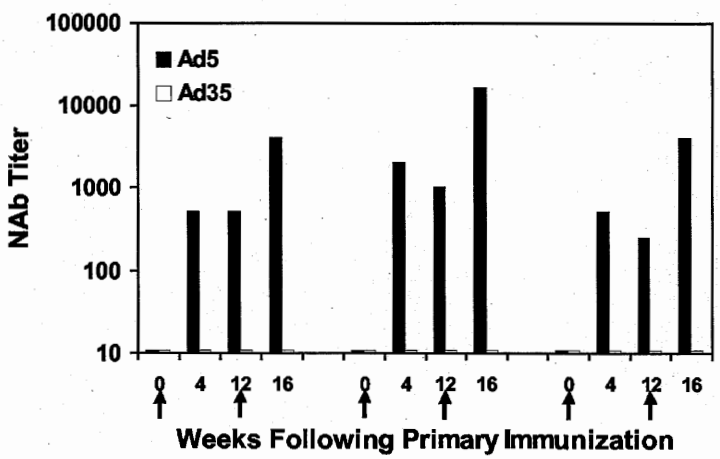

Ad5
Ad5
Ad35
NAb Titer
100000
10000
1000
100
10
0 4 12 16 0 4 12 16 0 4 12 16
Weeks Following Primary Immunization

Fig. 7C Ad35

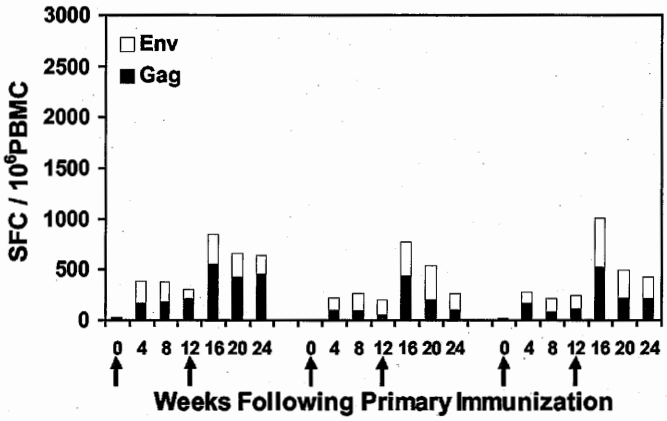



Fig. 7D Ad35

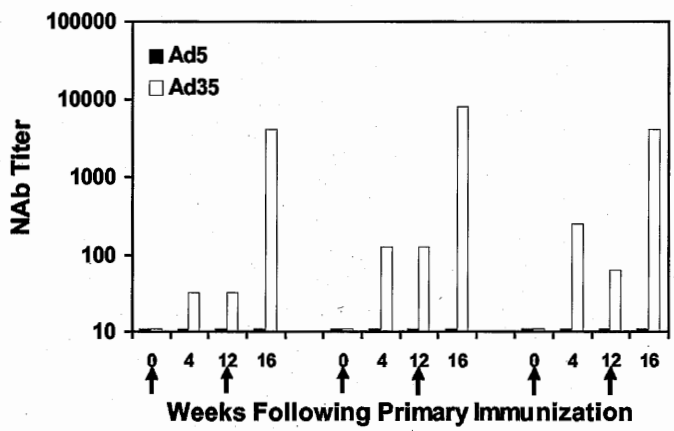


Fig. 7E Ad35k5

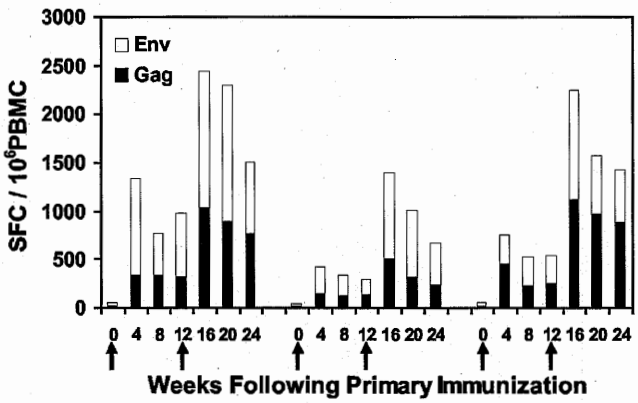



Fig. 7F Ad35k5

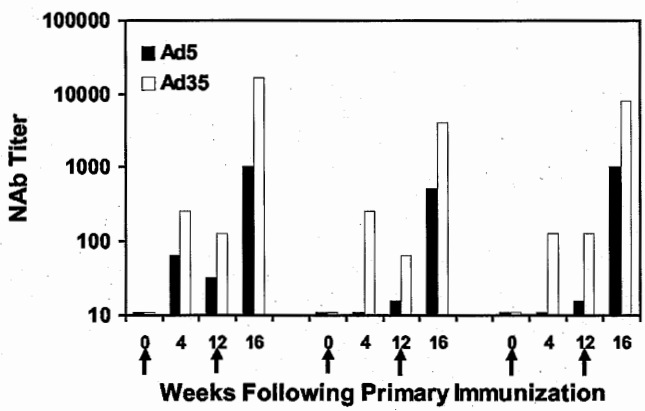


Fig. 8A

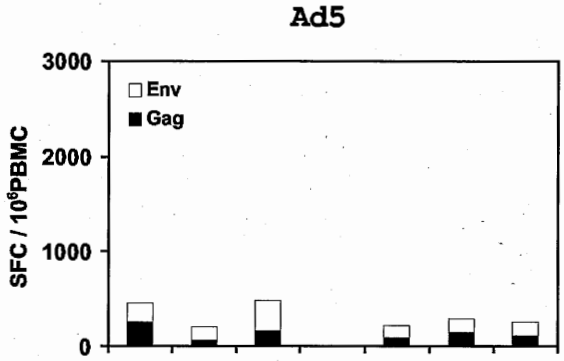



Fig. 8B

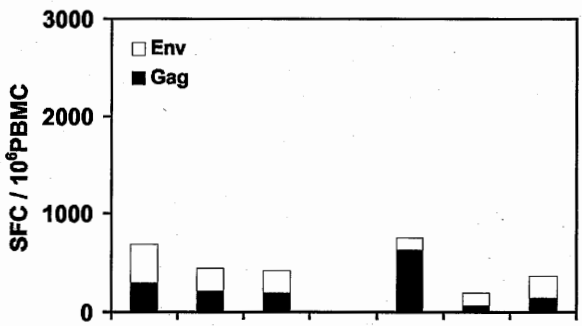



Fig. 8C

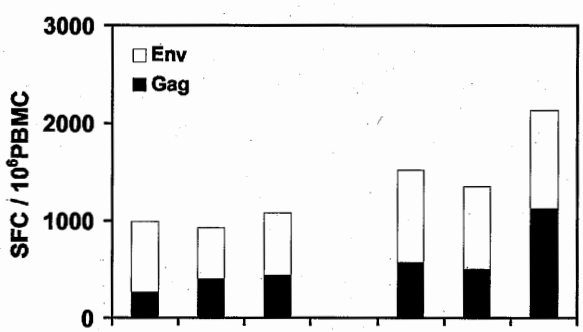


Fig. 9A $10^9$ vp in naïve mice

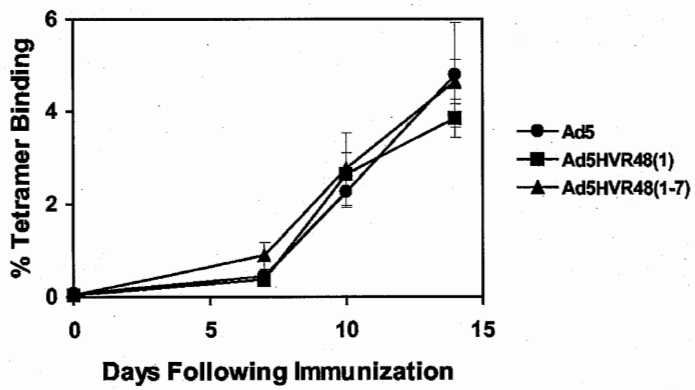



Fig. 9B $10^8$ vp in naïve mice

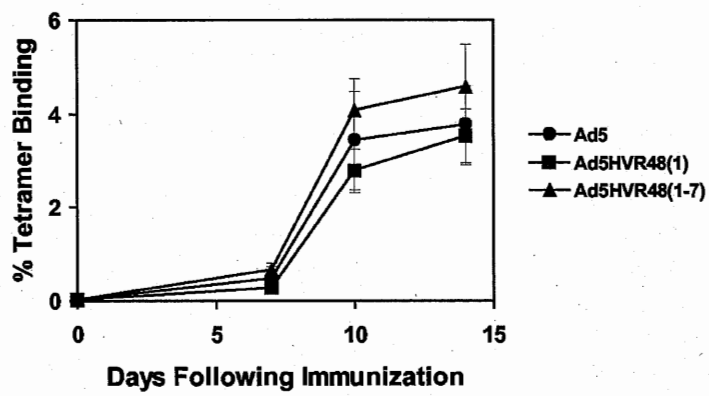



Fig. 9C $10^7$ vp in naïve mice

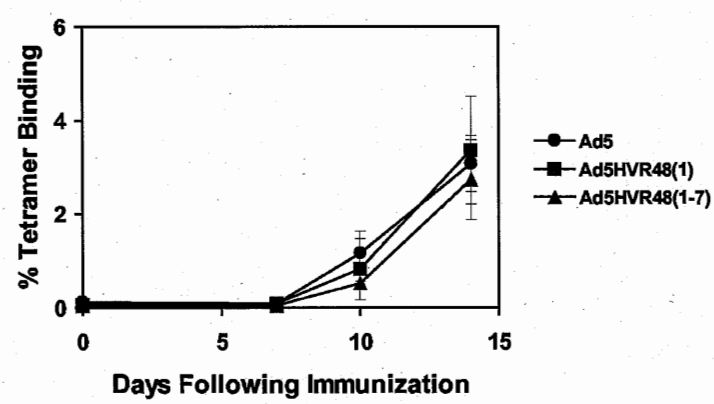


Fig. 10A $10^9$ vp in Ad5-pre-immunized mice

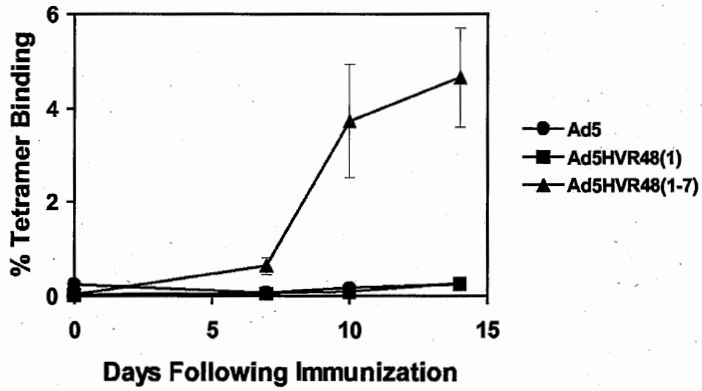



Fig. 10B $10^8$ vp in Ad5-pre-immunized mice

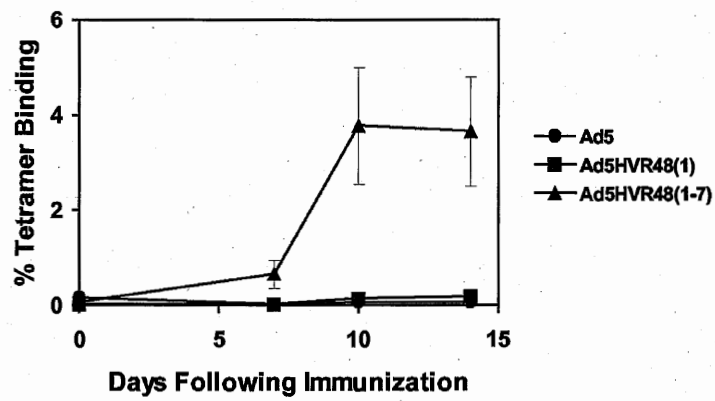



Fig. 10C $10^7$ vp in Ad5-pre-immunized mice

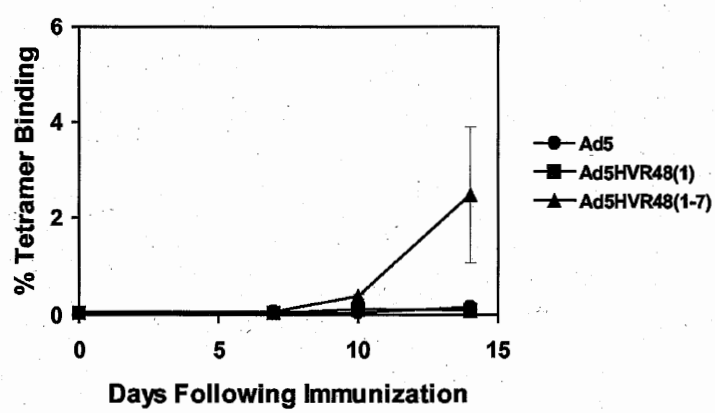


**Fig. 11**

**Ad5HVR48(1-7) Hexon Protein Sequence (SEQ ID NO:12)**

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M A T P S M M P Q W S Y M H I S G Q D A S E Y
L S P G L V Q F A R A T E T Y F S L N N K F R
N P T V A P T H D V T T D R S Q R L T L R F I
P V D R E D T A Y S Y K A R F T L A V G D N R
V L D M A S T Y F D I R G V L D R G P T F K P
Y S G T A Y N A L A P K G A P N P C E W E E K
K N G G G S D A N Q M Q T H V F G Q A P Y S G
I N I T K E G I Q I G I D A T K E E D N G K E
I Y A D K T F Q P E P Q I G E S Q W Q D S D N
Y Y G G R V L K K T T P M K P C Y G S Y A K P
T N E N G G Q A K F K T P E K E G E E P K E S
Q V E M Q F F D I P S T G T G G N G T N V N F
K P K V V L Y S E D V D I E T P D T H I S Y M
P G K E D A S S R E L M G Q Q S M P N R P N Y
I A F R D N F I G L M Y Y N S T G N M G V L A
G Q A S Q L N A V V D L Q D R N T E L S Y Q L
L L D S I G D R T R Y F S M W N Q A V D S Y D
P D V R I I E N H G T E D E L P N Y C F P L D
G A G T N A V Y Q G V K V K T T N N T E W E K
D T A V S E H N Q I R V G N N F A M E I N L N
A N L W R N F L Y S N I A L Y L P D K L K Y S
P S N V K I S D N P N T Y D Y M N K R V V A P
G L V D C Y I N L G A R W S L D Y M D N V N P
F N H H R N A G L R Y R S M L L G N G R Y V P
F H I Q V P Q K F F A I K N L L L L P G S Y T
Y E W N F R K D V N M V L Q S S L G N D L R V
D G A S I K F D S I C L Y A T F F P M A H N T
A S T L E A M L R N D T N D Q S F N D Y L S A
A N M L Y P I P A N A T N V P I S I P S R N W
A A F R G W A F T R L K T K E T P S L G S G Y
D P Y Y T Y S G S I P Y L D G T F Y L N H T F
K K V A I T F D S S V S W P G N D R L L T P N
E F E I K R S V D G E G Y N V A Q C N M T K D
W F L V Q M L A N Y N I G Y Q G F Y I P E S Y
K D R M Y S F F R N F Q P M S R Q V V D D T K
Y K D Y Q Q V G I L H Q H N N S G F V G Y L A
P T M R E G Q A Y P A N F P Y P L I G K T A V
D S I T Q K K F L C D R T L W R I P F S S N F
M S M G A L T D L G Q N L L Y A N S A H A L D
M T F E V D P M D E P T L L Y V L F E V F D V
V R V H R P H R G V I E T V Y L R T P F S A G
N A T T
```

**Fig. 12**

**Ad5HVR35(1-7) Hexon Protein Sequence (SEQ ID NO:13)**

M A T P S M M P Q W S Y M H I S G Q D A S E Y
L S P G L V Q F A R A T E T Y F S L N N K F R
N P T V A P T H D V T T D R S Q R L T L R F I
P V D R E D T A Y S Y K A R F T L A V G D N R
V L D M A S T Y F D I R G V L D R G P T F K P
Y S G T A Y N A L A P K G A P N P C E W I A K
G V P T A A A A G N G E E E H E T E E K T A T
H V F G Q A P Y S G I N I T K E G I Q I G L E
I S A E N E S K P I Y A D K T F Q P E P Q I G
E S Q W T D L D G K T E E Y G G R V L K K T T
P M K P C Y G S Y A K P T N E N G G Q A K P K
N S E P S S E K I E S Q V E M Q F F D N S S Q
R T N F S P K V V L Y S E D V D I E T P D T H
I S Y M P G T E D T S S R E L M G Q Q S M P N
R P N Y I A F R D N F I G L M Y Y N S T G N M
G V L A G Q A S Q L N A V V D L Q D R N T E L
S Y Q L L L D S I G D R T R Y F S M W N Q A V
D S Y D P D V R I I E N H G T E D E L P N Y C
F P L D G I G V P T T S Y K S I V P N G E D N
N N W K E P E V N G T S E I R V G N N F A M E
I N L N A N L W R N F L Y S N I A L Y L P D K
L K Y S P S N V K I S D N P N T Y D Y M N K R
V V A P G L V D C Y I N L G A R W S L D Y M D
N V N P F N H H R N A G L R Y R S M L L G N G
R Y V P F H I Q V P Q K F F A I K N L L L L P
G S Y T Y E W N F R K D V N M V L Q S S L G N
D L R V D G A S I K F D S I C L Y A T F F P M
A H N T A S T L E A M L R N D T N D Q S F N D
Y L S A A N M L Y P I P A N A T N V P I S I P
S R N W A A F R G W A F T R L K T K E T P S L
G S G Y D P Y Y T Y S G S I P Y L D G T F Y L
N H T F K K V A I T F D S S V S W P G N D R L
L T P N E F E I K R S V D G E G Y N V A Q C N
M T K D W F L V Q M L A N Y N I G Y Q G F Y I
P E S Y K D R M Y S F F R N F Q P M S R Q V V
D D T K Y K D Y Q Q V G I L H Q H N N S G F V
G Y L A P T M R E G Q A Y P A N F P Y P L I G
K T A V D S I T Q K K F L C D R T L W R I P F
S S N F M S M G A L T D L G Q N L L Y A N S A
H A L D M T F E V D P M D E P T L L Y V L F E
V F D V V R V H R P H R G V I E T V Y L R T P
F S A G N A T T

**Fig. 13**

**Ad5HVR11(1-7) Hexon Protein Sequence (SEQ ID NO:14)**

M A T P S M M P Q W S Y M H I S G Q D A S E Y
L S P G L V Q F A R A T E T Y F S L N N K F R
N P T V A P T H D V T T D R S Q R L T L R F I
P V D R E D T A Y S Y K A R F T L A V G D N R
V L D M A S T Y F D I R G V L D R G P T F K P
Y S G T A Y N A L A P K G A P N P C E W I A E
G V K N T T G E E H V T E E E T N T T T H V F
G Q A P Y S G I N I T K E G I Q I G L E V S D
E E S K P I Y A D K T F Q P E P Q I G E S Q W
T D L D G K T E K Y G G R V L K K T T P M K P
C Y G S Y A K P T N E N G G Q A K Q K T T E Q
P N Q K V E S Q V E M Q F F D A A S Q K T N L
S P K V V L Y S E D V D I E T P D T H I S Y M
P G T E D T S S R E L M G Q Q S M P N R P N Y
I A F R D N F I G L M Y Y N S T G N M G V L A
G Q A S Q L N A V V D L Q D R N T E L S Y Q L
L L D S I G D R T R Y F S M W N Q A V D S Y D
P D V R I I E N H G T E D E L P N Y C F P L D
G I G V P T T S Y K S I V P N G D N A P N W K
E P E V N G T S E I R V G N N F A M E I N L N
A N L W R N F L Y S N I A L Y L P D K L K Y S
P S N V K I S D N P N T Y D Y M N K R V V A P
G L V D C Y I N L G A R W S L D Y M D N V N P
F N H H R N A G L R Y R S M L L G N G R Y V P
F H I Q V P Q K F F A I K N L L L L P G S Y T
Y E W N F R K D V N M V L Q S S L G N D L R V
D G A S I K F D S I C L Y A T F F P M A H N T
A S T L E A M L R N D T N D Q S F N D Y L S A
A N M L Y P I P A N A T N V P I S I P S R N W
A A F R G W A F T R L K T K E T P S L G S G Y
D P Y Y T Y S G S I P Y L D G T F Y L N H T F
K K V A I T F D S S V S W P G N D R L L T P N
E F E I K R S V D G E G Y N V A Q C N M T K D
W F L V Q M L A N Y N I G Y Q G F Y I P E S Y
K D R M Y S F F R N F Q P M S R Q V V D D T K
Y K D Y Q Q V G I L H Q H N N S G F V G Y L A
P T M R E G Q A Y P A N F P Y P L I G K T A V
D S I T Q K K F L C D R T L W R I P F S S N F
M S M G A L T D L G Q N L L Y A N S A H A L D
M T F E V D P M D E P T L L Y V L F E V F D V
V R V H R P H R G V I E T V Y L R T P F S A G
N A T T

**Fig. 14**

**Ad5HVR26(1-7) Hexon Protein Sequence (SEQ ID NO:15)**

M A T P S M M P Q W S Y M H I S G Q D A S E Y
L S P G L V Q F A R A T E T Y F S L N N K F R
N P T V A P T H D V T T D R S Q R L T L R F I
P V D R E D T A Y S Y K A R F T L A V G D N R
V L D M A S T Y F D I R G V L D R G P T F K P
Y S G T A Y N A L A P K G A P N P C E W E T K
E K Q G T T G G V Q Q E K D V T H V F G Q A P
Y S G I N I T K E G I Q I G T D E T A E N G K
K D I Y A D K T F Q P E P Q I G E S Q W Q E N
E A F Y G G R V L K K T T P M K P C Y G S Y A
K P T N E N G G Q A K F K P V N E G E Q P K E
S Q V E M Q F F D V P G G S P P A G G S G E E
Y K P K V V L Y S E D V D I E T P D T H I S Y
M P G T S D N S S R E L M G Q Q S M P N R P N
Y I A F R D N F I G L M Y Y N S T G N M G V L
A G Q A S Q L N A V V D L Q D R N T E L S Y Q
L L L D S I G D R T R Y F S M W N Q A V D S Y
D P D V R I I E N H G T E D E L P N Y C F P L
N G T G T N S T Y Q G V K I T N G N D G A E E
S E W E K D D A I S R Q N Q I R V G N N F A M
E I N L N A N L W R N F L Y S N I A L Y L P D
K L K Y S P S N V K I S D N P N T Y D Y M N K
R V V A P G L V D C Y I N L G A R W S L D Y M
D N V N P F N H H R N A G L R Y R S M L L G N
G R Y V P F H I Q V P Q K F F A I K N L L L L
P G S Y T Y E W N F R K D V N M V L Q S S L G
N D L R V D G A S I K F D S I C L Y A T F F P
M A H N T A S T L E A M L R N D T N D Q S F N
D Y L S A A N M L Y P I P A N A T N V P I S I
P S R N W A A F R G W A F T R L K T K E T P S
L G S G Y D P Y Y T Y S G S I P Y L D G T F Y
L N H T F K K V A I T F D S S V S W P G N D R
L L T P N E F E I K R S V D G E G Y N V A Q C
N M T K D W F L V Q M L A N Y N I G Y Q G F Y
I P E S Y K D R M Y S F F R N F Q P M S R Q V
V D D T K Y K D Y Q Q V G I L H Q H N N S G F
V G Y L A P T M R E G Q A Y P A N F P Y P L I
G K T A V D S I T Q K K F L C D R T L W R I P
F S S N F M S M G A L T D L G Q N L L Y A N S
A H A L D M T F E V D P M D E P T L L Y V L F
E V F D V V R V H R P H R G V I E T V Y L R T
P F S A G N A T T

**Fig. 15**

**Ad5HVRPan9(1-7) Hexon Protein Sequence (SEQ ID NO:16)**

```
M A T P S M M P Q W S Y M H I S G Q D A S E Y
L S P G L V Q F A R A T E T Y F S L N N K F R
N P T V A P T H D V T T D R S Q R L T L R F I
P V D R E D T A Y S Y K A R F T L A V G D N R
V L D M A S T Y F D I R G V L D R G P T F K P
Y S G T A Y N A L A P K G A P N P C E W T Y K
A D G E T A T E K T H V F G Q A P Y S G I N I
T K E G I Q I G T D T D D Q P I Y A D K T F Q
P E P Q I G E S Q W H D I T G T D E K Y G G R
V L K K T T P M K P C Y G S Y A K P T N E N G
G Q A N V K T G T G T T K E S Q V E M Q F F D
N R S A A A A G L A P K V V L Y S E D V D I E
T P D T H I S Y M P G T D D S S S R E L M G Q
Q S M P N R P N Y I A F R D N F I G L M Y Y N
S T G N M G V L A G Q A S Q L N A V V D L Q D
R N T E L S Y Q L L L D S I G D R T R Y F S M
W N Q A V D S Y D P D V R I I E N H G T E D E
L P N Y C F P L D A V G R T D T Y Q G I K A N
G T D Q T T W T K D D S V N D A N E I R V G N
N F A M E I N L N A N L W R N F L Y S N I A L
Y L P D K L K Y S P S N V K I S D N P N T Y D
Y M N K R V V A P G L V D C Y I N L G A R W S
L D Y M D N V N P F N H H R N A G L R Y R S M
L L G N G R Y V P F H I Q V P Q K F F A I K N
L L L L P G S Y T Y E W N F R K D V N M V L Q
S S L G N D L R V D G A S I K F D S I C L Y A
T F F P M A H N T A S T L E A M L R N D T N D
Q S F N D Y L S A A N M L Y P I P A N A T N V
P I S I P S R N W A A F R G W A F T R L K T K
E T P S L G S G Y D P Y Y T Y S G S I P Y L D
G T F Y L N H T F K K V A I T F D S S V S W P
G N D R L L T P N E F E I K R S V D G E G Y N
V A Q C N M T K D W F L V Q M L A N Y N I G Y
Q G F Y I P E S Y K D R M Y S F F R N F Q P M
S R Q V V D D T K Y K D Y Q Q V G I L H Q H N
N S G F V G Y L A P T M R E G Q A Y P A N F P
Y P L I G K T A V D S I T Q K K F L C D R T L
W R I P F S S N F M S M G A L T D L G Q N L L
Y A N S A H A L D M T F E V D P M D E P T L L
Y V L F E V F D V V R V H R P H R G V I E T V
Y L R T P F S A G N A T T
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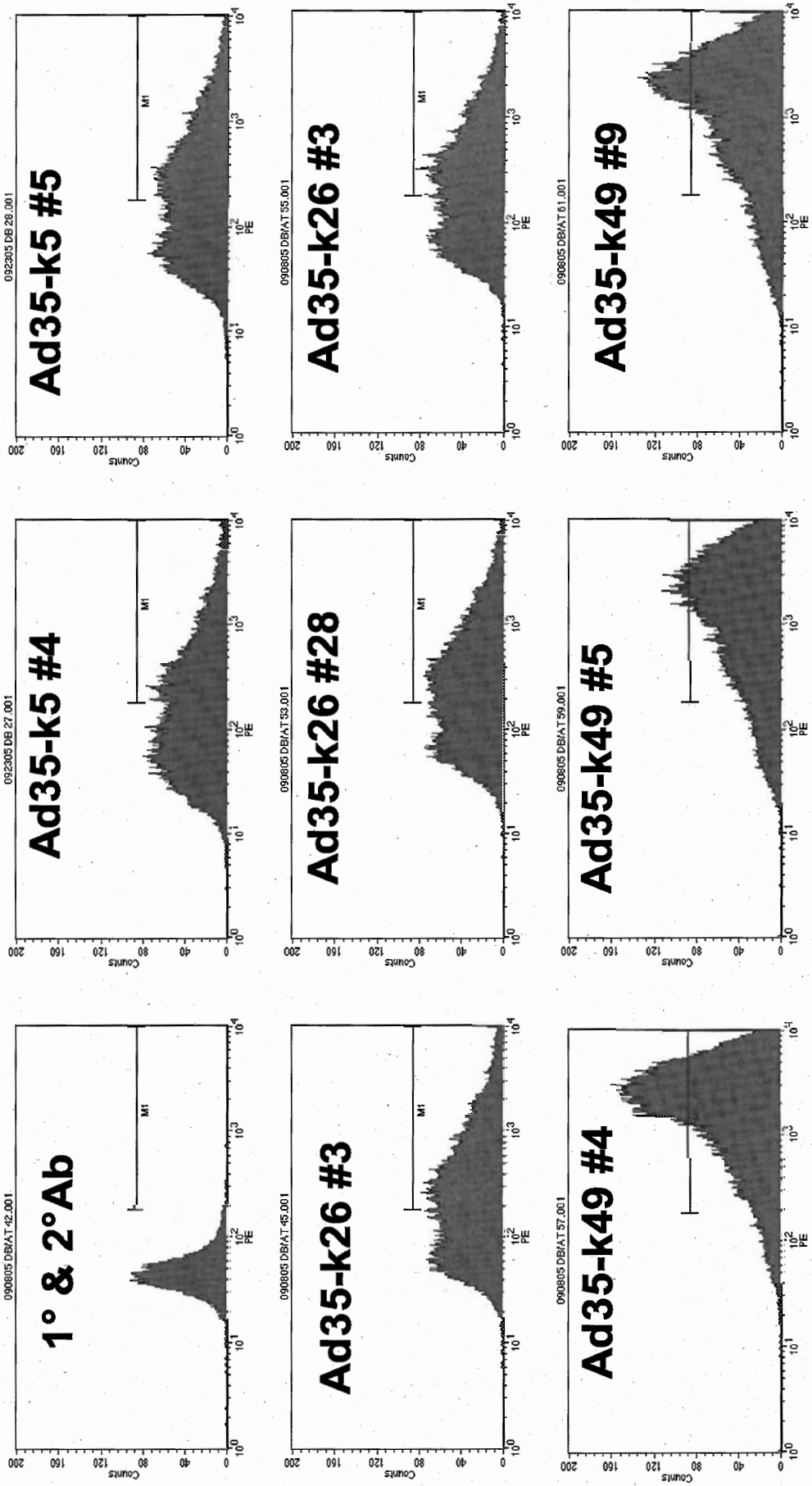

1° & 2°Ab
Ad35-k5 #4
Ad35-k5 #5
Ad35-k26 #3
Ad35-k26 #28
Ad35-k26 #3
Ad35-k49 #4
Ad35-k49 #5
Ad35-k49 #9
M1
PE
Counts

Fig. 16

**Fig. 17**

**Ad5HVR48(1-7)* Hexon Protein Sequence (SEQ ID NO:84) HVR1* is deleted (indicated by brackets), HVR2* is replaced with a QG spacer, HVR3* - HVR7* are replaced according to the sequences provided in Table IV.**

M A T P S M M P Q W S Y M H I S G Q D A S E Y
L S P G L V Q F A R A T E T Y F S L N N K F R
N P T V A P T H D V T T D R S Q R L T L R F I
P V D R E D T A Y S Y K A R F T L A V G D N R
V L D M A S T Y F D I R G V L D R G P T F K P
Y S G T A Y N A L A P K G A P N P C E W D()T H
V F G Q A P Y S G I N I T K E G I Q I G Q G K
Y A D K T F Q P E P Q I G E S Q W Y D S D I N
H A A G R V L K K T T P M K P C Y G S Y A K P
T N E N G G Q G I L V K T P E K E G E E P K E
S Q V E M Q F F S I P S T G T G G N G T N V N
F K P K V V L Y S E D V D I E T P D T H I S Y
M P T K E D G N S R E L M G Q Q S M P N R P N
Y I A F R D N F I G L M Y Y N S T G N M G V L
A G Q A S Q L N A V V D L Q D R N T E L S Y Q
L L L D S I G D R T R Y F S M W N Q A V D S Y
D P D V R I I E N H G T E D E L P N Y C F P L
G G V I N T E T L T K V K P K T T N N T E W E
K D T A F S D K N E I R V G N N F A M E I N L
N A N L W R N F L Y S N I A L Y L P D K L K Y
S P S N V K I S D N P N T Y D Y M N K R V V A
P G L V D C Y I N L G A R W S L D Y M D N V N
P F N H H R N A G L R Y R S M L L G N G R Y V
P F H I Q V P Q K F F A I K N L L L L P G S Y
T Y E W N F R K D V N M V L Q S S L G N D L R
V D G A S I K F D S I C L Y A T F F P M A H N
T A S T L E A M L R N D T N D Q S F N D Y L S
A A N M L Y P I P A N A T N V P I S I P S R N
W A A F R G W A F T R L K T K E T P S L G S G
Y D P Y Y T Y S G S I P Y L D G T F Y L N H T
F K K V A I T F D S S V S W P G N D R L L T P
N E F E I K R S V D G E G Y N V A Q C N M T K
D W F L V Q M L A N Y N I G Y Q G F Y I P E S
Y K D R M Y S F F R N F Q P M S R Q V V D D T
K Y K D Y Q Q V G I L H Q H N N S G F V G Y L
A P T M R E G Q A Y P A N F P Y P L I G K T A
V D S I T Q K K F L C D R T L W R I P F S S N
F M S M G A L T D L G Q N L L Y A N S A H A L
D M T F E V D P M D E P T L L Y V L F E V F D
V V R V H R P H R G V I E T V Y L R T P F S A
G N A T T

**Fig. 18**

**Ad5HVR35(1-7)* Hexon Protein Sequence (SEQ ID NO:85) HVR1* is deleted (indicated by brackets), HVR2* is replaced with a QG spacer, HVR3* - HVR7* are replaced according to the sequences provided in Table IV.**

M A T P S M M P Q W S Y M H I S G Q D A S E Y
L S P G L V Q F A R A T E T Y F S L N N K F R
N P T V A P T H D V T T D R S Q R L T L R F I
P V D R E D T A Y S Y K A R F T L A V G D N R
V L D M A S T Y F D I R G V L D R G P T F K P
Y S G T A Y N A L A P K G A P N P C E W D()T H
V F G Q A P Y S G I N I T K E G I Q I G Q G K
Y A D K T F Q P E P Q I G E S Q W Y D L D I N
H A A G R V L K K T T P M K P C Y G S Y A K P
T N E N G G Q G I L V K N S E P S S E K I E S
Q V E M Q F F S N S S Q R T N F S P K V V L Y
S E D V D I E T P D T H I S Y M P T T E D G N
S R E L M G Q Q S M P N R P N Y I A F R D N F
I G L M Y Y N S T G N M G V L A G Q A S Q L N
A V V D L Q D R N T E L S Y Q L L L D S I G D
R T R Y F S M W N Q A V D S Y D P D V R I I E
N H G T E D E L P N Y C F P L G G V I N T E T
L T K V K P N G E D N N N W K E P E F S D K N
E I R V G N N F A M E I N L N A N L W R N F L
Y S N I A L Y L P D K L K Y S P S N V K I S D
N P N T Y D Y M N K R V V A P G L V D C Y I N
L G A R W S L D Y M D N V N P F N H H R N A G
L R Y R S M L L G N G R Y V P F H I Q V P Q K
F F A I K N L L L L P G S Y T Y E W N F R K D
V N M V L Q S S L G N D L R V D G A S I K F D
S I C L Y A T F F P M A H N T A S T L E A M L
R N D T N D Q S F N D Y L S A A N M L Y P I P
A N A T N V P I S I P S R N W A A F R G W A F
T R L K T K E T P S L G S G Y D P Y Y T Y S G
S I P Y L D G T F Y L N H T F K K V A I T F D
S S V S W P G N D R L L T P N E F E I K R S V
D G E G Y N V A Q C N M T K D W F L V Q M L A
N Y N I G Y Q G F Y I P E S Y K D R M Y S F F
R N F Q P M S R Q V V D D T K Y K D Y Q Q V G
I L H Q H N N S G F V G Y L A P T M R E G Q A
Y P A N F P Y P L I G K T A V D S I T Q K K F
L C D R T L W R I P F S S N F M S M G A L T D
L G Q N L L Y A N S A H A L D M T F E V D P M
D E P T L L Y V L F E V F D V V R V H R P H R
G V I E T V Y L R T P F S A G N A T T

**Fig. 19**

**Ad5HVR26(1-7)* Hexon Protein Sequence (SEQ ID NO:86) HVR1* is deleted (indicated by brackets), HVR2* is replaced with a QG spacer, HVR3* - HVR7* are replaced according to the sequences provided in Table IV.**

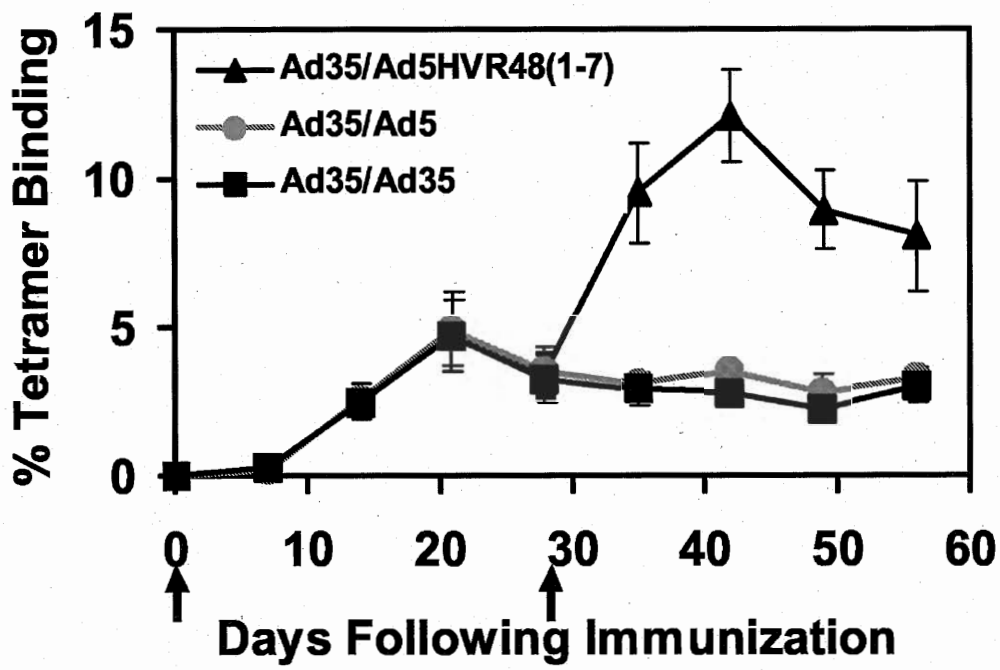
M A T P S M M P Q W S Y M H I S G Q D A S E Y
L S P G L V Q F A R A T E T Y F S L N N K F R
N P T V A P T H D V T T D R S Q R L T L R F I
P V D R E D T A Y S Y K A R F T L A V G D N R
V L D M A S T Y F D I R G V L D R G P T F K P
Y S G T A Y N A L A P K G A P N P C E W D()T H
V F G Q A P Y S G I N I T K E G I Q I G Q G K
Y A D K T F Q P E P Q I G E S Q W Y E N E I N
H A A G R V L K K T T P M K P C Y G S Y A K P
T N E N G G Q G I L V K P V N E G E Q P K E S
Q V E M Q F F S V P G G S P P A G G S G E E Y
K P K V V L Y S E D V D I E T P D T H I S Y M
P T T S D G N S R E L M G Q Q S M P N R P N Y
I A F R D N F I G L M Y Y N S T G N M G V L A
G Q A S Q L N A V V D L Q D R N T E L S Y Q L
L L D S I G D R T R Y F S M W N Q A V D S Y D
P D V R I I E N H G T E D E L P N Y C F P L G
G V I N T E T L T K V K P T N G N D G A E E S
E W E K D D A F S D K N E I R V G N N F A M E
I N L N A N L W R N F L Y S N I A L Y L P D K
L K Y S P S N V K I S D N P N T Y D Y M N K R
V V A P G L V D C Y I N L G A R W S L D Y M D
N V N P F N H H R N A G L R Y R S M L L G N G
R Y V P F H I Q V P Q K F F A I K N L L L L P
G S Y T Y E W N F R K D V N M V L Q S S L G N
D L R V D G A S I K F D S I C L Y A T F F P M
A H N T A S T L E A M L R N D T N D Q S F N D
Y L S A A N M L Y P I P A N A T N V P I S I P
S R N W A A F R G W A F T R L K T K E T P S L
G S G Y D P Y Y T Y S G S I P Y L D G T F Y L
N H T F K K V A I T F D S S V S W P G N D R L
L T P N E F E I K R S V D G E G Y N V A Q C N
M T K D W F L V Q M L A N Y N I G Y Q G F Y I
P E S Y K D R M Y S F F R N F Q P M S R Q V V
D D T K Y K D Y Q Q V G I L H Q H N N S G F V
G Y L A P T M R E G Q A Y P A N F P Y P L I G
K T A V D S I T Q K K F L C D R T L W R I P F
S S N F M S M G A L T D L G Q N L L Y A N S A
H A L D M T F E V D P M D E P T L L Y V L F E
V F D V V R V H R P H R G V I E T V Y L R T P
F S A G N A T T

**Fig. 20**

**Ad5HVR49(1-7)* Hexon Protein Sequence (SEQ ID NO:87) HVR1* is deleted (indicated by brackets), HVR2* is replaced with a QG spacer, HVR3* - HVR7* are replaced according to the sequences provided in Table IV.**

M A T P S M M P Q W S Y M H I S G Q D A S E Y
L S P G L V Q F A R A T E T Y F S L N N K F R
N P T V A P T H D V T T D R S Q R L T L R F I
P V D R E D T A Y S Y K A R F T L A V G D N R
V L D M A S T Y F D I R G V L D R G P T F K P
Y S G T A Y N A L A P K G A P N P C E W D()T H
V F G Q A P Y S G I N I T K E G I Q I G Q G K
Y A D K T F Q P E P Q I G E S Q W Y N T E I N
H A A G R V L K K T T P M K P C Y G S Y A K P
T N E N G G Q G I L V K T G E N G K P T E E S
Q V E M Q F F S L R Q N D T G G N N N Q P K V
V L Y S E D V D I E T P D T H I S Y M P T T S
D G N S R E L M G Q Q S M P N R P N Y I A F R
D N F I G L M Y Y N S T G N M G V L A G Q A S
Q L N A V V D L Q D R N T E L S Y Q L L L D S
I G D R T R Y F S M W N Q A V D S Y D P D V R
I I E N H G T E D E L P N Y C F P L G G V I N
T E T L T K V K P D T T V A G T N D K W K V N
A K F S D K N E I R V G N N F A M E I N L N A
N L W R N F L Y S N I A L Y L P D K L K Y S P
S N V K I S D N P N T Y D Y M N K R V V A P G
L V D C Y I N L G A R W S L D Y M D N V N P F
N H H R N A G L R Y R S M L L G N G R Y V P F
H I Q V P Q K F F A I K N L L L L P G S Y T Y
E W N F R K D V N M V L Q S S L G N D L R V D
G A S I K F D S I C L Y A T F F P M A H N T A
S T L E A M L R N D T N D Q S F N D Y L S A A
N M L Y P I P A N A T N V P I S I P S R N W A
A F R G W A F T R L K T K E T P S L G S G Y D
P Y Y T Y S G S I P Y L D G T F Y L N H T F K
K V A I T F D S S V S W P G N D R L L T P N E
F E I K R S V D G E G Y N V A Q C N M T K D W
F L V Q M L A N Y N I G Y Q G F Y I P E S Y K
D R M Y S F F R N F Q P M S R Q V V D D T K Y
K D Y Q Q V G I L H Q H N N S G F V G Y L A P
T M R E G Q A Y P A N F P Y P L I G K T A V D
S I T Q K K F L C D R T L W R I P F S S N F M
S M G A L T D L G Q N L L Y A N S A H A L D M
T F E V D P M D E P T L L Y V L F E V F D V V
R V H R P H R G V I E T V Y L R T P F S A G N
A T T

Fig. 21


% Tetramer Binding
15
10
5
0
Ad35/Ad5HVR48(1-7)
Ad35/Ad5
Ad35/Ad35
0
10
20
30
40
50
60
Days Following Immunization