

FIG. 1A

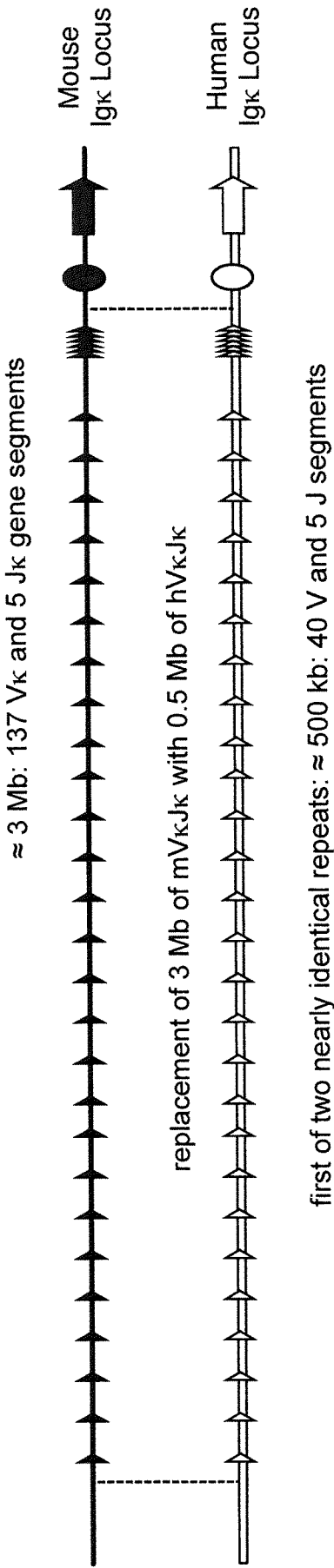


FIG. 1B

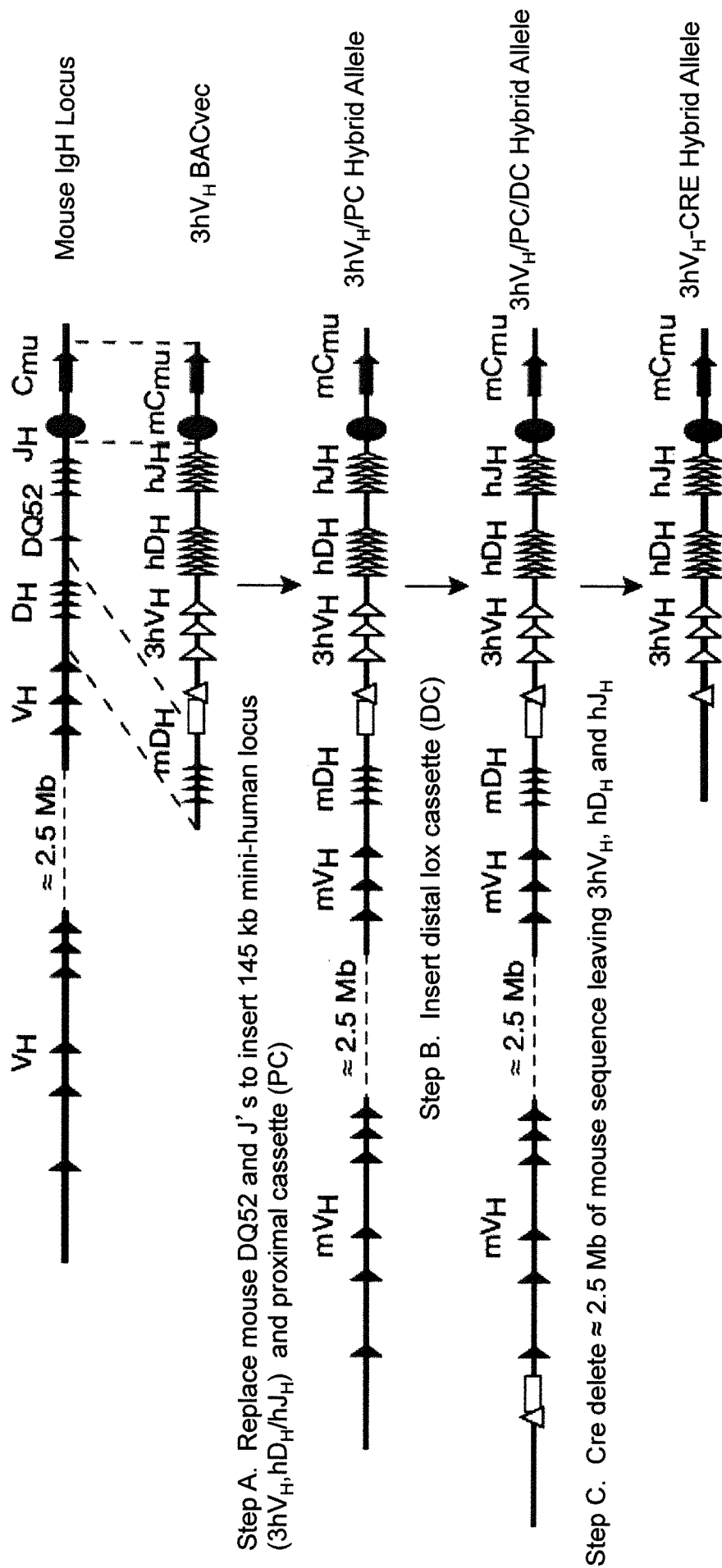


FIG. 2A

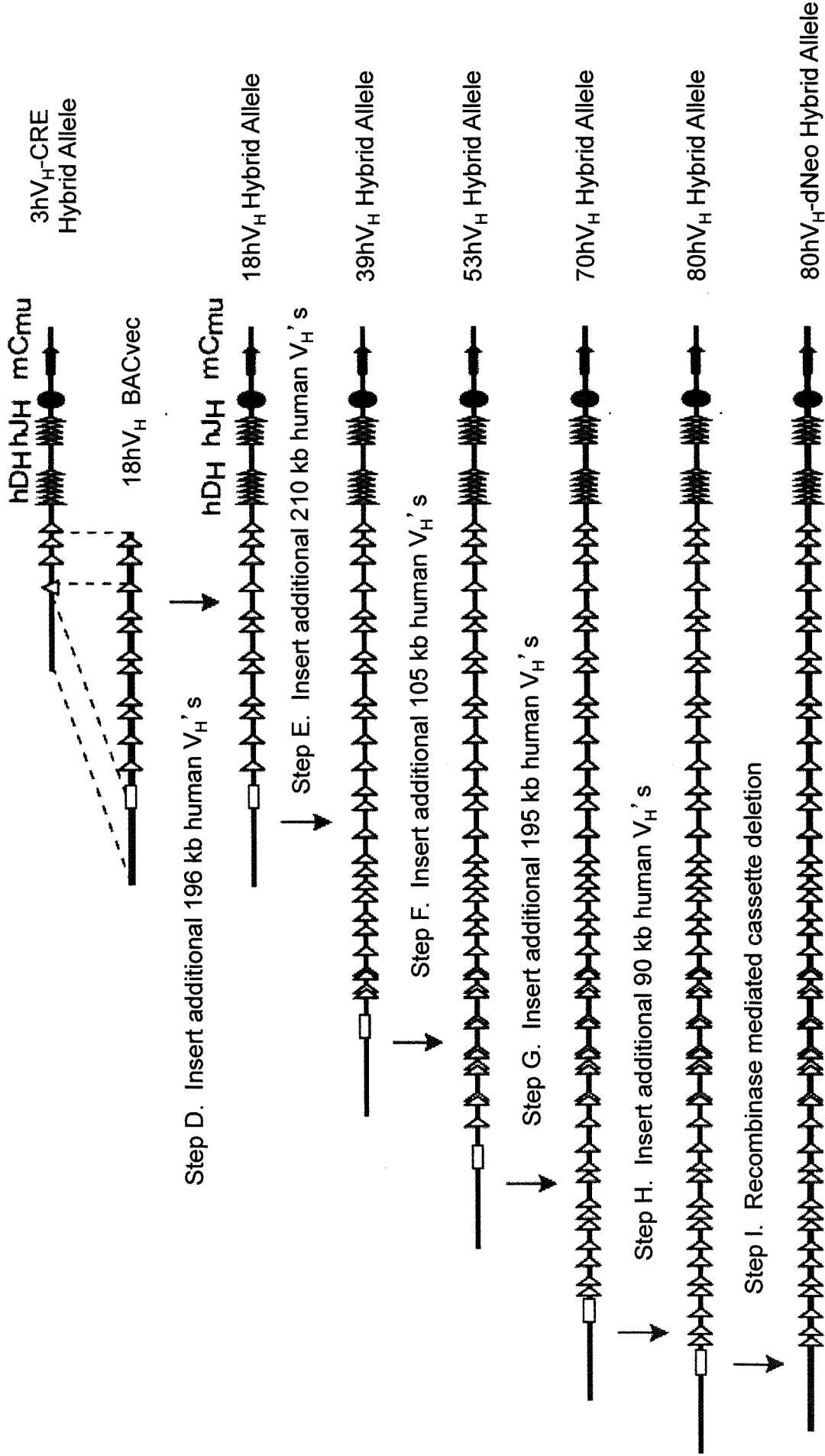


FIG. 2B

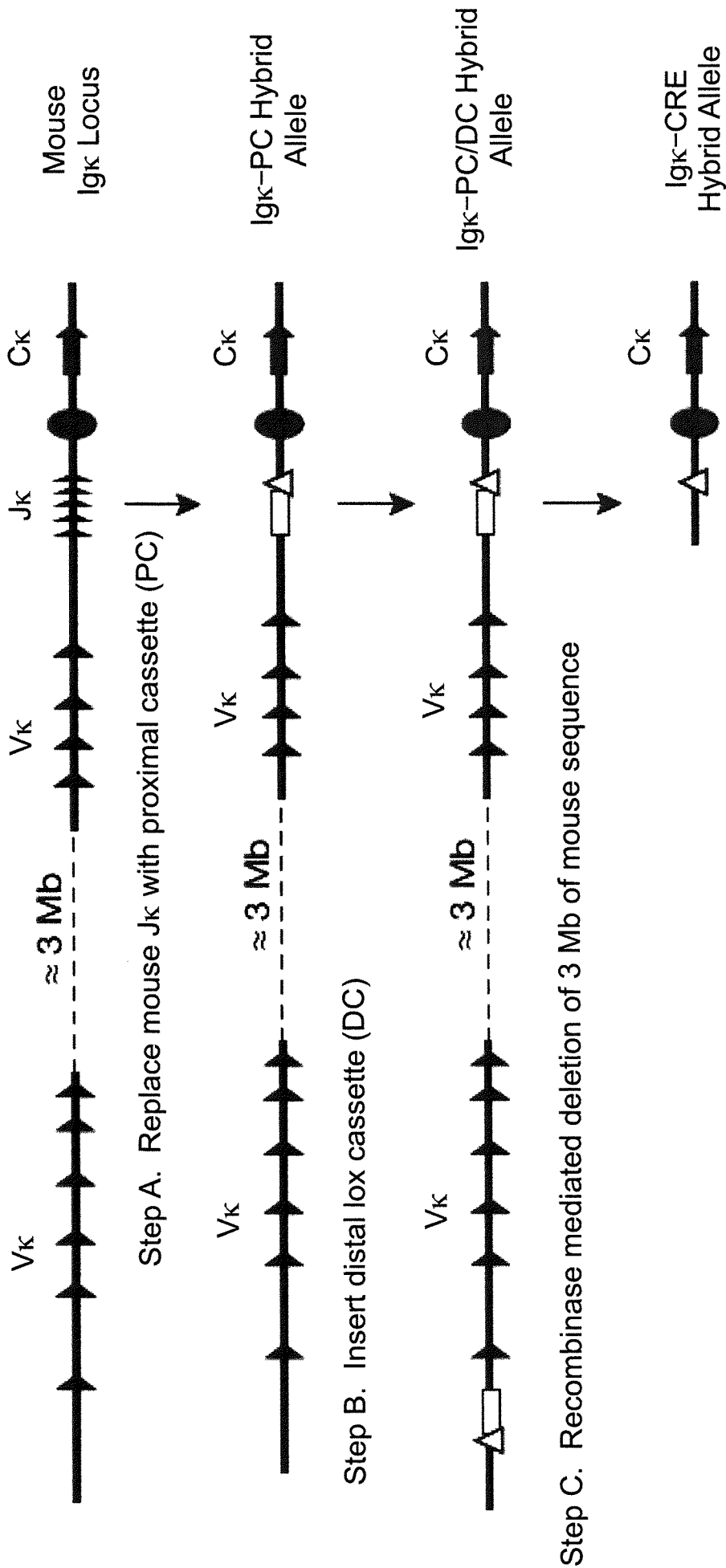


FIG. 2C

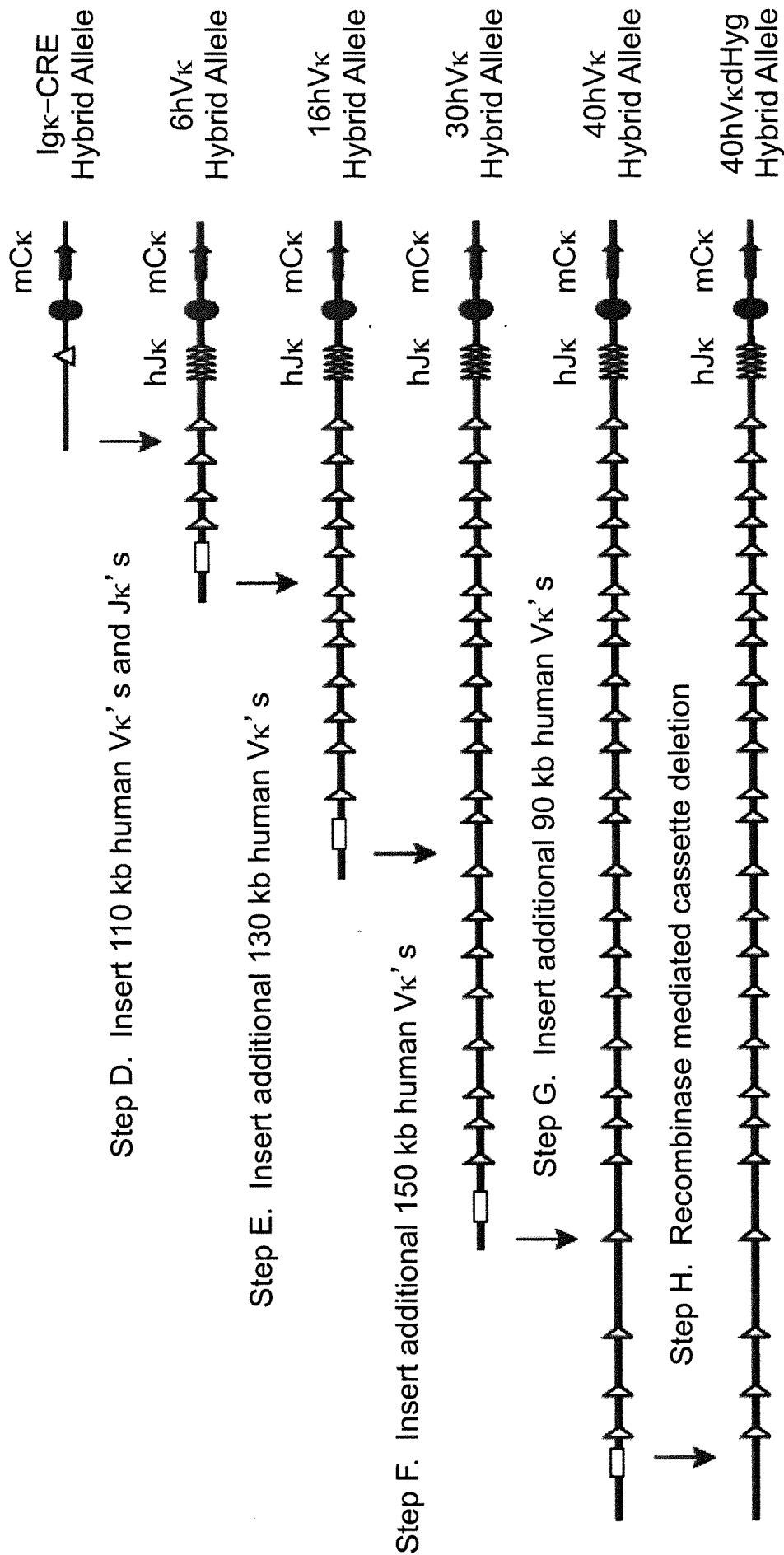


FIG. 2D

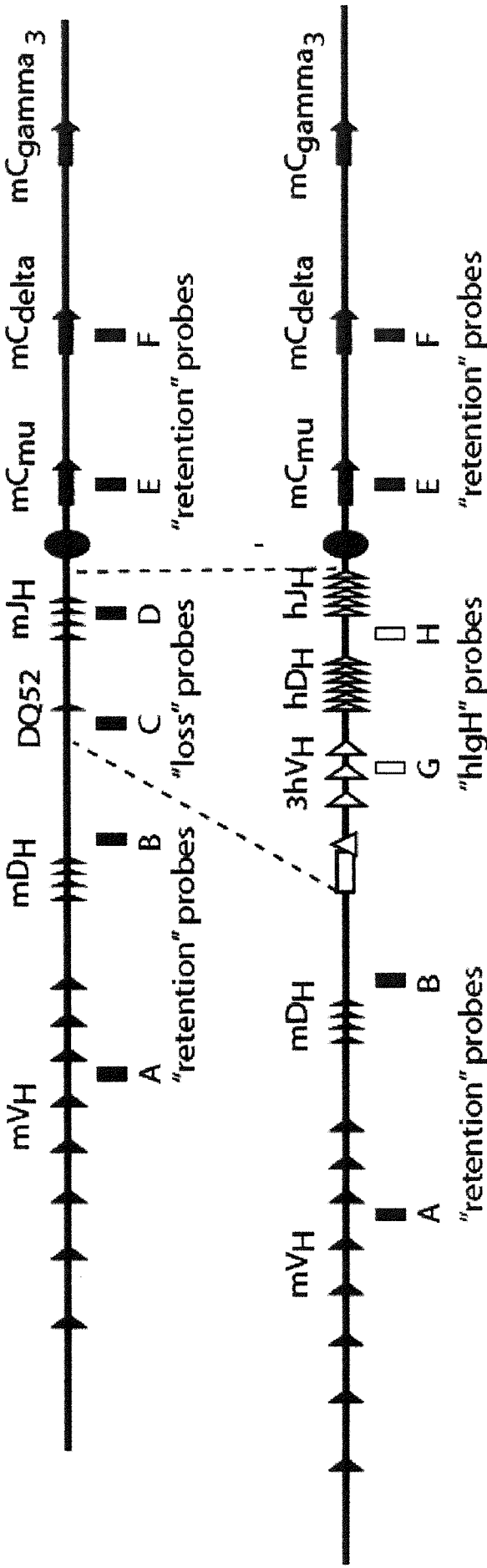


FIG. 3A

|             |                         | A   | B   | C   | D   | E   | F   | G     | H     |
|-------------|-------------------------|-----|-----|-----|-----|-----|-----|-------|-------|
| Parental ES | Theoretical copy number | 2   | 2   | 2   | 2   | 2   | 2   | 0     | 0     |
|             | Observed copy number    | 1.9 | 1.8 | 2.1 | 1.8 | 1.9 | 1.8 | <0.01 | <0.04 |
| Modified ES | Theoretical copy number | 2   | 2   | 1   | 1   | 2   | 2   | 1     | 1     |
|             | Observed copy number    | 1.9 | 2.4 | 1.0 | 1.0 | 2.0 | 1.9 | +     | +     |

FIG. 3B

|           | copy number | D      | H      |
|-----------|-------------|--------|--------|
| WT Mice   | Theoretical | 2      | 0      |
|           | Observed 1  | 1.71   | < 0.01 |
|           | Observed 2  | 2.07   | < 0.01 |
|           | Observed 3  | 2.16   | < 0.01 |
|           | Observed 4  | 1.88   | < 0.01 |
| Het Mice  | Theoretical | 1      | 1      |
|           | Observed 1  | 1.22   | 1.04   |
|           | Observed 2  | 0.94   | 1.02   |
|           | Observed 3  | 0.85   | 0.95   |
|           | Observed 4  | 1.02   | 1.00   |
| Homo Mice | Theoretical | 0      | 2      |
|           | Observed 1  | < 0.01 | 2.37   |
|           | Observed 2  | < 0.01 | 2.22   |
|           | Observed 3  | < 0.01 | 2.43   |
|           | Observed 4  | < 0.01 | 1.93   |

FIG. 3C

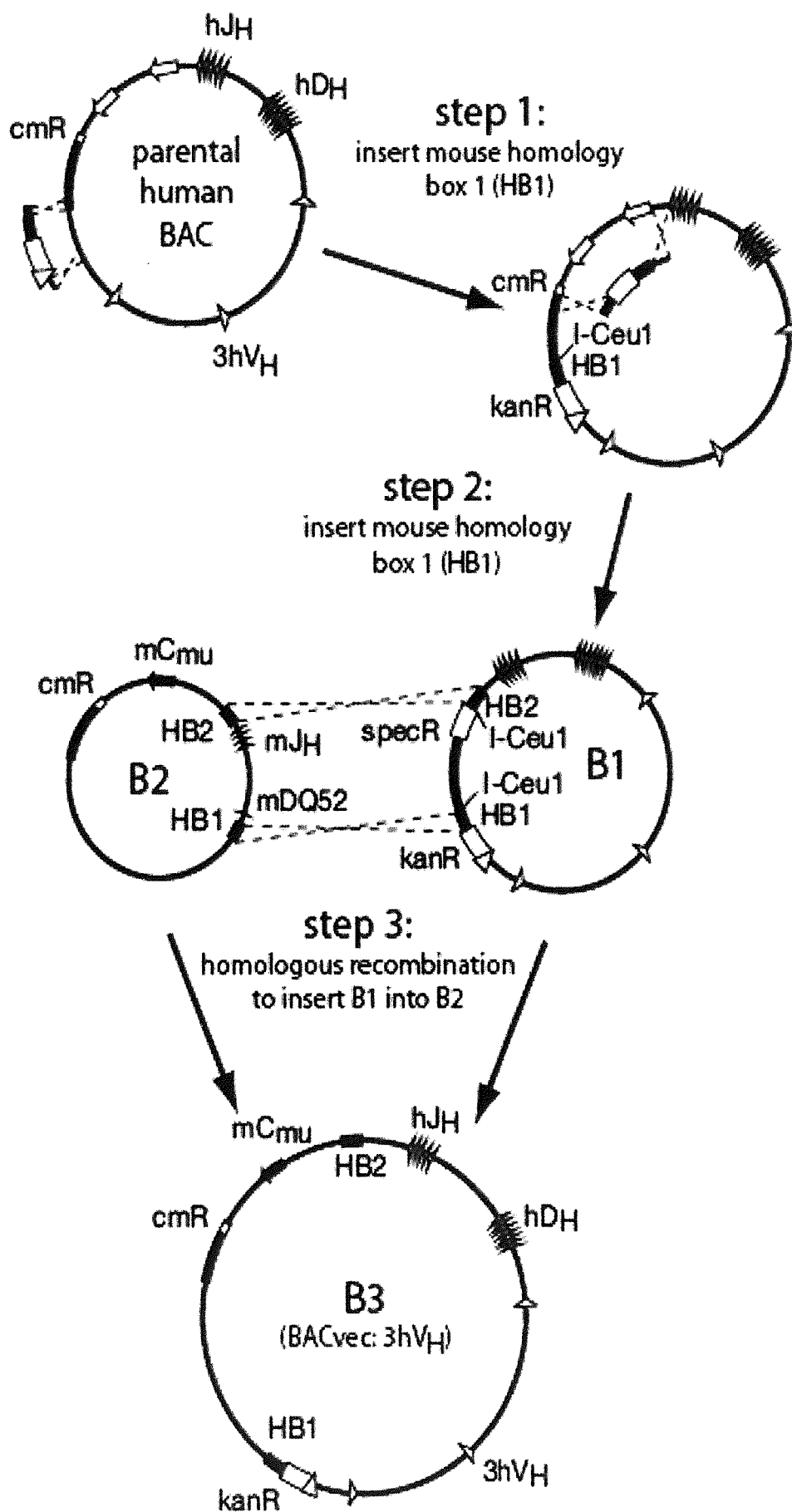


FIG. 4A

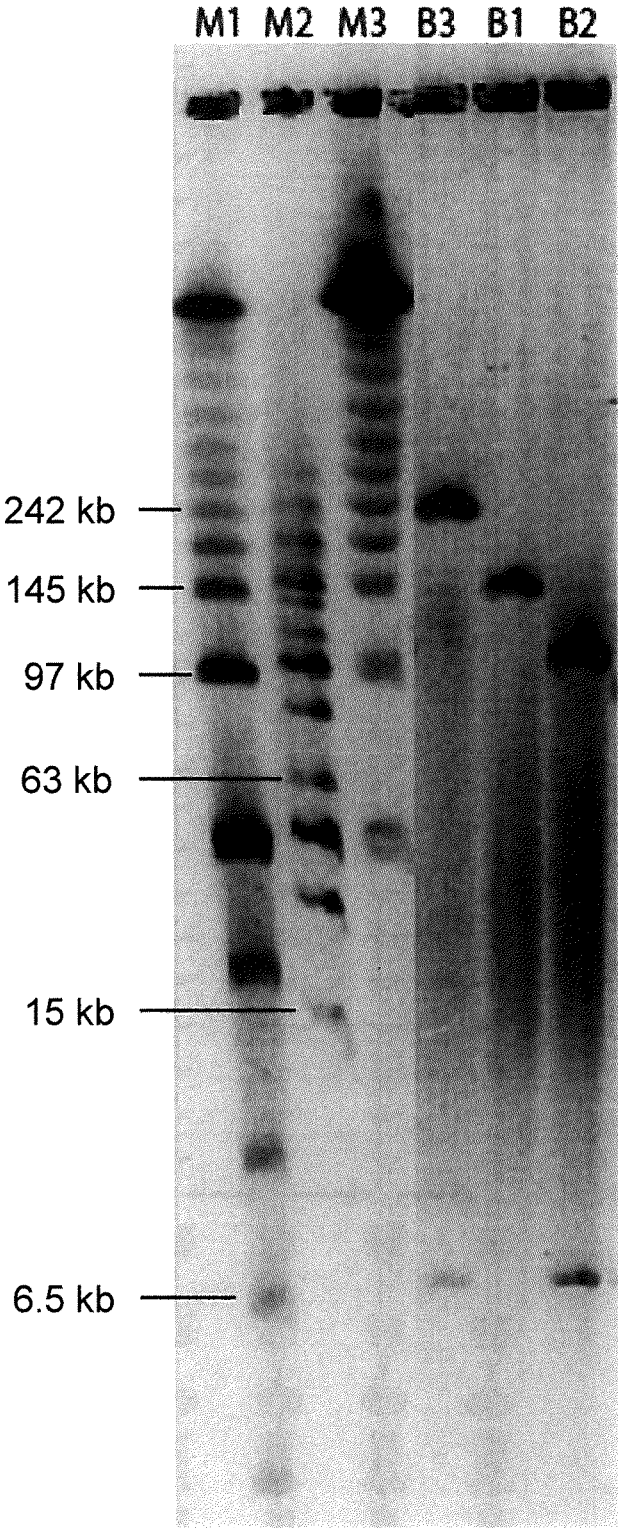


FIG. 4B

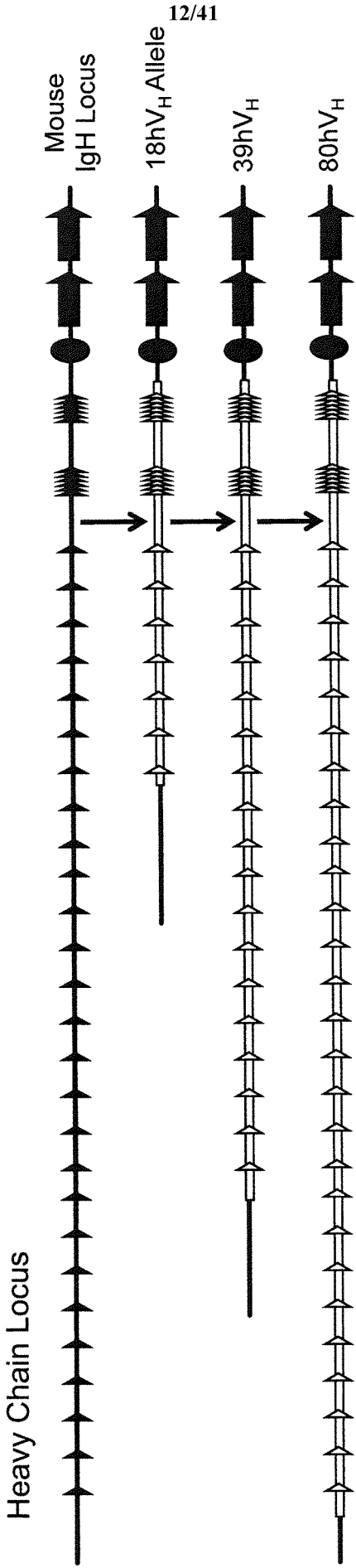


FIG. 5A

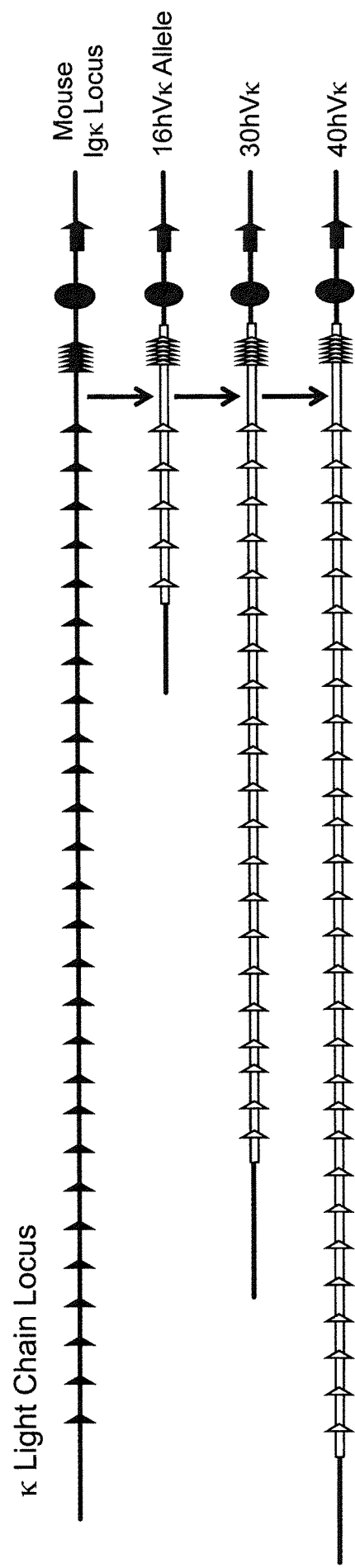


FIG. 5B

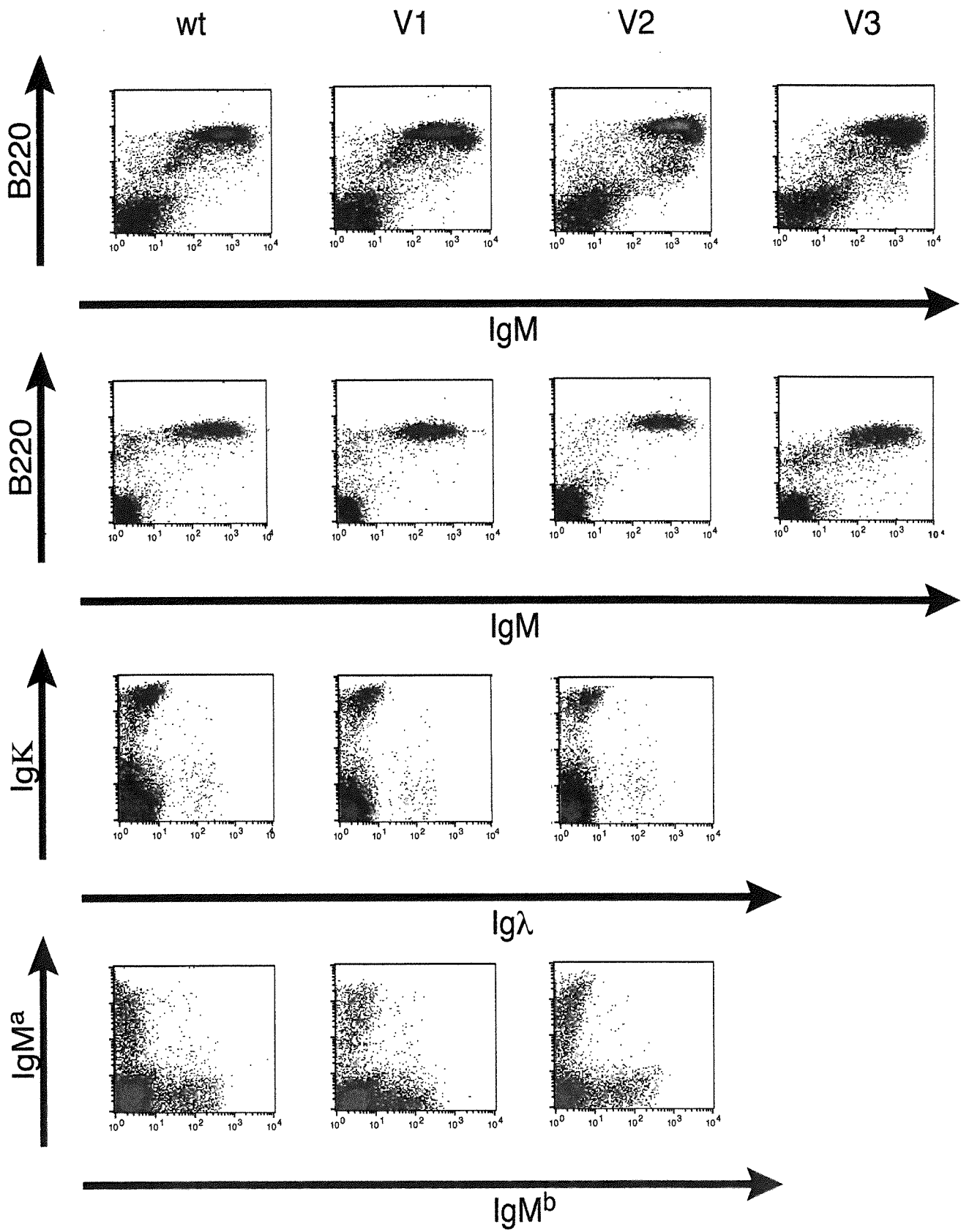


FIG. 6

3'V<sub>H</sub>

N

D<sub>H</sub>

N

5' J<sub>H</sub>

|        |          |                       |                                |          |                      |
|--------|----------|-----------------------|--------------------------------|----------|----------------------|
| (3-72) | GCTAG    | (D <sub>H</sub> 1-26) | GGTATAGTGGGAGCTACTAC           | AGGC     | CTTTTGATATC (3)      |
| (3-9)  | GCAAAAG  |                       | TAGTGGGgCCTAC                  | ACCT     | ATGCTTTTGATATC (3)   |
| (3-7)  | GCGAGAGA | CCCAGGGG              | AGTGGGAGCTACTAC                | GAGG     | ACTTTGATtTAC (4)     |
| (4-59) | GCGAGAG  | G                     | GGTATAGTGGGAaCTACT             | CCT      | CTTTGACTAC (4)       |
| (3-23) | GCGAAA   | GGAC                  | AGTGGGAGC                      | C        | CTGGTTCGACCCC (5)    |
|        |          | CC                    | TAGTGGGAGCTACT                 |          |                      |
| (4-34) | GCGAGAGG | (D <sub>H</sub> 1-7)  | GGTATAACTGGAACCTAC             | CGA      | ATGCTTTTGATATC (3)   |
| (1-2)  | GCGAGAG  | AGGAG                 | GGTATAACTTGGAAC                |          | ACTACTTTTGACTAC (4)  |
| (3-23) | GCGAAAGA | GA                    | TATAACTGGA                     | TGG      | TACTTTTGACTAC (4)    |
| (3-7)  | GCGAGAGA | G                     | GTATAACTGGAACcAC               | CCC      | CTTTGACTAC (4)       |
| (4-59) | GCGAG    | GGGA                  | ATAACTGGAAC                    | TTTCTTTT | TTTGACTAC (4)        |
| (4-39) | GCGAGA   | GG                    | TATAACTGGAAC                   | CTCTGGG  | CTTTGACTAC (4)       |
|        |          |                       | TAACTGGAAC                     |          |                      |
| (3-30) | GCGA     | (D <sub>H</sub> 3-10) | GTATTACTATGGTTCGGGAGTTATTATAAC | CTC      | TTGACTAC (4)         |
| (1-2)  | GCGAGAGA | AAAGGC                | TACTATGGTTCGGGAG               | GAAGGT   | CTACGGTATGGACGTC (6) |
|        |          |                       | TATTACTATGGTTCGGGAGTTATTATAAC  |          |                      |
| (1-2)  | GCGAGAGA | (D <sub>H</sub> 6-6)  | GAGTATAGCAGCTCGTCC             |          | CTTTGACTAC (4)       |
| (3-48) | GCGAGA   |                       | GTATAGCAG                      | TG       | TGACTAC (4)          |
| (3-13) | GCAAGAGA | GA                    | GAGTATAGCAGCTCGT               | CTCGGG   | TACTTTGACTAC (4)     |
|        |          | GG                    | ATAGgAGCTCGcCC                 |          |                      |
| (3-7)  | GCGAGAGA | (D <sub>H</sub> 7-27) | CTAACTGGGGA                    | AGG      | CTAC (4)             |
| (3-15) | ACCAC    | TCT                   | TGGGGA                         | GGG      | TTTGACTAC (4)        |
| (3-48) | GCGAGA   | CCA                   | TAACTGGGGA                     |          | CCg (5)              |
|        |          | GATA                  | GGGGA                          |          |                      |

FIG. 7A

| 3'Vk   |                          | N   |  | 5' Jk        |
|--------|--------------------------|-----|--|--------------|
| (1-6)  | CAACAGAGTTATAGTACCCCTCC  | GGA |  | GACG (1)     |
| (1-9)  | CAACAGCTTAATAGTTACCCCTC  |     |  | GGACG (1)    |
| (1-9)  | CAACAGCTTAATAGTTACC      |     |  | ATTCACT (3)  |
| (1-9)  | CAACAttTAAATAGTTACCC     |     |  | GCTCACT (4)  |
| (3-15) | CAGCAGTATAATAACTGGCCTC   |     |  | TCACT (4)    |
| (1-17) | CTACAGCATAAATAGTTACCC    |     |  | GTGGACG (1)  |
| (1-17) | CTACAGCATAAATAGTTACCCCTC |     |  | GGACG (1)    |
| (3-20) | CAGCAGTATGGTAGCTCACCTC   |     |  | GGACG (1)    |
| (2-30) | ATGCAAGGTACACACTGGCC     |     |  | GTGGACG (1)  |
| (2-30) | ATGCAAGGTtCACACTGGCC     |     |  | GTACACT (2)  |
| (2-30) | ATGCAAGGTACACACTGGCC     |     |  | GCTCACT (4)  |
| (1-33) | CAACAGTATGATAATCTCCCTCC  |     |  | CACT (3)     |
| (1-33) | CAACAGTATGATAATCTCCC     |     |  | ATTCACT (3)  |
| (1-33) | CAACAGTATGATAATCTCCC     | CG  |  | TCACT (4)    |
| (1-33) | CAACAGTATGATAATCTCCC     |     |  | GATCACCC (5) |
| (1-37) | CAACGGAtTTACAAATGCC      | GA  |  | CACC (5)     |
| (1-39) | CAACAGAGTTACAGTACCCCC    | CA  |  | TGTACACT (2) |
| (1-39) | CAACAGAGTTACAGTACCCCTC   |     |  | TCACT (4)    |
| (1-39) | CAACAGAGTTACAGTACTCCTCC  |     |  | CACT (4)     |

FIG. 7B

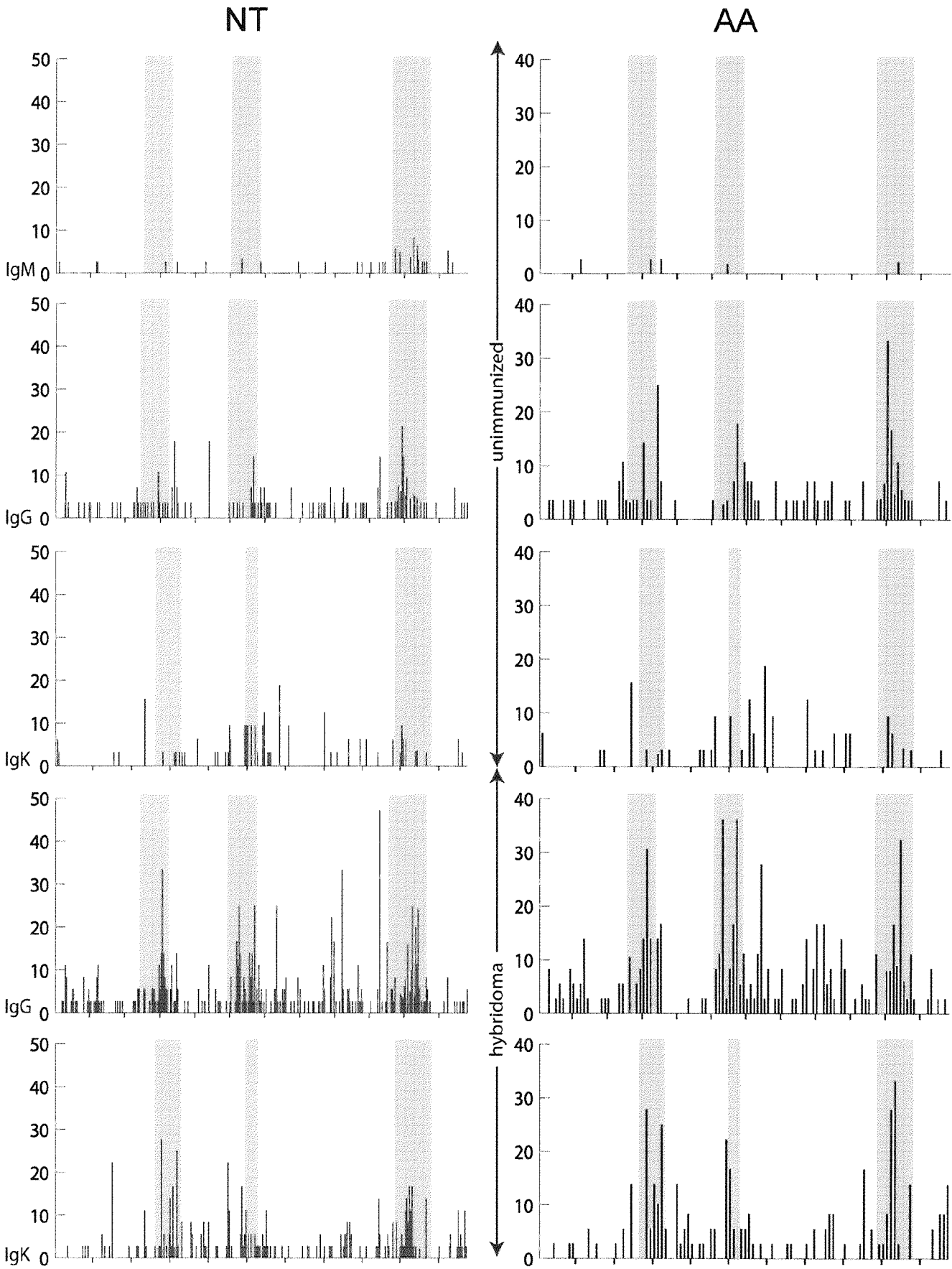


FIG. 8

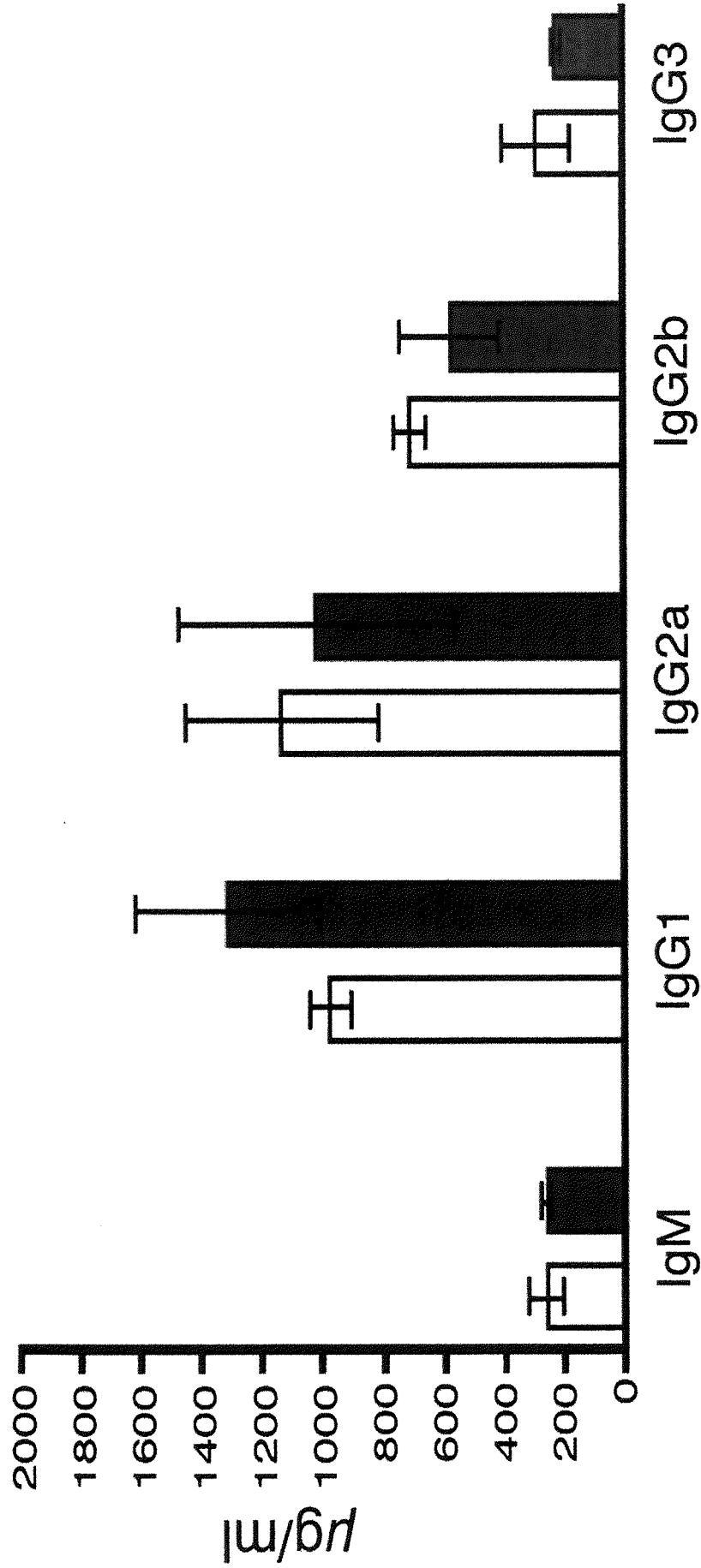


FIG. 9A

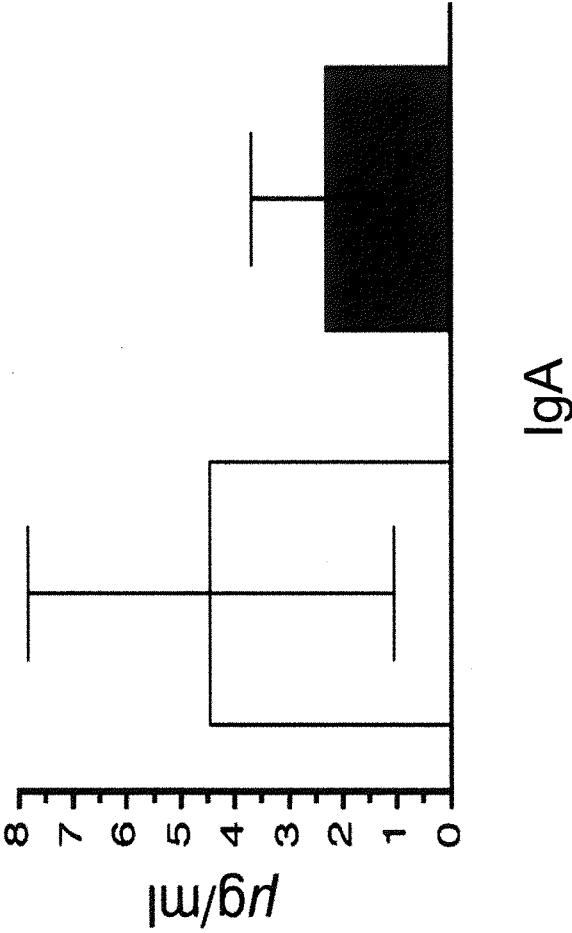


FIG. 9B



FIG. 9C

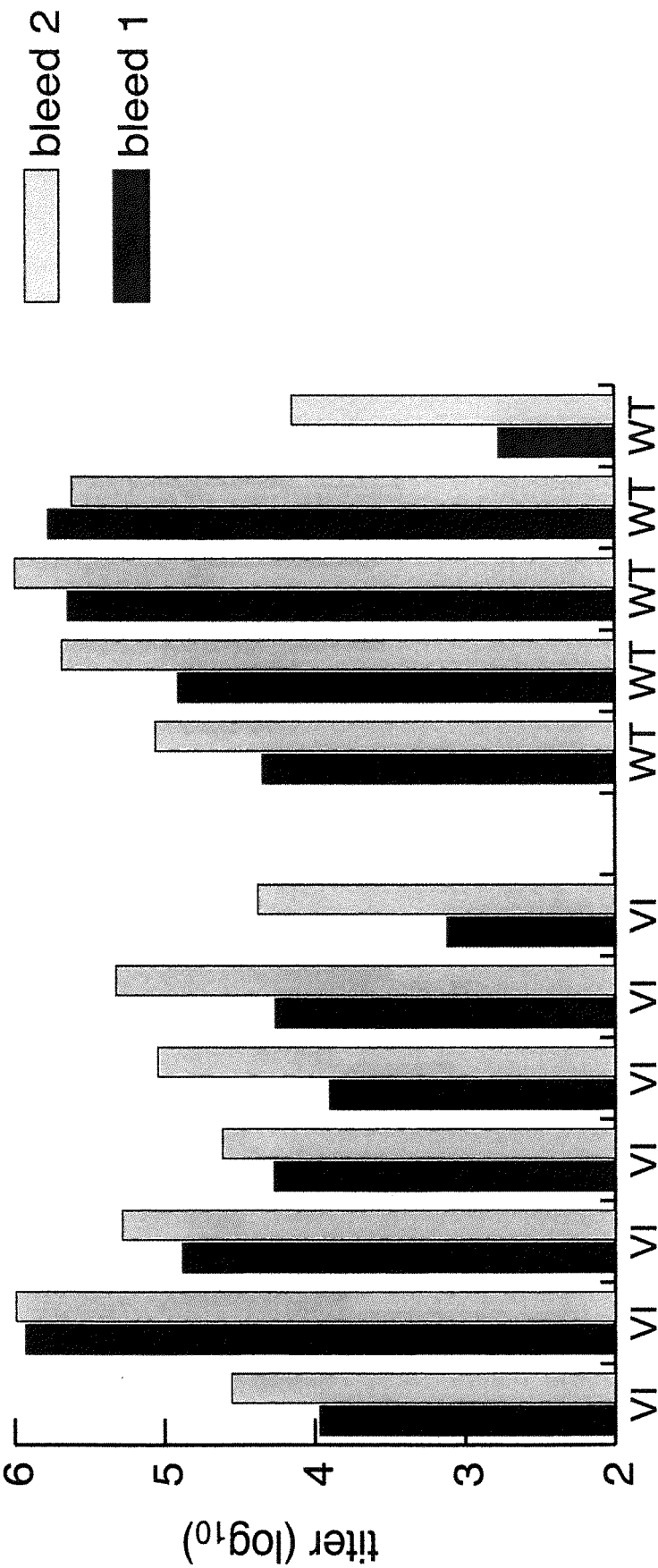


FIG. 10A

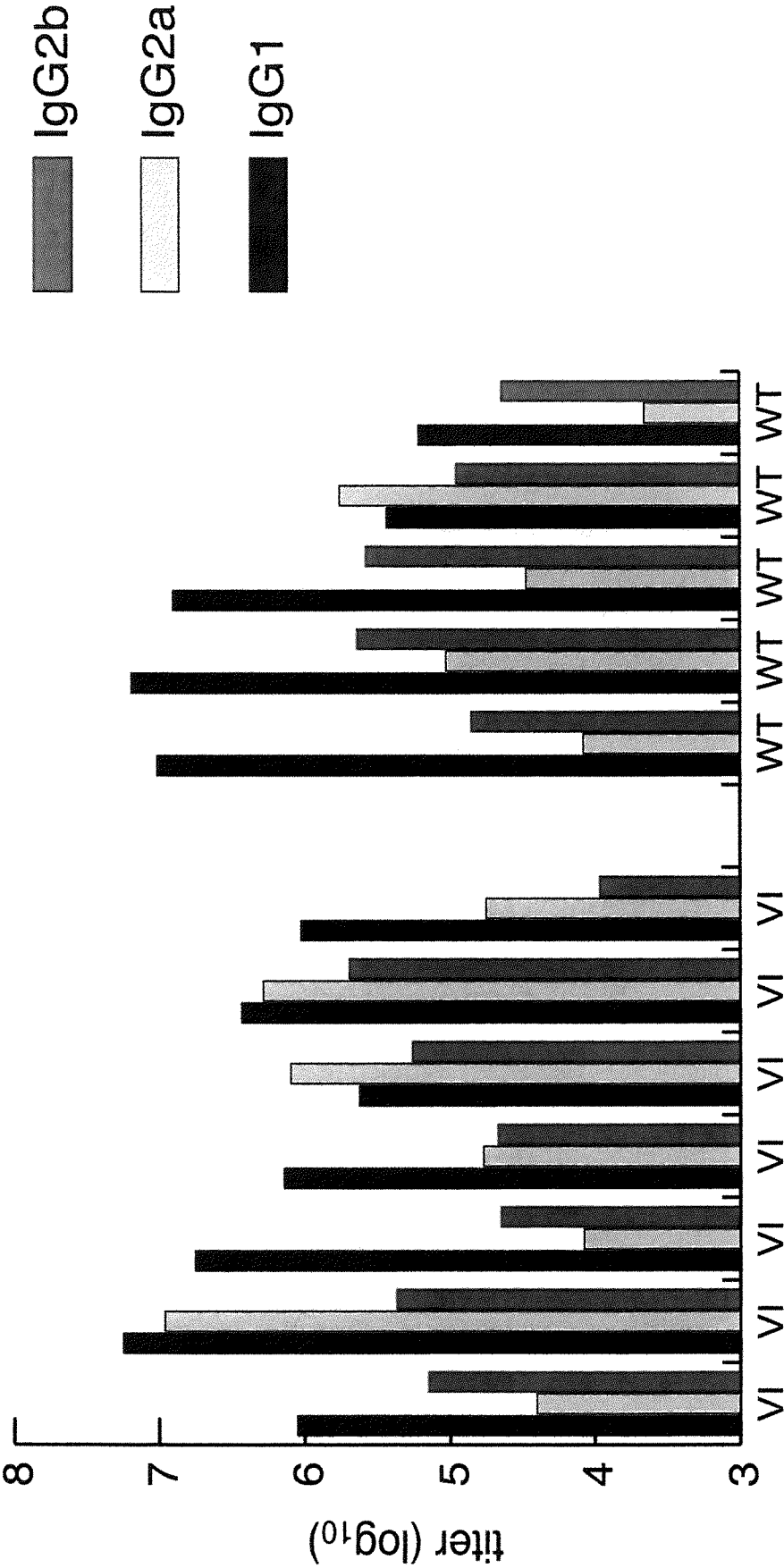


FIG. 10B

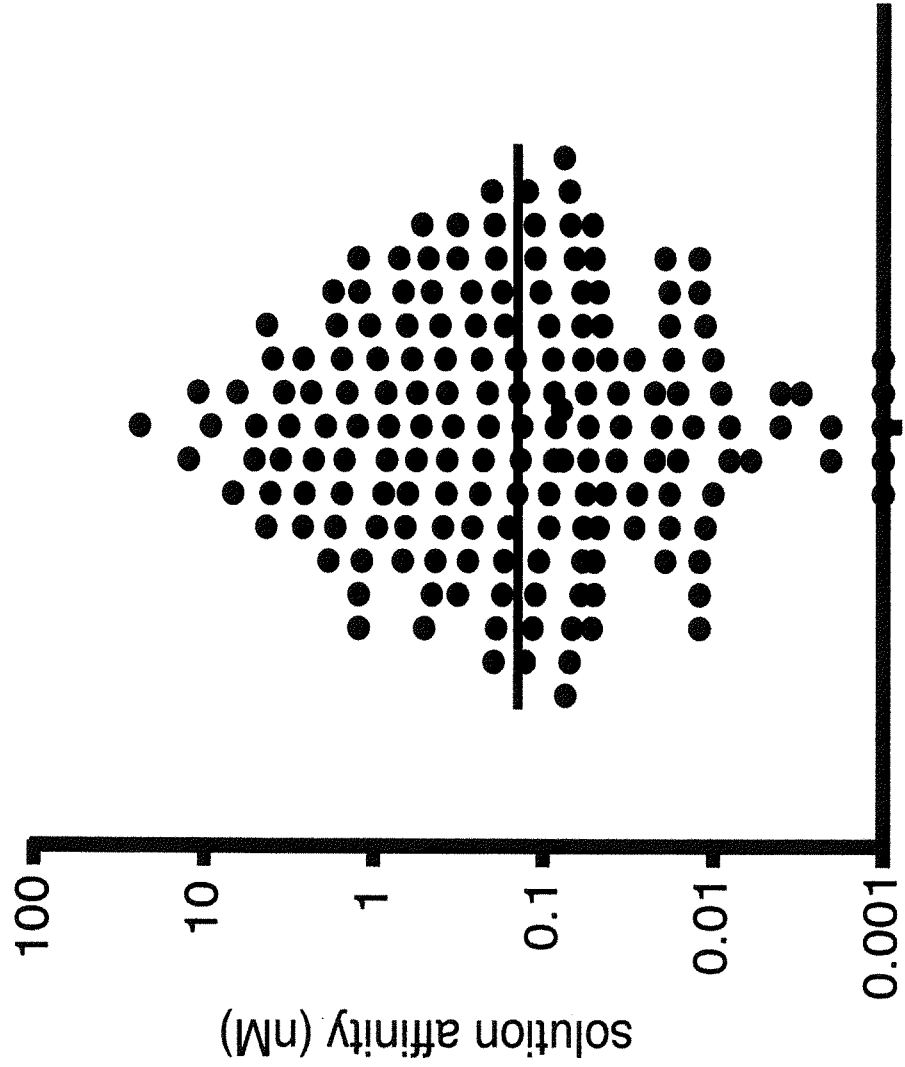


FIG. 11A

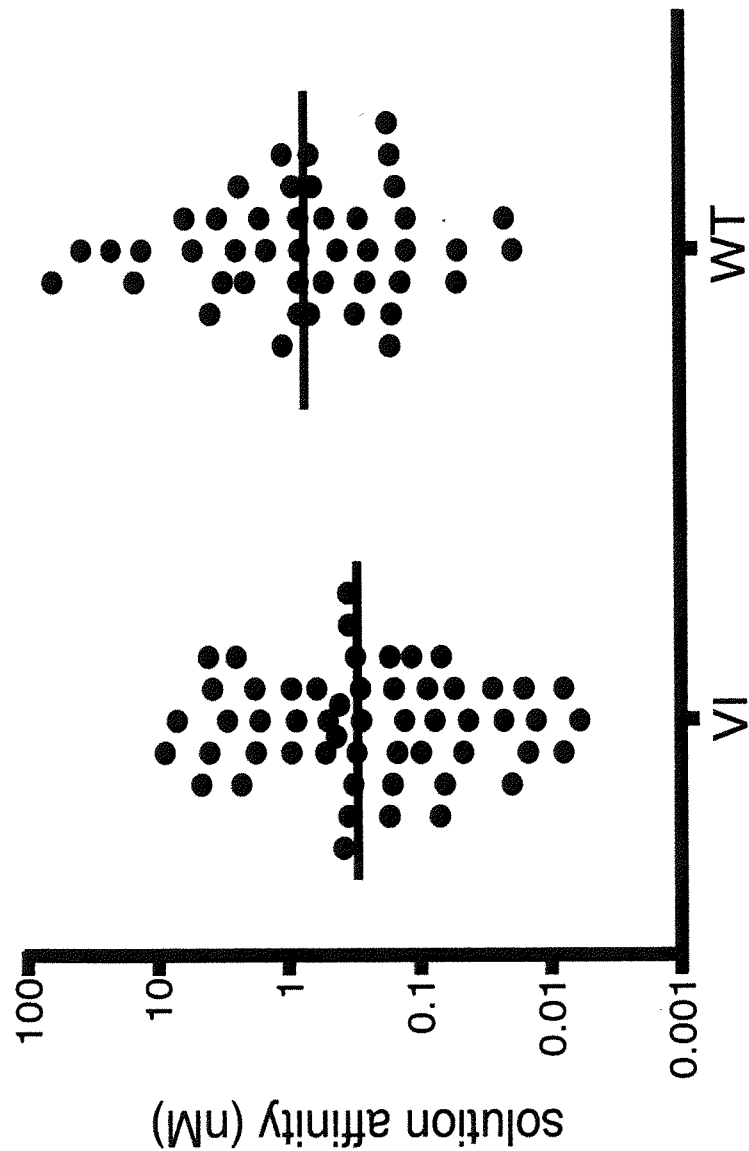


FIG. 11B

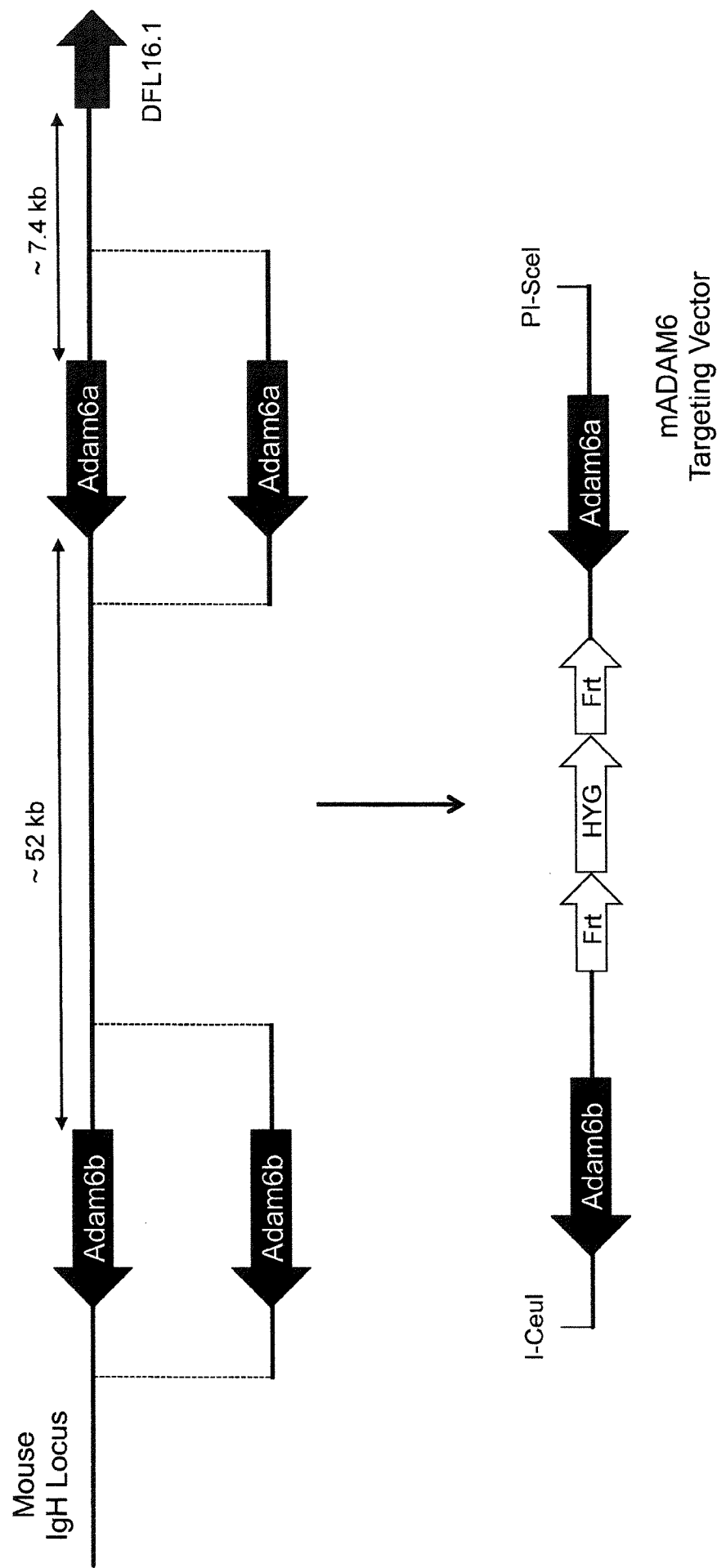


FIG. 12

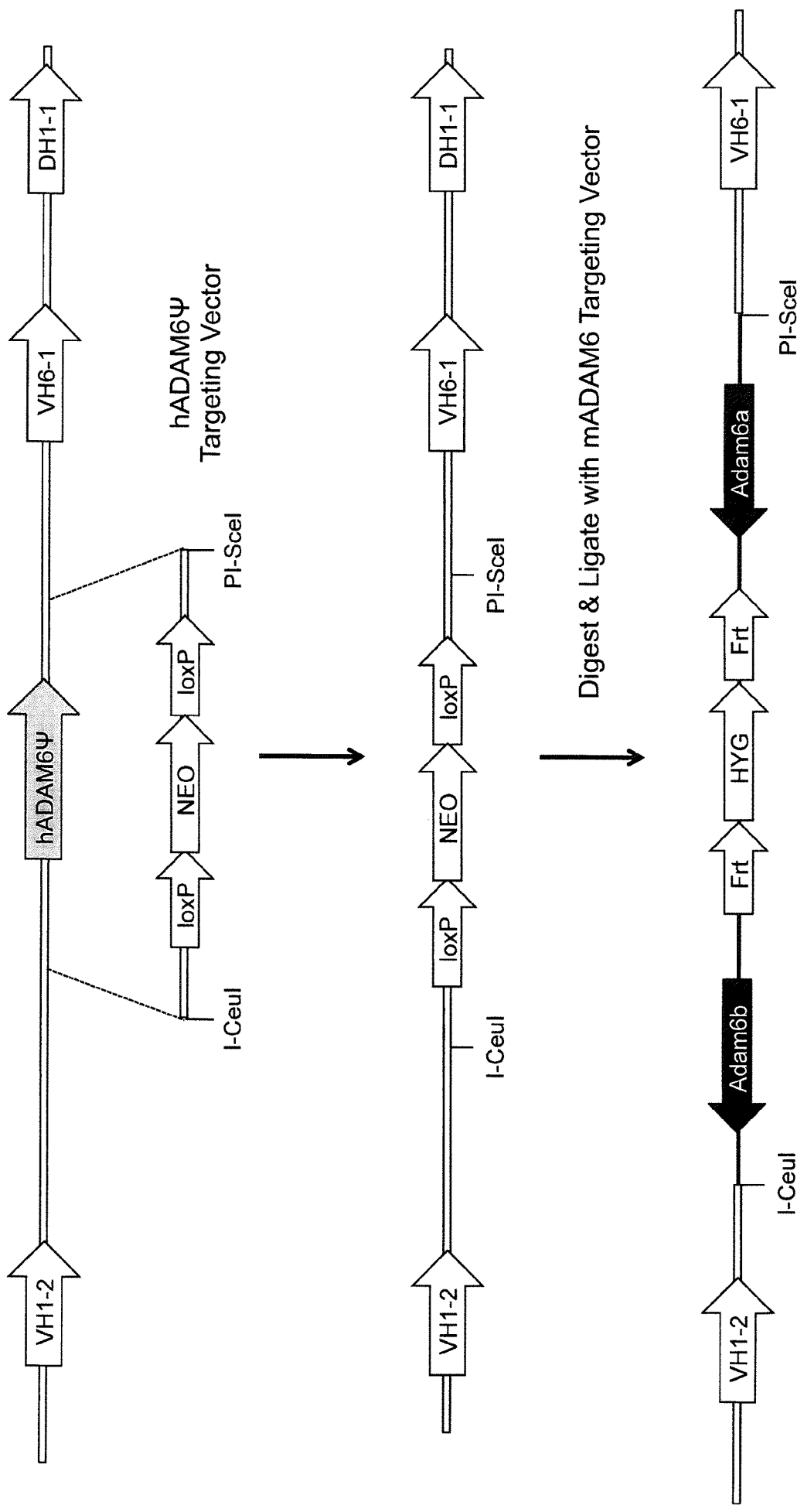


FIG. 13

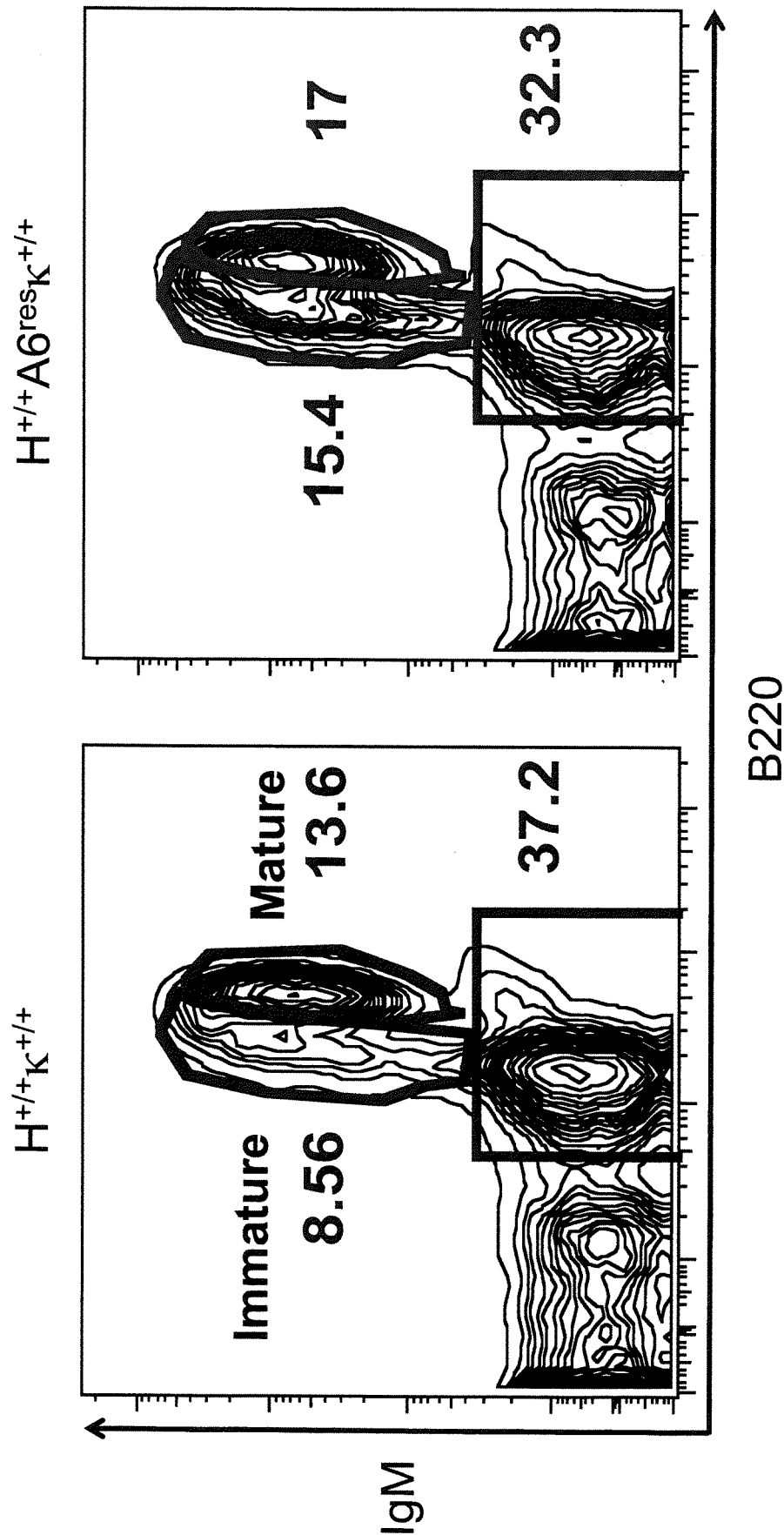


FIG. 14A

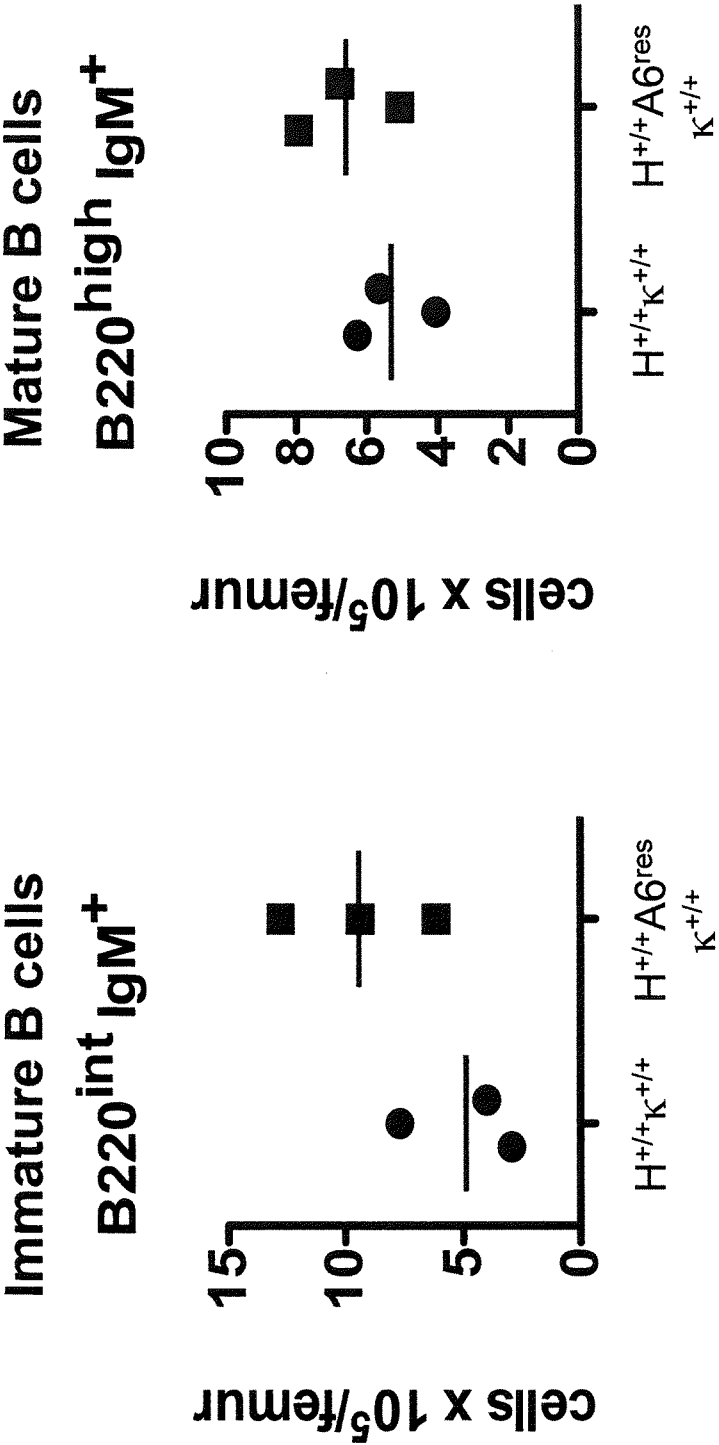


FIG. 14B

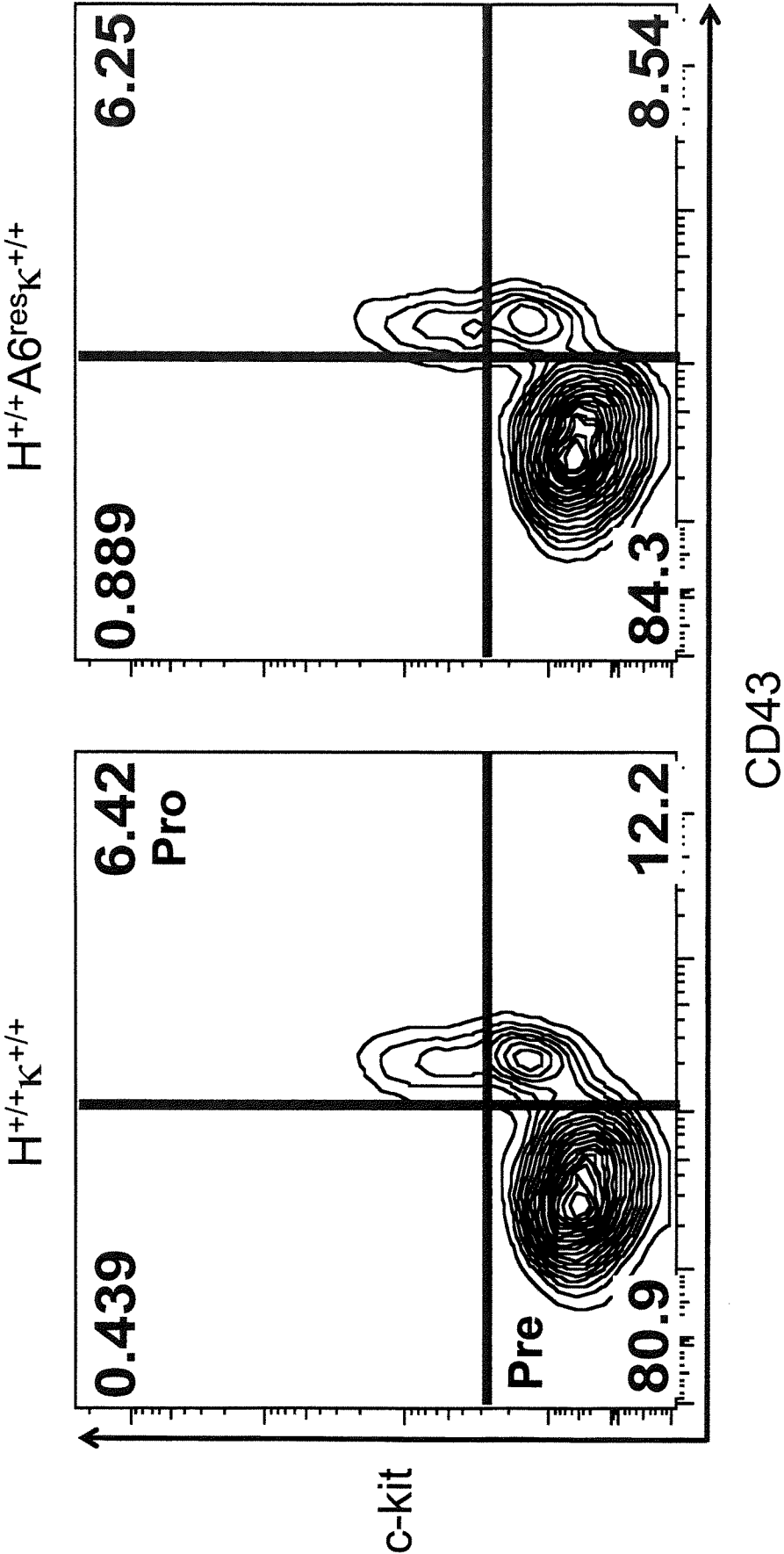


FIG. 15A

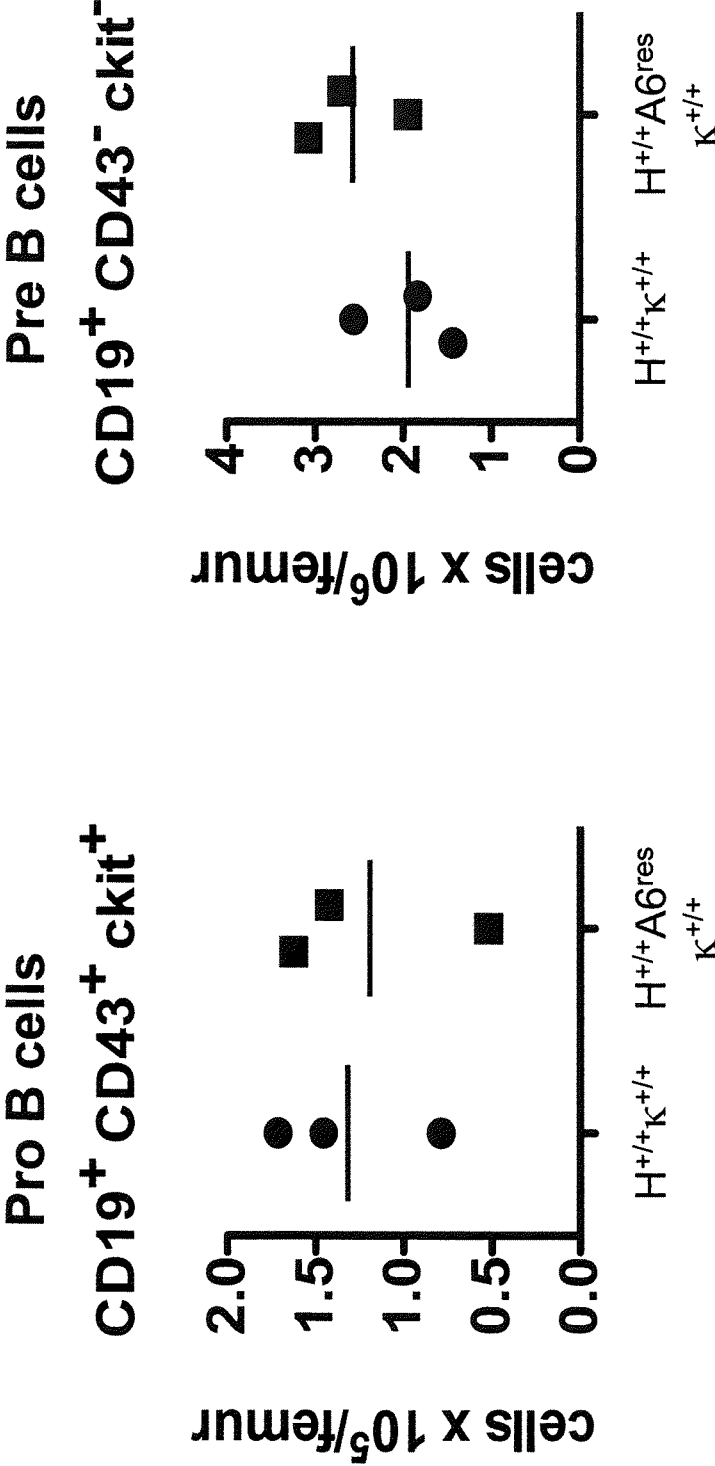


FIG. 15B

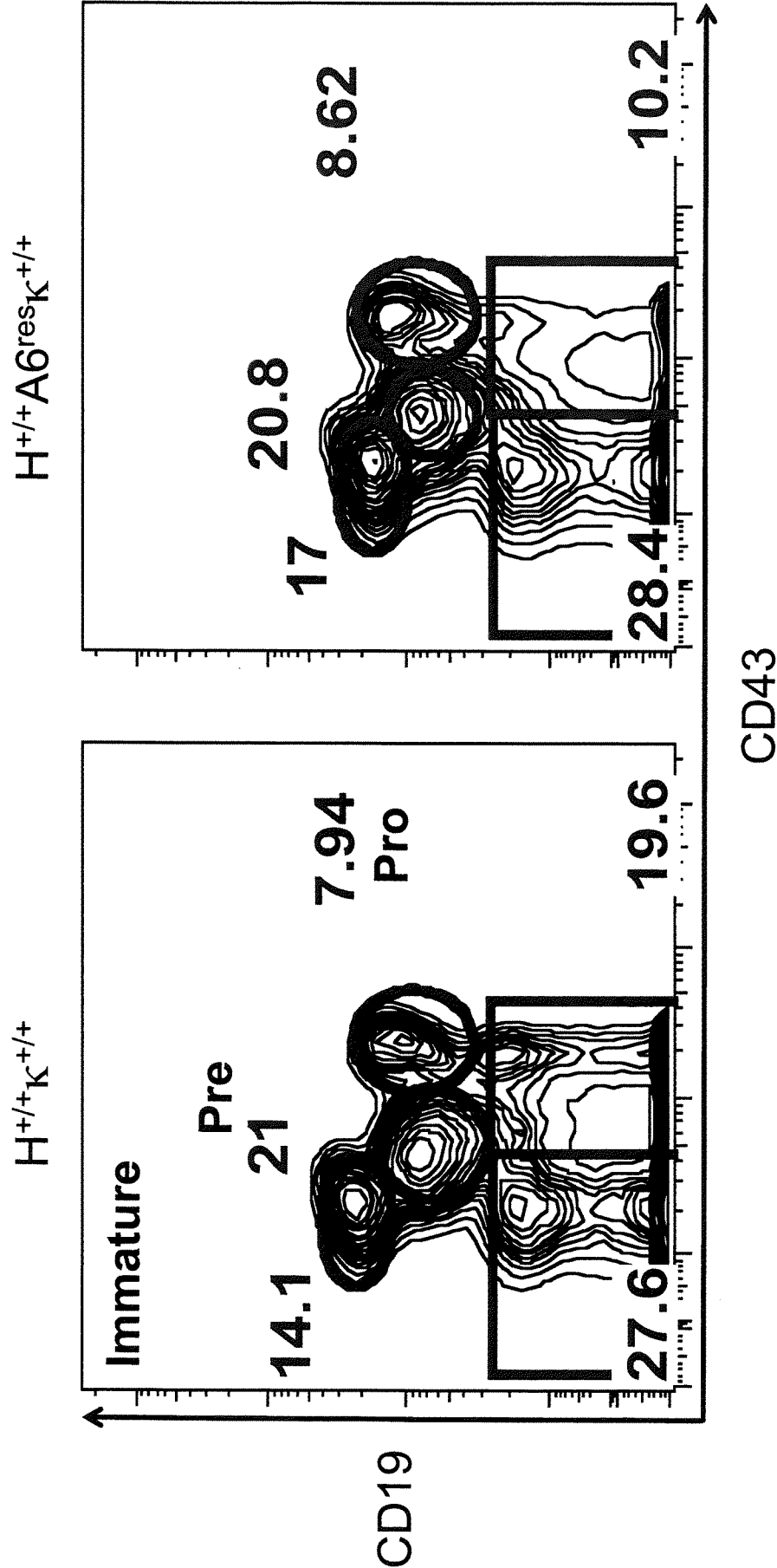


FIG. 16A

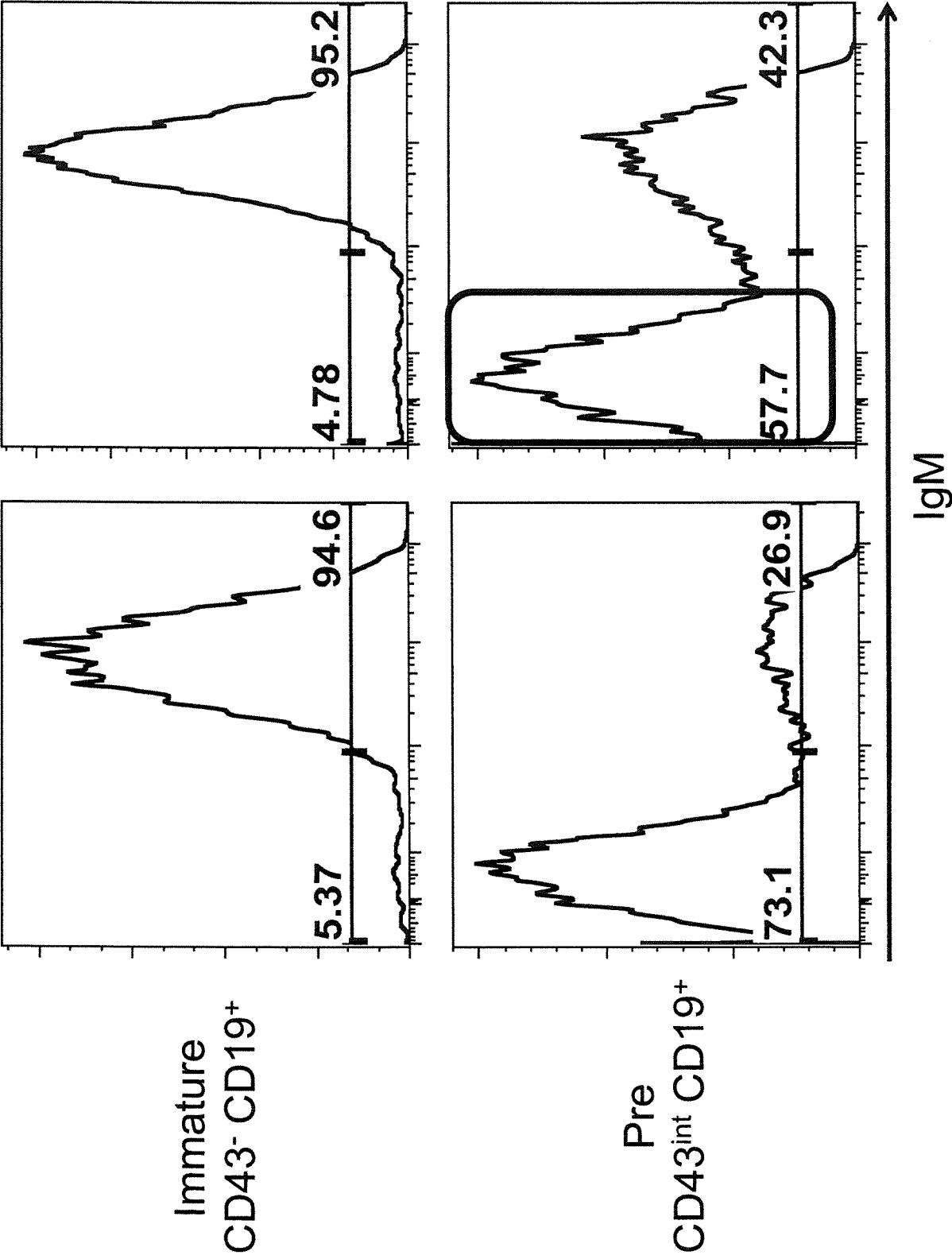


FIG. 16B

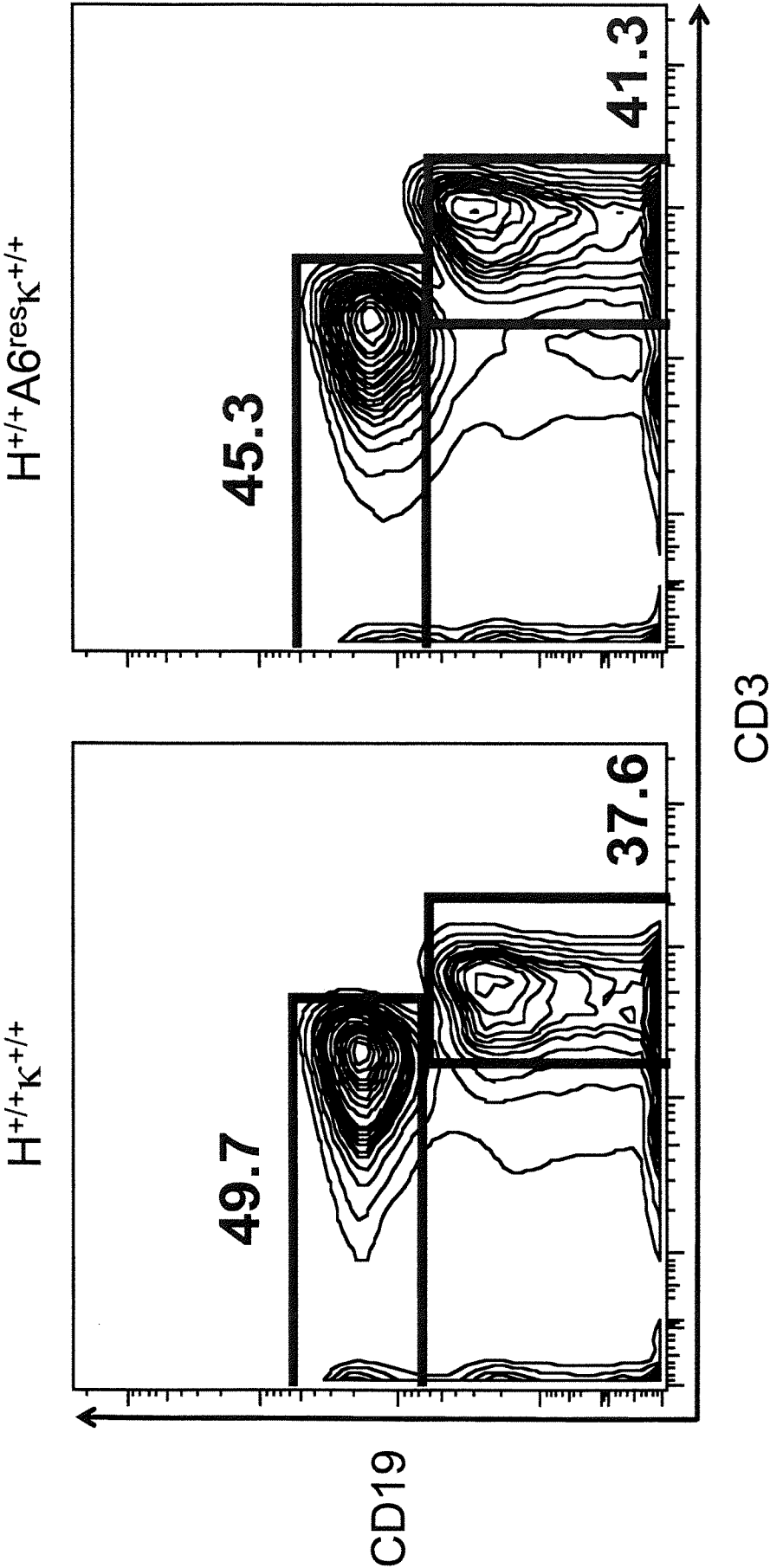


FIG. 17A

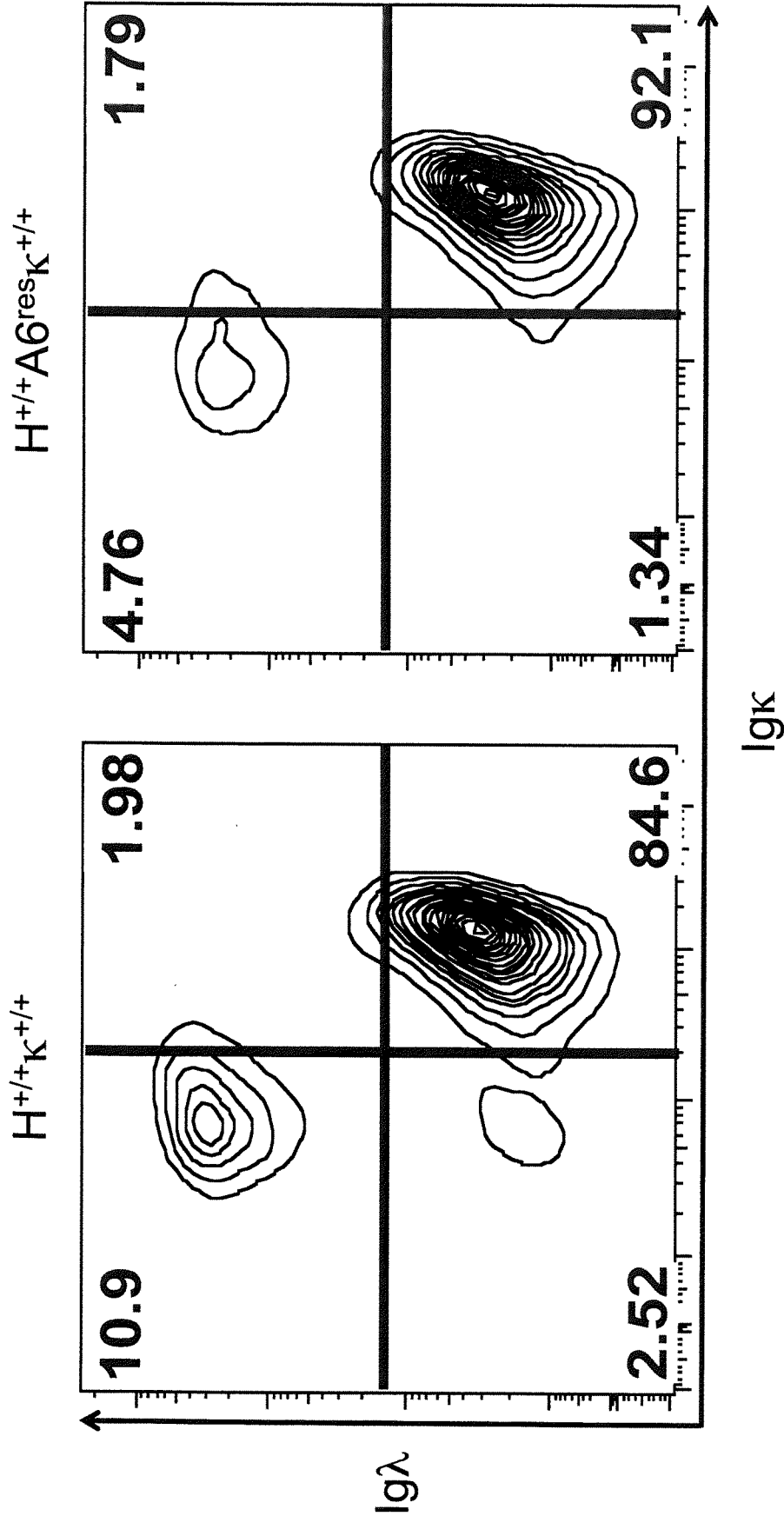


FIG. 17B

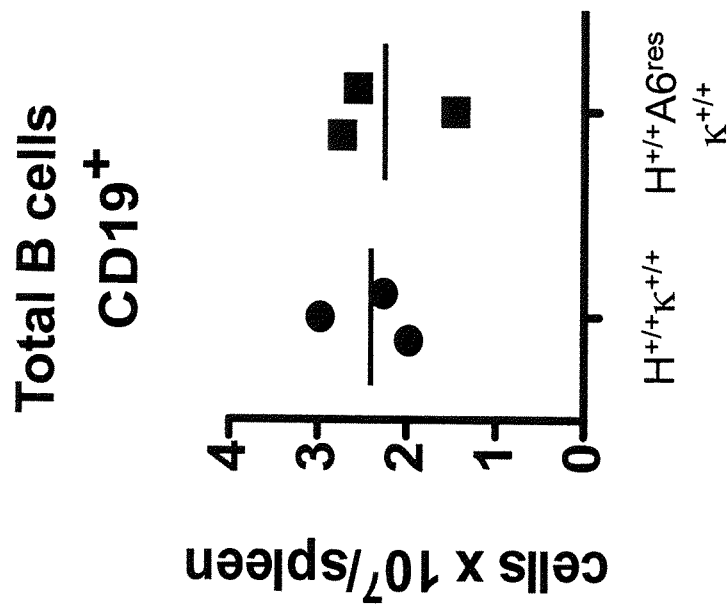


FIG. 17C

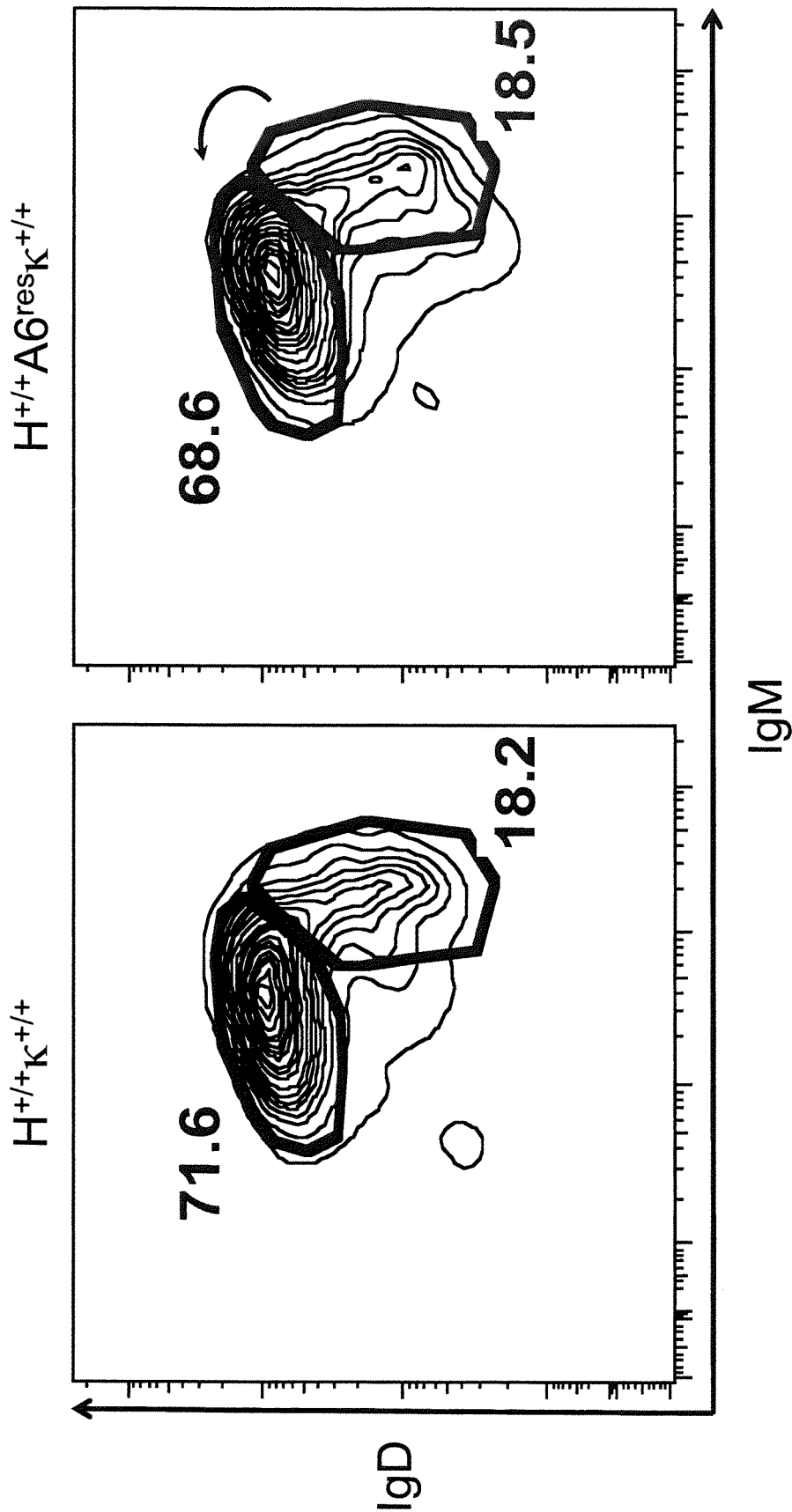


FIG. 18A

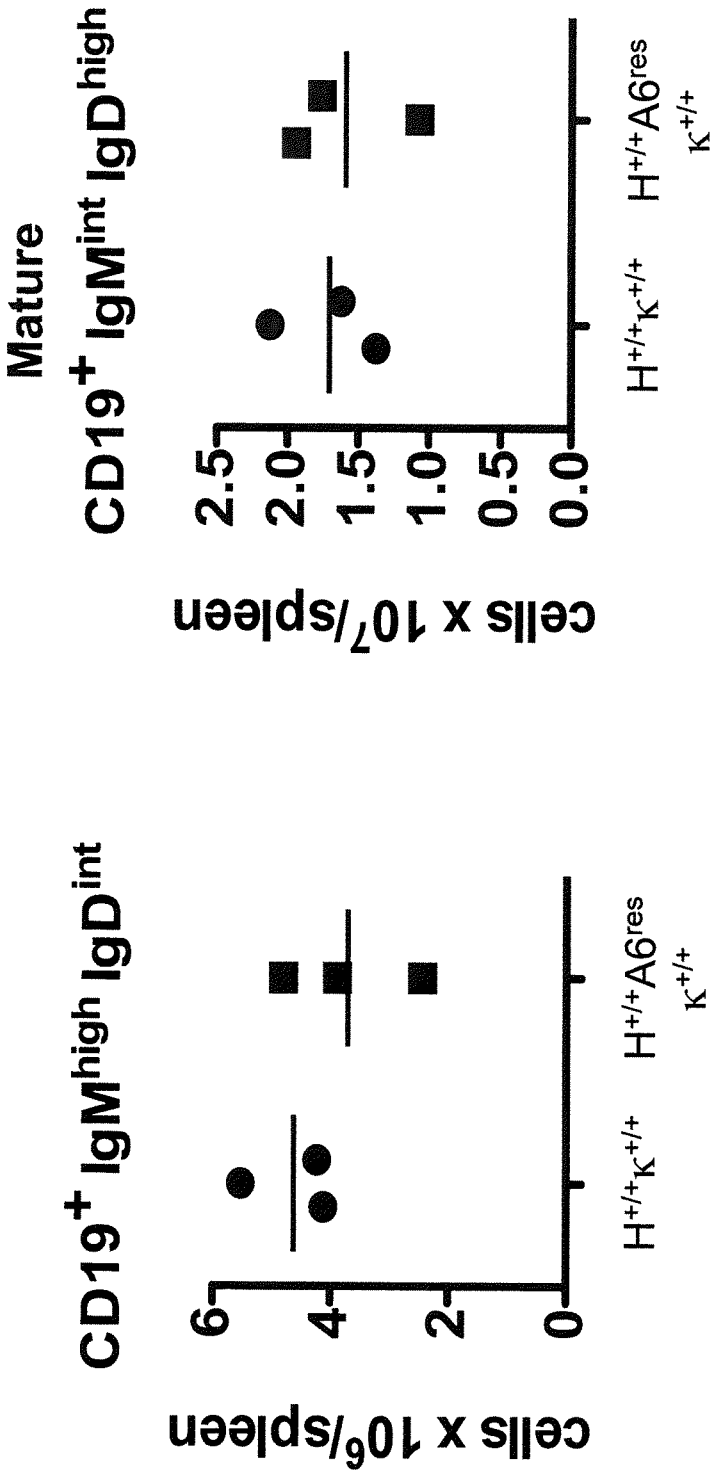


FIG. 18B

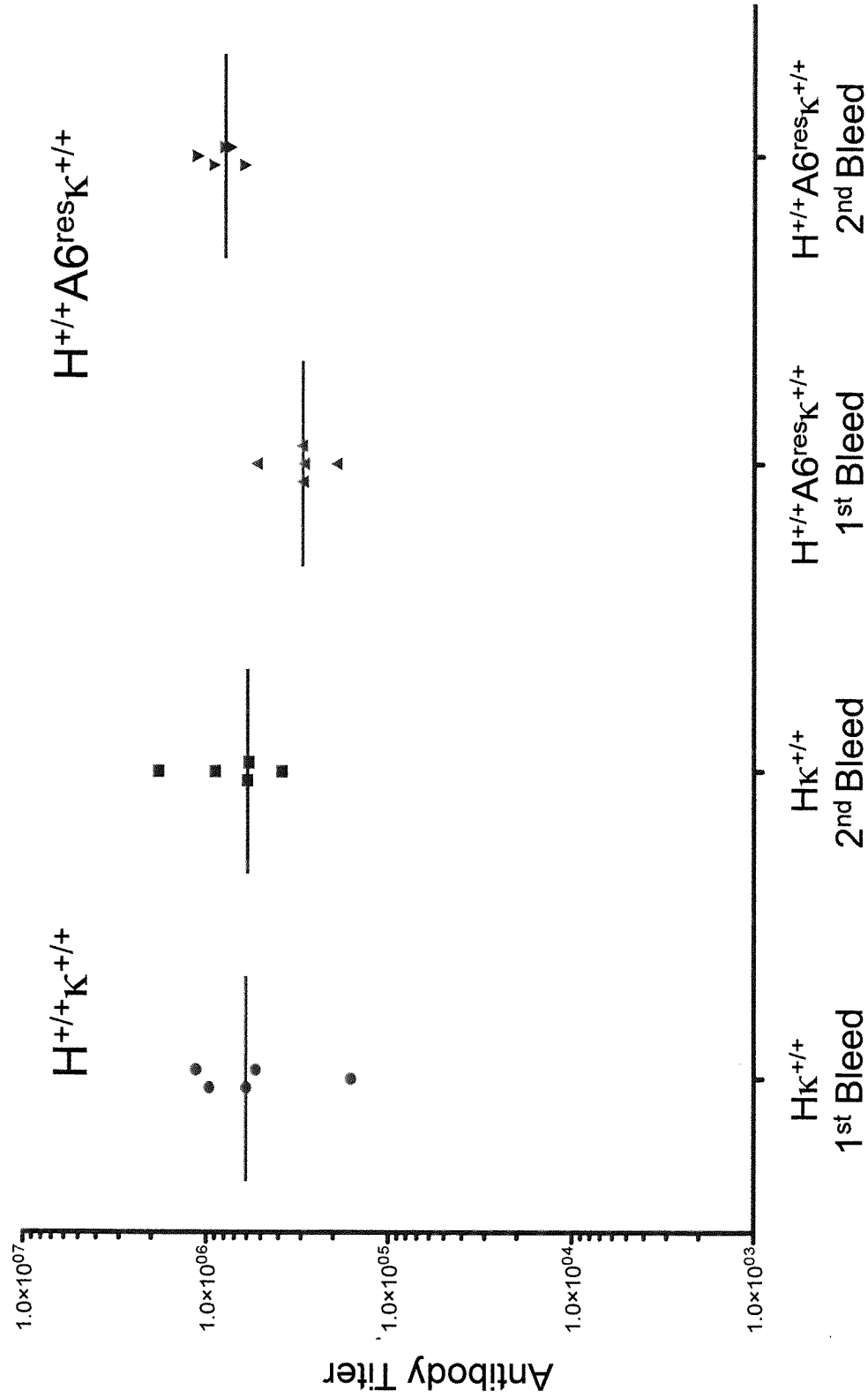


FIG. 19

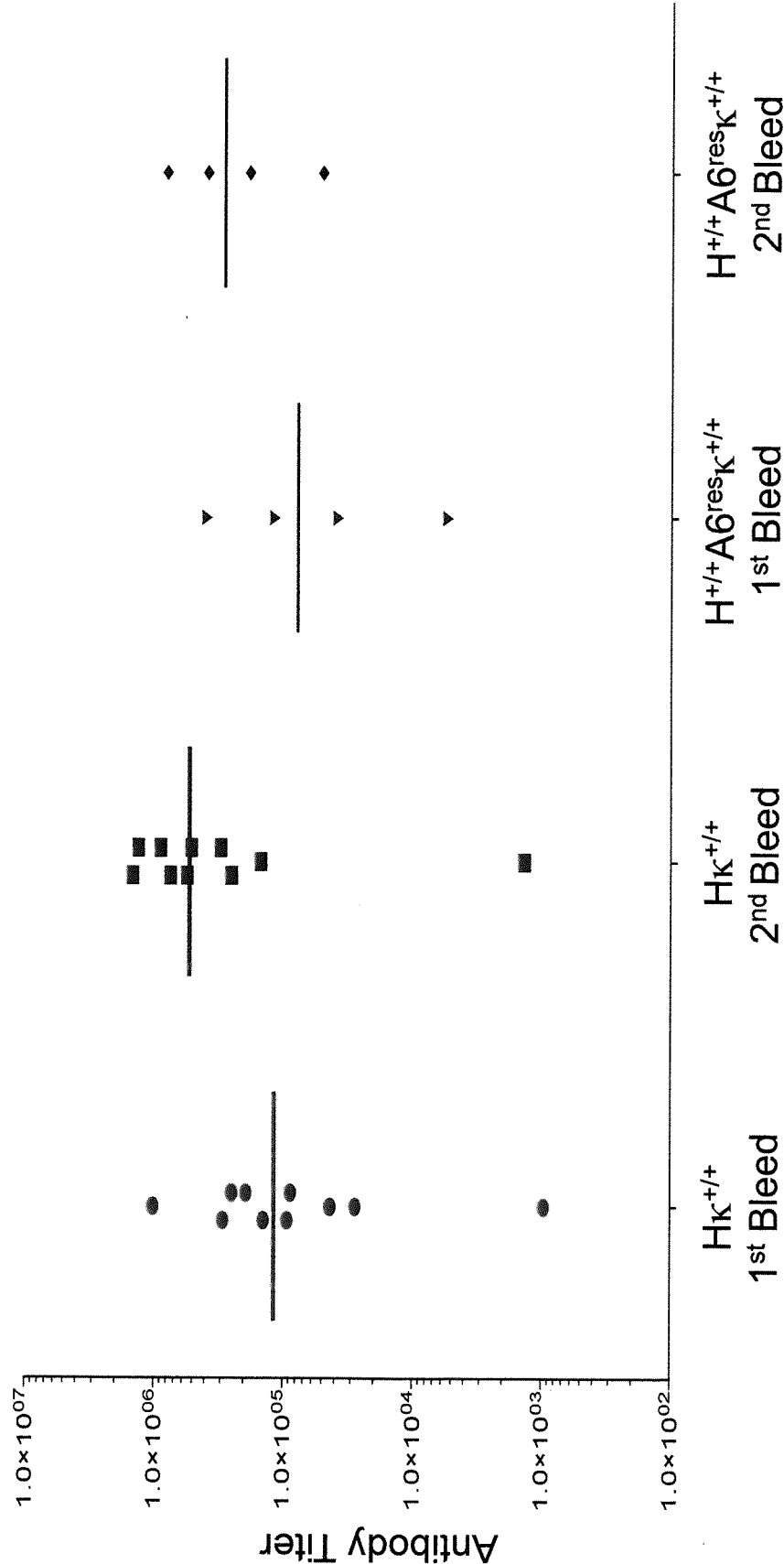


FIG. 20

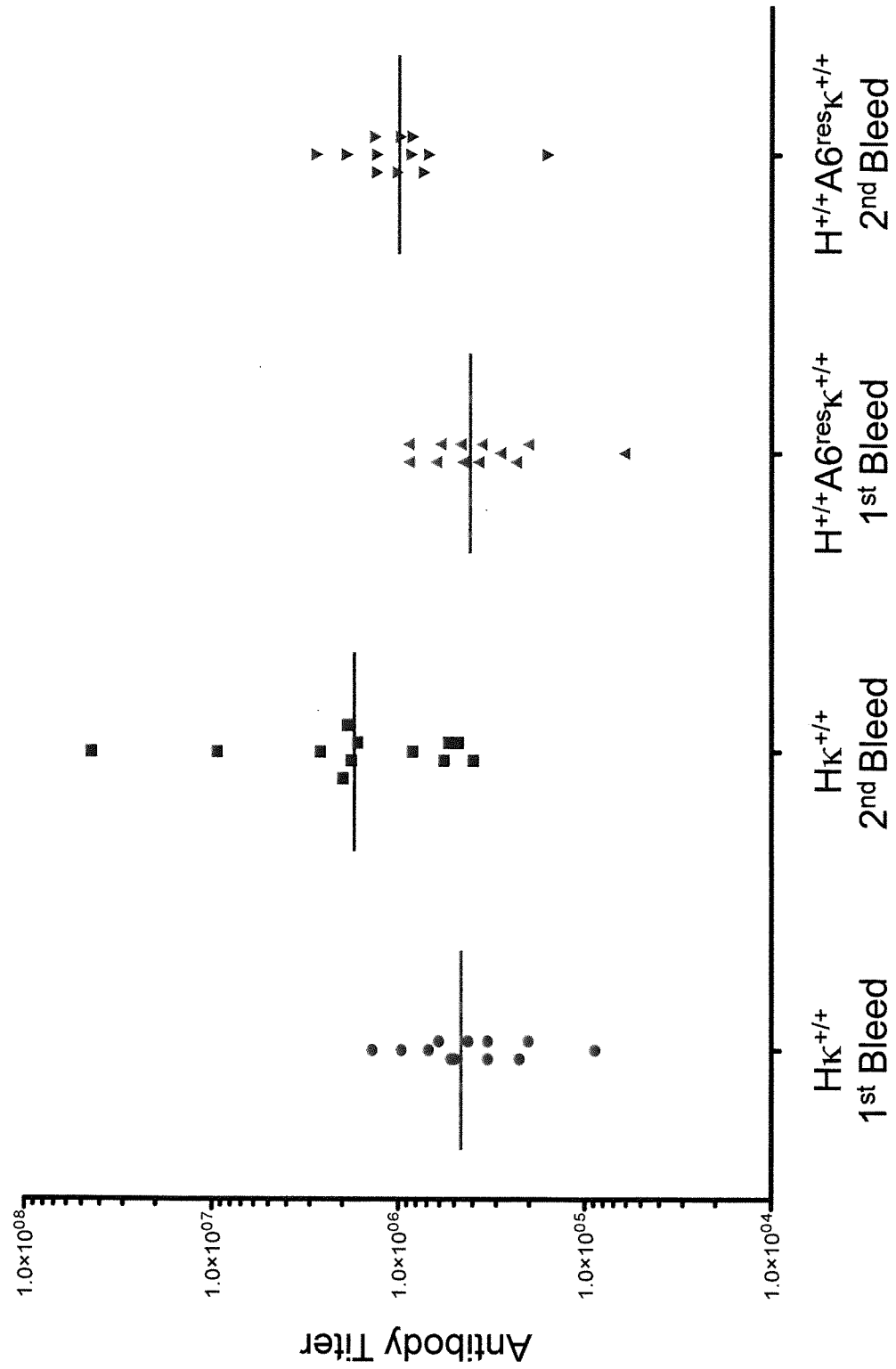


FIG. 21

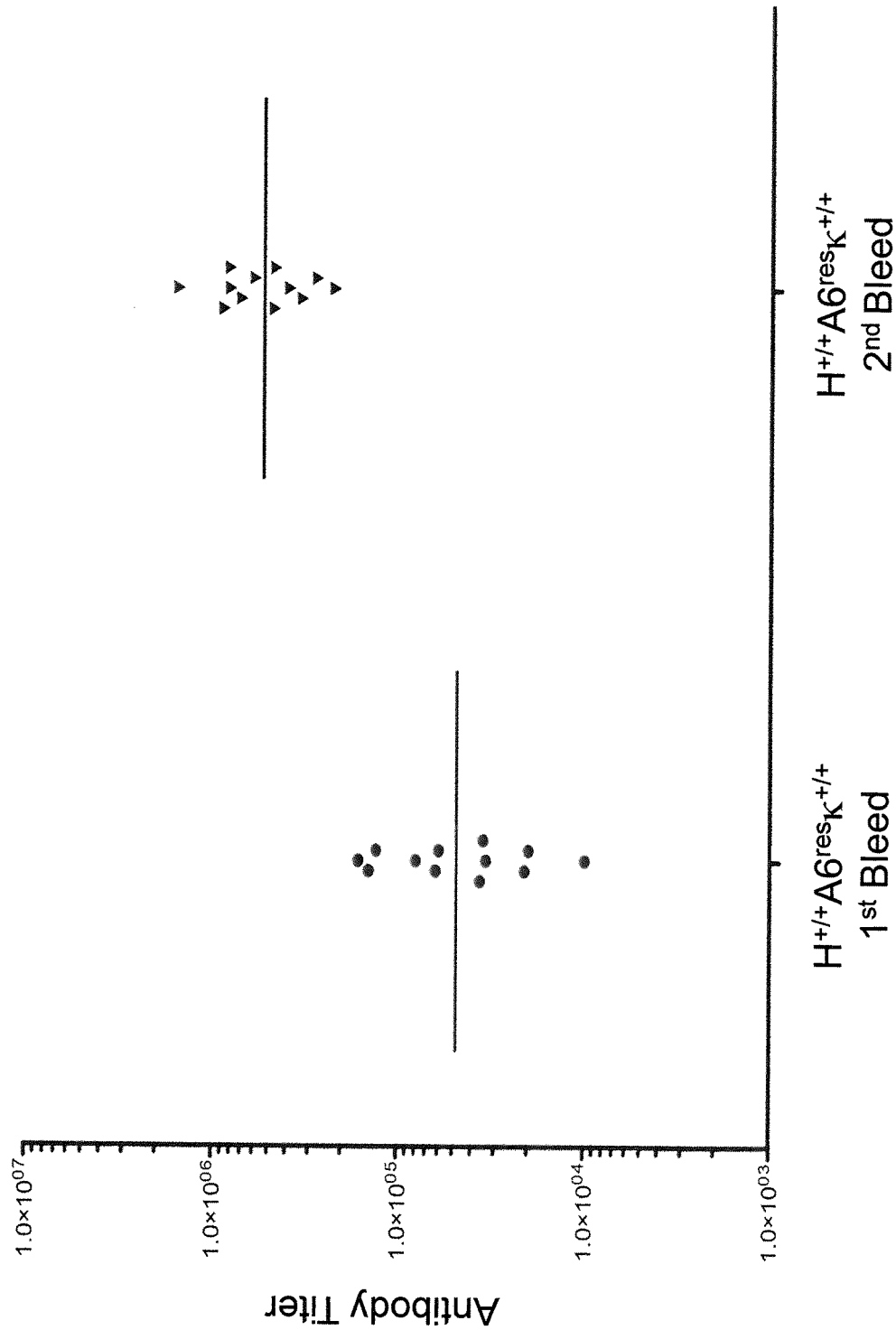


FIG. 22