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FIG. 1

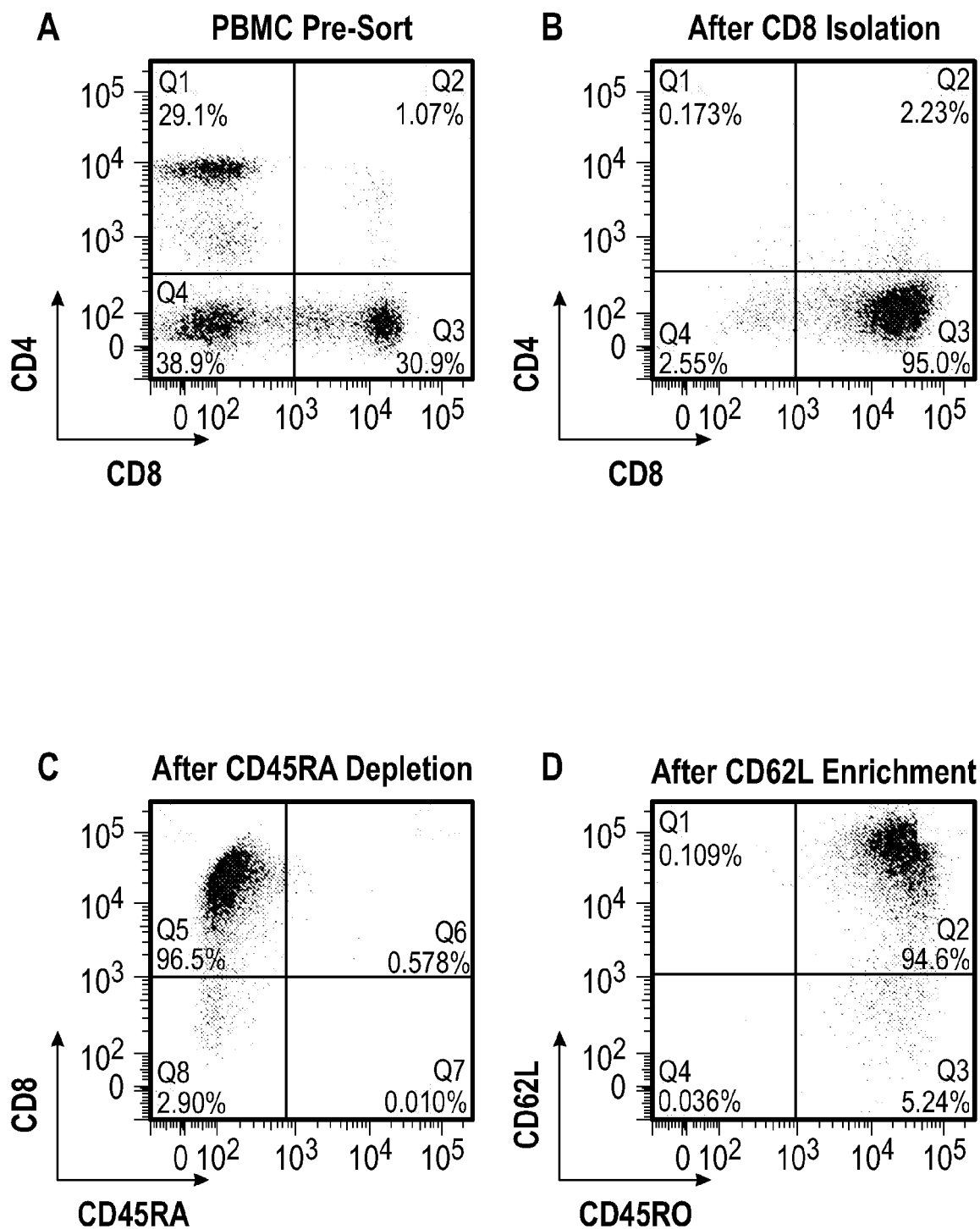


FIG. 2A

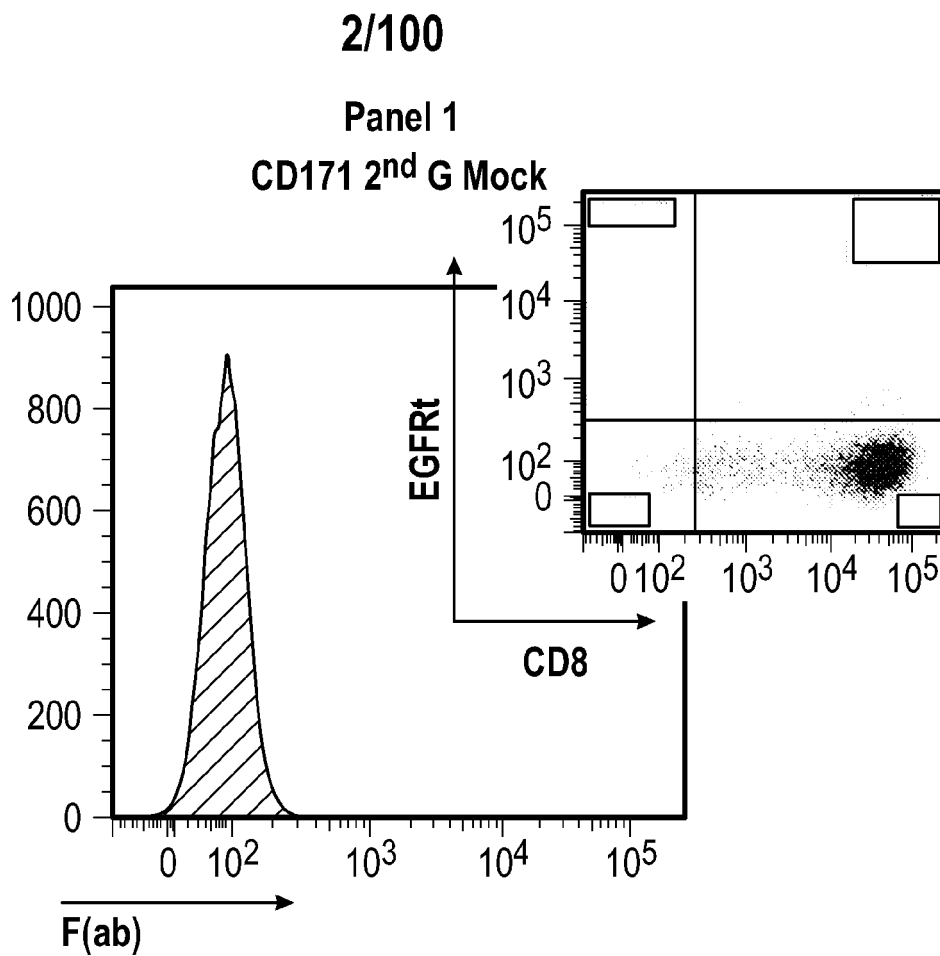
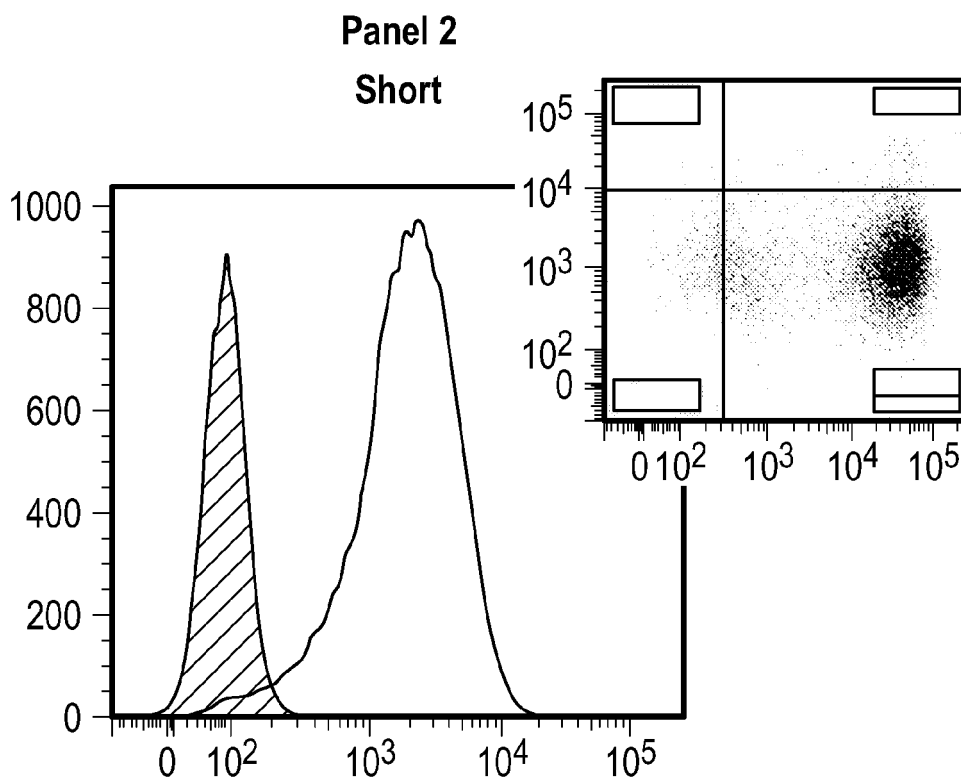
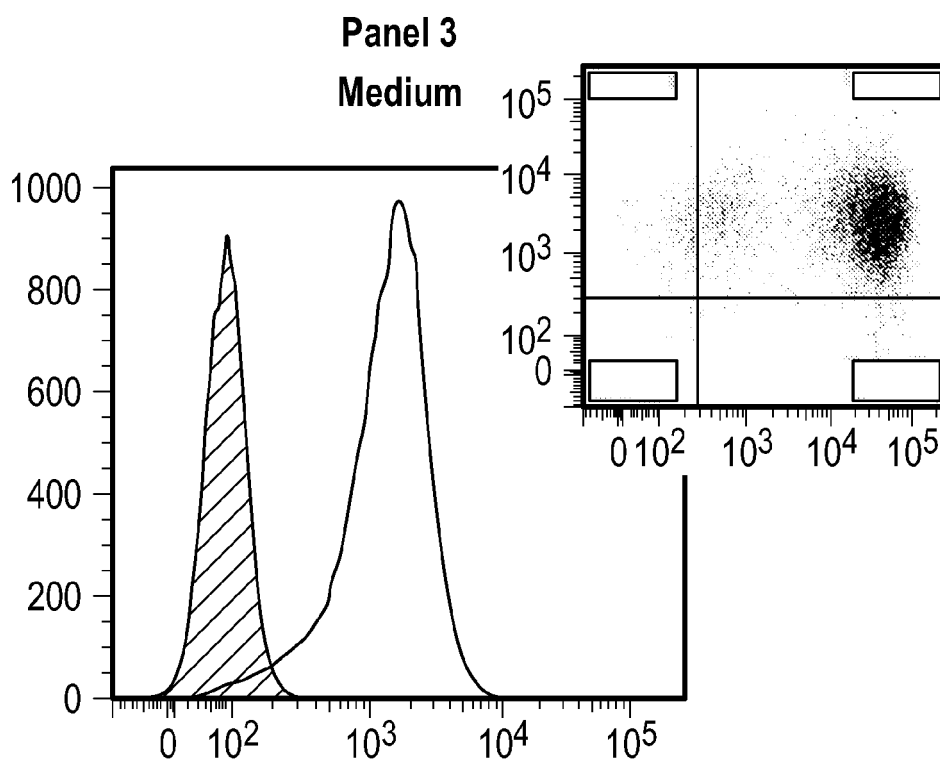
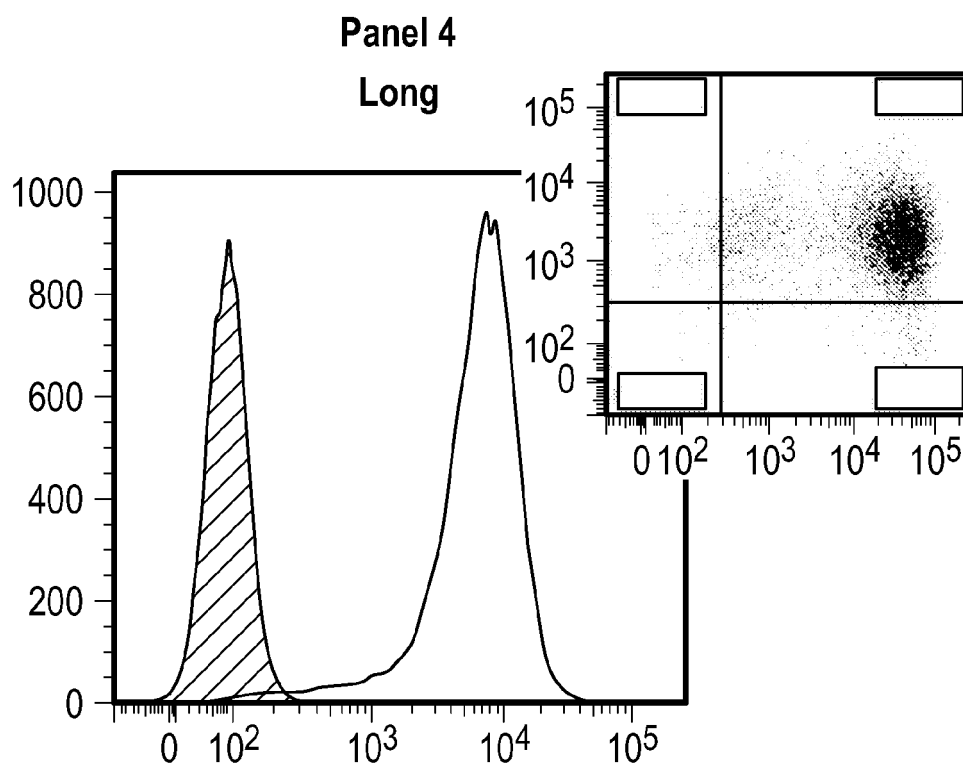


FIG. 2A (Continued)

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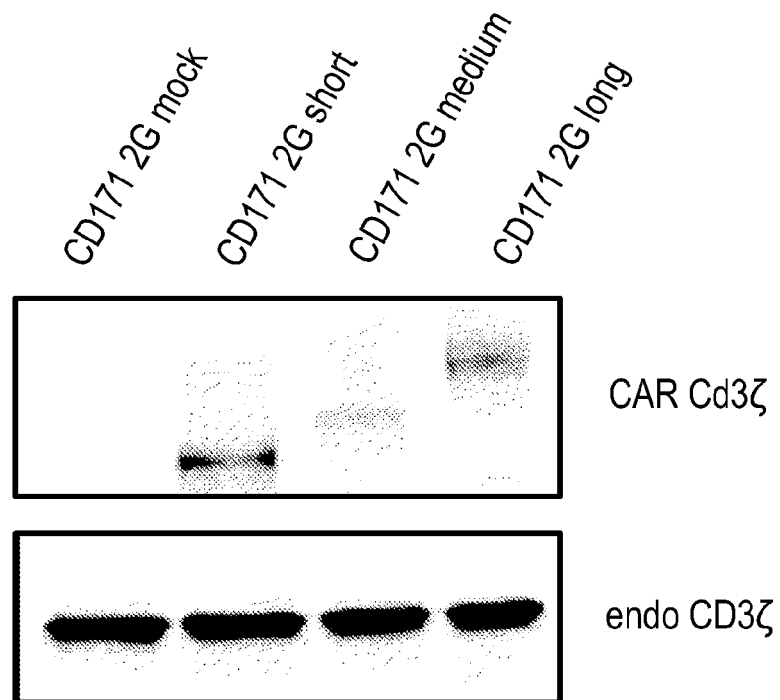


FIG. 2B

FIG. 2C

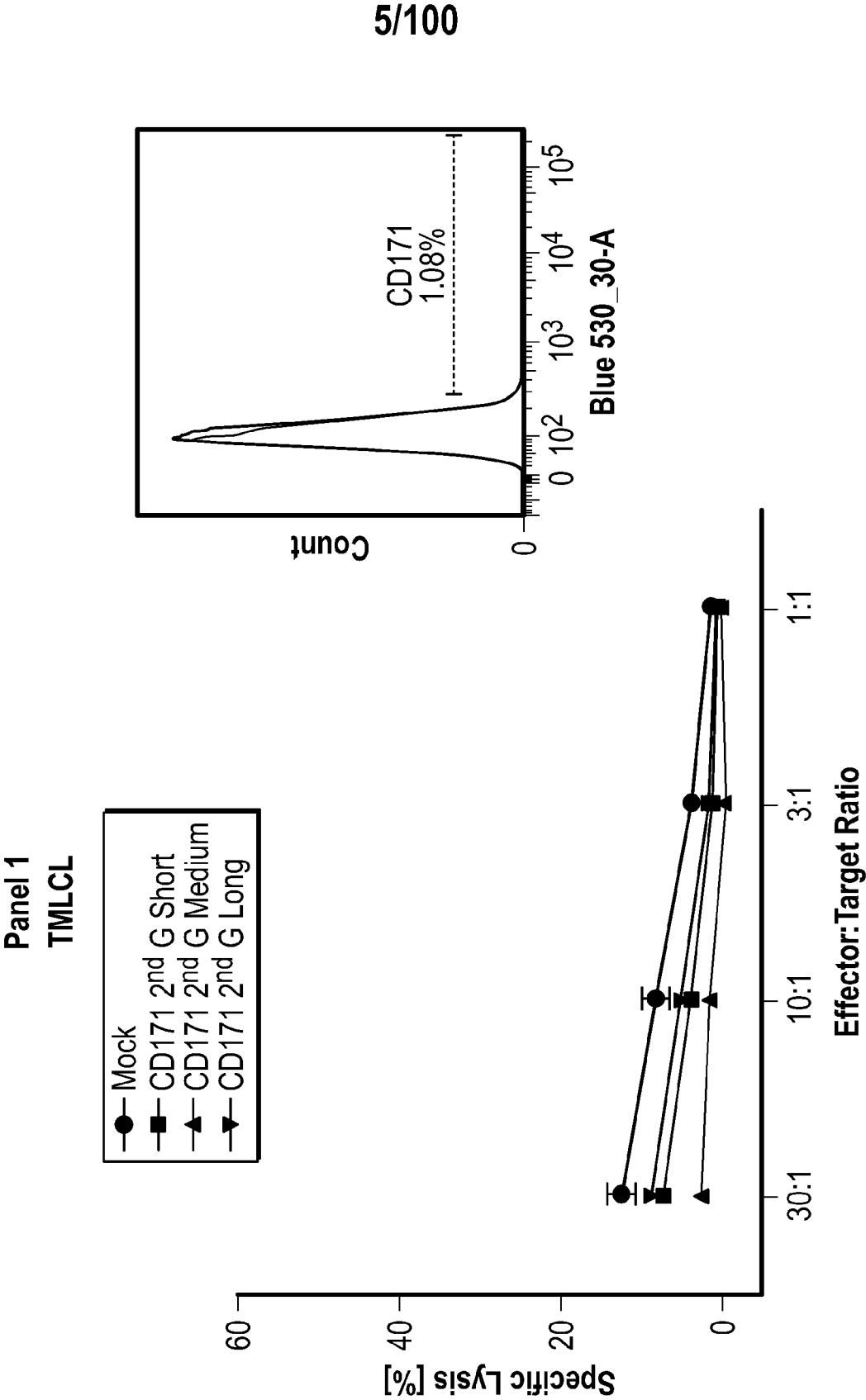


FIG. 2C (Continued)

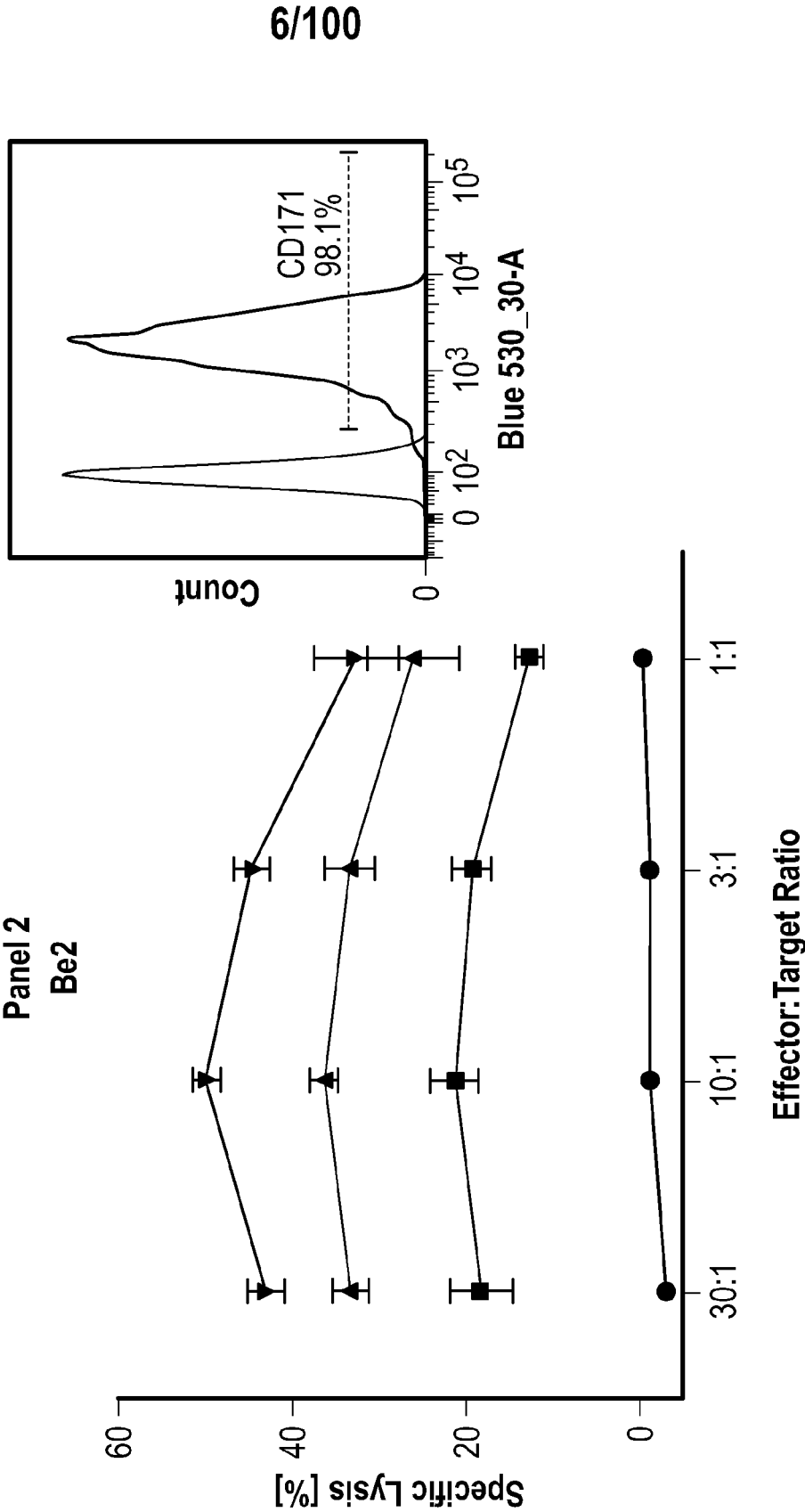
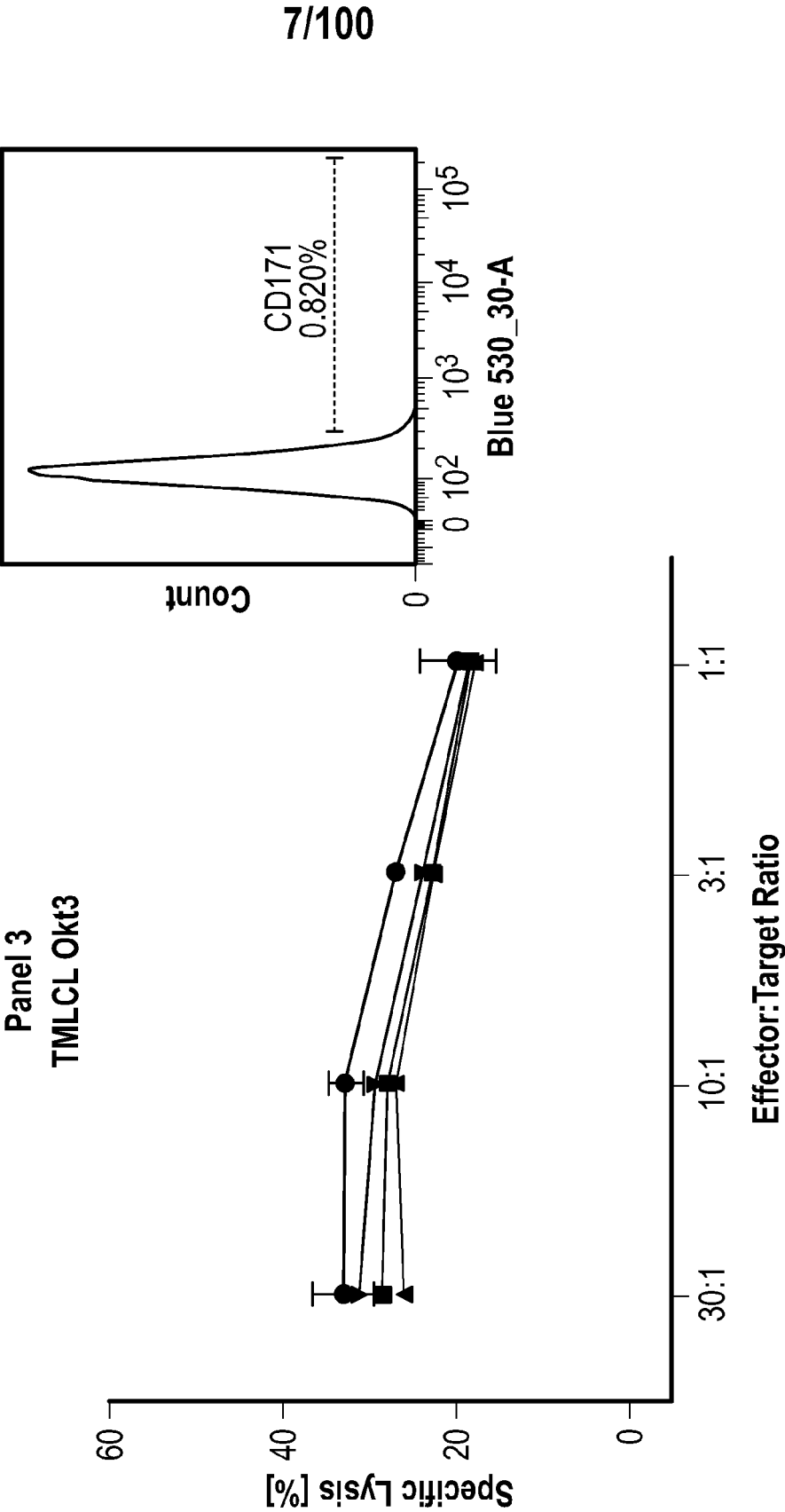
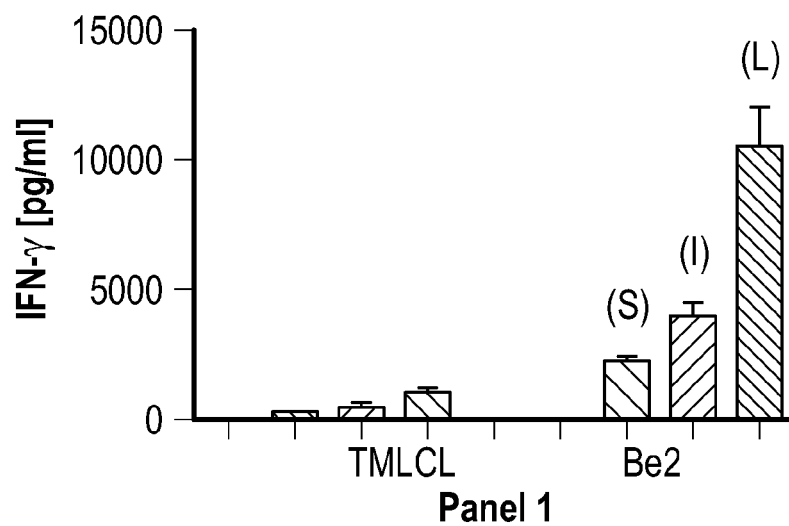
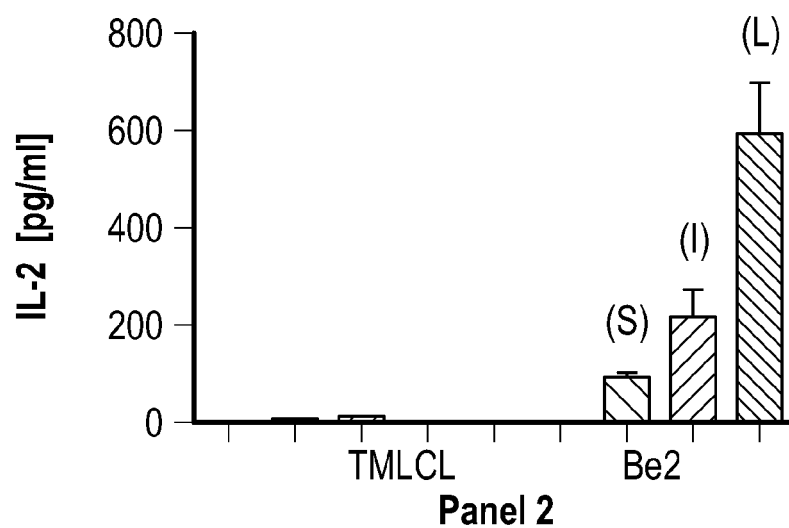
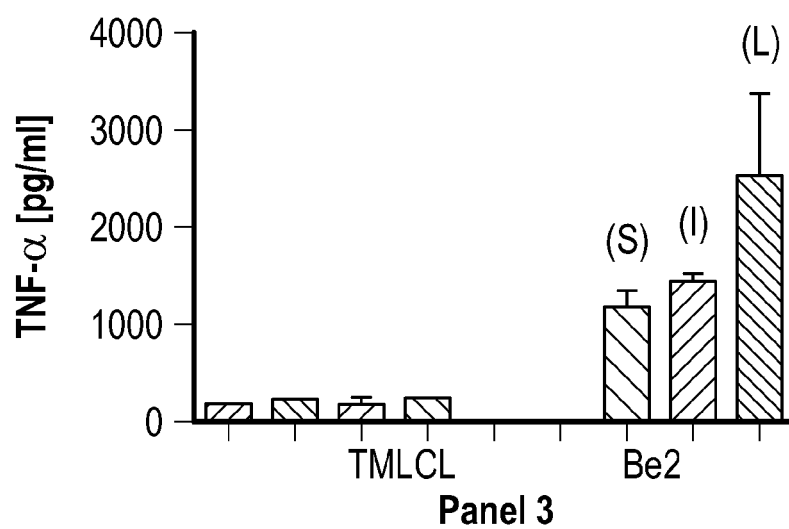


FIG. 2C (Continued)



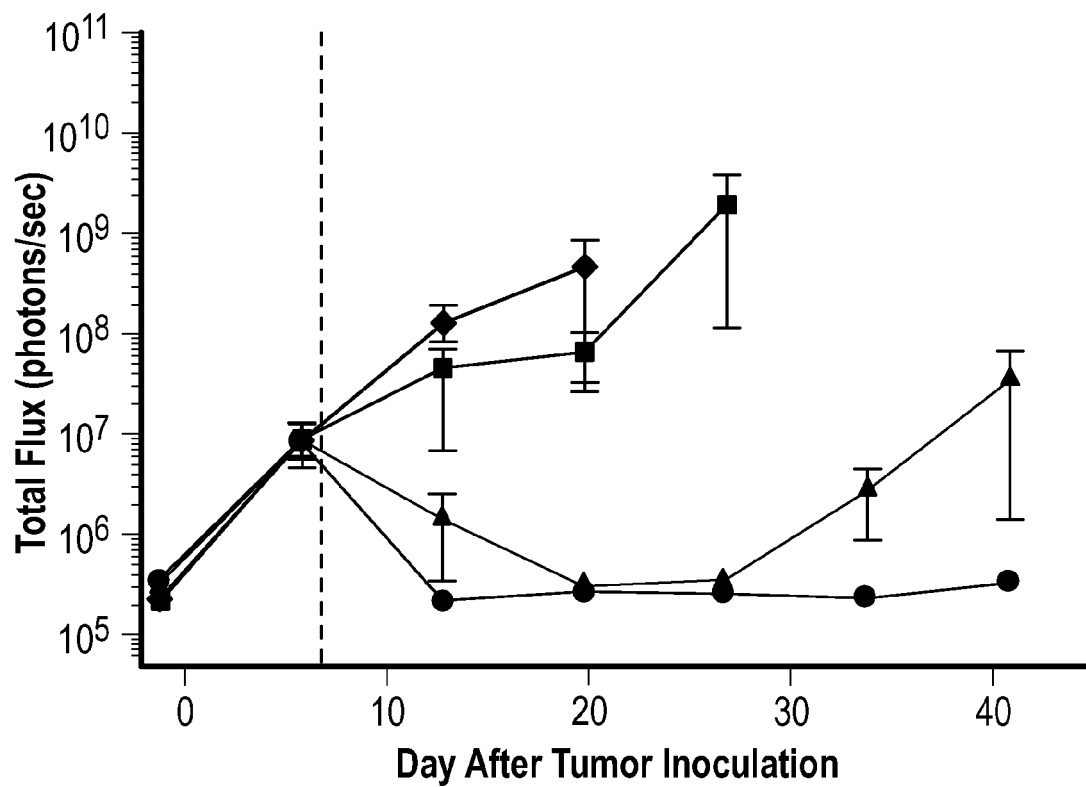
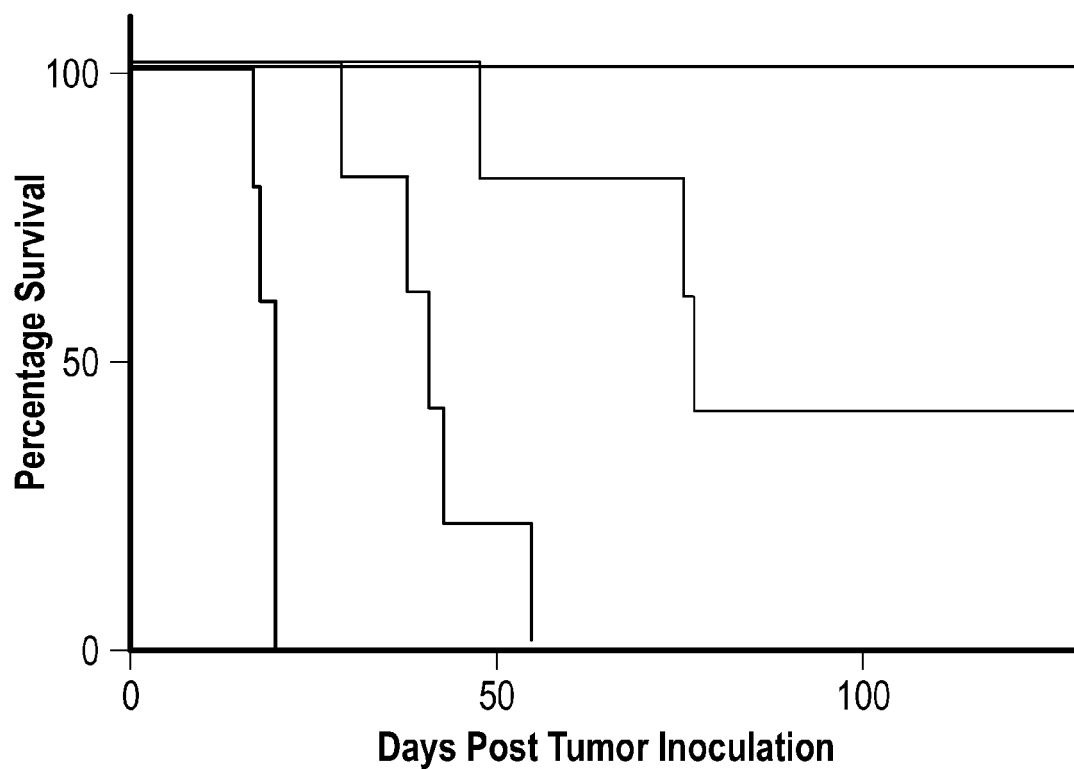
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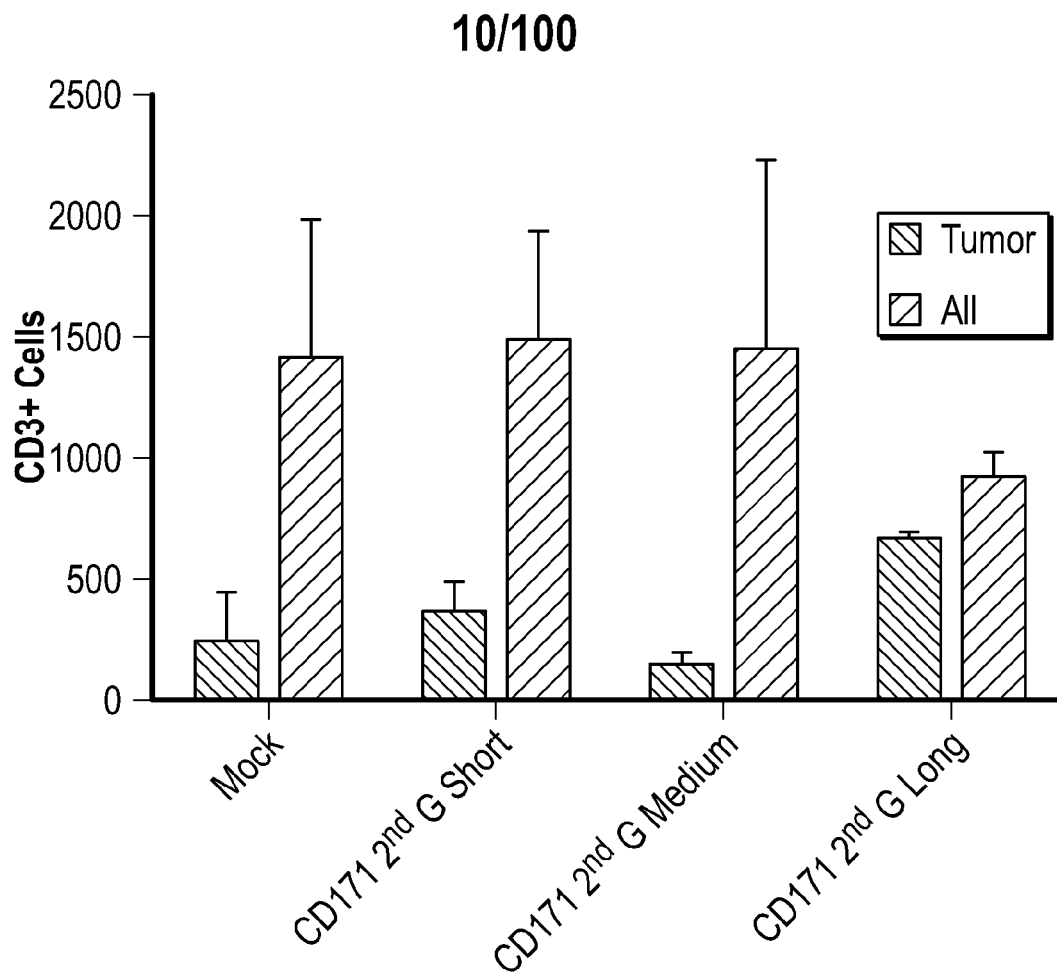
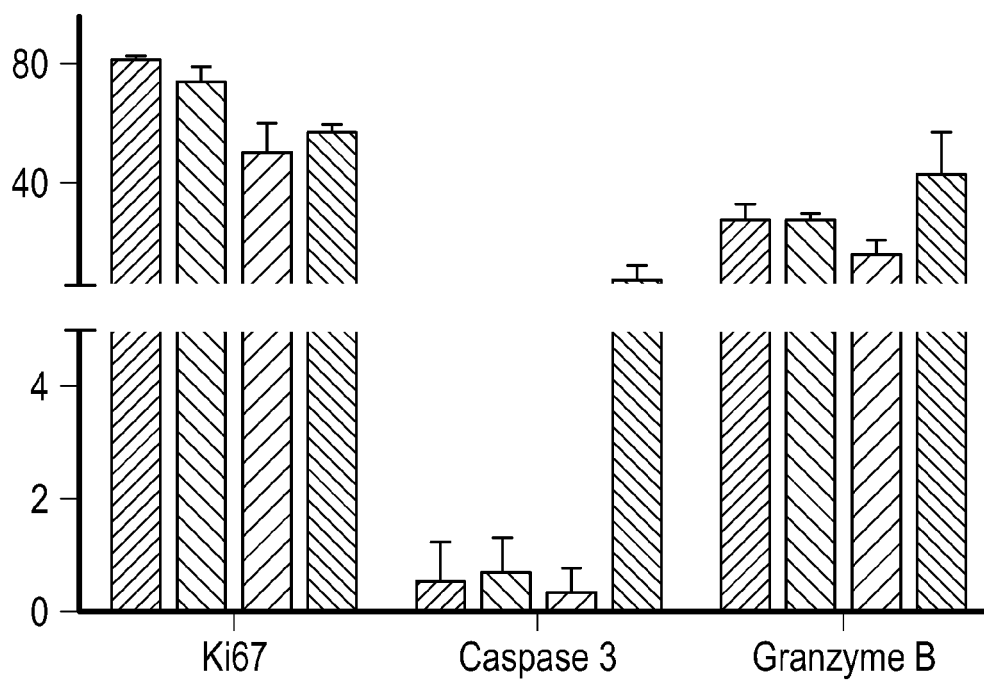
FIG. 2D

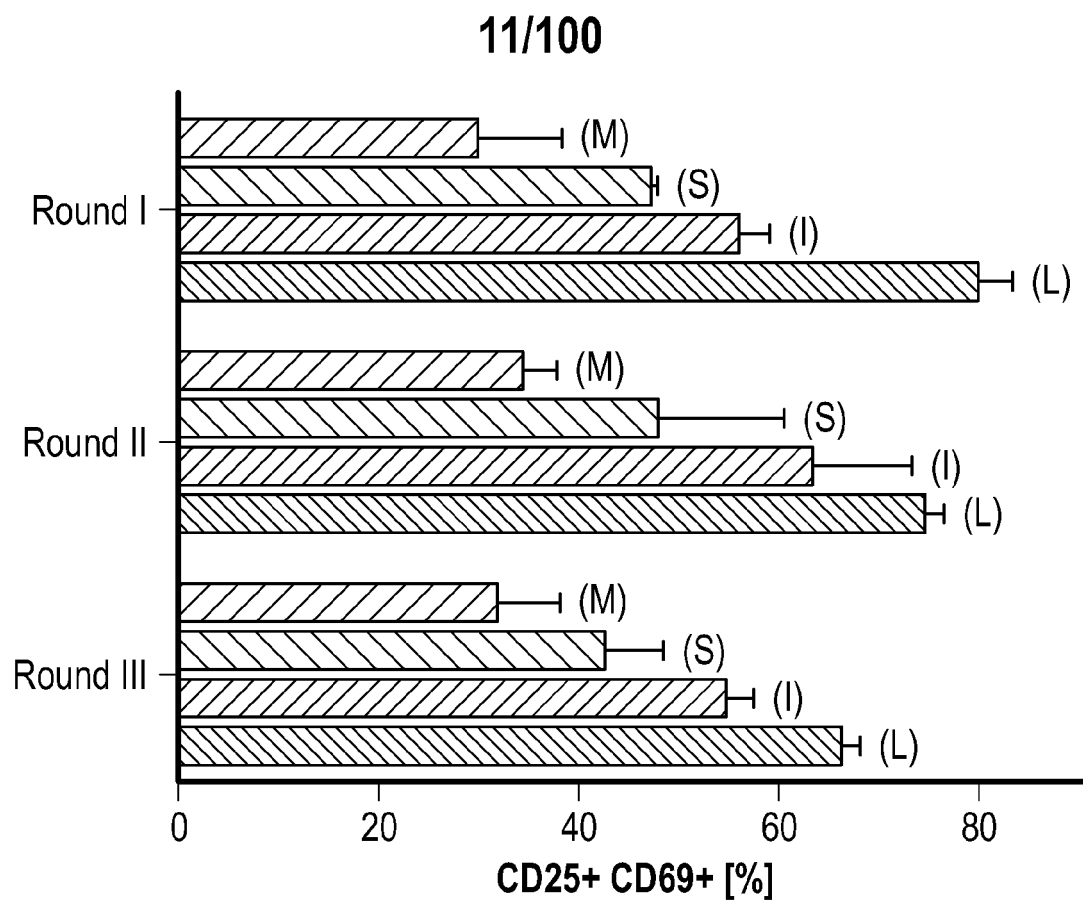
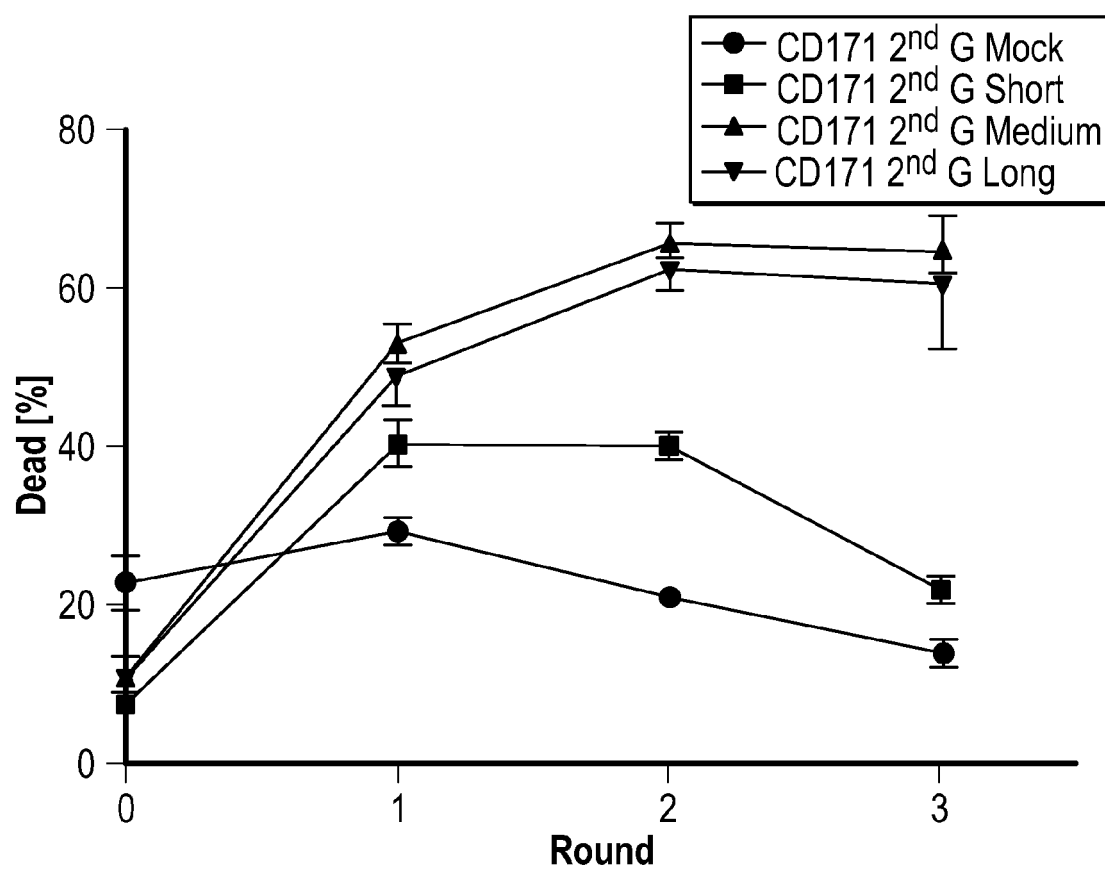


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FIG. 2E



**FIG. 2F****FIG. 2G**

**FIG. 3A****FIG. 3B**

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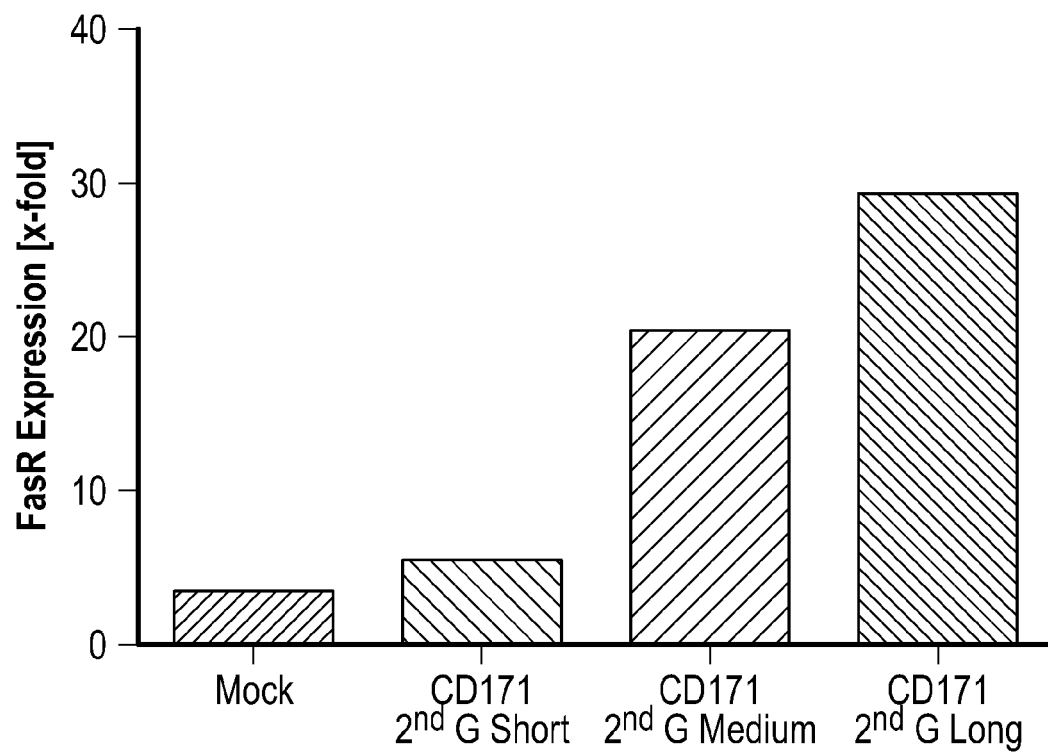
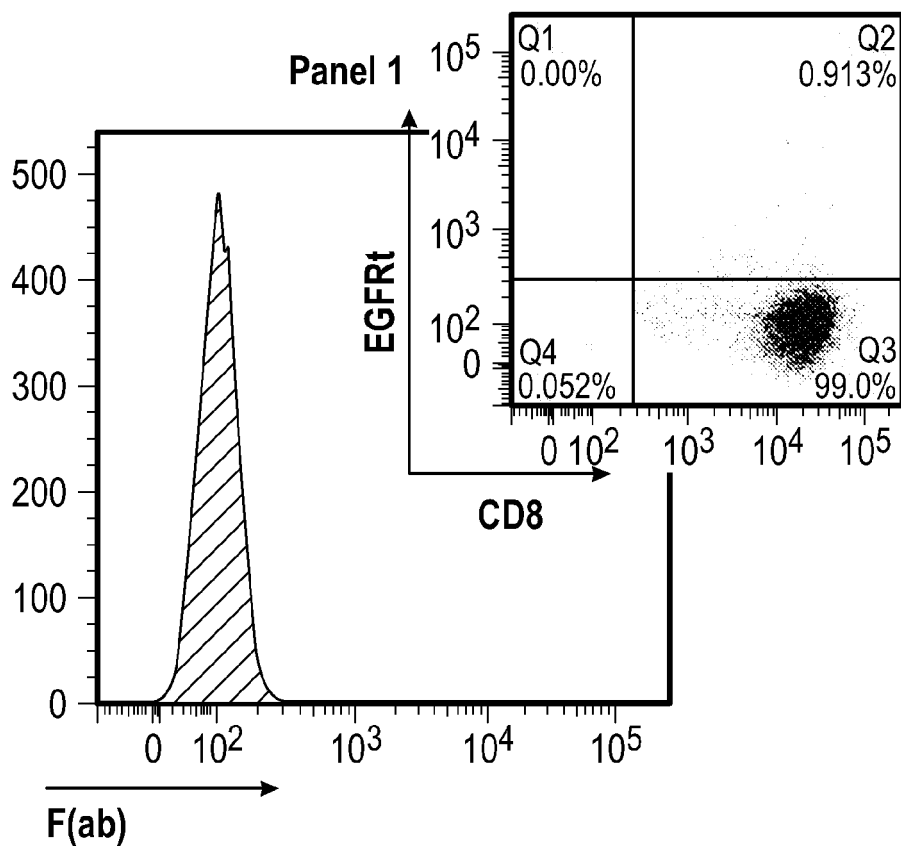
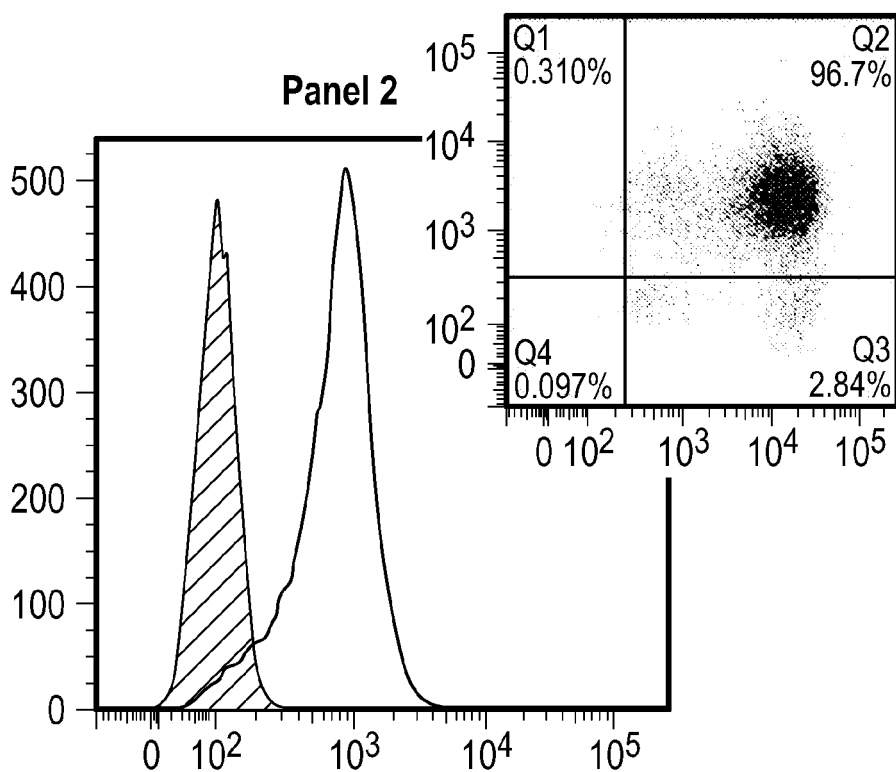


FIG. 3C

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FIG. 4A



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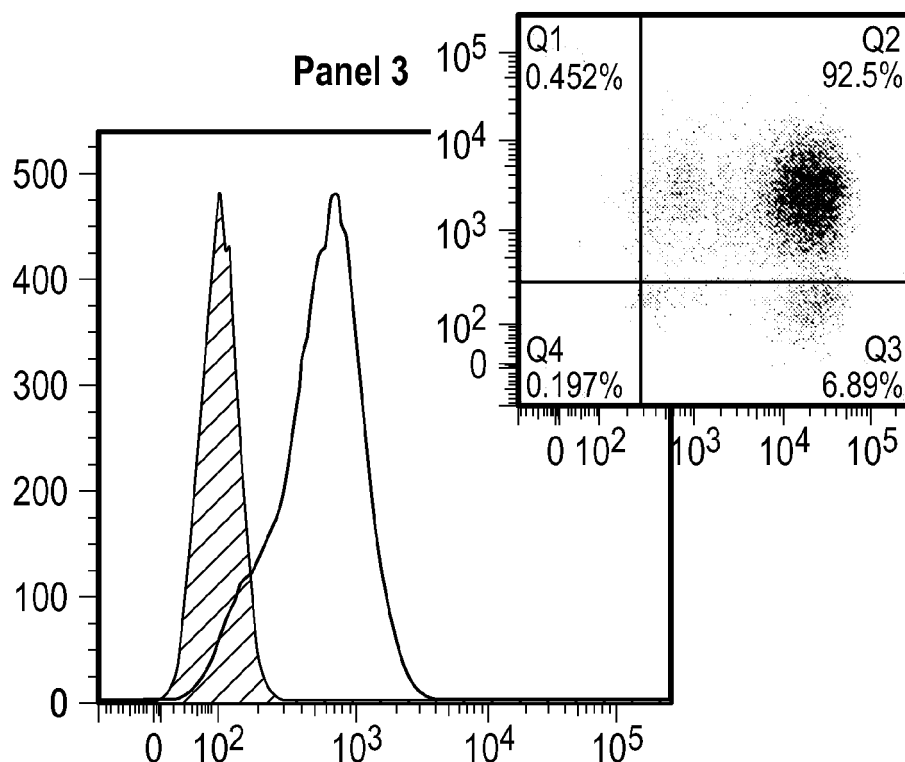


FIG. 4A (Continued)

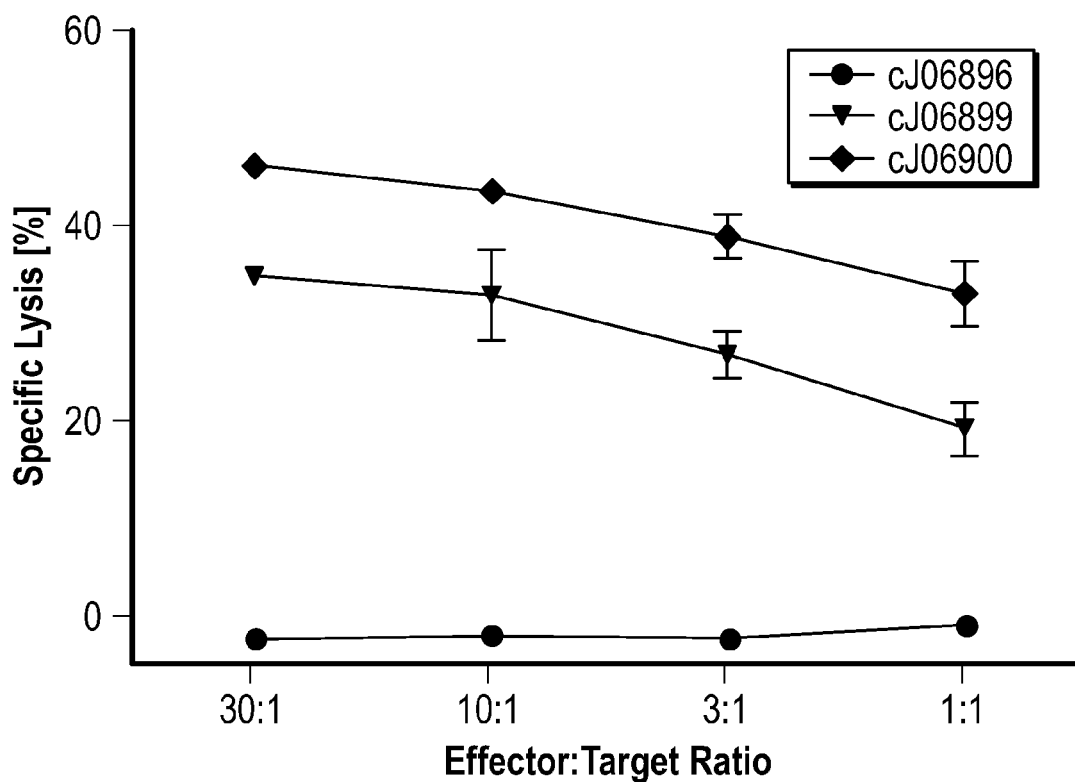


FIG. 4B

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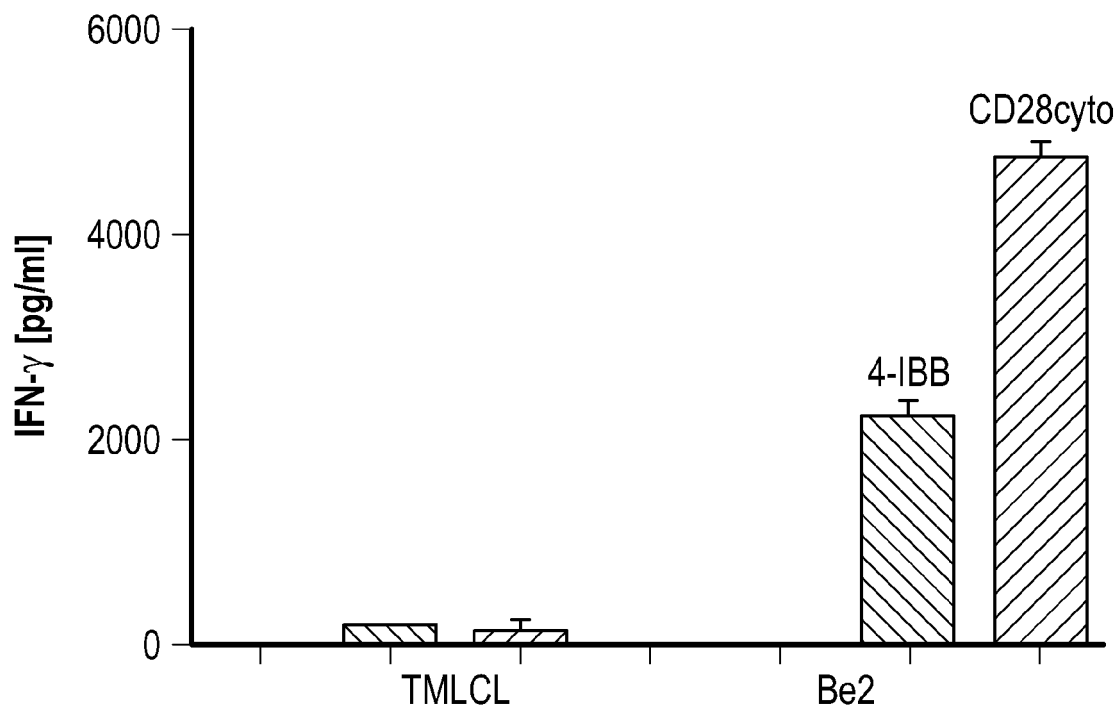


FIG. 4C

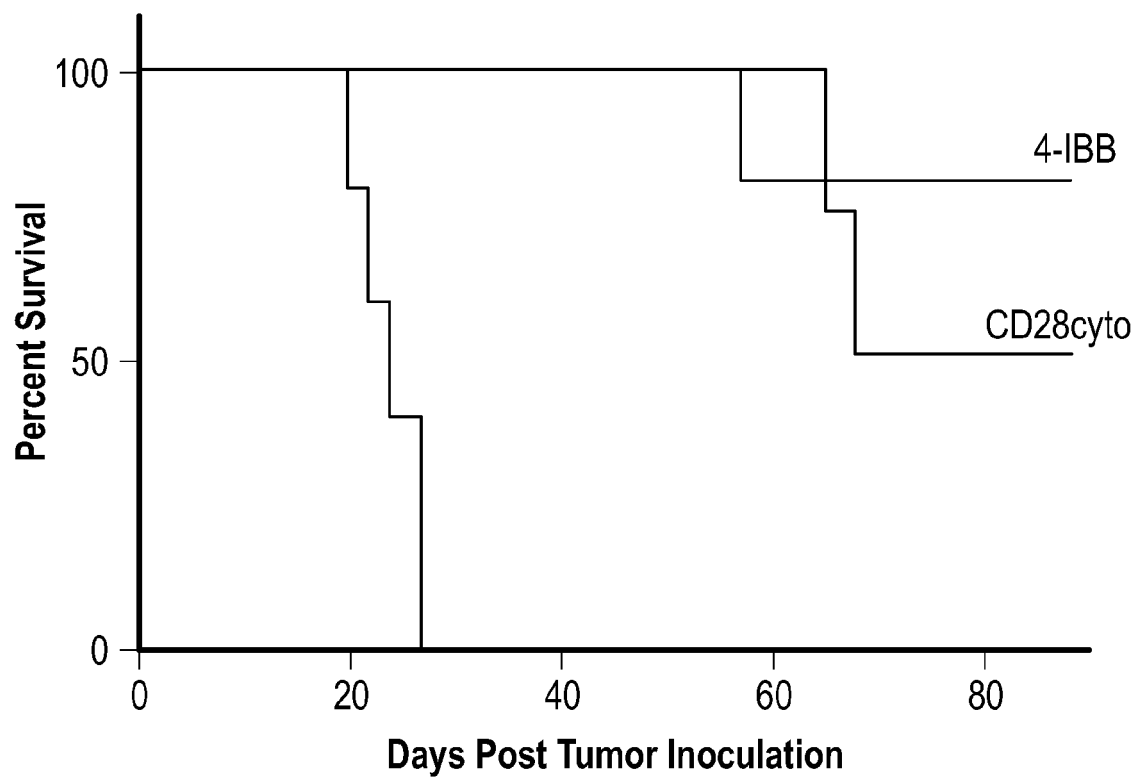
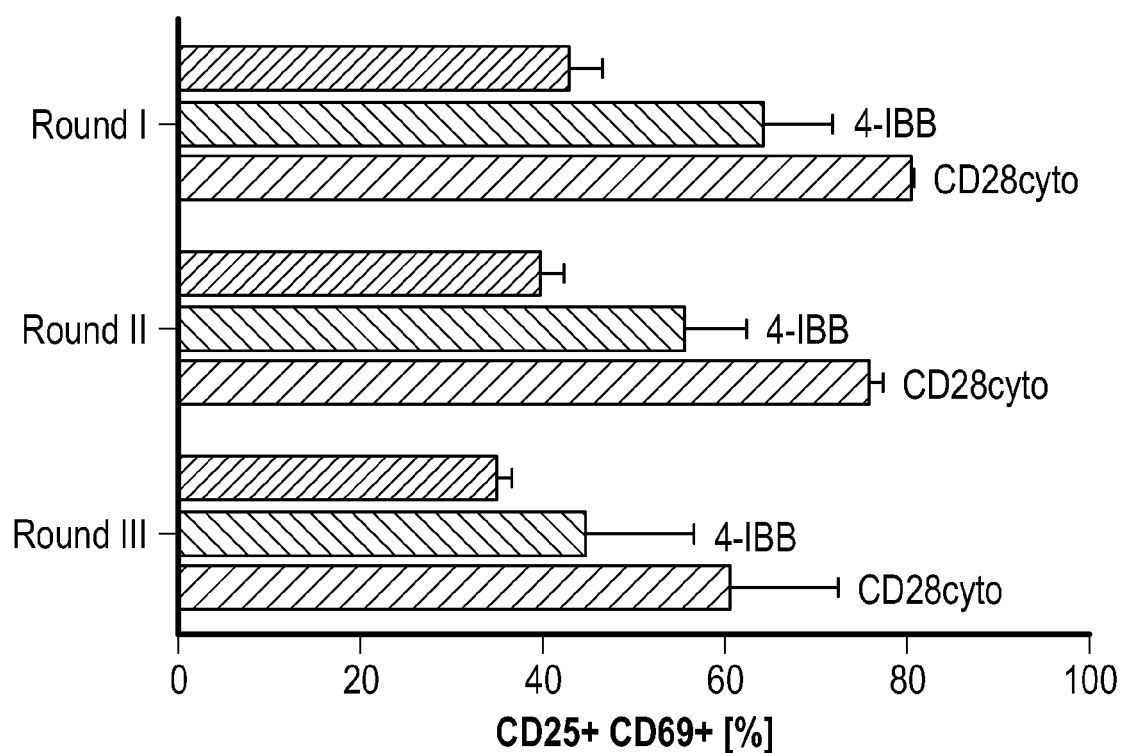
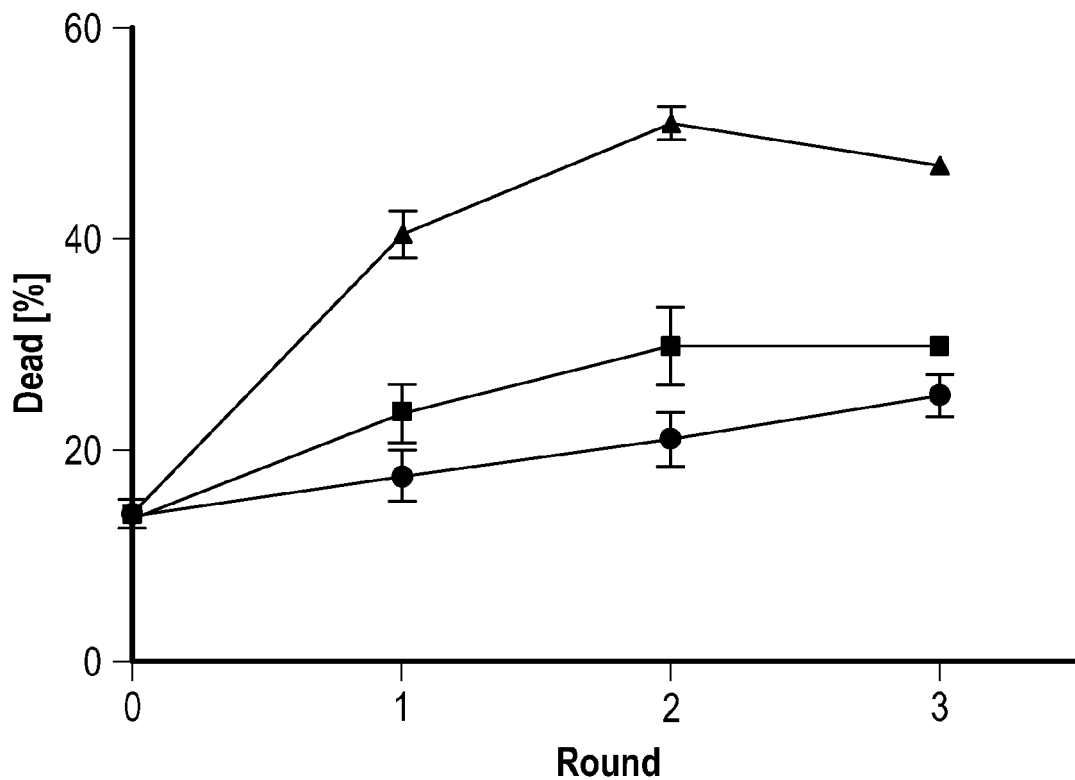


FIG. 4D

16/100**FIG. 4E****FIG. 4F**

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1  GTTAGACCAG ATCTGAGCCT GGGAGCTCTC TGGCTAACTA GGAACCCAC TGGTTAAGCC TCAATAAAGC TTGCCTTGAG TGCTTCAAGT AGTGTGTGCC
   CAATCTGGTC TAGACTCGGA CCTTCGAGAG ACCGATTGAT CCTTGGGTG ACGAATTCCG AGTTATTTCG AACGGAACTC ACGAAGTTCA TCACACACGG
101 CGTCTGTTGT GTGACTCTGG TAACTAGAGA TCCCTCAGAC CCTTTTAGTC AGTGTGAAA ATCTCTAGCA GTGGGCCCCG AACAGGACT TGAAGCGAA
   GCAGACAACA CACTGAGACC ATTGATCTCT AGGGAGTCTG GAAAAATCAG TCACACCTTT TAGAGATCGT CACCGCGGGC TTGTCCCTGA ACTTTCGCTT

201 AGGGAACCA GAGGAGCTCT CTCGAGCAG GACTCGGCTT GCTGAAGCG GCACGGCAAG AGGCGAGGG CGGCGACTGG TGAGTACGCC AAAAATTTTG
   TCCCTTTGGT CTCCTCGAGA GAGCTCGTC CTGAGCGGAA CGACTTCGCG CGTGCCTTC TCCGCTCCC GCGCTGACC ACTCATGGG TTTTAAAC

301 ACTAGCGGAG GCTAGAAGGA GAGAGTGGG TCGGAGAGCG TCAGTATTAA GCGGGGAGA ATTAGATCGA TGGGAAAAA TTCGGTTAAG GCCAGGGGA
   TGATCGCTC CGATCTTCCT CTCTTACCC ACGCTCTCG AGTCATAATT CGCCCTCTCT TAAATCTAGT ACCCTTTTTT AAGCAATTC CCGTCCCCCT

401 AAGAAAAAT ATAAATTAAA ACATATAGTA TGGGCAAGCA GGGAGCTAGA ACGATTGCA GTTAATCCTG GCCTGTTAGA AACATCAGAA GGCTGTAGAC
   TTCTTTTTTA TATTTAATTT TGTATATCAT ACCCGTTCGT CCTCGATCT TGTAAAGCT TGTATAGGAC CCGACAAATCT TTGTAGTCTT CCGACATCTG

501 AAATACTGG ACAGCTACAA CCATCCCTC AGACAGGATC AGAAGAACTT AGATCATTAT AGATACAGT AGCAACCTC TATTGTGTG ATCAAAGGAT
   TTTATGACC TGTCGATGTT GGTAGGGAAG TCTGTCTAG TCTTCTTGAA TCTAGTAATA TATTATGTC TCGTTGGGAG ATACACAG TAGTTTCTTA

601 AGAGATAAAA GACACCAAGG AAGCTTTAGA CAAGATAGAG GAAGAGCAA CAAGAGTAA AAAAAAGCA CAGCAAGCAG CAGCTGACAC AGGACACAGC
   TCTCTATTT CTGTGTTCC TTGGAATCT GTTCTATCT CTCTCGTTT TGTTCATTT CTTTTTCTG GTCGTTCTG TCGTGTGTG TCCTGTGTG

701 AATCAGGTCA GCCAAAATTA CCTTATAGTG CAGAACATCC AGGGCAAAAT GGTACATCAG GCCATATCAC CTAGAACTTT AAATGATGG GTAAAAGTAG
   TTAGTCCAGT CGGTTTAAAT GGGATATCAC GTCTTGTAG TCCCGTTTA CCAATGATC CCGTATAGT GATCTTGAAA TTTACGTACC CATTTTCATC

801 TAGAAGAGAA GGCTTTCAGC CCAGAACTGA TACCCATGTT TTCAGCATTA TCAGAAAGAG CCACCCACA AGATTAAAC ACCATGCTAA ACACAGTGGG
   ATCTTCTCT CCGAAAGTCG GGTCTTCACT ATGGGTACAA AAGTCGTAAT AGTCTTCTC AGTCTTCTCA CCAGTCTCT CTCTTTTCTC GTCACCCCTTA

901 GGGACATCAA GCAGCCATGC AAATGTTAAA AGAGACCATC AATGAGGAAG CTGAGGCAA AGAGAAGAGT GGTGCAGAGA GAAAAAGAG CAGTGGGAAT
   CCTGTAGTT CGTCGGTACG TTTACAAATTT TCTCTGGTAG TTAATCTCTC GACGTCCTT GACGTCCTC CCAGTCTCT CTCTTTTCTC GTCACCCCTTA

1001 AGGAGCTTG TTCCTTGGT TCTTGGGAG AGCAGGAAGC ACTATGGCG CAGCTCAAT GACGCTGACG GTACAGGCA GACATTAAT GTCTGGTATA
   TCCTCGAAAC AAGGAACCCA AGAACCTCG TCGTCTCTCG TGATACCCG GTGCGAGTTA CTGCGACTGC CATGTCCGGT CTGTTAATAA CAGACCATAT

1101 GTGCAGCAG AGAACAATTT GCTAGGGCT ATTGAGGCG AACAGCATCT GTTGGAACTC ACAGTCTGG GCATCAAGCA GCTCCAGCA AGAATCCTGG
   CACGTCGTCG TCTTGTAAA CGACTCCGA TAACTCCGCG TTGTCTGAGA CAACGTGAG TGTGAGACC CGTAGTCTGT CGAGGTCGT TCTTAGGACC
   flap
   ~~~~~~

1201 CTGTGGAAAG ATACCTAAG GATCAACAG TCCTGGGGAT TTGGGGTTC TCTGAAAAA TCAATTGCAC CACTGCTGTG CCTTGGATCT ACAAATGGCA
   GACACCTTC TATGGAATTC CTAGTTGTCG AGGACCCCTA AACCCCAACG AGACCTTTG AGTAAACGTG GTGACGACAC GGAACCTAGA TGTTTACCGT

```

FIG. 5

1301 ~GTA~TTCATCC~ACAA~TTTAA~AAGAA~AAGG~GGATP~GGG~GTA~CAGTGC~AGGGA~AAGA~ATAGTAGACA~TAATAGCAAC~AGACATACAA~ACTAAAGAAT~
 CATAAGTAGG~TGTTAA~AAT~TTCTTTTCCC~CCCTAACCCC~CCATGTACAG~TCCCCTTCT~TATCATCTGT~ATTATCGTTG~TCTGTATGTT~TGATTTCTTA

1401 ~TACAAA~AACA~AATTACAAA~A~TTCAAA~AAT~TTCGGGTTTA~TTACAGGAC~AGCAGATC~CAGTTTGGG~ATCAATTCGA~TGAAGAATCT~GCTTAGGGTT~
 ATGTTTTTGT~TTAATGTTTT~TAAGTTTAA~AAGCCAAAT~AATGTCCCCTG~TCGTCTCTAG~GTCAAACCCC~TAGTTAACGT~ACTTCTTAGA~CGAATCCCAA

1501 ~AGCGGTTT~CGGTGCTTCG~CGAGGATCTG~CGATCGCTCC~GGTCCCCTC~AGTGGGAGA~GCGCACATCG~CCCACAGTCC~CCGAGAACTT~GGGGGGAGGG~
 TCCGCAAAAC~GCGACGAAGC~GCTCCTAGAC~GCTAGCGAGG~CCACGGGCAG~TCACCCGCTCT~CGCGTGTAGC~GGGTCTCAGG~GGCTCTCAA~CCCCCTCCC

1601 ~GTCGGCAAT~GAACGGTGC~CTAGAGAGG~TGGCGCGGG~TAACTGGGA~AAGTGAATGC~GTGTACTGGC~TCCGCCTTT~TCCCGAGGGT~GGGGGAGAAC~
 CAGCCGTTAA~CTTGGCCACG~GATCTCTCC~ACCGCGCCC~ATTGACCCT~TTCACATACAG~CACATGACCG~AGCGGAAAA~AGGGCTCCCA~CCCCCTCTTG

1701 ~CGTATATAAG~TGAGTAGTC~GCCGTGAAG~TTC~TTT~TTCG~CAACGGGTTT~GCCGCCAGAA~CACAGCTGAA~GCTTCGAGGG~GCTCGCATCT~CTCCTTCACG~
 GCATATATTC~ACGTCAATCAG~CGGCATTCG~AAGAAAAAGC~GTTGCCCAAA~CGCGGGTCTT~GTGTCGACTT~CGAAGCTCCC~CGAGCGTAGA~GAGGAAGTGC

1801 ~CGCCCGCGC~CTACCTGAG~GCCGCCATCC~ACGCCGGTTG~AGTCGCGTTC~TGCCGCTCC~CGCCTGTGGT~GCTCCTGAA~CTGCGTCGC~CGTCTAGGTA~
 GCGGCGGGC~GGATGGACTC~CGCGGTAAG~TGCGGCCAAC~TCAGCGCAAG~ACGGCGGAGG~GCGGACACCA~CGAGGACTT~GACGCAAGCG~GCAGATCCAT

1901 ~AGTTTAAAGC~TCAGGTCGAG~ACCGGGCCTT~TGTCGGGCGC~TCCCTTGAG~CCTACCTAGA~CTCAGCGGC~TCTCCACGCT~TTGCCCTGACC~CTGCTTGCTC~
 TCAAAATTCG~AGTCCAGCTC~TGCCCCGAA~ACAGGCCGCG~AGGGAACCTC~GGATGGATCT~GAGTCGGCG~AGAGGTGCGA~AACGGA~CTGG~GACGAACGAG~
 ~~~~~~EFlp~~~~~Ce7scFv~~~~~

2001 ~AACTCTACGT~CTTTGTTTCG~TTTTCTGTT~TGCGCCGTTA~CAGATCCAAG~CTGTGACCGG~CGCCTACGGC~TAGCGCCGCC~ACCATGCTGC~TGCTGGTGAC~  
 TTGAGATGCA~GAAACAAAGC~AAAAGACAAG~ACGCGGCAAT~GTCTAGGTTT~GACACTGGCC~GCGGATGCCG~ATCGCGCGG~TGGTACGACG~ACGACCACTG~

2101 ~CAGCCTGCTG~CTGTGCGAGC~TGCCCCACCC~CGCCTTTCTG~CTGATCCCC~AGGTGCAGCT~GCAGCAGCCT~GGCGCCGAGC~TGGTGAAGCC~AGGCGCCAGC~  
 GTCGGACGAC~GACACGCTCG~ACGGGGTGGG~GCGGAAAGAC~GACTAGGGG~TCCACGTCGA~CGTCGTCCGA~CGCGGCTCG~ACCACTCGG~TCCGCGGTCTG~

2201 ~GTGAAGCTGT~CCTGCAAGC~CAGCGGTAC~ACCTTACCG~GCTACTGGAT~GCATCTGGTG~AAGCAGAGAC~CCGGCCACGG~CCTGGAATGG~ATCGGCGAGA~  
 CACTTCGACA~GGACGTTCCG~GTCCGCGATG~TGGAAGTGGC~CGATGACCTA~CGTGAACCCAC~CTTCGTCTCTG~GGCCGGTGGC~GGACCTTACC~TAGCCGCTCT~

2301 ~TCAACCCAG~CAACGGCCGG~ACCACTACA~ACGAGCGGTT~CAAGAGCAAG~GCCACCTGA~CCGTGGACAA~GAGCAGCACC~ACCGCTTCA~TGCAGCTGTC~  
 AGTTGGGGTC~GTTGCCGGCC~TGGTTGATGT~TGCTCGCCAA~GTTCTCGTTC~CGGTGGGACT~GGCACCTGTT~CTCGTCGTGG~TGGCGGAAGT~ACGTCGACAG~

2401 ~CGGCCTGACC~AGCGAGGACA~GCGCCGTTGA~CTTCTGCGCC~AGGGA~CTACT~ACGGA~ACAG~CTACA~ACTTC~GACTACTGGG~GCCAGGGCAC~CACACTGACC~

FIG. 5 (Continued)

**FIG. 5 (Continued)**

**FIG. 5 (Continued)**

|      |                                                                                                                    |      |
|------|--------------------------------------------------------------------------------------------------------------------|------|
| 4501 | GAGGAGACCT AGGTGTCCTT GACCTATAAG ACTTTTGGCA TTTCTCTTTAG TGTCCTCAAAA ACAGCTAAAGT CCGAAACCGGA CTTTGTGTCTT GCCTGGAGGT | EGFR |
|      | ~TGCTTTTGAG AACCTAGAAA TCATACGGG CAGGACCAAG CAACATGGTC AGTTTCTCT TGCAGTCGC AGCTGAACA TAAACATCCTT GGCATTACGC        |      |
|      | ACGGAACCTC TTGGATCTTT AGTATGGCC GTCCTGGTC GTTGTAACAG TCAAAAGAGA ACGTCAGAG TCGGACTTGT ATTGTAGGA CCTAATGCG           | EGFR |
|      | ~TCCCTCAAGG AGATAAGTGA TGGAGATG TGGAATTTAG GAAACAAAAA TTTGTGCTAT GCAAAATACAA TAAACTGGAA AAAACTGTTT GGGACCTCCG      |      |
|      | AGGGAGTTCC TCATTCACT ACCTCTACAC TATTAAAGTC CTTTGTCTTT AAACACGATA CGTTTATGTT ATTTGACCTT TTTTGACAAA CCCTGGAGGC       | EGFR |
|      | ~GTCAGAAAAC CAAAATTATA AGCAACAGAG GTGAAAACAG CTGCAAGGC ACAGGCCAGG TCTGCGATGC CTTGTGCTCC CCCGAGGGCT GCTGGGGCCC      |      |
|      | CAGTCTTTG GTTTAATAT TCGTTGTCTC CACTTTTGC GACGTTCCG TGTCGGTCC AGACGTACG GAACACGAGG GGGCTCCGA CGACCCCGG              | EGFR |
|      | ~GGAGCCCGG GACTCGCTCT CTTGCCGAA TGTCAGCCGA GGCAGGAAT GCGTGGACAA GTGCAACCTT CTGGAGGGTG AGCCAAGGA GTTGTGGAG          |      |
|      | CCTCGGGTCC CTGACGCAGA GAACGGCTT ACAGTCGGCT CCGTCCCTTA CGACCTGTT CACGTTGAA GACCTCCAC TCGGTTCCCT CAAACACCTC          | EGFR |
|      | ~AACTCTGAGT GCATACAGTG CCACCCAGAG TGCTGGCTC AGGCCATGAA CATCACCTGC ACAGGACGGG GACCAGACA CTGTATCCAG TGTGCCCCAT       |      |
|      | TTGAGACTCA CGTATGTCAC GGTGGGTCTC ACGGACGGAG TCCGGTACTT GTAGTGGACG TGTCCTGCCC CTGGTCTGTT GACATAGGTC ACACGGGTGA      | EGFR |
|      | ~ACATTGACGG CCCCACACTG GTCAAGACCT GCGCGGCAGG AGTCATGGGA GAAACAACA CCCGTGTCGT GAAGTACGA GACGCGGGCC ATGTGTGCCA       |      |
|      | TGTAACCTGCC GGGGTGACG CAGTTCTGGA CGGGCCGTCC TCAGTACCTT CTTTGTGTTG GGGACACAG CTTTCATGCGT CTGCGGCGCG TACACACGGT      | EGFR |
|      | ~CCTGTGCCAT CCAAACTGCA CCTACGGATG CACTGGGCCA GGTCTTGAAG GGTGTCCAAC GAATGGGCTT AAGATCCCGT CCATCGCCAC TGGGATGGTG     |      |
|      | GGACACGGTA GGTGTGACGT GGATGCCTAC GTGACCCGGT CCAGAACTTC CGACAGGTG CTTACCCGA TTCTAGGGCA GGTAGCGGTG ACCCTACCAC        | EGFR |
|      | ~GGGCCCTCC TCTTGCTGCT GGTGGTGCC CTGGGGATCG GCCTCTTCAT GTGAGCGGCC CACTCTACACC CGGCTGCAG GAATTTCGATA TCAAGCTTAT      | WPRE |
|      | CCCCGGGAGG AGAACGACGA CCACCAACCG GACCCCTAGC CGGAGAAGTA CACTCGCCCG CGAGATCTGG GCCCGACGTC CTTAAGCTAT AGTTCGAATA      | WPRE |
|      | ~CGATAATCAA CCTCTGGATT ACAAAATTG TGAAGATTG ACTGGTATTC TTAACATAGT TGCTCTTTT ACCTATGTG GATACGCTGC TTTAATGCCT         |      |
|      | GCTATTAGTT GGACACCTAA TGTTTTAAAC ACTTCTTAAC TGACCATAAG AATTGATACA ACGAGGAAAA TGCATACAC CTATGCGAGC AAATTACGGA       | WPRE |
|      | ~TTGTATCATG CTAATTGCTT CCGTATGGT TTCAATTTCT CCTCCTTGA TAAATCCTGG TTGCTGTCTC TTTATGAGGA GTTGTGGCC GTTGTGAGGC        |      |
|      | AACATAGTAC GATAACGAAG GGCAATCCGA AAGTAAAGA GGAGGAACAT ATTTAGGACC AACGACAGAG AAATACTCCT CAACACCGG CAACAGTCCG        | WPRE |
|      | ~AACGTGGCGT GGTGTGCACT GTGTTGTG ACGCAACCCC CACTGGTTGG GGAATTGCCA CCACCTGTCA GCTCCTTCC GGGACTTTC CTTTCCCCT          |      |
|      | TTGCACCGCA CCACACGTGA CACAAACGAC TCGGTTGGG GTGACCAACC CCGTAACGGT GGTGGACAGT CGAGGAAAG CCCTGAAAGC GAAAGGGGA         | WPRE |
|      | ~                                                                                                                  |      |

**FIG. 5 (Continued)**

5601 CCCTATTGCC ACGCGGGAAC TCATCGCGCG CTGCTTGGC CAGGGGCTCG GCTGTGGG ACTGACAAATT CCGTGGTGT GTCCGGGAAA  
 GGGATAACGG TGCGCGCTTG AGTAGCGCG GACGGAACGG GCGACGACCT GTCCCCGAGC CGACAACCG TGACTGTAA GGCACACAA CAGCCCCCTT  
 5701 TCACTGCTCT TCCCTGGCT GCTCGCTGT GTTCCACCT GGAATCTCG GGGACGTC TCCCTCGG CCTCAATCCA GCGACCTTC  
 AGTAGCAGGA AAGGAACCGA CGAGCGGACA CAACGGTGG CTAAGACCG CCGCTGAGG AAGACGATG AGGAAGCCG GGAGTTAGT CGCCTGGAAG  
 5801 CTTTCCGCGG CTTGCTGCG GCTCTGCGG CTTCTGCGT TCTTCCCT CAGAGTCGAT CTTCTTTGG GCGCTTGG GCGCTTCC CGCATCGATA  
 GAAGGGCGCC GGACGACGCG CGAGACGCG GAGAAGGCG AGAAGCGAA GCGGAGTCT GCTCAGCCTA GAGGAAACC CGGCGGAGG GCGTAGCTAT  
 5901 CCGTCGACTA GCGTACCTT TAAGACCAAT GACTTACAAG GAGCTGTAG ATCTTAGCA CTTTAAAG GAAAGGGG GACTGGAGG GCTAATTCA  
 GGCAGCTGAT CGCATGGAA ATTCTGTGA CTGAATGTC CCGTACATC TAGAATCGT GAAAAATTT CTTTCCCC CTGACCTCC CGATTAAAGT  
 6001 TCCCAAGAA GACAAGATCT GCTTTTGGC TGTACTGGT AGACCAATC TGAGCTGGG AGCTCTCTG CTAACCTAGG AACCCACTGC  
 AGGGTTCTT CTGTTCTAGA CGAAAAACGG ACATGACCA GAGAGACCA TCTGTCTAG ACTCGGACC TCGAGAGACC GATTGATCC TTGGGTGAGC  
 6101 TTAAGCCTCA ATAAAGCTTG CTTGAGTGC TTCAAGTAGT GTTGGCCGT GTTGGCTG ACTCTGGTAA CTAGAGATCC CTCAGACCT TTTAGTCAGT  
 AATTCCGAGT TATTTCGAAC GGAATCAGG AAGTTCAAT CACACGGCA GACAACAC TGAGACCAAT GATCTTAGG GAGTCTGGG AATCAGTCA  
 6201 GTGGAAATC TTAGCAGAA TTCGATATCA AGCTTATCGA TACCGTCGAC CTCGAGGGG GCGCCGGTAC CCAATTCTGCC CTATAGTCAG TCGTATTACA  
 CACCTTTTAG AGATCTCTT AGCTATAGT TCGAATAGCT ATGCGAGCTG GAGCTCCCC CCGGGCCATG GGTTAAGCG GATATCACTC AGCATAATGT  
 6301 ATTCACTGG CAGCTGTTTA CAACGTCGT ACTGGGAAA CCGTGGCTT ACCCACTTA ATCGCTTGC AGCAGATCCC CTTTCCGCA GCTGGCGTAA  
 TAAGTGACCG GCAGCAAAAT GTTGACGAC TGACCTTTT GGAACCGAA TGGTTGAA TAGCGGAAC TCGTGTAGG GGAAGCGGT CGACCGCAT  
 6401 TAGCGAAGAG GCGCGACCG ATCGCCCTC CCAACAGTT CGCAGCTGA ATGGCAATG GAAATTGTAA GCGTTAATAT TTTGTTAAA TTCGCGTTAA  
 ATCGCTTCT CCGCGGTGGC TAGCGGGAAG GGTGTCAAC GGTCTGACT TACCGCTAC CTTTAACTT CGCAATTATA AAACAAATTT AAGCGCAAT  
 6501 ATTTTGTGA ATCAGCTCA TTTTAAAC AATAGGCGA AATCGGCAA ATCCCTATA ATCCCTATA ATAGCCGAG ATAGGTTGA GTGTGTTC  
 TAAAAACAAT TTAGTCGAGT AAAAAATTG TTATCCGGCT TTAGCCGTTT TAGGGAATAT TTAGTTTCT TATCTGGCTC TATCCAACT CACAACAAGG  
 6601 AGTTTGAAC AAGATCCAC TATTAAAGAA CGTGGACTCC AACGTCAAAG GCGGAAAAAC CGTCTATCAG GCGATGGCC CACTACGTA ACCATCACCC  
 TCAACCTTG TTCTCAGGTG ATAAATTTCTT GCACCTGAGG TTGCAGTTTC CCGCTTTTTC GCAGATAGT CCGTACCGG GTGATGCACT TGGTAGTGGG  
 6701 TAATCAAGT TTTTGGGTG GAGTGCGT AAAGCACTAA ATCGGAACCC TAAAGGAGC CCGCGATTTA GAGCTTGACG GGAAGAGCG GCGAACGTGG  
 ATTAGTTCAA AAAACCCAG CTCCACGGA TTTCGTGAT TAGCTTGGG ATTTCCCTC GGGGCTAAAT CTCGAACTGC CCGTTTCCG CGCTTGACCC  
 6801 CGAGAAAGGA AGGAAGAAA GCGAAGGAG CCGCGCTAG GCGCTGGCA AGTGTAGCGG TCACGCTGC AGTGCAGCG GCAATGGTG TGTGGCGG GCGAATTACG  
 GCTCTTCTT TCCCTCTTT CGCTTCTT CGCGGCGATC GCGGACCGT TCACATCGC CCGGACCGT TTTATTTTC TAAATACAT CAAATATGTA TCCGCTCATG  
 6901 GCGCTACAG GCGCGTCAG GTGGCACTT TCGGGGAAAT GTGCGCGAA CCGCTATTG TTTATTTTC TAAATACAT CAAATATGTA TCCGCTCATG  
 CGCGATGTC CCGCGCAGT CACCGTGAAC AGCCCTTTA CACGCGCTT GGGGATAAC AATAAAAAA ATTTATGTA GTTTATACAT AGCGAGTAC  
 7001 AGACAATAAC CCGTATAAT GCTTCAATA TATTGAAAA GGAAGAGTAT GAGTATCAA CATTTCCGT TCGCCCTTAT TCCCTTTT GCGGCATTTT  
 TCTGTTATTG GGAATTTTA CGAAGTTAT ATAATTTT CCTTCTCATA CTCAATAGT GTAAAGGCAC AGCGGGAATA AGGGAATAA GCGCGTAAAA

FIG. 5 (Continued)

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7101 GCCTTCCTGT TTTTGCTCAC CCAGAAACGC TGGTGAAAGT TGGTGCACG AGTGGGTAC ATCGAACTGG ATCTCAACAG  
 CGGAAGGACA AAAACGAGTG GGTCTTTGGG ACCACTTTCA TTTTCTACGA CTTCTAGTCA ACCCAGTGC TCACCCAATG TAGCTTACC TAGAGTTGTC  
 ~~~~~~  
 7201 CGGTAAGATC CTTGAGAGTT TTCGCCCGCA AGAACGTTTT CCAATGATGA GCACTTTTAA AGTCTGCTA TGTGGCGCGG TATTATCCCG TATTGACGCC
 GCCATTCTAG GAACTCTCAA AAGCGGGGCT TCTTGCAAAA GGTACTACT CGTGAAAATT TCAAGACGAT ACACCGCGCC ATAATAGGCC ATAACCTGCGG
 ~~~~~~  
 7301 GGGCAAGAGC AACTCGGTG CCGCATACAC TATTCTCAGA TATTCTGCTA TGAGTACTCA CCAGTCACAG AAAAGCATCT TACGGATGGC ATGACAGTAA  
 CCCGTTCTCG TTGAGCCAGC GCGGTATGTG ATAAGAGTCT TACTGAACCA ACTCATGAGT GGTCAAGTGC TTTTCGTAGA ATGCCATCCG TACTGTCAAT  
 ~~~~~~  
 7401 GAGAAATTAT CAGTCTGCC ATAAACCATGA GTGATAACAC TCGGGCCAAC TTACTTTCTGA CAACGATCGG AGGACCGAAG GAGCTAACCG CTTTTTTGCA
 CTCCTTAATAC GTCACGACGG TATTGGTACT CACTATTGTG ACGCCGGTTG AATGAAGACT GTTGCTAGCC TCCTGGCTTC CTCGATTGGC GAAAAAACGT
 ~~~~~~  
 7501 CAACATGGGG GATCATGTAA CTCGCCCTGA TCGTTGGGAA CCGGAGCTGA ATGAAGCCAT ACCAAACGAC GACGCTGACA CCACGATGCC TGTAGCAATG  
 GTTGTAACCC CTAATACATT GAGCGGAAT GAGCGGAAT AGCAACCCCTT GGCTCGACT TACTTCGGTA TGGTTGCTG CTCGACTGT GGTGCTACGG ACATCGTTAC  
 ~~~~~~  
 7601 GCAACAACGT TCGGCAAACT ATTAACCTGC GAACACTTAA CTCTAGCTTC CCGGCAACAA TTAATAGACT GGATGGAGGC GGATAAAGTT GCAGGACCAC
 CGTTGTTGCA ACGGTTTGA TAAATTGACCG CTTGATGAAT GAGATCGAAG GCGCGTTGTT AATTATCTGA CCTACCTCCG CCTATTTCAG CGTCTTGGTG
 ~~~~~~  
 7701 TTCTGCGCTC GCGCCTTCCG GCTGGCTGGT TTATTGCTGA TAAATCTGGA GCCGGTACG GTGGGTCTCG CGGTATCATT GCAGCACTGG GGCCAGATGG  
 AAGACGGAG CCGGGAAGC CGACCGACCA AATAACGACT ATTTAGACCT CCGCCACTCG CACCCAGAGC GCCATAGTAA CGTCGTGACC CCGGCTTACC  
 ~~~~~~  
 7801 TAAGCCCTCC GGTATCGTAG TTATCTACAC GACGGGGAGT CAGGCAACTA TGGATGACG AAATAGACAG ATCGCTGAGA TAGGTGCCTC ACTGATTAAAG
 ATTCGGGAGG GCATAGCATC AATAGATGTG CTGCCCCCTCA GTCCGTTGAT ACCTACTGTC TTTATCTGTC TAGCGACTCT ATCCACGGAG TGACTAAATC
 ~~~~~~  
 7901 CATTTGGTAA TGTACAGACA AGTTTACTCA TATATACTTT AGATTGATTT AAAACTTCAT TTTTAAATTA AAAGGATCTA GGTGAAGATC CTTTTTGATA  
 GTAACCATG ACAGTCTGGT TCAAAAGAGT ATATATGAAA TCTAACTAAA TTTTGAAGTA AAAATTAAAT TTTCTAGAT CCACCTTAG GAAAAACTAT  
 ~~~~~~  
 8001 ATCTCATGAC CAAAATCCC TAACTGACT TTTTCGTTCCA CTGAGCGTCA GACCCCGTAG AAAAGATCAA AGGATCTTCT TGAGATCCTT TTTTCTGCGG
 TAGAGTACTG GTTTTAGGGA ATTGCACCTA AAAGCAAGGT GACTCGCAGT CTGGGGGATC TTTTCTAGTT TCCTAGAAGA ACTCTAGGAA AAAAAGACGC
 ~~~~~~  
 8101 CGTAAATCTG TGGTTGCAA CAAAAAAC ACCGCTACCA GCGGTGGTTT GTTTGGCGGA TCAAGAGCTA CCAACTCTTT TTCCGAAGGT AACTGGCTTC  
 GCATTAGACG ACGAACGTTT GTTTTTTTGG TGGCGATGGT CGCCACCAAA CAAACGGCT AGTTCTCGAT GGTGAGAAA AAGGCTTCCA TTGACCGAAG  
 ~~~~~~  
 8201 AGCAGAGCGC AGATACCAAA TACTGTCTTT CTAGTGAGC CGTAGTTAGG CCACCACTTC AAGAACTCTG TAGCACCACC TACATACCTC GCTCTGCTAA
 TCGTCTCGCG TCTATGGTTT ATGACAAGAA GATCACAATC GATCAATCC GGTGGTGAAG TTCTTGAGAC ATCGTGGCGG ATGTATGGAG CGAGACGATT

FIG. 5 (Continued)

CoE1 ori
8301 TCCTGTTACC AGTGGCTGCT GCCAGTGGG ATAAGTCGTG TCTTACCGGG TTGGACTCAA GACGATAGTT ACCGGATAAG GCGCAGGGT CGGGCTGAAC
AGGACAATGG TCACCGACGA CGGTACCGC TATTACGAC TATTACGAC AGAATGGCCC AACCTGAGTT CTGCTATCAA TGGCCTATTG CCGCTCGCCA GCGCGACTTG
CoE1 ori
8401 GGGGGGTTTC TGACACAGC CCAGCTTGGG GCGAACGACC TACACCGAAC TGAGATACCT ACAGCGTGAG CTATGAGAAA GCGCACGCT TCCCGAAGGG
CCCCCAAGC ACGTGTGTCG GGTGGAACCT CGCTTGCTGG ATGTGGCTTG ACTCTATGGA TGTGCGACTC GATACTCTTT CCGCGTGCGA AGGCTTCCC
CoE1 ori
8501 AGAAAGGCGG ACAGGTATCC GGTAAGCGC AGGGTCGGA CAGGAGAGCG CACGAGGAG CTTCAGGG GAAACGCCTG GTATCTTTAT AGTCTGTGCG
TCTTTCCGCC TGTCCATAGG CCATTCCCGG TCCCAGCCTT GTCTCTCTCG GTGTCTCCTC GAAGTCCCC CTTTGGGAC CATAGAAATA TCAGGACAGC
CoE1 ori
8601 GGTTCGCCA CCTGTGACTT GAGCGTCGAT TTTTGTGATG CTCTCAGGG GGGCGAGCC TATGAAAAA CGCCAGCAAC GCGCCTTTT TACGGTTCTT
CCAAAGCGGT GGAGACTGAA CTCGCAGCTA AAAACACTAC GAGCAGTCCC CCCGCCCTCG ATACCTTTTT GCGGTCTGTTG CCGCGGAAAA ATGCCAAGGA
CoE1 ori
8701 GGCCTTTTGC TGGCCTTTTG CTCACATGTT CTCTCTCTCG TTATCCCCCTG ATTCTGTGGA TAACCGTATT ACCGCTTTTG AGTGAGTGA TACCGCTCGC
CCGGAATAAC ACCGAAAAAC GAGTGTACAA GAAAGGACGC AATAGGGGAC TAAGACACTT ATGGCATAA TGGCGGAAAC TCACCTCGACT ATGGCGAGCG
CoE1 ori
8801 CGCAGCCGAA CGACCGAGCG CAGCGAGTCA GTGAGCGAGG AAGCGGAAGA GCGCCCAATA CGCAAACCGC CTCTCCCCG GCGTTGGCGG ATTCATTAAT
GCGTCGGCTT GCTGGCTCGC GTCGCTCAGT CACTCGCTCC TTCGCCCTCT CCGCGGTAT TCGCTTGGCG GAGAGGGCGG CGCAACCGG TAAGTAATTA
8901 GCAGCTGGCA CGACAGGTTT CCCGACTGGA AAGCGGGCAG TGAGCGCAAC GCAATTAATG TGAGTTAGCT CACTCATTAG GCACCCAGG CTTTACACTT
CGTCGACCGT GGTGTCCAAA GGGCTGACCT TTCCGCCGTC ACTCGCGTTG CGTTAATTAC ACTCAATCGA GTGAGTAATC CGTGGGTCC GAAATGTGAA
9001 TATGCTTCCG GTCGTATGT TGTGTGAAAT TGTGAGCGGA TAACAATTC ACACAGSAAA CAGCTATGAC CATGATTACG CCAAGTCTGA AATTAACCTT
ATACGAAGGC CGAGCATACA ACACACCTTA ACACCTGCCCT ATTGTTAAAG TGTGTCTTTT GTCGATACTG GTACTAATGC GGTTCGAGCT TTAATTGGGA
SV40
9101 CACTAAAGGG AACAAAAGCT GGAGCTCCAC CGCGGTGGCG GCCTCGAGGT CGAGATCCGG TCGACCAGCA ACCATAGTCC CGCCCCTAAC TCCGCCCATC
GTGATTTCCC TTGTTTTCGA CCTCGAGGTG GCGCCACCGC CGGAGCTCCA GCTCTAGGCC AGCTGGTCTG TGGTATCAGG GCGGGGATTG AGCGGGGTAG
SV40
9201 CCGCCCTAA CTCCGCCAG TTCCGCCAT TCTCCGCCCT TCCTCCGCCCT ATGGCTGACT AATTTTTTTT ATTTATGCAG AGCCCGAGG CGCCTCGGCC TCTGAGCTAT
GGCGGGATT GAGCGGGTC AAGCGGGTA AGAGCGGGG TACCGACTGA TTAAAAAAA TAAATACGTC TCCGGCTCCG GCGGAGCCCG AGACTCGATA
SV40
9301 TCCAGAAGTA GTGAGGAGG TTTTGTGAG GCCTAGGCTT TTGCAAAAAG CTTTCGAGGT ATCGATTGGC TCATGTCCAA CATTACGCC ATGTTGACAT
AGGTCTTCAT CACTCCTCCG AAAAACCTC CGGATCCGAA ACGTTTTTC GAAGCTGCCA TAGCTAACCG AGTACAGGT GTAAATGGCG TACAACCTGA
CMV
9401 TGATTATTGA CTAGTTATTA ATAGTAATCA ATTACGGGT CATTAGTTCA TAGCCCATAT ATGGAGTCC GCGTTACATA ACTTACGTA AATGGCCCCG
ACTAATAACT GATCAATAAT TATCATTAGT TAATGCCCCA GTAATCAAGT ATCGGGTATA TACCTCAAG CGCAATGTAT TGAATGCCAT TTACCGGGCG
CMV
9501 CTGGCTGACC GCGCAACGAC CCGCGGCCAT TGACGTCAAT AATGACGTAT GTTCCCATAG TAACGCCAAT AGGACTTTC CATTGACGTC AATGGGTGGA

FIG. 5 (Continued)

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GACCGACTGG CGGGTTGCTG GGGGGGGGTA ACTGCAGTTA TTACTGCATA CAAGGGTATC ATTGCCGTTA TCCCTGAAAG GTAACIGCAG TTACCCACCT
CMV

9601 GTATTACGG TAAACTGCCC ACTTGGCAGT ACATCAAGTG TATCATATGC CAAGTACGCC CCTATTGAC GTCAATGACG GTAAATGGCC CGCCTGGCAT
CATAAATGCC ATTTGACGGG TGAACCGTCA TGTAGTTTCA ATAGTATACG GTTCAITGCCG GGGATAACTG CAGTTACTGC CATTTACCGG GCGGACCGTA
CMV

9701 TATGCCCCAGT ACATGACCTT ATGGGACTTT CCTACTTGGC AGTACATCTA CGTATTAGTC ATCGCTATTA CCATGGTGAT GCGGTTTGG CAGTACATCA
ATACGGGTCA TGTACTGGAA TACCCTGAAA GGATGAACCG TCATGTAGAT GCATTAATCAG TAGCGATAAT GGTACCACCTA CGCCAAAACC GTCATGTAGT
CMV

9801 ATGGGCGTGG ATAGCGGTTT GACTCACGGG GATTTCGAAG TCTCCACCCC ATTGACGTCA ATGGGAGTTT GTTTTGGCAC CAAAATCAAC GGGACTTTCC
TACCCGCACC TATCGCCAAA CTGAGTGCCC CTAAAGGTTT AGAGGTGGG TAACTGCAGT TACCCCTCAA CAAAACCGTG GTTTTAGTTG CCCTGAAAGG
CMV

9901 AAAATGTCGT AACAACTCCG CCCCATTTGAC GCAAATGGC GGTAGGCGTG TACGGAATTC GGAGTGGCGA GCCCTCAGAT CCTGCATATA AGCAGCTGCT
TTTTCACGCA TTGTTGAGGC GGGGTAACTG CGTTTACCCG CCATCCGCAC ATGCCTTAAG CCTCACCCGCT CGGGAGTCTA GGACGTATAT TCGTCGACGA

10001 TTTTGCCTGT ACTGGGTCTC TCTG
AAAACGGACA TGACCCAGAG AGAC

FIG. 5 (Continued)

CE7scFv-IgG4 Hinge-CH2-CH3-CD28tm/4-1BB-Zeta-T2A-EGFRt epHIV7 p102570 (1004 bp)

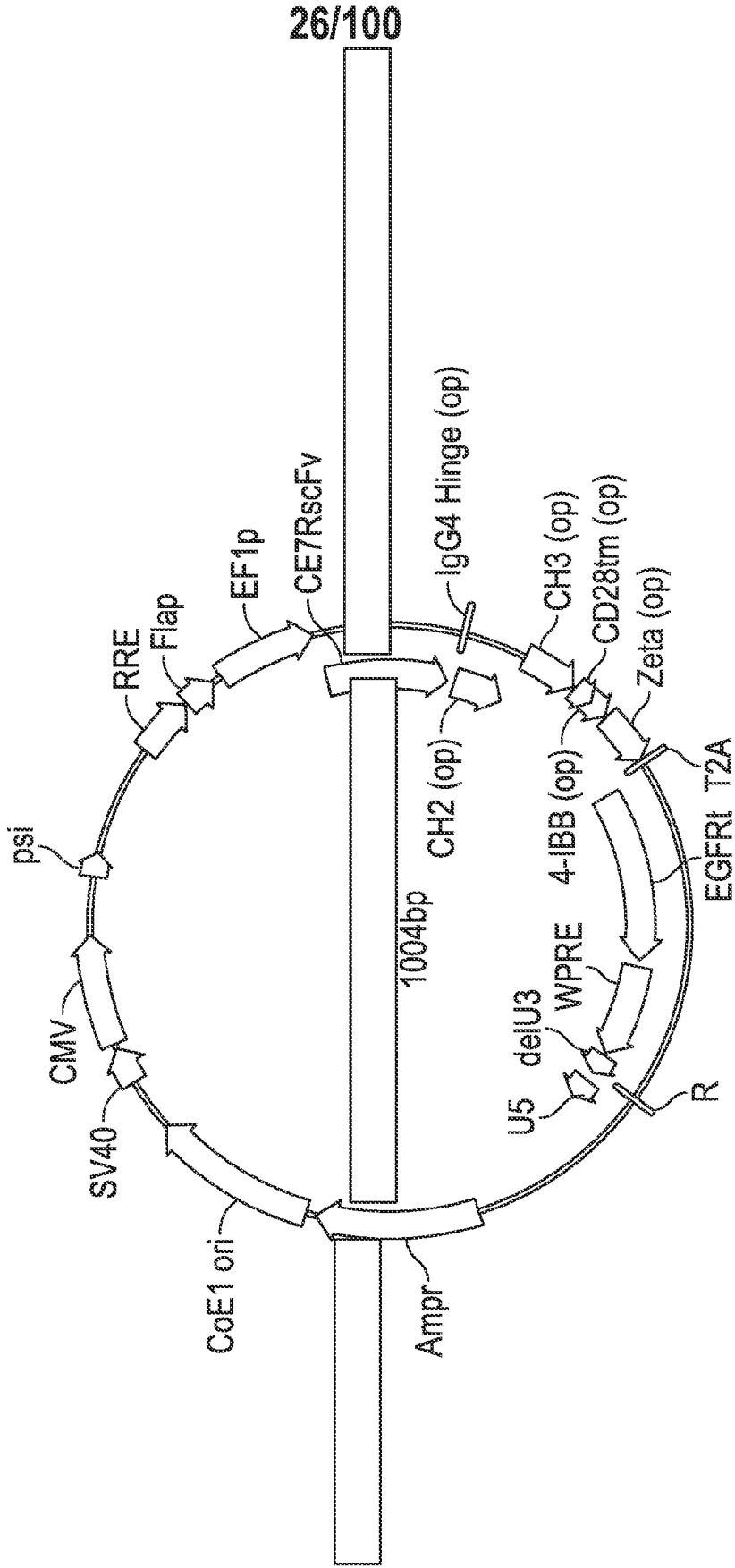


FIG. 6

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1  GTTAGACCAG ATCTGAGCCT GGGAGCTCTC TGGCTAACTA GGAACCCAC TGCCTTAAGC TCAATAAAGC TTGCTTTGAG TGCTTCAAGT AGTGTGTGCC
   CAATCTGGTC TAGACTCGGA CCTTCGAGAG ACCGATTGAT CCTTTGGGTG ACGAATTGG AGTTATTTTC AACGGAACTC ACGAAGTTCA TCACACACGG
101 CGTCTGTTGT GTCACTCTGG TAACTAGACA TCCCTCAGAC CTTTCTAGTC AGTGTGAAA AGTGTGAAA GTGGCGCCG AACAGGACT TGAAGCGAA
   GCAGACAACA CACTGAGACC ATTGATCTCT AGGAGTCTG GGAATAACAG TCACACCTTT TAGAGATCGT CACCGCGGGC TTGTCCCTGA ACTTTCGCTT
                                     psi
201 AGGGAACCA GAGGAGCTCT CTCGAGCGAG GACTCGGCTT GGTGAAGCG GCACGGGAG AGCGGAGGG CGCGACTGG TGAGTAGCC AAAAATTTT
   TCCCTTTGGT CTCCTCGAGA GAGCTGGTC CAGAGCGGAA CGACTTCGG CGTGCCTCC TCCGCTCCAC ACTCATGGG TTTTAAAAAC
                                     psi
301 ACTAGCGGAG GTAGAAGGA GAGAGATGGG TCGGAGAGCG TCAGTATTAA GCGGGGGAGA ATTAGATCGA TGGGAAAAAA TTCGGTTAAG GCCAGGGGGA
   TGATCGCCTC CGATCTTCTT CTCTCTACCC ACGCTCTCGC AGTCATAATT CGCCCCCTCT TAATCTAGCT ACCCTTTTTT AAGCCAATTC CGGTCCCTCT
401 AAGAAAAAAT ATAAATTAA ACATATAGTA TGGGCAAGCA GGGAGCTAGA ACGATTGCA GTTAATCCTG CCTGTTTAGA AACATCAGAA GGCTGTAGAC
   TTCTTTTTTA TATTTAATTT TGTATATCAT ACCCGTTCGT CCTCGATCT TGTAAAGCT CAATTAGGAC CGGACAAATCT TTGTAGTCTT CCGACATCTG
501 AAATACTGGG ACAGCTACAA CCATCCCTTC AGACAGGATC AAGAAGACTT AGATCAATTAT ATAATACAGT AGCAACCCCTC TATTGTGTG ATCAAAGGAT
   TTTATGACCC TGTGATGTT GTAGGGAAG TCTGTCTAG TCTTCTTGAA TCTAGTAATA TATTATGTC TCGTTGGGAG ATAAACACAG TAGTTTCTTA
601 AGAGATAAAA GACACCAAGG AAGCTTTAGA CAAGATAGAG GAAGAGCAA ACAAAAGTAA GAAAAAGCA CAGCAAGCAG CAGCTGACAC AGGACACAGC
   TCTCTATTTT CTGTGGTTC TTGGAATCT GTTCTATCTC GTTCTCGTTT TGTTCATTT CTCTTTTCTG GTCTTCCTG TCCTGTGTG
701 AATCAGGTCA CCCAAATTA CCTATATAGT CAGAACATCC AGGGCAAAAT GGTATATCAG GCCATATCAC CTAGAACTTT AATGTGATCG GTAAAGTAG
   TTAGTCCAGT CGTTTAAAT GGGATATCAC GTCTGTAGG TCCCGTTTA CCATGTAGTC CGGTATAGTG GATCTTGAAA TTTACGTACC CATTTTCATC
801 TAGAAGAGAA GGCTTTCAGC CCAGAGTGA TACCATGTTT TTCAGCATTA TCAGAGGAG CCACCCACA AGATTTAAAC ACCATGTAA ACACAGTGGG
   ATCTTCTCTT CCGAAAGTCG GGTCTTCACT ATGGGTACAA AAGTCGTAAT AGTCTTCTC GGTGGGGTGT TCTAAATTTG TGGTAGGATT TGTGTACCCC
                                     RRE
901 GGGACATCAA GCAGCCATGC AAATGTTAAA AGAGACCATC AATGAGGAAG CTGCAGSCAA AGAGAAGAGT GGTGCAGAGA GAAAAAGAG CAGTGGGAAT
   CCTGTAGTT CGTCGGTACG TTTACAAATTT TCTCTGGTAG TTAATCTCTC TACTCTCTTC GACGTCCGTT TCTCTTCTCA CCAGTCTCT CTTTTTCTC GTCACCCCTTA
                                     RRE
1001 AGGAGCTTTG TTCTTTGGT TCTTGGGAGC AGCAGGAAGC ACTATGGGG ACTATGGGG CAGCGTCAAT GACGCTGACG GTACAGGCCA GACATATT GTCTGGTATA
   TCCTCGAAAC AAGGAACCCA AGAACCTCG TCGTCTCTCG TGAATACCCG TGAATACCCG GTCCGAGTTA CTGGGACTGC CATGTCCGCT CTGTTAATAA CAGACCATAT
                                     RRE
1101 GTGCAGCAGC AGAACAAATTT GCTGAGGCT ATTGAGGGC AACAGCATCT GTTGCACCTC ACAGTCTGGG GCATCAAGCA GCTCCAGCA AGAATCCTGG
   CAGTCTGTCG TCTTGTGTTAAA CGACTCCCGA TAACTCCCG TGTCTCGTAG CAACGTTGAG TGTCAAGACC CGTAGTTCGT CGAGGTCCTT TCTTAGGACC
                                     flap
                                     ~~~~~
1201 CTGTGGAAG ATACCTAAAG GATCAACAGC TCCTGGGGAT TTGGGGTTGC TCTGGAAAC TCATTGTCAC CACTGCTGTG CCTTGGATCT ACAAAAGCA
   GACACCTTC TATGGATTC CTAGTTGTG AGGACCCCTA AACCCCAACG AGACCTTTTG AGTAAACGTG GTACGACAC GGAACCTAGA TGTTTACCGT
                                     flap
                                     ~~~~~

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FIG. 7

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1301 GTATTCATCC ACAATTTTAA AAGAAAAGGG GGGATTGGGG GGTACAGTGC AGGGGAAAGA ATAGTAGACA TAATAGCAAC AGACATACAA ACTAAAGAAT
 CATAAGTAGG TGTAAAAATT TTCTTTTCCC CCTAAACCCC CCATGTCACG TCCCCTTTCT TATCATCTGT ATTATCGTTG TCTGTATGTT TGATTTCTTA
 flap
 1401 TACAAAACA AATTACAAA AATCAAAATT TTCGGGTTTA TTACAGGGAC AGCAGAGATC CAGTTTGGGG ATCAATTGCA TGAAGATCT GCTTAGGGTT
 ATGTTTTGT TTAATGTTTT TAAGTTTAA AAGCCCAAT AATGTCCTG TCGTCTAG GTCAAACCCC TAGTTAACGT ACTTCTAGA CGAATCCCAA
 EF1p
 1501 AGCGGTTTT CGCTGCTTCG CGAGGATCG CGATCGCTCC GGTGCCCGTC AGTGGGACA GGCACATCG CCACAGTCC CCGAGAAGTT GGGGGGAGG
 TCCGCAAAAC GCGACGAAGC GCTCCTAGAC GCTAGCGAG GACGGGACG TCACCCGCT TCAGGTGAGG GGTCTTCAA CCCCCCTCCC
 EF1p
 1601 GTGGGCAAT GAACGGTGC CTAGAGAAG TGGCGGGGG TAACTGGGA AAGTATGTC GTGTACTGG TCCGCTTTT TCCCGAGGT GGGGGAGAAC
 CAGCCGTAA CTGGCCACG GATCTCTCC ACCCGGCC GATTCACCT TTCACTACAG CACATGACG AGCGGAAA AGGGCTCCA CCCCCTCTTG
 EF1p
 1701 CGTATATAAG TGAGTAGTC GCGGTGACG TTCTTTTTCG CAACGGGTTT GCGGCAGAA CACAGCTGAA GTTCGAGGG GCTCGCATCT CTCCTTCACG
 GCATATATTC ACCTCATCAG CGGCATTCG AAGAAAAGC GTTCCCAA GTTCCGCTT GTGTGACTT CGAAGCTCCC CGAGCGTAGA GAGGAAGTGC
 EF1p
 1801 CGCCGCGCG CCTACCTGAG GCGGCAATCC AGCGGGTTC AGTCGGTTC TGCGGCTCC CGCTGTGTT GCTCTCTGAA CTGCTGCGC CGTCTAGGTA
 GCGGCGGCG GGAAGGACTC CGCGGTAGG TGCGGCAAC TCAGCGCAAG ACGGGGAGG GCGGACACCA CGGAGACTT GACGAGGCG GCAGATCCAT
 EF1p
 1901 AGTTTAAAG TCAGTTCGAG ACCGGGCTT TGTCCGGCG TCCTTTGGAG CTTACTAGA CTCAGCGGC TCTCCAGCT TTGCCAGAC CTGCTTGCTC
 TCAAAATTCG AGTCCAGCTC TGGCCCGGAA ACAGGCGCG AGGAACTC GGATGGATCT GAGTCGGCG AGAGTGCGA AACGGACTGG GACGAACGAG
 CE7R scFv
 2001 AACTCTACGT CTTTGTTCG TTTTCTGTC TGGCGCGTTA CAGATCCAAG CTGTGACCG CGCTACGGC TAGCGCCGC ACCATGCTG TGTGTTGAC
 TTGAGATGCA GAAACAAGC AAAAGACAAG ACCCGGCAAT GTCTAGTTTC GACATGGCC CGCGATGCG ATCCCGGCGG TGGTACGACG ACACCACTG
 CE7R scFv
 2101 CAGCCTGCTG CTGTGCGAGC TGCCCAACC CGCCTTTCG CTGATCCCC AGGTGAGCT GCAGCAGCT GSCCCGAGC TGGTGAAGC AGCGCCAGC
 GTCGGACGAC GACACGCTCG ACGGGGTGG GCGGAAAGAC GACTAGGGG TCCACGTCA GTCTGTGGA CCGCGGCTCG ACCACTCG TCCGCGGTG
 CE7R scFv
 2201 GTGAAGCTGT CTTGCAAGC CAGGCGTAC ACCTTCAAC GCTACTGGAT GCATGGGTG AAGCAGAGC CCGGCCACG CCTGGATGG ATCGGCGAGA
 CACTTCGACA GGAGTTCCG GTCGCCGATG TGAAGTGGC CGATGACCTA CGTGAACCA TTCGTCTCTG GCGCGGTSC GGACCTTACC TAGCCGCTCT
 CE7R scFv
 2301 TCAACCCAG CAACGGCGG ACCAATACA ACGAGCGGT CAACAGCAAG GCCACCTGA CCGTGGACA GACAGCACC ACCGCCCTCA TGCAGCTGTC
 AGTTGGGTC GTTCCCGGCC TGGTTGATCT TGTCTGCAA GTTCTCTTC CGTGGGACT GGCACCTGTT CTCCTCTG TGGCGGACT ACCTCGACAG
 CE7R scFv
 2401 CGGCTGACC ACGGAGACA GCGCGTGA CTCTGCGCC AGGACTACT ACGGACCAAG CTACACTTC GACTACTGG GCCAGGAC CACACTGACC
 GCGGACTGG TCGTCTCTGT CGCGGCAT GAAGAAGCGG TCCCTGATGA TCCCGTCTG GATGTTGAAG CTGATGACCC CGGTCCCGTG GTGTGACTGG
 CE7R scFv

FIG. 7 (Continued)

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2501 GTGAGCAGCG GGGAGGGGG CTCTGGGGG GGAGGATCTG GGGAGGGGG CAGCGACATC CAGATGACCC AGAGCAGCAG CAGCTTCAGC GTGAGCCTGG
    CACTGCTGCG CGCTCCCC GAGACCGCG CCTCCTAGAC CCGCTCCCC CCGCTCCCC GTCGCTGTAG GTCTACTGG TCTGTCGTC GTCGAAGTCG CACTCGGACC
    CE7R scFv
2601 GCGACCGGT GACCATCACC TGTAAAGCCA ACGAGGACAT CAACAACCGG CTGGCTGGT ATCAGCAGAC CCGCGCAAC AGCCCCAGC TGCTGATCAG
    CGCTGGCCCA CTGGTAGTGG ACATTCCGCT TGCTCCTGTA GTTGTGGCC GACCGGACCA TAGTCTCTG GGGCCGCTTG TCGGGGTCCG ACGACTAGTC
    CE7R scFv
2701 CGGCGCCACC AACCTGGTGA CCGCGTGGC CAGCGGCTTT AGCGGCAGCG GCTCCGGCAA GGAATACACC CTGACCATCA CAAGCCTGCA GCGCGAGGAC
    GCGCGGTGG TTGACCACT GCGCGCAGG GTCGGCCAAA TCGCGTCCG CGAGGCGCTT CCGATGTGG GACTGGTAGT GTTCGACCT CCGGCTCCCTG
    CE7R scFv
2801 TTGCGCACCT ACTACTGCCA GCAGHACTGG TCCACCCCTT TCCACCTTCGG CAGCGGCACC GAGCTGGAAA TCAAAGAATC TAAGTACGGA CCGCCCTGCC
    AAGCGGTGGA TGATGACGGT CGTCATGACC AGGTGGGGA AGTGAAGCC GTCGCGTGG CTCGACCTTT AGTTCTTAG ATTCAATGCT GGCGGGACGG
    IgG4 Hinge
2901 CCCCTTGCCC TGCCAGCCT AGAGAACCC AGGTGTACAC CCGCTCTCC CCGCAGGAG AGATGACCAA GAACAGAGTG TCCCTACCT GCCTGGTCAA
    GGGGAACGG ACCGTGCGA TCTCTGGGG TCCACATGTG GACCGGAGG TCGGTCTTC TCTACTGTT CTTGTCTCC AGGACTGGA CGGACCACTT
    IgG4 CH3
3001 AGGCTTCTAC CCCAGCGATA TCGCGTGGG ATGGGAGAGC AACGGCCAGC CCGAGACAA CTACAGACC ACCCCCCCTG TGCTGGACG CGACGGCAGC
    TCCGAAGATG GGTCTGCTAT AGCGGCACCT TACCCTCTCG TTGCGGTCTG GGTCTTGT GATGTTCTGG TGGGGGGGAC ACGACCTGTC GCTGCCGTCTG
    IgG4 CH3
3101 TTCTTCTCTGT ACTCCCGGT GACCGTGGAC AAGAGCCGGT GCGAGGAAGG CAACGTCTTC AGCTGCAGG TGAATGCACG GGGCCCTGCAC AACCACTACA
    AAGAAGACA TGAGGGCCGA CTGGCACCTG TTCTCGGCCA CCGTCTCTCC GTTGCAGAA GTCACGTGCG ACTACGTGCT CCGGGACCTG TTGGTGATGT
    IgG4 CH3
3201 CCCAGAAGTC CCGAGCCTG AGCCTGGCA AGATGTTCTG GGTCTGCTG GTGGTGGAG GCGTGTGGC CTGCTACAGC CTGCTGGTCA CCGTGGCCTT
    GGTCTTTCAG GGAATCGGAC TCGGACCCGT TCTACAAGAC CCACGACCAC CACCAAGCTC CGCAGGACCG GACGATGTCG GACGACAGT GGCACCGGAA
    CD28tm
3301 CATCATCTTT TGGGTGAAC GGGGAGAAA GAACTCTCTG TATATATTCA AACAACTT TATGAGACCA GTACAACTA CTCAAGAGGA AGATGGCTGT
    GTAGTAGAAA ACCCACTTG CCGCGTCTT CTTTGAGGAC APATATAAGT TTGTTGGTAA ATACTCTGT CATGTTGAT GAGTTCTCT TCTACCGACA
    Zeta
    4-1BB
    4-1BB

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FIG. 7 (Continued)

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3401 AGCTGCCGAT TTCCAGAAGA AGAAGAAGGA GGATGTGAAC TCGGGGTGAA GTTCAGAGAGA AGCGCGGACG CCCCTGCCTA CCAGCAGGCG CAGAATCAGC
TCGACGGCTA AAGGTCTTCT TCTTCTTCTT CCTACACTTG AGCCCACTT CAAGTCTCT TCGCGGTGCG GGGACGGAT GGTGTCGCG GTCTTAGTCTG

3501 TGTACACGA GTGAACCTG GGCAGAGGG AGAGTACGA CGTCTGGAT AAGCGGAGAG GCCGGGACCC TCAGATGGGC GGCAAGGCTC GCGGAAGAA
ACATGTTGCT CGACTTGGAC CGGTCTTCCC TTCTCATGCT GCAGGACCTA TTCGCCCTCTC CGGCCCTGGG ACTCTACCCG CCGTTCGGAG CCGCCTTCTT

3601 CCCCAGGAA GGCCTGTATA ACGAATGCA GAAAGACAAG ATGCCCGAGG CCTACAGGGA GATCGGCATG AAGGCGGAGC GGAGGGGGG CAAGGGCCAC
GGGGTCTCT CCGACATAT TGCCTGACCT CTTTCTGTTT TACCGGCTCC GGATGCGCT CTAGCCGTAC TTCCCGCTCG CCTCCGCCC GTTCCCGGTG

3701 GACGGCTGT ATCAGGGCT GTCCACGCC ACCAAGGATA CCTACGACGC CCTGCAATG CAGGCCCTGC CCCAAGGCT CGAGGGCGC GGAGAGGCA
CTGCCGGACA TAGTCCCGA CAGGTGGCG TGGTTCCTAT GGATGCTCG GGACGTGATC GTCCGGGACG GGGTTCGA GTCCCGCGC CCTCTCCCGT

3801 GAGGAAGTCT TCTAACATGC GGTGACGTGG AGGAGATCC CGGCCCTAGG ATGCTTCTCC TGGTGACAAG CCTTCTGCTC TGTGAGTAC CACACCCAGC
CTCCTTCAGA AGATGTACG CCACTGCACC TCCCTTAGG GCGGGATCC TACGAAGAGG ACCACTGTTT GGAAGACGAG AACTCAATG GTGTGGTCTG

3901 ATTCTCTCTG ATCCACGCA AAGTGTGTA CGGAATAGGT ATTGTGTAAT TTAAAGATC ACTCTCCATA AATGCTACGA ATATTAAAC CTTCAAAAAC
TAAGAGGAC TAGGTGCGT TTACACATTT GCCTTATCCA TAACCACTTA AATTTCTGAG TGAGAGGTAT TTACGATGCT TATAATTGT GAAGTTTTTG

4001 TGCACCTCCA TCAGTGGGA TCTCCACATC CTGCCGGTGG CATTTAGGG TGACTCTTC ACACATATC CTCCTCTGGA TCCACAGGAA CTGGATATTC
ACGTGGAGGT ACTACCGCT AGAGGTGAG GACGGCACG GTAATCCCG ACTGAGGAG TGTGATGAG GAGGAGACCT AGGTGTCTT GACCTATAAG

4101 TGAACACCGT AAGGAATC ACAGGGTTT TGTGATTC GGTGTGCTT GAAACAGGA CGGACCTCCA TGCCTTTGAG AACCTAGAA TCATACGGG
ACTTTTGGCA TTCTCTTAG TGTCCCAAA ACGACTAAGT CCGAACCGGA CTTTTGTCTT GCCTGGAGGT ACGGAACCTC TTGGAICTTT AGTATGGGCC

4201 CAGGACCAAG CAACATGGTC AGTTTCTCT TGCAGTCGTC AGCTGAACA TAACATCCTT GGGATTACGC TCCCTCAAGG AGATAAGTGA TGGAGATGTG
GTCTGTGTTT GTTGTACAG TCAAAAGAGA ACGTCAGCAG TCGGACTTGT ATTGAGGAA CCTAATGCG AGGAGTCTT TCTATTCACT ACCTCTACAC

4301 ATAATTTCAG GAAACAAAAA TTTGTGTTAT GCAATATCAA TAACTGTGTA AAACTGTGTT GGGACCTCCG GTACAGAAAC CAAAATTATA AGCAACAGAG
TATTAAGTC CTTTGTGTTT AAACAGATA CGTTTATGTT ATTGACCTT TTTTGACAAA CCCTGGAGGC CAGTCTTTTG GTTTTATAAT TCGTTGTCTC

4401 GTGAAACAG CTGAAGGCC ACAGGCGAG TCTGCCATGC CTTGTGCTCC CCGAGGGCT GCTGGGGCCC GGAGCCGAG GACTGGCTCT CTTGCCGGA
CACTTTTGTG GACGTTCCGG TGTCCGGTCC AGACGGTACG GAACACGAG GGGCTCCGA CGACCCCGG CCTCGGGTCC CTGACGAGA GAACGGCTT

FIG. 7 (Continued)

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4501 TGTGAGCCGA GGCAGGGGAAT GCGTGGACAA GTGCAACCTT CTGGAGGGTG AGCCAAAGGA GTTGTGGAG AACTGTAGT GCATACAGTG CCACCCAGAG
ACAGTCGGCT CCGTCCCTTA CGCACCTGTT CACGTTGGAA GACCTCCAC TCGTTCCCT CAACACCTC TTGAGACTCA CGTATGTCAC GGTGGGTCTC
EGFRt
4601 TGCCTGCTC AGCCCATGAA CATCACCTGC ACAGGACGGG GACCAGACAA CTGTATCCAG TGTGCCCACT ACATTGACGG CCCCACCTGC GTCAAGACCTT
ACGGACGGAG TCCGGTACTT GTAGTGGACG TGTCTTGCCC CTGGTCTGTT GACATAGGTC ACACGGGTGA TGTAACTGCC GGGGGTGACG CAGTTCIGGA
EGFRt
4701 GCCCGCAGG AGTCATGGGA GAAACACAA CCGTGGTCTG GAATACGCA GACGCGGC AIGTGTCCA CCTGTGCCAT CCMACTGCA CCTACGGATG
CGGGCCGTCC TCAGTACCCT CTTTGTGTGT GGGACACAGC CTTCACTGCGT CTGCGGCCGG TACACACGGT GGACACGGTA GGTTHGACGT GGATGCCTAC
EGFRt
4801 CACTGGGCCA GGTCTTGAAG GCTGTCCAAC GAATGGGCTT AAGATCCCGT CCATCGCAC TGGGATGGTG GGGCCCTCC TCTTGTGCTT GGTGGTGGCC
GTGACCCGGT CCAGAACTTC CGACAGGTG CTIACCCGGA TTCTAGGCA GGTAGGGTG ACCCTACCAC CCCCCGGAG AGAACGACGA CCACCCACCG
EGFRt
4901 CTGGGGATCG GCCTCTTCA TGTAGCGGCC GCTCTAGACC CCGCTGCAG GAATCGATA TCAAGCTTAT CGATAATCAA CCTCTGGATT ACAAAATTG
GACCCCTAGC CCGAGAAGTA CACTCGCCCG CGAGATCTGG CCGCGACGTC CTTAAGCTAT AGTTCGAATA GCTATTAGTT GGAGACCTAA TGTTTTAAAC
WPRE
5001 TGAAGATTG ACTGGTATC TTAACTATGT TGTCTCTTTT ACCTATGTG GATACGTGC TTTAATGCCT TTGTATCATG CTATGCTC CCGTATGGCT
ACTTCTTAAC TGACCATTAAG AATTGATACA ACGAGGAAA TCGGATACAC CTATGCGACG AAATTACGGA AACATAGTAC GATAACGAAG GGCATACCGA
WPRE
5101 TTCATTTTCT CCTCCTTCTA TAAATCCTGG TTGCTGTCTC TTATAGAGGA GTTGTGSCC GTTGTACAGC AACCTGGCGT GGTGTGACT GTGTTTGTG
AAGTAAAGA GGAGGAACAT ATTTAGGACC AACGACAGAG AAATACTCCT CAACACCGG CAACAGTCCG TTGACCGCA CCACACGTA CACAAACGAC
WPRE
5201 ACGCAACCCC CACTGGTGG GGCATTGCCA CCACCTGTCA GCTCCTTICC GGGACTTTCG CTTTCCCCCT CCTATTGCC ACGGGGAAC TCATCGCCGC
TGGGTTGGGG GTGACCAACC CCGTACCGT GGTGGACAGT CGAGGAAGG CCGTGAAGC GAAAGGGGA GGGATAACGG TGCCCGCTTG AGTAGCGCGC
WPRE
5301 CTGCCCTGCC CGCTGCTGGA CAGGGGCTCG GCTGTGGG ACTGACAAT CCGTGGTGT GTGCGGGA TCACTGCTCT TCTTGGCT GCTGCTGTG
GACGGAACGG GGCACGACCT GTCCCCCAGC CGACAACCG TCACTGTAA GGCACACAA CAGCCCCCTT ACTAGCAGGA AAGGAACGA CGAGCGGACA
WPRE
5401 GTTGGCACCT GGAATCTGG CCGGACATCC TTCTGTACG TCCTTTCGG CCTCAATCCA GCGGACCTTC CTTCCCGGG CCTGTGCGG GCTCTGCGG
CAACGGTGA CCAAGACGC GCCCTGAGG AAGACGATG AGGAAGCGG GGAGTAGGT CGCTGGAAG GAAGGGGCC GGACGAGCG CGAGACGCGG
WPRE
5501 CTCTTCCCGG TCTTGGCTT CGCCCTCAGA CGAGTGGAT CTCCCTTGG GCGGCTTCCC CGCATCGATA CCGTCGACTA GCGTACCTT TAAGACCAAT
GAGAAGCGC AGAAGCGGA GCGGGAGTCT GCTCAGCCTA GAGGGAACC CCGCGGAGG GCGTAGCTAT GCGAGCTGAT CGGCATGGA ATTCTGTTA
del U3
del U3
R

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FIG. 7 (Continued)

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5601 GACTTACAAG GCAGCTGTAG ATCTTAGCCA CTTTTTAAAA GAAAAGGGGG GACTGGAAG GCTAATTCAC TCCCAAAGAA GACAAGATCT GCTTTTGGC
 CTGAATGTTT CCGTCGACATC TAGAATCGGT GAAAAATTTT CTTTTCCCCC CTGACCTTCC CGATTAAAGT AGGTTTCTT CTGTTCTAGA CGAAAAACGG
 ~~~~~~  
 5701 TGTACTGGGT CTCTCTGGTT AGACCATC TGAGCCCTGG AGCTCTCTGG CTAACATAGG AACCCACTGC TTAAGCCTCA ATAAAGCTTG CCTTGAGTGC  
 ACATGACCCA GAGAGACCAA TCTGCTAG ACTCGGACCC TCGAGAGACC GATTGATCCC TTGGGTGAGG AATTCGGAGT TATTTCGAAC GGAACCTCAGG  
 ~~~~~~  
 5801 TTCAAGTAGT GTGTGCCCGT CTGTCTCTGG ACTCTGGTAA CTAGAGATCC CTCAGACCTT TTTAGTCAGT GTGGAATATC TCTAGAGAAA TTCGATATCA
 AAGTTTATCA CACACGGGCA GACACACAC TGAGACCATT GATCTCTAGG GAGTCGGGA AATCAGTCA CACTTTTAG AGATCTTCTT AAGCTATAGT
 AGCTTATCGA TACCGTCGAC CTCGAGGGG GCGCCGGTAC CCAATTGCCC CTATAGTAG TCGTATTACA ATTCAGTGGC CGTCGTTTA CAACGTCGTG
 TCGAATAGCT ATGGCAGCTG GAGTCCCCC CCGGGCCATG GGTAAAGCGG GATATCACTC AGCATATGTT TAAGTGACCG GCAGCAAAAT GTTCGAGCAC
 6001 ACTGGGAAA CCGTGGCGTT ACCCAACTTA ATCGCCCTTG AGCATATCCC CTTTTGGCA GTGGGGTAA TCGGAAGAG GCCCGCAGG ATCGCCCTTC
 TGACCCCTTT GGGACCGCAA TGGTTCAAT TGGGTAGG GAAAGCGGT CGACCGCATT ATCGCTTCTC CGGGGTGGC TAGCGGGAAG
 6101 CCAACAGTT CCGAGCCTGA ATGGCGATG GAAATGTAA CCGTTAATAT TTTGTAAAA TTCGCGTAA AATCAGTCA TTTTAAACC
 GGTGTCAAC CGCTCGGACT TACCGCTTAC CTTTAACTTA AACCAATTT AAGCGCAAT TTAGTCAGT TAAACCAAT AAAAATTTGG
 6201 AATAGGCCA AATCGGCAA ATCCCTTAPA AATCAAGA ATAGCGGAG ATAGGTTGA GTGTGTTC AGTTTGAAC AAGATCCAC TATTAAAGAA
 TTATCCGGCT TAGCCGTTT TAGGGAATAT TTAGTTTCTT TATCTGGCTC TATCCAACT TATCAAGG TCAAACTTTG TTTCTAGGTG ATAATTTCTT
 6301 CGTGGACTCC AACGTCAAAG GCGGAAAAAC CGTCTATCAG GCGCATGCCC CACTACCTGA ACCATCACCC TAATCAAGTT TTTTGGGTC GAGTGCCGT
 GCACCTGAGG TTCAGTTTC CCGCTTTTGG GCAGATAGTC CCGCTACCGG GTGATGACT GTGAAAGCG GGAACGTTG CGAAGAGGA AGGAAGAGG
 6401 AAAGCACTAA ATCGGAACCC TAAAGGAGC CCGCGATTTA GAGCTTGACG GGGAAAGCG CCCTTACCTC CGCTTTCTCT CGCTTTCTCT
 TTTCTGATT TAGCCTTGGG ATTTCCCTGG TCCGCTGAG CCGTAACTGC CCCTTCTCTC GCTTTCTCTT TCCCTTCTCT CGCTTTCTCT
 6501 CCGGCGTAG GCGCTGGCA AGTGTAGCG GTCACTGCC AGTCGAGCG CCAATGCTGG TGTGGGCGG CGGAATACG CCGCATGTC CCGCGAGTC CACCGTGAAA
 GCGGCGGAT CCGGACCGT TCACATGCC AGTCGAGCG CCAATGCTGG TGTGGGCGG CGGAATACG CCGCATGTC CCGCGAGTC CACCGTGAAA
 6601 TCGGGGAAT GTGGCGGAA CCGCTATTG TTTATTTTC TAAATACAT CAAATATGTA TCCGCTCATG AGACAATAAC CCGTATAAT CCGTCAATAA
 AGCCCTTTA CACCGCCCTT GGGGATAAAC AAATAAAAAG ATTTATGTAA GTTTATACAT AGCGGAGTAC TCTGTATTG GGAATATTA CGAAGTTATT
 ~~~~~~  
 6701 TATTGAAAA GGAAGAGTAT GAGTATCAA CATTTCGGT TCGCCCTTAT TCCCTTTT GCGGCAATTT GCTTCTCTGT TTTTCTCTAC CCAGAAACGG  
 ATAACTTTTT CTTCTCTATA CTCATAAGTT GTAAAGGCAC AGCGGGAATA AGGGAATAA GCGCGTAAA CCGAAGGACA AAAACGAGTG GGTCTTTGGG  
 ~~~~~~  
 6801 TGGTGAAAGT AAAAGATGCT GAAGATCAGT TGGGTGCACG AGTGGTTAC ATCGAATGG ATCTCAACAG CCGTAAGATC CTTGAGAGTT TTCGCCCGGA
 ACCACTTTCA TTTTCTACGA ACCACCTGC ACCCAATG TCACCCAATG TAGCTTGACC TAGAGTTGTC CCCATTCTAG GAACCTCAA AAGCGGGGCT
 ~~~~~~  
 6901 AGAAGCTTTT CCAATGATGA GCATTTTAA AGTCTGCTA TGTGGCGCGG TATTATCCC TATTGACGCC GGGCAAGAGC AACTCGGTG CCGCATACAC  
 TCTTGCAAAA GGTACTACT CGTGAAATTT TCAAGACGAT ACACCGCGCC ATATAGGSC ATAACTGCGG CCCGTTCTCG TTGAGCCAGC GCGGTATGTG  
 ~~~~~~  
 7001 TATTCTCAGA ATCACTTGGT TGAGTACTCA CCAGTCACAG AAAAGCATCT TACGGATGCC ATGACAGTAA GAGAAATTATG CAGTGTGCC ATAACCATGA
 ATAAGAGTCT TACTGAACCA ACTCATGAT GTTCAGTGT TTTTCTGAGA ATGCCATCCG TACTGTCAAT CTCTTAATAC GTACGACGG TATTGGTACT
 ~~~~~~  
 7101 GTGATAACAC TGGGGCCAAC TTACTTCTGA CAACGATCGG AGACCGAAG GAGCTAACG CTTTTTTGCA CAACATGGG GATCATGTAA CTCGCCCTGA  
 ~~~~~~

FIG. 7 (Continued)

77201	CACTATTGTG	ACGCCGGTTG	AATGAAGACT	GTTCGTAGCC	TCCTGGCTTC	CTCGATTGGC	GAAAAAAGCT	GTTCGTAGCCC	CTAGTACATT	GAGCGGAAC	
							Ampr				
	TCGTTGGGAA	CCGAGAGCTGA	ATGAAGCCAT	ACCAAACGAC	GAGCGTGACA	CCACGATGCC	TGTAGCAATG	GCAACAAGCT	TGGCGAACT	ATTAAGTGGC	
	AGCAACCCCT	GGCTCGACT	TACTTCGGTA	TGGTTTGGTG	CTCGCACTGT	GGTGCTACGG	ACATCGTTAC	CGTTCTTGCA	ACGCGTTTGA	TAATTGACCG	
							Ampr				
77301	GAACTACTTA	CTCTAGCTTC	CCGGGACAAA	TTAATAGACT	GGATGGAGGG	GGATAAAGTT	GGAGGACCA	TTCTGGGCTC	GGCCCTTCCG	CTTGGCTGGT	
	CTTGATGAAT	GAGATCGAAG	GGCCGTTGTT	AATTATCTGA	CCTACCTCCG	CCTATTTCAA	CGTCTGGTG	AAGACCGGAG	CCGGGAAGGC	CGACCGACCA	
							Ampr				
77401	TTATTGCTGA	TAAATCTTGA	GCGGCTGAGC	GTGGGTCTCG	CGGTATCAAT	GCAGCACTGG	GGCCAGATGG	TAGGCCCTCC	CGTATCTGTAG	TTATCTACAA	
	AATAACGACT	ATTAGACCT	CGGCCACTCG	CACCCAGAGC	GCCATAGTAA	CGTCGTGACC	CCGGTCTACC	ATTCCGGAGG	GCATAGCAATC	AATAGATGTG	
							Ampr				
77501	GACGGGGAGT	CAGGCAACTA	TGGATGAACG	AAATAGACAG	ATCGCTGAGA	TAGGTGCCCTC	ACTGANTTAAG	CATTGGTAA	TGTCAGACCA	AGTTTACTCA	
	CTGCCCTCTCA	GTCCCTGAT	ACCTACTTGC	TTTATCTGTC	TAGCGACTCT	ATCCACGGAG	TGACTAATTC	GTAACCAATG	ACAGTCTGGT	TCAAAATGAT	
							CoE1 ori				
77601	TATATACTTT	AGATTGATTT	AAAACHTCAT	TTTTAATTTA	AAAGGATCTA	GGTGAAGATC	CTTTTGTGATA	ATCTCATGAC	CAAAATCCCT	TAACGTGAGT	
	ATATATGAAA	TCFAACTAAA	TTTTTGAAGTA	AAAAATTTAA	TTTCTCTAGAT	CCACTTCTAG	GAAAAAATAT	TAGAGTACTG	GTTTTAGGSA	ATTGCACATCA	
							CoE1 ori				
77701	TTTCTGTTCA	CTCAGCGTCA	GACCCCGTAG	AAAAGATCAA	AGGATCTTCT	TGAGATCCCT	TTTTTCTGGG	CGTATCTGC	TGCTTGCAAA	CAAAAAAACC	
	AAAGCAAGGT	GACTCGCAGT	CTGGGGCAATC	TTTTTCTAGT	TCTTAGAAGA	ACTCTAGGAA	AAAAAGACGC	GCAATTAGAC	ACGAAACGTT	GTTTTTTTGG	
							CoE1 ori				
77801	ACCGCTACCA	GCGGTGGTTT	GTTCGGGGA	TCAAGAGCTA	CCAACCTCTT	TTCCGAAGGT	AACTGGCTTC	AGCAGAGCGC	AGATACCAAA	TACTGTCTCT	
	TGGCGATGGT	CGCACCAAAA	CAAAACGGCT	AGTTCTCGAT	GGTTGAGAAA	AAGGCTTCCA	TTGACCGAAG	TCGTCTCGG	TCTATGGTT	ATGACAAGAA	
							CoE1 ori				
77901	CTAGTGTAGC	CGTAGTTAGG	CCACCACCTC	AAGAATCTG	TAGCACCGCC	TACATACCTC	GCTCTGTATA	TCCTGTTACC	AGTGGCTGT	GCCAGTGGCG	
	GATCACATCG	GCAATCAATCC	GGTGGTGAAG	TTCTTTGAGAC	ATGCTGCGG	ATGTATGGAG	CGAGACGATT	AGSACAATGG	TCACCGACGA	CGGTCAACCG	
							CoE1 ori				
80001	ATAAGTCGTG	TCCTACCGGG	TTGGACTCAA	GACGATAGTT	ACCGGATAAG	GCGCAGCGGT	CGGGCTGAAC	GGGGGGTTGG	TGCACACAGC	CCAGCTTTGGA	
	TATTCAGCAC	AGATGGGCC	AACCTGAGTT	CTGTCTAUCAA	TGGCTATTTC	CGCGTCGCCA	GCCCGACTTG	CCCCCAAGC	ACGTGTGTGG	GGTGAACCT	
							CoE1 ori				
80101	GCGAACGACC	TACACCGAAC	TGAGATACCT	ACAGCGTGAG	CTATGAGAAA	GCGCCACCGT	TCCCGAAGGG	AGAAAGCGGG	ACAGGTATCC	GGTAGAGCGG	
	CGCTTGCTGG	ATGTGGCTTG	ACTCTATGGA	TGTGCGCACTC	GATACTCTTT	CGCGGTGCGA	AGGCTTCCC	TCCTTCGGC	TGTCCTATGG	CCATTTCGGC	
							CoE1 ori				
80201	AGGTTCGGAA	CAGGAGAGCG	CTTCCAGGGG	GAAACGCCCTG	GTATCTTTAT	AGTCTGTCTG	GGTTTCGCCA	CCTCTGACTT	GAGCGTCTGAT		
	TCCCAGCCCT	GTCTCTCTCG	GTGCTCTCTC	GAAGGTCCCC	CTTTGCGGAC	CATAGAAATA	TCAGGACAGC	CCAAAGCGGT	GGAGACTGAA	CTCGCAGCTA	
							CoE1 ori				

FIG. 7 (continued)

8301 TTTTGTGATG CTCGTCAGGG GGGGGAGACC TATGGAAAAA CGCCAGCAAC GCGGCCCTTTT TACGGTTCCT GGCCTTTTGC TGGCCCTTTG CTCACATGTT
 AAAACACTAC GAGCAGTCCC CCGCCCTCGG ATACCTTTTT CCGCGGAAAA ATGCCAAGGA CCGGAAAACG ACCGAAAAAC GAGTGTACAA
 ~~~~~~  
 8401 CTTTCTCTGG TTTATCCCTG ATCTCTGGGA TAACCGTAAT ACCGCCCTTG AGTGAAGTGA TACCGCTCGC CGCAGCCGAA CGACCGAGCG CAGCGAGTCA  
 GAAAGGACGC AATAGGGGAC TAAGACACCT ATTGGCATAA TGGCGGAAC TCACTCGACT ATGGGAGCG GCGTCGGCTT GCTGGCTCGC GTCGCTCAGT  
 ~~~~~~  
 8501 GTGAGCGAGG AAGCGGAAGA GCGGCCAATA CGCAAAACCGC CTCTCCCGCG GCGTUGGCGG ATTCAATTAAT GGAGCTGGCA CGACAGSTTT CCGGACTGGA
 CACTCGCTCC TTGCGCTTCT CCGGCTTCTT CCGGCTTGGG GAGAGGGCGG CGCAACCGGC TAAGTAATTA CGTGACCGT GCTGTCCAAA GGGCTEACCT
 8601 AAGCGGGCAG TGAGCGCAAC GCAATTAATG TGAGTTAGCT CACTCATTAG GCACCCAGG CTTTACACTT TATGCTTCGG GCTCGTATGT TGTGTGGAAT
 TTCGCCCGTC ACTCGCGTTG CGTTAATPAC ACTCAATCGA GTGAGTAATC CGTGGGTC CCAAGCTCGA AATTACCTT CACTAAAGG AACAAAGCT GGAGCTCCAC
 8701 TGTGAGCGGA TAACAATTC ACACAGGAAA CAGCTATGAC CATGATTACG CCAAGCTCGA AATTACCTT CACTAAAGG AACAAAGCT GGAGCTCCAC
 AACTCGCCT ATTGTTAAG TGTGTCCTTT GTCGATACTG GTACTAATGC SV40
 ~~~~~~  
 8801 CGCGGTGGG GCTTCGAGGT CGATTCGGG TCGACCAAGCA ACCATAGTCC GCGCCCTAAC TCGGCCCATC CCGCCCTTAA CTCGCCCAG TTCGCCCAT  
 GCGCCACCG CCGAGCTCCA GCTCTAGGCC AGCTGGTCTT TGGTATCAG GCGGGGATTG AGCGGGTAG GCGCGGATT GAGCGGGTC AAGCGGGTA  
 ~~~~~~  
 8901 TCTCGGCCC ATGCGTGACT AATTTTTTTT ATTTATGCG AGGCCGAGG CCGCTCGGCC TCTGAGCTAT TCCAGAAATA GTGAGGAGC TTTTGTGGAG
 AGAGCGGGG TACCGACTGA TTAAMAAAA TAAATACGTC TCCGGCTCCG GCGSAGCCCG AGACTCGATA AGTCTTCAT CACTCTCCG AAAAACCTC
 ~~~~~~  
 9001 GCCTAGGCTT TTECAAAAAG CTTTCGACCG ATCGATTGGC TCAATGCCA CATTAACGCC ATGTTGACAT TGATTATTGA CTAGTTATTA ATAGTAATCA  
 CGGATCCGAA AACGTTTTTC GAAGCTGCCA TAGCTAACCG ACTACAGGTT GTAATGCGG TACAACCTGA ACTAATAACT GATCAATAAT TATCATTAGT  
 ~~~~~~  
 9101 ATTACGGGT CATTAGTTCA TAGCCATAT ATGGAGTTCC CCGTTACATA ACTTACGTA ATGGCCCGC CTGGCTGACC GCCCAGGAC CCCCAGCCAT
 TAATGCCCA GTAATCAAGT ATCGGGTATA TACCTCAAG CCGAATGTA TGAATGCCAT TTACCGGGCG CACCGACTGG CCGGTTGCTG GGGCGGGTA
 ~~~~~~  
 9201 TGACGTCAAT AATGACGTA GTTCCCATAG TATCCCATAG TAACGCCAAT AGGACTTTC CATTGACGTC AATGGTGGGA GTATTACGG TAACTGCCC ACTTGGCAGT  
 ACTGCAGTTA TTAATGCATA CAAGGTATC ATTGCGGTTA TCCCTGAAAG GTAATGACG TTAACCCACT CATAAATGCC ATTTGACGGG TGAACCGTCA  
 ~~~~~~  
 9301 ACATCAAGTG TATCATATGC CAAGTACGCC CCTTATGAC GTCAATGACG GTAATGSCC GCGCTGGCAT TATGCCCAGT ACATGACCTT ATGGGACTTT
 TGTAGTTTAC ATAGTATACG GTTCATGCGG GGGATAACTG CAGTTACTGC CATTTACCGG CCGGACCGTA ATACGGGTCA TGTACTGGAA TACCCTGAAA
 ~~~~~~  
 9401 CCTACTTGGC ACTACATCTA CGTATTAGTC ATCGCTATTA CCATGGTCAAT CCGGTTTTGG CAGTACATCA ATGGCGGTGG ATAGCGGTTT GACTCACGGG  
 GGATGAACCG TCATGTAGAT GCATATACAG TAGCGATAAT GGTACCATA CGCCAAACCC GTCATGTAGT TACCCGACC TATCGCCAAA CTGAGTGGCC  
 ~~~~~~  
 9501 GATTTCGAAG TCTCCACCCC ATTGACCTCA ATGGGAGTTT GTTTTGGCAC CAAAATCAAC GGGACTTTC AAATGTCTG AACAACTCCG CCCCATTGAC
 CTAAAGGTT AGAGGTGGG TAACTGCAGT TACCCTCAA TACCCTCAA CAAACCCGTG GTTTTGTAGT CCGTGAAGG TTTTACAGCA TTGTTGAGCG GGGGTAACG
 ~~~~~~

FIG. 7 (Continued)

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9601 ~CAAATGGGC GGTAGGCGTG TACGGAATTC ~GGAGTGGCGA GCGCTCAGAT CCGCATATA AGCAGCTGCT TTTTGCCCTGT ACTGGGTCTC TCTG  
CGTTTACCCG CCATCCGCAC ATGCCTTAAG CCGGAGTCTA GGACGTATAT TCGTCGACGA AAAACGGACA TGACCCAGAG AGAC

FIG. 7 (Continued)

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CE7scFv-IgG4 Hinge-CH3-CD28tm/4-1BB-Zeta-T2A-EGFRt epHIV7 pJ02569 (9694 bp)

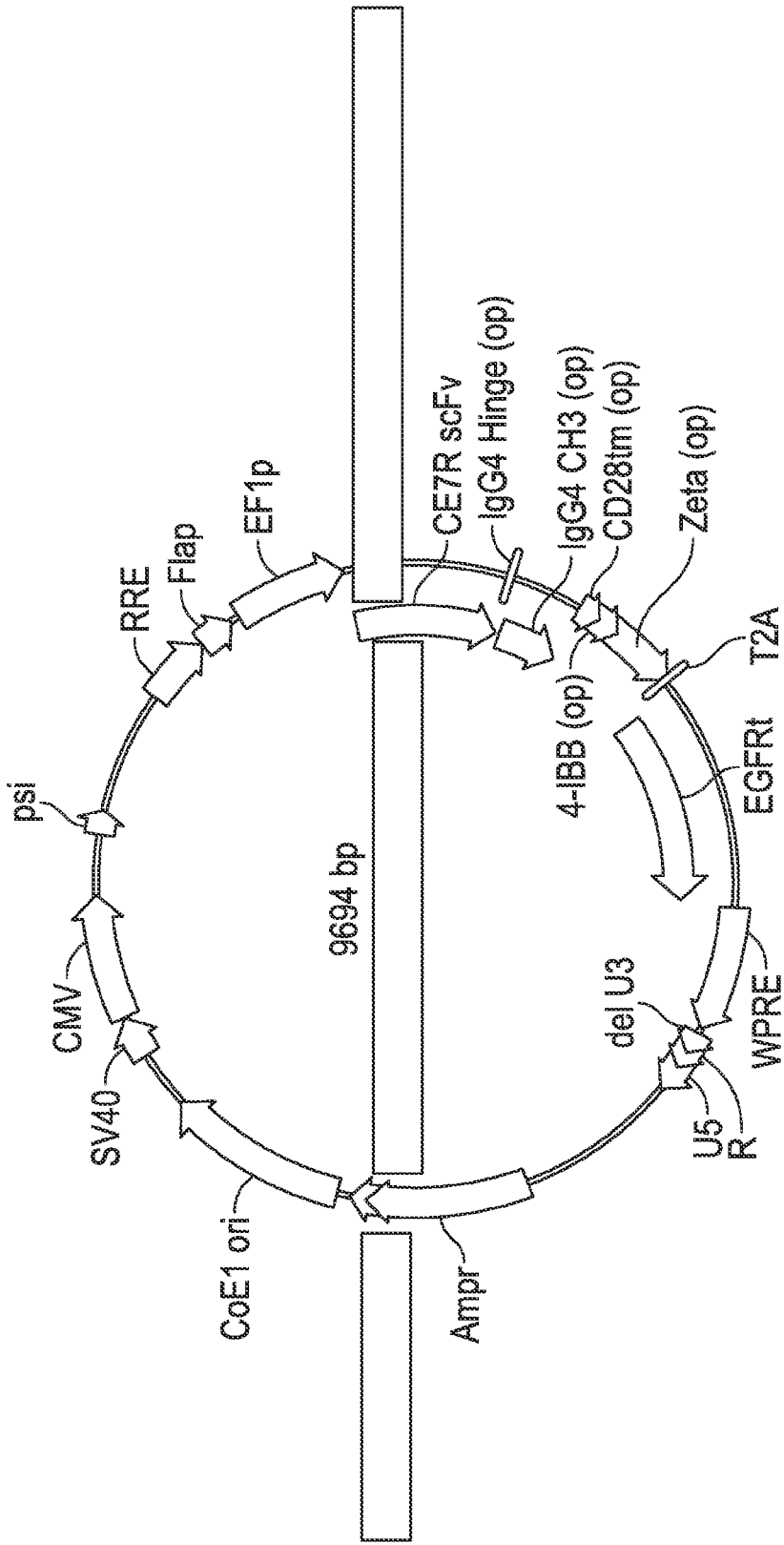


FIG. 8

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1  GTTAGACCAG ATCTGAGCCT GGGAGCTCT TGGCTAACTA GGAACCCAC TGCCTAAGCC TCAATAAAGC TTCCCTTGAG TGCCTTGAAGT AGTGTGIGCC
   CAATCTGGTC TAGACTCGGA CCTTCGAGAG ACGGATTGAT CCTTGGGTG ACGAATTCGG AGTTATITCG AACGGAATC ACGAAGTCA TCACACACGG
101 CGTCTGTTGT GTGACTCTGG TAACTAGAGA TCCCTCAGAC CCTTTAGTC AGTGTGAAA AGTCTAGCA GTGGGCCCCG AACAGGACT TGAAGCGAA
   GCAGACAACA CACTGAGACC ATTGATCTCT AGGAGTCTG GGAANAATCAG TCACACCTTT TAGAGATCGT CACCGCGGGC TTGTCCCTGA ACTTTCGCTT
                                     psi
201 AGGGAACCA GAGGAGCTCT CTCGAGGCG GACTCGGCTT GCTGAAGCG GCACGGAAG AGCGAGGGG CCGGACITGG TGAGTACGC AAAAATTTTG
   TCCCTTTGGT CTCTCTGAGA GAGCTGGCTC CTGAGCGGAA CGACTTCGG CGTGCCTTC TCCGCTCCC GCGCTGACC ACTCATCGG TTTTAAAC
                                     psi
301 ACTAGCGGAG GCTAGAAGGA GAGAGTGG TCGAGAGCG TCAGTATTAA GCGGGGAGA ATTAGATCGA TGGGAAAAA TTCGGTTAAG GCCAGGGGA
   TGATCGCTC CGATCTTCTT CTCTCTACCC ACGCTCTCG AGTCATAAT CTGCCCCCTCT TAATCTAGCT ACCCTTTTTT AAGCAATTC CCGTCCCCCT
401 AAGAAAAAAT ATAAATTAA ACATATAGTA TGGGCAAGCA GGGAGCTAGA ACGATTCCGA GTTAATCCCTG CCTGTGTAGA AACATCAGAA GGCTGTAGAC
   TTCTTTTTTA TATTTAATTT TGTATATCAT ACCCGTTCGT CCTCGATCT TGCCTAAGCT CAATTAGGAC CGGACAACTT TTGTAGTCTT CCGACATCTG
501 AAATACTGG ACAGCTACAA CCACTCTTC AGACAGGATC AGAAGAACTT AGATCATTAI ATAATACAGT AGCAACCTC TATTTGTGC ATCAAGGAT
   TTTATGACC TGTGATGTT GGTAGGAAG TCTGTCTAG TCTTCTGAA TCTAGTAATA TATTATGTA TCGTTGGGAG ATAACACAG TAGTTTCTTA
601 AGAGATAAAA GACACCAAGG AAGCTTAGA CAAGATAGAG GAAGCAAAA ACAAAAGTA ACAAAGTCA CAGCAAGCAG AGCATGAC AGCACACAGC
   TCTCTATTTT CTGTGGTTC TTCTGATCT GTTCTATCTC CTCTCTGTTT TGTCTTCAAT CTCTTTTCGT CAGCAAGCAG GTCTGCTGTG TCCTGTGTCTG
701 AATCAGGTC CCAAAATTA CCCATATAGT CAGAACATCC AGGGCAAT CCAATATCAG GCCATATCAG CTTAGTCTGTT AAATGATAGG GTAAAGTAG
   TTAGTCCAGT CGGTTTAA TGGATATCAC GTCTGTAGG TCCCGTTTA CCAATGATC CCGTATAGT GATCTTGAA TTTACATACC CATTTTCATC
801 TAGAAGAGAA GGCTTTCAG CCAGATGTA TACCATGTT TCCAGATTA TCCAGAGGAG CCACCCACA AGATTAAAC ACCAUGCTAA ACACAGTGG
   ATCTTCTCT CCGAAGTCT GGTCTCACT ATGGGTACAA AAGTCTAAT AGTCTCTC AGTCTCTC GTTGGGTGT TCTAAATTTG TGSTAGGATT TGTGTACCC
                                     RRE
901 GGGACATCAA GCAGCCATGC AAATGTTAAA AGAGACCATC AATGAGGAAG CTGCAGGCAA AGAGAAGAGT GGTGCAGAGA GAAAAAGAG CAGTGGGAAT
   CCGTGTAGTT CGTGGGTAG TTTACATTT TCTCTGGTAG TACTCTCTC GACGTCGTT TCTCTTCTCA CCAGTCTCT CTTTTTCTC GTCACCCCTTA
                                     RRE
1001 AGGAGCTTG TTCTTGGT TTCTTGGG AGCAGGAGC ACTATGGGG CAGGTCAT GACGTCGAG GTACAGGCGA GACAATTA GTCTGGTATA
   TCCTCGAAC AAGGAACCA AGAACCTCG TCGTCTCTCG TGAATCCCG GTCCGAGTA CTGCGCTGC CATGTCCGT CTGTTAATA CAGACCATAT
                                     RRE
1101 GTGAGCAGC AGAACAATTT GCTGAGGCT ATTGAGGCG ACACATCT GTTGCATC ACAGTCTGG GCATCAGCA GCTCCAGCA AGATCCTGG
   CACGTCGTC TCTTGTAAA CGACTCCGA TAACTCCCG TGTCTCGT TGTCTCGT CAACTTGAG TGTCTAGACC CCGTCTCGT TCTTAGGACC
                                     flap
1201 CTGTGGAAG ATACCTAAG GATCAACAG TCCTGGGAT TTGGGTTGC TCTGGAAC TCAATTCAC CACTGCTGT CCGTGGATCT ACAAATGGCA
   GACACCTTC TATGGATTC CTAGTTGTC AGGACCCCA AACCCCAAC AGACCTTTG AGTAAACGT GTACGACAC GGAACCTAGA TGTTTACCGT
                                     flap
1301 GTATTCAFC ACAAATTTAA AAGAAAGGG GGTACAGTC AGGGAAAGA ATAGTAGACA TAATAGCAAC AGACATACA ACTAAAGAAT
   CATAAGTAG TGTAAATTT TTTCTTTCC CCACTACCC CCAATGTCAG TCCCTTTCT TATCATCTGT ATTATCGTTG TCTGTATGTT TGATTTCTTA

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FIG. 9

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flap

1401 ~~~~AAACA AATTACAAA AATCAAAAT TTGGGTTTA TTACAGGGAC AGCAGAGATC CAGTTTGGG ATCAATSCA TGAAGATCT GCTTAGGTT  
 AIGTTTTTGT TTAATGTTTT TAAGTTTTAA AAGCCAAAT AATGTCCTG TCGTCTAG GTCAAACCC TAGTTACGT ACTTCTAGA CGAATCCCAA

EF1p

1501 AGCGGTTTT CGCTGCTTCG CGAGGATCTG CGATCGCTCC GGTGCCGTC AGTGGGAGA GCGACATCG CCCACAGTCC CCGAGAGTT GGGGGAGGG  
 TCCGCCAAAC GCGACGAAGC GCTCCTAGAC GCTAGCGAG CCACGGSCAG TCACCCGTCT CCGGTGTAGC GGTGTCTCAG GGTCTTCAA CCCCCCTCCC

EF1p

1601 GTCCGCAAT GAACCGGTGC CTAGAGAAG TGGGCGGGG TAAACTGGGA AAGTATGTC GTGTACTGG TCCGCTTTT TCCGAGGCT GGGGAGAAC  
 CAGCCGTTAA CTTGGCCACG GATCTCTCC ACCGCGCCC AATTGACCCT TTCCTACAG CACATGACG AGGCGGAAA AGGCTTCCA CCCCCTCTTG

EF1p

1701 CGTATATAAG TGCAGTAGTC GCGGTGACG TTCTTTTTTC CAACGGGTTT GCGGCAGAA CACAGCTGAA GCTTCGAGG GCTCGATCT CTCTTTCAG  
 GCATATATTC ACCTCATCAG CCGCACTTC AGAAAAAGC GTTCCCAA GTCGGGTCTT GTGTGACTT CGAGCTCCC CGAGCGTAGA GAGGAAGTGC

EF1p

1801 CGCCCGCCG COTACCTGAG GCGCCATCC AGCCGGTTG ACTCGGTTT TCCCGCTCC CGCCTGTGT GCCTCTGAA CTGCTGCTG CGTCTAGGTA  
 GCGGCGGCG GGAIGGACTC CGCGGTAGG TCGGCGAAC TCAGCGCAAG ACGGCGGAG GCGGACACA CGGAGGACTT GACGCGGCG GCAGATCCAT

EF1p

1901 AGTTTAAAG TCAGGTGAG ACCGGGCTT TGTCCGGCG TCCCTTGGAG CTAACCTAGA CTCAGCCGC TCTCCAGCT TTGCCAGCT CTGCTTGCTC  
 TCAAAATTCG ACTCCAGCTC TGGCCCGGA ACAGCCGCG AGGAACTC GATGGATCT GAGTCGCGG AGAGTSCGA AACGACTCG GACGAACGAG

EF1p

2001 AACTCTACGT CTTTGTCTTC TTTTCTTTC TCCGCCGTTA CAGATCCAAG CTGTGACCG CGCCTACGG TACGCCCGCC ACCATGCTCC TGCTGGTGAC  
 TTGAGATGCA GAACAAAGC AAAGACAAG ACGCGCAAT GTCTAGTTTC GACACTGCC CCGGATGCC GCGGCGCG TGGTACGAG ACGACCACTG

CE/R scFv

2101 CAGCCTGCTG CTGTGCGAG TCCCCACCC CGCCTTCTG CTGATCCCC AGGTGACCT GCAGCAGCT GCGCCGAGC TGGTGAAGC AGGCCCGAGC  
 GTCGGACGAC GACACGCTCG ACGGGTGG GCGGAAAGAC GACTAGGGG FCCACGTGA CGTCGTGGA CCGCGGCTCG ACCACTCG TCCGCGGTG

CE/R scFv

2201 GTCAAGCTGT CTTCCAAGC CAGCGGTAC ACCTTCACCG CTTACTGGAT GCATGGGTG AAGCAGAGC CCGGCCACCG CTTGGATGG ATCGGCGAGA  
 CACTTCGACA GGACGTTCCG GTCCGCCAAG TGAAGTGGC CGATGACCTA CGTGACCCAC TTCGTCTCTG GCGCGGTGCC GGACCTTACC TAGCCGCTCT

CE/R scFv

2301 TCAACCCAG CAACGGCCG ACCAATACA ACGAGCGGT CAAGACGAAG GCCACCTGA CCGTGGACA GACAGCACC ACCGCTTCA TGCAGCTGT  
 AGTTGGGTC GTTCCCGGCC TGGTTGATGT TGCTCGCAA GTTCTGTTTC CCGTGGACT GGCACCTGTT CTCCTCGTGG TGGCGGAAGT ACGTTCGACAG

CE/R scFv

2401 CGGCTGACC AGCGAGGACA GCGCGGTGA CTTCTGCGC AGGCACTACT ACGGACCAAG CTACAATTC GACTACTGG GCCAGGAC CACACTGACC  
 GCGGACTGG TCGTCTCTGT CCGGCGACAT GAAGACGCG TCCCTGATGA TCCGCTGTC GATGTTGAAG CTGATGACCC CGGTCCCGTG GTGTGACTGG

FIG. 9 (Continued)

39/100

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CE7R scFv
2501 GTGAGCAGCG GCGAGGGGG CTCTGGGGSC GGAGGATCTG GGGAGGGGG CAGCGACATC CAGATGACCC AGACAGCAG CAGCTTCAGC GTGAGCCTGG
CACTCGTCSC CGCTCCCCC GAGACGGCG CCTCCTAGAC CCGCTCCCC GTCTACTAG GTCTACTGG TCTGTCGTC GTGGAAGTCG CACTCGGACC

CE7R scFv
2601 GCGACCGGGT GACCATCACC TGTAGGCCA ACGAGGACAT CAACAACCGG CTGGCCCTGGT ATCAGCAGAC CCGCGCAAC AGCCCCAGG TGCTGATCAG
CGCTGGCCCA CTGCTAGTGG ACAITCCGGT TGCTCCTGTA GTTGTTGGCC GACCGGACCA TAGTCGTCG GGGCCGTTG TCGGGTCCG ACGACTAGTC

CE7R scFv
2701 GCGGCGCACC AACCTGGTGA CCGCGGTGCC CAGCCGGTTT AGCGGCAGCG GCTCCGGGAA GGACTACACC CTGACCATCA CAAGCCTCCA GCGCGAGGAC
GCGCGGTGG TTGGACCACT GGCGGCACCG GTCGGCCAAA TCGCCGTGCG CGAGGCCGTT CCTGATGTCG GACTGGTAGT GTTCGGAGCT CCGGCTCCCTG

IgG4 Hinge
CE7R scFv
2801 TTGCGCACCT ACTACTGCCA GCAGTACTGG TCCACCCCTT TCACCTTCGG CAGCGGCACC GAGCTGGAAA TCAAAGAATC TAAGTACCGA CCGCCCTGCC
AAGCGGTGGA TCATGACGGT CGTCATGACC AGGTGGGGA AGTGAAGCC GTCCCGCTGG CTCGACCTTT AGTTCTTAG ATTCAATGCT GCGGGGACCG

CD28tm
IgG4 Hinge
4-1BB
2901 CCCCTTGCCC TATGTTCTGG GTGCTGGTGG TGGTCGGAGG CGTCTGGCC TGCTACAGCC TGCTGGTCAC CGTGGCCTTC ATCATCTTTT GGTGAACG
GGGAACGGG ATACAGACC CAGACACC ACCAGCCTCC GACGACCGG ACGATGTCG GACACCACTG GCACCGAAG TAGTAGAAA CCCACTTTC

4-1BB
3001 GGGCAGAAAG AAACCTCCTGT ATATATCAA ACAACCATTT ATGAGACCAG TACAACTAC TCAAGAGGAA GATGGCTGTA GCTGCCGATT TCCAGAAGAA
CCCGTCTTTC TTTGAGGACA TATATAAGTT TGTGTTGTA TACTCTGGTC ATGTTTGATG AGTCTCTCTT CTACCGACAT CGACGGCTAA AGTCTTCTT

Zeta
4-1BB
3101 GAAGAGGAG GATGTGAAT GCGGGTGAAG TTCAGCAGAA GCGCGACGC CCGTGGCTAC CAGCAGGGCC AGAATCAGCT GTACACCGAG CTGAACCTGG
CTTCTTCCTC CTACACTTGA CGCCCACTC AAGTCGTCTT CCGGCTGCG GGGACGGATG GTCGTCCCG TCTTAGTCGA CATGTTGCTC GACTTGGACC

Zeta
3201 GCAGAGGGA AGATACGAC GTCCTGGATA AGCGGAGAG CCGGACCTT GAGATGGCG GCAAGCCTCG GCGGAAGAAC CCCCAGGAAG GCCTGTATAA
CGTCTTCCCT TCTCATGCTG CAGGACCTAT TCGCCTCTCC GCGCTTGGGA CTCTACCCGC CGTTCGGAGC CGCTTCTTG GGGGTCTTC CGGACATATT

Zeta
3301 CGAAGTGCAG AAGACAAGA TGGCGAGGC CTACAGCGAG ATCGGCATGA AGGGGAGCG GAGCGGGGC AAGGCCACG ACGGCTGTA TCAGGGCCTG
GCTTGACGTC TTCTGTCTT ACCGGTCCG GATGTCGTC TAGCCGTACT TCCCGCTCG CTCGCCCGG TTCCCGGTGC TGCCCGGACAT AGTCCCGGAC

T2A
Zeta
3401 TCCACCGCCA CCAAGGATAC CTACGAGGCC CTGCACATGC AGGCCCTGCC CCCAAGGCTC GAGGGCGGCG GAGAGGGCAG AGGAAGTCTT CTAACATGCG

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FIG. 9 (Continued)

40/100

AGGTGGCGGT GGTTCCTATG GATGCTGCGG GACGTGTAGG TCCGGGACGG GGGTTCGAG CTCGCCGCG CTCCTCCGTC TCCTTCAGAA GATTGTACGC  
 T2A  
 3501 GTGACGTGGA GGAGAAATCCC GGCCCTTAGGA TGCTTCTCCT GGTGACAAGC CTTCTGTCTT GTGAGTTACC ACACCCAGCA TTCTTCCTGA TCCCACGCAA  
 CACTGCACCT CCTCTTAGG CCGGATCCT ACGAAGAGGA CCACTGTTCG GAAGACGAGA CACTCAATGG TGTGGTCTGT AAGGAGGACT AGGGTGCCTT  
 EGFRt  
 3601 AGTGTGTAAC GGAATAGGTA TTGGTGAATT TAAAGACTCA CTCTCCATAA ATGCTACGAA TATTAACAC TTAATAAACT GCACCTCCAT CAGTGGCGAT  
 TCACACATTG CCTATCCAT AACCACTTAA ATTCTGAGT GAGAGGTATT TACGATGCTT ATAATTGTG AAGTTTGA CGTGGAGGTA GTACCCGCTA  
 EGFRt  
 3701 CTCCACATCC TGGCGGTGGC ATTTAGGGGT GACTCCTTCA CACATACTCC TCCTCTGGAT CCACAGGAAC TGGATATTCT GAAAACCCCTA AAGGAAATCA  
 GAGGTGTAGG ACGGCCAOCG TAAATCCCA CTGAGGAAGT GTGATGAGG AGGAGACCTA GGTGTCTTG ACCTATAAGA CTTTITGGCAT TTCTTTTAGT  
 EGFRt  
 3801 CAGGGTTTTT GGTGATTCAG GCTTGGCCTG AAAACAGGAC GGACTTCCAT GCCTTTGAGA ACCTAGAAAT CAFACGGGC AGGACCAAGC AACATGGTCA  
 GTCCCAAAA CGACTAAGTC CGAACCGGAC TTTTGTCTG CTGAGGTA CGAAACTCT TGGATCTTA GTAAGCGCG TCCTGGTTCG TTGTACCAGT  
 EGFRt  
 3901 GTTTTCTCTT GGAGTCGTCA GCTGGAACAT AACATCCTTG GGATACGCT CCCTCAAGCA GATAAGTGAT GGAGATGTA TAATTTTCAAG AAACAATAAT  
 CAAAAGAGAA CGTCAGCAGT CGGACTTGTA TTGTAGGAAC CTTAATGCGA GGGAGTTCT CTATTCACTA CTCTACACT ATTAAGTCC TTTGTTTTTA  
 EGFRt  
 4001 TTGTGCTATG CAATACAAAT AAATGGGAAA AAATGTTTG GGACTCCGG TCAGAAAACC AAAATTATAA GCAACAGAGG TGAAAACAGC TGCAAGGCCA  
 AACACGATAC GTTATGTTA TTGACCTTT TTGACAAAC CTTGAGGCC AGTCTTTTG TTTTAATATT CGTGTCTCC ACTTTTGTG ACCTTCGGT  
 EGFRt  
 4101 CAGGCCAGGT CTGCCATGCC TTGTGCTCC CCGAGGGCTG CTGGGCCCG GAGCCAGGG ACTGCGTCTC TTGCCGGAAT GTCAGCCGAG GCAGGGAATG  
 GTCCGGTCCA GACGTACGG AACACGAGG GGCTCCCGAC GACCCCGGG CTCGGGTCC TGACGCAGAG AACGCCCTTA CAGTCGGCTC CGTCCCTTAC  
 EGFRt  
 4201 CGTGGACAAG TGAACCTTC TGGAGGGTGA GCCAAGGGAG TTGTGGAGA ACTCTGAGT CATACTGTC CACCCAGAT GCCTGCCCTA GGCCATGAAC  
 GCACCTGTT ACCTTGGAG ACCTCCACT CGGTCCCTC AACACCTCT TGAGACATC GATGTCAAG GTGGGTCTCA CGGACGGAGT CCGGTACTTG  
 EGFRt  
 4301 ATCACCTGCA CAGGACGGG ACCAGAAC TGTATCCAGT GTGCCACTA CATTTGACGG CCCACTGG TCAGACCTG CCGGCAGGA GTCATGGGAG  
 TAGTGGACGT GTCTGCCCC TGGTCTGTG ACATAGGTCA CACGGTGTAT GTAACCTGG GGGGTGACG AGTCTGGAC GGGCCGTCT CAGTACCCCTC  
 EGFRt  
 4401 AAAACAACAC CTTGGTCTGG AAGTACGAG ACGCCGGCCA TGTGTCCAC CTGTGCCAT CAAACTGCAC CTACGGATGC ACTGGGCCAG GTCTTGAAGG  
 TTTTGTGTG GGACCAAGC TTCAATGGCTC TCGGCCGGT ACACACGGTG GACACGGTAG GTTTGACGTG GATGCTACG TGACCCGGTC CAGAACTTCC  
 EGFRt  
 4501 CTGTCCACG AATGGCCCTA AGATCCCGTC CATGCCACT GGATGGTGG GGGCCCTCTT CTGTGCTG CTGTGGGATCG CCTCTTCAIG  
 GACAGGTTGC TTACCCGGAT TCTAGGGCAG GTAGCGGTGA CCTACCACC CCGGGGAGGA GAACGACGAC CACCACCGG ACCCTAGCC GGAGAAAGTAC

FIG. 9 (Continued)

41/100

EGFRt  
 4601 TGAAGCGGCG CTCTAGACCC GGGCTGAGG AATTGATAT CAAGCTTATC GATAATCAAC CTCTGGATTA CAAAATTGT GAAAGATTGA CTGGTATTCT  
 ACTCGCGGCG GAGATCTGGG CCGGACGTCC TTAAGCTATA GTTCGAATAG CTATTAGTGG GAGACCTAAT GTTTAAACA CTTTCTAACT GACCATAAGA  
 WPRE  
 4701 TAACTATGTT GCTCCTTTTA CGTATGAGG ATACGCTGCT TTAATGGCTT TGTATCATGC TATTGCTTC GTATGGCTT TCATTTCTC CTCTTGTTAT  
 AATTGATACA CGAGGAAAT GCGATACACC TATCGGACGA AATTACGAA ACATAGTACG ATAACGAAG GCATACCGAA AGTAAAGAG GAGGAACATA  
 WPRE  
 4801 AAATCTGTT TGTGTCTCT TTAAGAGAG TTGTGCGCG TTGTGAGCA AGGTGGGCG GTGTGCTG TGTGTCTGA CGCAACCCC ACTGGTTGGG  
 TTTAGACCA ACACACAGA AATACTCTC AACACCGGC AACAGTCCGT TGCACCGCAC CACACGTGAC ACAACGACT GCGTTGGGG TGACCAACCC  
 WPRE  
 4901 GCATTGCCAC CACTGTCTAG CTCCTTTCCG GGACTTTGCG TTTCCTCCCTC CCTATTGCCA CGCGGGAAT CATCGCCGCC TGCCTTGCCC GCTGCTGGAC  
 CGTAACGGTG GTGGACAGTC GAGGAAGGC CCTGAAGCG AAGGGGGAG GGATACGGT GCCGCCTTGA GTACGCGCG ACGGAACGG CGACGACCTG  
 WPRE  
 5001 AGGGGCTCGG CTGTTGGCA CTGACATTC CGTGGTGTG TCGGGGAAT CATCGTCTT TCCTTGGCTG TTGCCACTG GATTCTGGC  
 TCCCCGAGCC GACAACCCGT GACTGTAAAG GCACCACAAC AGCCCTTTA GTAGCAGAA AGGAACCGAC GACCGGACAC AACGGTGGAC CTAAGACCGC  
 WPRE  
 5101 GGGACGTCTT TGTGCTACGT CCCTTGCGCC CTCATTCAG CCGACCTTCC TTCCCGGCG CTGCTGCGG CTCTGCGGCC TCTTCCGGT CTTGCGCTTC  
 CCTGTCAGGA AGACGATGCA GGAAGCGCG GAGTTAGTGC GCTTGAAGG AAGGGCGCG GACGACGGCC GACACGCGG AGAAGGCGCA GAAGCGGAAG  
 WPRE  
 5201 GCCCTCAGC GACTCGGATC TCCCTTTGG CGGCTTCCC GCATCGATC CGTCCGACTAG CCGTACCTTT AAGACCAATG ACTTACAGG CAGCTGTAGA  
 CGGGAGTCTG CTCAGCCTAG AGGGAACCC GCGGAGGGG CGTAGCTATG GCAGCTGATC GGCATGGAA TTCTGGTTAC TGAATGTTC GTGACATCT  
 del U3  
 5301 TCTTAGCCAC TTTTAAAG AAAAGGGGG ACTGGAAGG CTAATTCAC CCCAAGAAG ACAAGATCTG CTTTTCCTT GATCTGGCT TCTCTGGTTA  
 AGAATCGGTG AAAAATTTT TTTTCCCCC TGACCTTCCC GATTAAGTGA GGTTCCTTC TGTCTAGAC GAAACACGGA CATGACCCAG AGAGACCAAT  
 R  
 5401 GACCAGATCT GAGCTTGGG GCTCTCTGG TAACTAGGA ACCCACTGCT TAAGCCTCAA TAAAGCTTGC CTTGAGTGTCT TCAAGTAGTG TGTGCCCGTC  
 CTGGTCTAGA CTCGGACCT CGAGAGACG ATTGATCCCT TGGTGACGA ATTCGGAGT ATTTCGAAG GAACTCAGGA AGTTCATCAC ACACGGGCG  
 US  
 5501 TGTGTGTGA CTCTGGTAAC TAGAGATCCC TCAGACCCCT TTAGTCAGTG TGAATAATCT CTAGCAGAAT TCGATATCAA GCTTATCGAT ACCGTGACCC  
 ACAACACACT GAGACCATTG ATCTCTAGG AGTCTGGGA AATCAGTCAC ACCTTTTAGA GATCGTCTTA AGCTATAGTT CGAATAGCTA TGGCAGCTGG  
 5601 TCGAGGGGG GCGCGTACC CAATTCGCG TATAGTGAGT CGPATACAA TTCACCTGCC CTCGTTTTAC AACGTCGTGA CTGGGAAAC CCTGGCGTTA  
 AGCTCCCCC CGGCCATGG GTTAAGCGG ATATCACTCA GGAATATGTT AAGTACCGG CAGCAAAATG TTGCAGCACT GACCTTTTG GGACCGCAAT  
 5701 CCCAACTTAA TCGCTTGA GCACATCCC CTTTCGCCAG CTGGCGTAAT AGCGAGAGG CCCGACCGA TCGCCCTTCC CAACAGTGC GCAGCCTGAA  
 GGGTTGAAT ACCGGAACGT CGTGTAGGG GAAAGCGGT CAGCCATTA TCGCTTCTCC GGGCGTGGCT AGCGGGAAG GTTGTCAACG CGTGGGACTT

FIG. 9 (Continued)

42/100

5801 TGGCGAATGG AAATTGTAAAG CGTTAAATATT TTGTTAAAT TCGCGTTAAA TTTTGTGTAA ATCAGCTCAT TTTTAAACCA ATAGGCGGAA ATCGGCAAAA  
 ACGCTTTACC TTAAACATTC GCAATTATTA AACAAATTT AGGCAATTT AAAAATTTGGT TATCCGGCTT TAGCCGTTTT TAGCCGTTTT  
 5901 TCCCTTATAA ATCAAAAGAA TAGCCGAGAA TAGGTTTGA TAGGTTTGA GTTTGGACAA AGAGTCCACT ATAAAGAAC GTGGACTCCA ACGTCAAGG  
 AGGGAATATT TAGTTTCTTT ATCTGGCTCT ATCCCAACTC ACAACAAGGT CAACACCTGT TCTCAGGTGA TAATTTCTTG CACCTGAGGT TGCAGTTTCC  
 6001 GCGAAAACC GTCTATCAGG GCGATGGCC ACTACGTGAA CGATCACCTT GGTAGTGGGA TTAGTTCAAA AAACCCAGC TCCACGGCAT TTCTGTATTT AGCCTTGGGA  
 CGCTTTTGG CAGATAGTCC CGCTACCGG GGAAGCCGG AGCTTGACGG GGAAGAGAA GGAAGAGAG CGGCGTAGG GCGCTGGCAA  
 6101 AAAGGAGCC CCGCATTTAG AGCTTGACGG GGAAGCCGG CCGTTCGGCC CCGTTCGGCC CCGTTCGGCC CCGTTCGGCC CCGTTCGGCC CCGTTCGGCC  
 TTTCCCTCGG GCGTAAATC TCGAATGCC CCGTTCGGCC CCGTTCGGCC CCGTTCGGCC CCGTTCGGCC CCGTTCGGCC CCGTTCGGCC CCGTTCGGCC  
 6201 GTGTAGCGGT CAGCTGCGC GTACACCA CACCGCCGC GCTTAATGCG CCGTTCGGCC CCGTTCGGCC CCGTTCGGCC CCGTTCGGCC CCGTTCGGCC  
 CACATCGCCA GTGCGACGG CATTTGGGT GTGGGCGGG CCAATTACGC GCGGATGTC CCGCAGTCC ACGTGAAA GCGCTTTAC ACGCGCTTG  
 6301 CCCTATTGT TTATTTTCT AAATACATTC AAATATGTA CCGTCATGA GACAATAAC CTGATAAATG CTCAATAAT ATTGAAAAAG GAAGAGTATG  
 GGGATAACA ATAAAAAGA TTTATGTAAG TTTATACATA GCGAGTACT CTGTTATPG GACTATTAC GAATATTA TAACTTTTTCT CTTCCTATC  
 6401 AGTATTCAAC ATTCCGTGT CCGCTTTAT CCGCTTTAT CCGCTTTAT CCGCTTTAT CCGCTTTAT CCGCTTTAT CCGCTTTAT CCGCTTTAT  
 TCATAAGTTG TAAAGGCACA GCGGGAATA GCGGGAATA GCGGGAATA GCGGGAATA GCGGGAATA GCGGGAATA GCGGGAATA GCGGGAATA  
 6501 AAGATCAGTT GGGTGCACGA GTGGGTACA TCGAAGTGA TCGAAGTGA TCGAAGTGA TCGAAGTGA TCGAAGTGA TCGAAGTGA TCGAAGTGA  
 TTCTAGTCAA CCGACGTGCT CACCCAAATG AGCTTGACCT AGCTTGACCT AGCTTGACCT AGCTTGACCT AGCTTGACCT AGCTTGACCT AGCTTGACCT  
 6601 CACTTTTAAA GTTGTGCTAT GTGGCGGCT ATTATCCGT ATTATCCGT ATTATCCGT ATTATCCGT ATTATCCGT ATTATCCGT ATTATCCGT  
 GTGAAATTT CAAGACGATA CACCGCGCA TAATAGGCA TAATAGGCA TAATAGGCA TAATAGGCA TAATAGGCA TAATAGGCA TAATAGGCA TAATAGGCA  
 6701 GAGTACTCAC CAGTACAGA AAAGCATCTT ACGGATGGA TCGAGTGAAG AGAATTAAG AGAATTAAG AGAATTAAG AGAATTAAG AGAATTAAG  
 CTCATGAGTG GTGAGTGTCT TTTCGTAGAA TGCCTACCT ACTGTCATTC TCTTAATACG TCACGACGGT ATTGGTACTC ACTATTGTGA CGCCGGTTGA  
 6801 TACTTCTGAC AACGATCGGA GGACCGAGG AGCTAACCG TTTTGTGAC AACATGGGG ATCATGTAAC TCGCTTGTAT CGTTGGGAC CGGAGCTGAA  
 ATGAAGACTG TTGCTAGCCT CCGTGGCTCC TCGATTGGG AAAAAGCTG TTGTACCCCT TAGTACATTG ACGGAACTA GCAACCTTG GCCTCGACTT  
 6901 TGAAGCCATA CCAACGAGG AGCGTACAC CACGATGCT GTGCTACGA CATGCTTACC GTTGTGCAA CCGCTTTGAT AATGACCGC TTGAIGAATG AGATCGAAGG  
 ACTTCGGTAT GGTGTGCTGC TCGCACTG GTGCTACGA CATGCTTACC GTTGTGCAA CCGCTTTGAT AATGACCGC TTGAIGAATG AGATCGAAGG  
 7001 CGGCAACAAT TAATAGACTG GATGGAGGG GATAAGTGG CAGGACCACT TCTGCGCTG GCGCTTCGG CTGCTGGGT TATTGTGAT AAATCTGGAG  
 GCGCTTGTTA ATTATCTGAC CTACCTCCG CTATTTTCAAC GTCTCTGTA AGACGGGAGC CGGGAAGGC GACCGACCAA ATAACGACTA TTTAGACCTC  
 7101 CCGGTGAGCG TGGTCTCGG GGTATCATTT CAGCACTGG GCGCATGCT AAGCCCTCC GATCTAGT TATCTACAG ACGGGGACT AGGCACTAT  
 GGGCACTCGC ACCAGAGCG CCAATAGAAC GTGCTGACCC CCGTCTACCA TTGCGGAGGG CATAGCATCA ATAGATGTC TGCCCCCTCAG TCCGTTGATA

FIG. 9 (Continued)

43/100

Amp<sup>r</sup>

7201 GGATGAACGA AATAGACAGA TCGCTGAGAT AGGTGCCTCA CTGATTAAGC ATTGGTAAC GTGAGACCAA GTTTACTCAT ATATACATTA GATTGATTTA  
 CCTACTTGCT TTATCTGTCT AGCGACTCTA TCCACGGAGT GACTAATTCTG TAACCAATGA CAGTCTGGTT CAAATGAGTA TATATGAAAT CTAACTAAAT

7301 AAACCTTCATT TTTAATTTAA AAGGATCTAG GTGAGATCC TTTTGTATTA TCTCATGACC AAAATCCCTT AACGTGAGTT TTCGTTCCAC TGAGCGTCAG  
 TTTGAAGTAA AATTAATAAT TTCCTAGATC CACTTCTAGG AAAAATAATT AGAGTACTGG TTTTAGGGAA TTGCACTCAA AAGCAAGGTG ACTCGCAGTC

7401 ACCCGGTAGA AAAGATCAAA GGATCTCTTT GAGATCCCTT TTTTCTGCGC GTAATCTGCT GCTTGCAAA CAAAAACCA CCGTACACAG CCGTGGTTTG  
 TGGGGCATCT TTCTAGTTT CCTAGAGAA CTCTAGGAAA AAAAGACGGC CATTAGACGA CGAAGCTTG TTTTITTTGGT GCGGATGGTC GCCACCAAC

7501 TTTGCCGGAT CAAGAGCTAC CAACCTCTTT TCCGAAGGTA ACTGGCTTCA GCAGAGGCGA GATACCAAT ACTGTTCTTC TAGTGTAGCC GTAGTTAGGC  
 AAACGGCCTA GTTCTCGATG GTTGAGAAAA AGGCTTCCAT TGACCGAAGT CGTCTCGGCT CTATGTTTA TGACAAGAAG ATCACATCGG CATCAATCCG

7601 CACCACTTCA AGAACTCTGT AGCACCGCTT ACATACCTCG CTCTGCTAAT CCTGTATCCA GTGGCTGCTG CCAGTGGCGA TAAGTCTGT CTTACCGGGT  
 GTGGTGAAGT TCTTGAGACA TCGTGGCGGA TGTATGGAGC GAGACGATTA GGACAATGTT CACCGACGAC GTTACCCGCT ATTACGACA GAATGGCCCC

7701 TGGACTCAAG ACCATAGTTA CCGGATPAGG CGCAGCGGTC GGGCTGAACG GGGGGTCTGT GCACACAGCC CAGCTTGGAG CGAACGACCT ACACCGAAT  
 ACCTGAGTTC TGTATCAAT GGCTATPCC GCGTGGCCAG CCGGACTTGC CCCCCAAGCA CGTGTGTCGG GTCGAACCTC GCTTGTGGA TGTGGCTTGA

7801 GAGATACCTA CAGCGTGAGC TATGAGAAAG CGCCACGCTT CCGGAAGGGA GAAAGGCGGA CAGGTATCCG GTAAGCGGCA GGGTGGAAAC AGGAGAGCGC  
 CTCTATGGAT GTGGCACTCG ATACTCTTTC GCGGTGGAA GGGCTTCCCT CTTTCCGCT GTCCATAGG CATTCGCCGT CCCAGCCTTG TCCTCTCGCG

7901 ACGAGGGAGC TTCCAGGGG AAACGGCTGG TATCTTTATA GTCTGTCTGG GTTTCGCCAC CTCTGACTTG AGGCTCGATT TTTGTGATGC TCGTCAGGG  
 TGCTCCCTCG AAGTCCCCC TTTGGCGACC ATAGAAATAT CAGGACAGCC CAAAGCGGTG GAGACTGAAC TCGACGCTAA AAACACTAG AGCAGTCCCC

8001 GCGGAGCCCT ATGGAAAAAC GCCAGCAACG CGGCCCTTTT ACGGTCTCTG GCGCTTTGCT GGCCTTTTGC TCACATGTTT TTTCCCTGGT TATCCCTGA  
 CCGCCTCGGA TACCTTTTTC CGGTCTGTGC GCCGAAAAA TGCCAAGGAC CGGAAACGA CCGGAAACG AGTGTACAAG AAAGGAGCA ATAGGGGACT

8101 TTTCTGTGGAT AACCGTATTA CCGCTTTTGA GTGAGCTGAT ACCGCTCGCC GCAGCGGAAC GACCGAGCGC AGCGAGTCAAG TGAGCGGGA AGCGGAAGAG  
 AAGACACCTA TTGGCATAAT GCGCGAAACT CACTCGACTA TGGCGAGCGG CGTGGCTTG CAGTCTAGTC TCGCTCAGTC ACTCGTCTC TCGCTTCTC

8201 CGCCCAATAC GCAACCGCC TCTCCCGCG CGTTGGCCGA TTCAATTAATG CAGCTGGCAC CAGAGTTTC CCGACTGGAA AGCGGGCAGT GAGCGCAACG  
 GCGGGTTATG CGTTTGGCG AGAGGGGCGC GCAACCGGCT AAGTAATTAAC GTGCAACGTTG CTGTCCAAAG CCGTACCTT TCGCCCGTCA CTCGCGTTGC

8301 CAATTAATGT GACTTAGCTC ACTCATPAGG CACCCACGCG TTACACTTTT ATGCTTCCGG CTCGTATGTT CTGTGGAATT GTGAGCGGAT AACAAATTTCA  
 GTTAATTACA CTCAATCGAG TGAGTAATCC GTGGGGTCCG AATGTGAAA TACGAAGGCC GAGCATACAA CACACTTAA CACTCGCCTA TTGTTAAAGT

8401 CACAGGAAAC ACCTATGACC ATGATTACGC CAAGCTCGAA ATTAACCTC ACTAAAGGA ACAAAGCTG GACCTCCACC GCGGTGGCGG CCTCGAGGTC

SV40

FIG. 9 (Continued)

44/100

GTGTCCTTTG TCGATAC TGG TACTAATGCG GTTCGAGCTT TAATTGGGAG TGAATTCCTT TGTTTTCGAC CTCGAGGTGG CGCCACCGCC GGAGCTCCAG  
 Sv40  
 8501 GAGATCCGGT CGACCAAGCA CCATAGTCCC GCGCCCTAAT CCGCCCTAAC TCGCCCAAGT TCGAGCTATT GTCCGCCCA TGGCTGACTA  
 CTC TAGGCCA GGTGGTCGTT GGTATCAGG CGGGGATTGA GCGGGTAGG GCGGGGATTG AGCGGGTCA AGCGGGGTAA GAGCGGGGT ACCGACTGAT  
 Sv40  
 8601 ATTTT TTTTATGCAGA GGCGGAGGCC GCCTCGGCTT CTGAGCTATT CCAGAGTAG TGAAGAGGCT TTTTGGAGG CCTAGGCTTT TGC AAAAAGC  
 TAAAAAAAT AAATACGCTT CCGGCTCCG CGGAGCCGA GACTCGATAA GGTCTTCATC ACTCCTCCGA AAAAACCTCC GGATCCGAAA ACGTTTTCG  
 CMV  
 8701 TTCGACGGTA TCGATTGGCT CATGTCCAAC ATTACCGCCA TGTTCACATT GATTATGAC TAGTTATTAA TAGTAATCAA TTACGGGTC ATTAGTTCA  
 AAGCTGCCAT AGCTAACCGA GTACAGGTG TAATGGCGT ACAACTGTAA CTAACTACTG ATCAATAATT ATCATTAGTT AATGCCCCAG TAATCAAGTA  
 CMV  
 8801 AGCCCATATA TGGAGTCCG CGTTACAFAA CTTACGGTAA ATGGCCCGCC TGGCTGACG CCAACGACC CCGCCCATT GACGCAATA ATGACGTATG  
 TCGGGTATAT ACCTCAAGC GCAATGCTT GAATGCCATT TACCGGGCGG ACCGACTGGC GGGTTGCTGG GCGGGGTAA CTGCAGTTAT TACTGCATAC  
 CMV  
 8901 TTCCCATAGT AACGCCAATA GGGACTTCC ATTGACGTCA ATGGTGGAG TATTTACGGT AAATGCCCCA CTGGCAGTA CATCAAGTGT ATCATATGCC  
 AAGGTATCA TCGCGTTAT CCTGGAAG CCTGCAAG TAACTGCAGT TACCCACCTC ATAAATGCCA TTGACGGGT GAACCGTCAT GTAGTTACA TAGTATACG  
 CMV  
 9001 AAGTACGCC CCTATTGACG TCAATGACG TAAATGGCC GCCTGGCATT ATGCCCACTA CATGACCTTA TGGACTTTC CTACTTGGCA GTACATCTAC  
 TTCATGCCGG GATAACTGC AGTTACTGCC ATTTACCGG CGGACCGTAA TACGGGTCAT GTACTGGAAT ACCCTGAAG GATGAACCGT CATGTAGATG  
 CMV  
 9101 GTATTAGTCA TCGCTATTAC CATGGTGATG CGGTTTGGC AGTACATCAA TGGGCTGGA TAGCGTTTG ACTACGGG ATTTCCAAGT CTCCACCCCA  
 CATAATCAGT AGCGATAATG GTACCACTAC GCCAAAACCG TCATGTAGTT ACCCGACCT ATCGCCAAAC TGAATGCC TAAAGTTCA GAGGTGGGT  
 CMV  
 9201 TTGACGTCAA TGGGAGTTG TTTTGGACC AAAATCAACG GGACTTTCCA AAATGCTGA ACAAATCCG CCAATGACG CAAATGGCG GTAGCGGTG  
 AACTGCAGTT ACCCTCAAAC AAAACCGTGG TTTTAGTTGC CCTGAAAGT TTTACAGCAT TGTGAGGCG GGTAACTGC GTTTACCCG CATCCGCACA  
 CMV  
 9301 ACGGAATTG GAGTGGCGAG CCTTCAGATC CTGCATATAA GCAGCTGCTT TTTGCCCTGA CTGGGTCTCT CTG  
 TGCCTTAAGC CTCACCGCTC GGGAGTCTAG GAGTATATT CGTCGACGAA AACCGGACAT GACCCAGAGA GAC

FIG. 9 (Continued)

CE7scFv-IgG4 Hinge-only-CD28tm/41BB-Zeta-T2A-EGFRt epHIV7 pJ02460 (9373 bp)

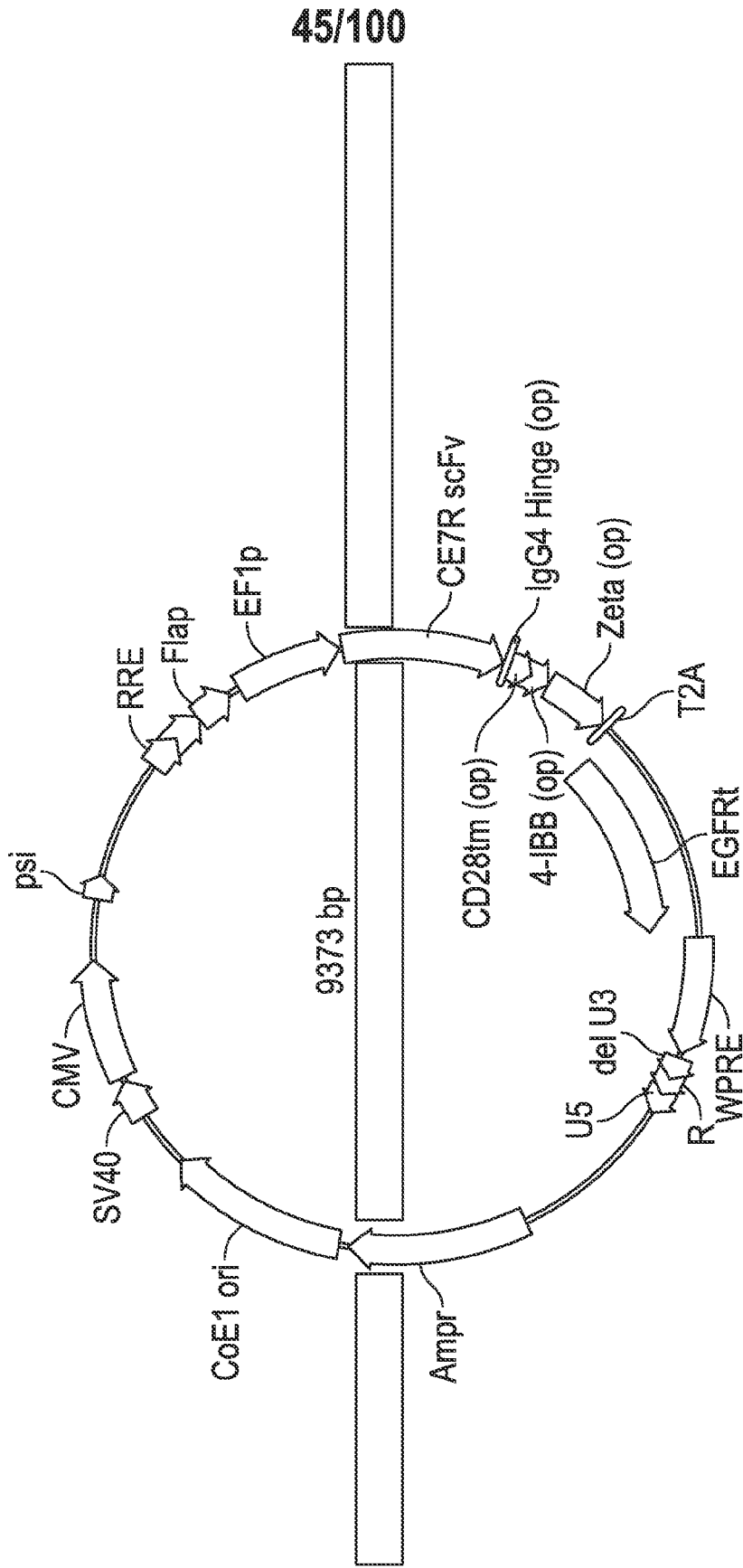


FIG. 10

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1  GTTAGACCAG ATCTGAGCCT GGGAGCTCTC TGGCTAACTA GGAACCCAC TGGTTAAGCC TCAATAAAGC TTGCCTTGAG TTGCCTCAAGT AGTGTGTGCC
   CAATCTGGTC TAGACTCGGA CCTTCGAGAG ACCGATTGAT CCTTGGGTG ACGAATTGG AGTATTTCG AACGGAATC ACGAAGTCA TCACACACGG
101 CGTCTGTTGT GTGACTCTGG TAACTAGAGA TCCCTCAGAC CCTTTAGTC AGTGTGGAA AGTGTAGCA GTGGCGCCCG AACAGGACT TGAAAGCGAA
   GCAGACAACA CACTGAGACC AATTGATCTCT AGGAGTCTG GGAATAATCAG TCACACCTTT TAGAGATCGT CACCGCGGGC TTGTCCCTGA ACTTTCGCTT
   psi
201 AGGGAACCA GACGAGTCT CTGACGGCAG GACTCGGCTT GGTGAAGCG GCACGGGAG AGCGAGGGG CGGCGACTGG TGAGTAGCC AAAAATTTG
   TCCCTTTGGT CTCCTCGAGA GAGCTGGGTC CTGAGCCGAA CGACTTCGG CGTGCCGCTC TCCGCTCCCC GCGCTGACC ACTCATGGCG TTTTAAAAAC
   psi
301 ACTAGCGGAG GTAGAAGGA GAGAGATGG TCGAGAGCG TCAGTATTAA GCGGGGAGA ATTAGATCGA TGGGAAAAA TTGGTTAAG GCCAGGGGA
   TGATCGCCTC CGATCTTCTT CTCTPRACC AGCTCTCGC AGTCATAATT CGCCCCCTCT TAATCTAGCT ACCCTTTTTT AGCCCAATTC CGGTCCCCCT
401 AAGAAAAAAT ATAAATTAA ACATAFAGTA TGGGCAAGCA GGGACCTAGA ACGATTGCA GTTAATCCCTG GCTGTTTAGA AACATCAGAA GGTGTAGAC
   TTCTTTTTTA TATTAAATTT TGTATATCAT ACCGTTCTGT CCGTCGATCT TGCFAAGCT CAATTAGGAC CGSACAATCT TTGTAGTCTT CCGACATCTG
501 AAATACTGG ACAGCTACAA CCAFCCTTC ACACAGGATC AGAAGAACTT AGATCATAT ATAAATACAGT ACCAACCTC TATTGTGTC ATCAAAGGAT
   TTTATGACCC TGTGATGTT GGTAGGGAAG TCTGTCTAG TCTTCTGAA TCTAGTAATA TATTATGTC TCGTTGGGAG ATAACACAG TAGTTTCTTA
601 AGACATAAAA GACACCAAGG AAGCTTTAGA CAAGATAGAG GAACAGCAA ACAAAGTAA ACAAAAGCA CAGCAAGCAG CAGCTGACAC AGCACACAGC
   TCTCTATTT CTGTGTTCC TTCGAAATCT GTTCTATCT CTTCTCGTTT TGTTCATTT GGTACATCAG GCCATATCAC CTAGAATTT AAATGCAATG GTAAAGTAG
701 AATCAGGTCA GCAAAATTA CCTATAGTG CAGAACATCC AGGGCAAT GGTATAGTCC CGGTATAGT GATTTGAAA TTTACGTACC CATTTCATC
   TTAGTCCAGT CGGTTTAAT GGGATATCAC GTCTTGTAG GTCCGTTA CCATGTAGT CCGTATAGT GATTTGAAA TTTACGTACC CATTTCATC
801 TAGAAGAGAA GGTTCAGC CCAGAAGTGA TACCCATGTT TTCAGCATA TCAGAAGGAG CCACCCACA AAGTTAAAC ACCAUGTAA ACACAGTGGG
   ATCTTCTCTT CCGAAAGTCG GGTCTTCACT ATGGGTACAA AAGTCGTAAT AGTCTTCTC AGTGGGTGT TGTAAATTTG TGTACGATT TGTGTACCC
   RRE
901 GGGACATCAA GCAGCCATGC AAATGTTAA AGAGACCATC AATCAGGAAG CTGCAGGCA AGAGAGAGT GGTCCAGAGA GAAAAAGAG CAGTGGGAT
   CCTGTAGTT CGTCGGTAG TTTACAATT TCTCTGGTAG TTAATCTCTT CAGGTCCGTT TCTCTCTCA CCAGTCTCT CTTTTTCTC GTCACCCCTTA
   RRE
1001 AGGAGCTTG TTCTTGGT TCTTGGAGC AGCAGGAAGC ACTATGGCG CAGCGTCAAT GACGCTGACG GTACAGGCCA GACAATTAIT GTCTGGTATA
   TCCTCGAAC AAGAACCCA AGAACCCCTC TCGTCTCTCG TGAATACCCG GTCCGAGTTA CTGCGACTGC CATGTCCGGT CTGTTAATAA CAGACCATAT
   RRE
1101 GTGCAGCAGC AGACAAATTT GCTGAGGGCT ATTGAGGGC AACAGCATCT GTTGCACTC ACAGTCTGGG GATCAAGCA GCTCCAGCA AGAATCTCTG
   CACGTCTGTC TCTTGTTAA CGACTCCGA TAACCTCCGG TTCTCGTAG CAACGTTGAG TGTACAGACC CGTAGTCTGT CGAGGTCCGT TCTTAGGACC
   flap
   RRE
1201 CTGTGGAAG ATACCTAAG GATCAACAG TCCTGGGGAT TTGGGGTGC TCTGGAAAC TCATTGTCAC CACTGCTGTG CCTTGGATCT ACAAATGGCA
   GACACCTTC TATGGAATTC CTAGTTGTC AGGACCCCTA AACCCCAAG AGACCTTTG AGTAAACGTG GTGACGACAC GGAACCTAGA TGTATTACCGT
   flap

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FIG. 11

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1301 GTATTCATCC ACAATTTTAA AAGAAAAGGG GGGATTGGGG GGTACAGTGC AGGGGAAGA ATAGTAGACA TAATAGCAAC AGACATACAA ACTAAAGAAAT  
 CATAAGTAGG TGTTAAATTT TTCTTTTCCC CCTTAACCCC CCATGTCACG TCCCCCTTCT TATCATCTGT ATTATCGTTG TCTGTAATGT TGATTTCTTA  
 flap

1401 TACAAAACA AATTACAAA AATTCAAAAT TTCCGGGTTA TTACAGGAC AGCAGAGATC CAGTTGGGG ATCAATTGCA TGAAGAATCT GCTTAGGGTT  
 AUGTTTTTGT TTAATGTTTT TAAGTTTTAA AAGCCCAAT AATGTCCTG TCGTCTTAG GTCAAACCCC TACTTAACGT ACTTCTTACA CGAATCCCAA

1501 AGCGGTTTTG CGTGCCTTCG CGAGGATCTG CGATCGCTCC GTGCCCGTC AGTGGGCAG AGGCACATCG CCACAGTCC CCGAGAAGTT GGGGGGAGGG  
 TCCGCAAAAC GCGACGAAGC GCTCCATAGC GCTAGCGAGG CCACGGGACG TCACCCGCT TCGGTGAGC GGGTCTCAGG GGCTCTTCAA CCCCCCTCCC

EF1p

1601 GTCCGCAATT GAACCGGTGC CTAGAGAGG TGGCGCGGG TAACTGGGA AAGTATGTC GTGTACTGGC TCCGCTTTT TCCCGAGGGT GGGGGAGAAC  
 CAGCCGTTAA CTGGCCACG GATCTCTCC ACCGCGCCC ATTGACCTT TTCACTACAG CACATGACCG AGGCGGAAA AGGCTTCCA CCCCCCTCTG

EF1p

1701 CGTATATAAG TGAGTAGTC GCGGTGACG TTCTTTTTCG CAACGGGTTT GCGGCCAGAA CACAGCTGAA GCTTCGAGGG GCTCGCATCT CTCTTTTACG  
 GCATAATATC ACCTCATCAG CCGCATCTGC AAGAAAAGC GTTCCCAA GGTCCGCTT GTGTCGACTT CCAAGCTCCC CGAGCTTACA GAGGAAGTGC

EF1p

1801 CGCCCGCGC CTTACCTGAG GCGGCCATCC ACGCCGGTG AGTCCGCTC TCCCGCTCC GCGCTGTGGT GCTCCTGAA CTGCGTCCG CGTCTAGGTA  
 GCGGCGGGG GATGGACTC CCGCGGTAG TCGGCCAAC TCAGCGAAG ACGGCGGAG GCGGACACA CCGAGACTT GAGCAGAGG GCAGATCCAT

EF1p

1901 AGTTTAAAG TCAGGTGAG ACCGGGCTT TGTCGGGCG TCCCTTGGAG CCTACCTAGA CTCAGCGCGG TCTCCACGCT TTGCCCTGACC CTGCTTGTCTC  
 TCAAAATTTC ACTCCAGCTC TGGCCCGAA ACAGGCGCG AGGGAACCTC GGATGGATCT GAGTCGGCG AGAGTGCGA AACGGAAGTGG GACGAACGAG

EF1p

2001 AACTCTACGT CTTTGTCTG TTTTCTGTT TCGCGCTTA CAGATCCAAG CTGTGACCG CGCTAAGG TACGCGCGCC ACCATGCTGC TGCTGGTGAC  
 TTGAGATGCA GAACAAAGC AAAGACAAG ACCGGCAAT GTCTAGTTT GACACTGGC GCGGATGCG ATCCGCGCG TGGTACAGG ACCACCACTG

CE/R scFv

2101 CAGCCTGCTG CTGTGCGAGC TGCCCCACC CGCCTTCTG CTGATCCCC AGGTGCACT GCAGCAGCTT GGGCCGAGC TGGTGAAGC AGGCGCCAGC  
 GTCGGACGAC GACACGCTCG ACCGGGTGG GCGGAAGAC GACTAGGGG TCCACGTGA CGTCGTGGA CCGCGCTCG ACCACTTGG TCCGCGGTG

CE/R scFv

2201 GTGAAGCTGT CTTGCAAGC CAGCGGTAC ACCTTCACG GCTACTGGAT GCATGGTG AAGCAGAGC CCGCCACGG CCTGGAATGG ATCGCGGAGA  
 CACTTCGACA GAGCTTCCG GTCGCGGAG TGAAGTGG CGATGACCTA CGTGAACCCAC TTCGTCTCTG GCGCGGTGCC GGACCTTACC TAGCCGCTCT

CE/R scFv

2301 TCAACCCAG CAACGGCGG ACCACTACA ACAGCGGTT CAAGACAAG GCGACCTGA CCGTGGACA GACAGCACC ACCGCTTCA TGCAGCTGTC  
 AGTTGGGGTC GTTCCCGGCC TGGTTGATCT TGCTCGCCAA GTTCTCTTC GTTGGGACT GGCACCTGTT CTGTCGTGG TGGCGGAACT AGTTCGACAG

CE/R scFv

2401 CCGCTGACC AGCGAGACA GCGCGGTGA CTCTCGCC AGGACTACT ACGGACACG CTACACTTC GACTACTGG GCCAGGCAC CACTGACC  
 GCGGACTGG TCGCTCCTGT CCGGGCACAT GAAGACGCGG TCCCTGATGA TGGCGTGTG GATGTTGAAG CTGATGACCC CGGTCCCGTG GTGTGACTGG

CE/R scFv

FIG. 11 (Continued)

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2501 GTGAGCAGCG GCGAGGGGG CTTGGGGG GGAGGATCTG GGGAGGGGG CAGGACATC CAGATGACCC AGAGCAGCAG CAGCTTCAGC GTGAGCCTGG
    CACTGCTCG CGCTCCCGG GAGACCGCG CTTCTAGAC CCCTCCCGG GTCGCTGTAG GTCTACTGGG TCTCGTCGTC GTCGAGTCTG CACTCGGACC
    CE7R scFv
2601 GCGACCGGT GACCATCACC TGTAAGCCA ACGAGGACAT CAACAACCGG CTGGCTGGT ATCAGCAGAC CCGGGCAAC AGCCGAGG TGCTGATCAG
    CGCTGGCCCA CTGGTAGTGG ACATTCGGT TGCTCTCTGA GTTGTGGCC GACCGGACCA TAGTCGTCTG GGGCCGCTTG TCGGGGTCCG ACGACTAGTC
    CE7R scFv
2701 CGGCGCCACC AACCTGGTGA CCGGGTGCC CAGCGGTTT AGCGGCAGCG GCTCGGCAA GGACTACACC CTGACCATCA CAAGCTGCA GGCCGAGGAC
    GCGCGGTGG TTGGACCACT GGCGGCACGG GTCGGCCAAA TCGCCGTCGC CGAGGCGGT CCGATGTTGG GACTGGTAGT GTTCGGAGCT CCGGCTCTG
    CE7R scFv
2801 TTGCGCACCT ACTACTGCCA GCAGTACTGG TCCACCCCT TCACCTTCGG CAGCGGACC GAGCTGGAAA TCAAGAATC TAAGTACGGA CCGCCCTGCC
    AAGCGTGA TGATGACGGT CGTCATGACC AGGTGGGGA AGTGAAGCC GTCGCGCTGG CTCGACCTTT AGTTCTTAG ATTCTAGCTT GCGGGGACCG
    CD28tm
    IgG4 Hinge
2901 CCCCCTGCC TATGTTCTGG GTGCTGGTGG TGGTCGGAGG CGTGTGGCC TGCTACAGCC CGTGGCTTC ATCATCTTTT GGTCCCGCAG
    GGGGAACGG ATACAAGACC CACGACACC ACCAGCCTCC GCACGACCGG ACGATGTCGG ACGACCATG GCACCGAAG TAGTAAAAA CCCAGGCGTC
    CD28gg
3001 CAAGCGGAGC AGAGCGGCC ACAGGACTA CATGAACATG ACCCTAGAC GGCCTGGCC CACCAGAAAG CACTACCAGC CCTAGCCTC TCCCGGGGAC
    GTTCGCTCG TCTCCCGCG GTGCTGTGAT GTACTTGTAC TGGGATCTG CCGGACCGG GTGGTCTTC GTGATGGTCG GGAFGCGGG AGGGGCGCTG
    CD28gg
    4-1BB
3101 TTTGCGGCT ACAGAAGCAA ACGGGCAGA AAGAACTCC TGTATATATT CAACAACCA TTTATGAGAC CAGTACAAAC TACTCAAGAG GAAGATGGCT
    AAACGGCGGA TGTCTTCGTT TGCCCCGCTT TCTTTTGAGG ACATATATAA GTTTGTGGT AAATACTCTG GTCATGTTTG ATGAGTCTC CTTCTACCGA
    Zeta
    4-1BB
3201 GTAGCTGCG ATTTCCAGAA GAAGAGAAG GAGGATGTA ACTGCGGGTG AAGTTACGA GAAGCGCGA CGCCCTGCC TACCAGCAGG GCCAGAATCA
    CATCGACGG TAAAGGTCTT CTTCTCTCCTC CTCTACACT TGACGCCAC TTCAAGTCGT CTTGCGGGT GCGGGGACGG ATGGTCTCC CGGTCTTAGT
    Zeta
3301 GCTGTACAAC GAGCTGAACC TGGGACAAG GGAAGAGTAC GAGCTCTCTG ATAAGGGAG AGCGGGGAC CCTGAGATGG GCGGAAGCC TCGCGGAAG
    CGACATGTT CTCGACTTGG ACCCGTCTC CTTCTCATG CTGACGAGAC TATTGCTCTC TCCGGCCCTG GGACTCTACC CGCCGTCTCG AGCCGCTTC
    Zeta
3401 AACCCGAGG AAGCCTGTA TAACGACTG CAGAAAGACA AGATGGCCGA GGCCTACAGC GAGATCGGCA TGAAGGGCGA GCGGAGCGG GGCAGGGCC
    TTGGGGTCC TTCCGGACAT ATTGCTTGAC GTCTTTCTGT TCTACCGCT TCTAGCCGT ACTTCCCGCT CGCTCCCGC CCGTCCCGG
    T2A

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FIG. 11 (Continued)

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Zeta

3501 ~~~~ACGACGGCCT~GTAACAGGC~CTGTCCACCG~CCACCAAGGA~TACCTACGAC~GCCCTGACA~TGCAGGCCCT~GCCCAAGG~CTCAGAGGCG~GCGGAGAGGG~  
 TCGTGCCGGA~CATAGTCCCG~GACAGGTGGC~GGTGGTTCTT~ATGGATGCTG~CGGACGCTGT~ACGTCCGGGA~CGGGGGTICC~GAGTCCCGC~CGCCTCTCCC~  
 ~~~~~~EGFRt~

T2A

3601 ~~~~CAGAGGAAGT~GCTCTAACAT~GCGGTGAGCT~GGAGGAGAAT~CCCGGCCCTA~GGATGCTTCT~CCTGGTGACA~AGCCTTCTGC~TCTGUGAGTT~ACCACACCCA~
 GTCTCCTTCA~GAAGATTGTA~CGCCACTGCA~CCTCCTCTTA~GGGCGGGGAT~CCTACGAAGA~GGACCACTGT~TCCGAAGACG~AGACACTCAA~TGGTGTGGGT~
 ~~~~~~EGFRt~

3701 ~~~~GCATTCTCTC~TGATCCCACG~CAAGTGIGT~AACGGAATAG~GTAATGGTGA~ATTAAAGAC~TCACTCTCCA~TAATGCTAC~GAATATATA~CACTTCAAAA~  
 CGTAAGGAGG~ACTAGGGTGC~GTTTCACACA~TTGCCCTTATC~CATAACCACT~TAAATTCTG~AGTGAGAGGT~ATTACGATG~CTTATAATT~GTGAAGTTTT~  
 ~~~~~~EGFRt~

3801 ~~~~ACTGCACCTC~CATCAGTGGC~GATCTCACA~TCCTGCCGGT~GGCATTTAGG~GGTGACTCCT~TCACACATAC~TCCTCCTCTG~GATCCACAGG~AACTGGATAT~
 TGACGTGGAG~GTAGTCACCG~CTAGAGGIGT~AGGACGGCCA~CCGTAAATCC~CCACTGAGGA~AGTGTGATG~AGGAGGAGAC~CTAGGTGTC~TTGACCTATA~
 ~~~~~~EGFRt~

3901 ~~~~TCTGAAAACC~GFAAAGGAAA~TCACAGGGT~TTTGCTGATT~CAGGCTTGGC~CTGAAACAG~GACGGACCTC~CAGCCTTTG~AGAACCTAGA~AATCAIACGC~  
 AGACTTTTGG~CAHTTCTCTT~AGTGTCCTTT~AGTGTCCTAA~AAACGACTAA~GTCCGAACCG~GACTTTTGTG~CTGCCCTGGAG~GTACGGAAC~TCTTGGATCT~TTAGTATGCG~  
 ~~~~~~EGFRt~

4001 ~~~~GGCAGGACCA~AGCAACATGG~TCAGTTTCT~CTTGCACTCG~TCAGCTGAA~CATAACATCC~TTGGGATTAC~GTCCCTCAA~GGAGATAAGT~GATGGAGATG~
 CCGTCTCTGGT~TCGTTGTACC~AGTCAAAAGA~GAACGCTCAG~AGTCGCACTT~GTATTGTAGG~AACCTAATG~CGAGGAGTT~CCTCTATCA~CTACCTCTAC~
 ~~~~~~EGFRt~

4101 ~~~~TGATAATTC~AGGAACAAA~AATTTGTGCT~ATGCAATAC~AATAAATGG~AAAAACTGT~TTGGACCTC~CGTCAAGAA~ACCAAAATA~TAAGCAACAG~  
 ACTATTAAAG~TCCTTTGTTT~TTAAACACGA~TACGTTTAG~TTATTTGACC~TTTTTTGACA~AACCTGGAG~GCCAGTCTTT~TGGTTTTAAT~ATTGTTGTC~  
 ~~~~~~EGFRt~

4201 ~~~~AGGTGAAAAC~AGTGCAAGG~CCACAGGCA~GGTCTGCCAT~GGCTTGCTCT~CCCCGAGGG~CTGCTGGGG~CGGAGCCCA~GGGACTGGT~CTCTTGCCGG~
 TCCACTTTTG~TCGACGTTCC~GGTGTCGGT~CCAGACGGTA~CGGAACACGA~GGGGGTCTCC~GACGACCCCG~GGCTCGGGT~CCCTGACGCA~GAGAACGGCC~
 ~~~~~~EGFRt~

4301 ~~~~AATGTCAGCC~GAGGCAGGGA~ATGGGTGAC~AAGTGCAACC~TTCTGGAGGG~TGAGCCAAGG~GAGTTTGTGG~AGACTCTGA~GTGCAATACG~TGCCACCCAG~  
 TTACAGTCGG~CTCCGTCCCT~TAGGCACCTG~TTCACGTTGG~AAGACTCCC~ACTCGGTCTC~CTCAAAACC~TCTTGAGACT~CACGTATGTC~ACGGTGGGTC~  
 ~~~~~~EGFRt~

4401 ~~~~AGTGCCCTGC~TCAGGCCATG~AACAACCT~GCACAGGAG~GGGACAGAC~AACTGTATCC~AGTGTGCCA~CTACATTGAC~GGCCCCCACT~GGTCAAGAC~
 TCACGGACCG~AGTCCGGTAC~TTGTAGTGA~CGTGTCCTGC~CCCTGGTCTG~TTGACATAGG~TCACACGGGT~GATGTAAC TG~CCGGGGGTGA~CGCAGTTCTG~
 ~~~~~~EGFRt~

4501 ~~~~CTGCCCGGCA~GGAGTCATGG~GAGAAACAA~CACCTGGTC~TGAAGTAGC~CAGACGCGG~CCATGTGTC~CACCTGTGCC~ATCCAAC TG~CACCTACGGA~  
 GACGGGCGGT~CCTCAGTACC~CTCTTTGTT~GTGGGACCAG~ACCTTCATGC~GTCTCGGCC~GGTACACAG~GTGCACACGG~TAGGTTTGAC~GTGGATGCTC~  
 ~~~~~~EGFRt~

FIG. 11 (Continued)

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4601 TGCACCTGGG CAGGTCTTGA AGGCTGTCCA ACGAATGGG CTAAGATCCC GTCCATCGCC ACTGGGATGG TGGGGGCCCT CCTTTGGTG CTGGTGGTGG
ACGTGACCCG GTCCAGAACT TCCGACAGGT TGCTTACCCG GATTCTAGGG CAGGTAGCGG TGACCTTACC ACCCCGGGA GAGACACGAC GACCACCCACC
EGFRT
4701 CCCTGGGGAT CGGCTCTTC ATGTGAGCGG CCGCTCTAGA CCGGGCTGC AGGAATCGA TATCAAGCTT ATCGATAATC AACCTCTGA TTACAAAATT
GGGACCCCTA GCCGGAGAAG TACACTCGCC GCGGAGATCT GGCCCCGACG TCCTTAAGCT ATAGTTCGAA TAGCTATTAG TTGGAGACCT AATGTTTTAA
WPRE
4801 TGTGAAGAT TGACTGGTAT TCTTAAGTAT GTTGCTCTCT TTACGCTATG TGGATAGCT GCTTTAATGC CTTTGTATCA TGCATTTGCT TCCCGTATGG
ACACTTTCTA ACTGACCATA AGAATTGATA CAACGAGGAA AATCGGATAC ACCTATGCGA CGAAATTACG GAAACATAGT ACGATAACGA AGGCATATCC
WPRE
4901 CTTTCATTTT CTCTCTCTTG TATAAATCCT GGTTCCTGTC TCTTATGAG GAGTTGCGC CCGTTGTCAG GGAACGTGGC GTGGTGCA CTGTGTTTGC
GAAAGTAAA GAGGAGGAAC ATATTTAGA CCAACGACAG AGAAATACTC CTCACACCG GGCACACAGT CGTTGCACCG CACCACAGCT GACACAAAAG
WPRE
5001 TGACGCAACC CCACTGGT GGGGCAATGC CACCACCTGT CAGCTCCTTT CGGGGACTTT CGCTTCCCG CTCCTATTG CCACGGGGA ACTCATGCGC
ACTGCGTTGG GGGTGACCAA CCCCCTAACG GTGGTGGACA GTGGAGGAAA GGCCCTGAAA GCGAAGGGG GAGGATAAC GGTGCCGCT TGAGTAGCGG
WPRE
5101 GCGTGGCTTG CCGCTGCTG GACAGGGCT CGGCTGTTGG GCACTGACAA TTCCGCTGGT TTGTGCGGGA AATCATCGTC CTTTCCTTGG CTGCTCGCT
CGGACGGAAC GGGGACGAC CTGTCCTG GCGGACCAACC CCGTACTGTT AAGGACCAAC AACAGCCCT TTAGTAGCAG GAAAGGAAC GACGAGCGGA
WPRE
5201 GTGTTGCCAC CTGGATTCTG CGCGGAGCT CTTCTGCTA CGTCCCTTGC GCGCTCAATC CAGCGGACCT TCCTTCCCG GCGCTGCTGC CGGCTCTGCG
CACAAAGGTG GACCTAAGAC GCGCCCTGCA GGAAGACGAT GCAGGGAAGC CGGGAGTAG GTGCGCTGGA AGGAAGGGG CCGGACGACG GCGGAGACGC
WPRE
5301 GCCTCTTCCG CGTCTTCCG TTGCGCCCTCA GACGAGTGG ATCTCCCTTT GGGCCGCTC CCGCATCGA TACCGTCGAC TAGCCGTACC TTTAGACCA
CGGAGAGGC GCAGAGCGG AAGCGGAGT CTGCTCAGCC TAGAGGAAA CCGGGGGAG GGGGTAGCT ATGCAGCTG ATCGGATGG AATTCCTGCT
del U3
5401 ATGACTTACA AGCAGCTGT AGATCTTACC CACTTTTTAA AAGAAAGGG GGGACTGGA GGGCTAATC ACTCCCAAAG AAGACAGAT CTGCTTTTGG
TACTGAATGT TCCGTCGACA TCTAGAAATC GTGAAAAATT TTCTTTTCCC CCGTACCTT CCGGATTAG TGAGGGTTTC TTCTGTCTA GACGAAAAAC
R
5501 CCTGTACTGG GTCTCTCTGG TTAGACACAG TCTGAGCCTG CGAGCTCTCT GCGTAACTAG GGAACCCACT CCTTAAGCCT CAATAAGCT TGCCTTGAGT
GGACATGACC CACAGAGACC AATCTGGTCT AGACTCGGAC CCGGAGAGA CCGATTGATC CCGTGGTGA CCAATTCGGA GTTATTTCGA ACGGAACCTA
U5
5601 GCTTCAAGTA GTGTGTGCC GTCTGTCTG TGACTCTGGT AACTAGAT CCGTCAGACC CTTTGTAGTCA GTGTGAAA TCTCTAGCAG AATTCGATAT
CGAAGTTCA CACACACGG CAGACACAC ACTGAGACCA TTGATCTCTA GGGAGTCTGG GAAATCAGT CACACCTTTT AGAGATCTGC TTAAGCTATA

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FIG. 11 (Continued)

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5701 CAAGCTTATC GATACCGTCG ACCTCGAGGG GGGGCCCGGT ACCCAATTTCG CCTATATAGT AGTCGTATTA CAATTCACGT GCCGTGCTTT TACAACGTCG
 GTTCGAATAG CTATGGCAGC TGGAGTCGCC CCCCAGGCCA TGGGTAAAGC GGGATATCAC TCAGCATAAAT GTTAAGTGAC CGGCAGCAAA ATGTTGCAGC
 5801 TGACTGGGAA AACCTGGCG TTACCCAACT TAATCGCCTT GCAGCACATC CCCCCTTCGC CAGCTGGCGT AATAGCGAAG AGSCCGCAC CGATCGCCTT
 ACTGACCCCT TTGGGACCGC AATGGGTGA ATTAGCGGAA CGTCTGTAG GGGGAAGCG GTCCGACCGA TTATCGCTTC TCCGGCGTG GCTAGCGGA
 5901 TCCCAACAGT TGGCAGCCT GAATGGGAA GTGAATGT AAGCGTAAAT ATTCTGTAA ATTCGCGT AAATTTTGT TAAATCAGCT CATTTTATAA
 AGGTTGTCA ACGCTCGGA CTTACCGCTT ACCTTTAACA TTGCAATTA TAAACAAT TTAAGCGCA ATTAAGTGA GTAAAAAATT
 6001 CCAATAGCC GAATCGGCA AAATCCCTTA TAATCAAAA CAATAGACCG AGATAGGTT GAGTGTGTT CAGCTTTGGA ACAAGATGCC ACTATTAAAG
 GGTATCCGG CTTAGCCGT TTATAGGAA ATTAGTCTT TCTATCTGGC TCTATCCCA GTACACAAA CCGTAAACCT TGTTCTCAGG TGATAATTTC
 6101 AACGTGGACT CCAACGTCA AGGCGGAAA ACCGTCTATC AGGCGATAG TCCCGTACC GGTGTATGCA CTTGGTAGT GAATAGTTC AAAAACCCT AGCTCCACGG
 TTGCACCTGA GGTTCAGTT TCCCGCTTT TGGCAGTAG TCCCGTACC CGGGGAAGC CGGGAAACGT GCGGAAAG GCGGAAAG AAGCGAAGG
 6201 GTAAAGCACT AAATCGGAAC CCTAAGGGA CCCCCGATT TAGAGCTTGA GCGGGAAGC CGGGAAACGT GCGGAAAG GCGGAAAG AAGCGAAGG
 CATTTCTGA TTAGCCTTG GATTTCCCT CCGGGCTAA ATCTCGAAT TAGAGCTTGA GCGGGAAGC CGGGAAACGT GCGGAAAG AAGCGAAGG
 6301 AGCGGGCGT AGGCGCTGG CAAGTCTAG CAGTACGCT GGTACGCTG CCGTAACCA CCACACCGC CCGCTTAAAT CCGCGCTAC AGGCGGCTC AGGTGGCACT
 TCGCCCGGA TCCCGGACC GTTCACATCG CCAGTGGAC GGCATTGGT GGTGTGGCG GCGGAATTA CCGGCGATG TCCCGGCGAG TCCACCGTGA
 6401 TTTCGGGGAA ATGTCGCGG AACCCCTAAT TGTTTATTT TCTAAATACA TCTAAATAG TATCCGCTCA TGAGACAATA ACCCTGATA ATGCTTCAAT
 AAAGCCCTT TACACGCGCC TTGGGGATA ACAATAAAA AGATTATGT AAGTTATAC ATAGCGAGT ACTCTGTTAT TGGGACTATT TACGAAGTTA
 ~~~~~~  
 6501 AATATTGAAA AAGGAAGAGT ATGAGTATTC AACATTCCG TGTGCCCCCTT ATTCCCTTT TTGCGCAT TTGCTTCTT GTTTTGCTC ACCCAGAAAC  
 TTATAACTTT TTCCTTCTCA TACTCATAG TTGTAAGGC ACAGCGGAA TAAGGAAAA AACGCCGTA AACGGAAGA CAAAAACGAG TGGGTCTTTG  
 ~~~~~~  
 6601 GCTGGTAAA GTAAAGATG CTGAAGATCA GTTGGGTGCA CGAGTGGGT ACATCGAAT GCATCTAAC AGCGTAAGA TCCTTGAGG TTTTCGCC
 CGACCACCTT CATTTCTAC GACTTCTAGT CAACCCACGT GCTACCCAA TGTAGCTGA CCTAGAGTTG TCGCATTTT AGGAATCTC AAAAGCGGG
 ~~~~~~  
 6701 GAAGAAGCTT TTCCAATGAT GAGCCTTTT AAAGTCTGCG TATGTGGCG GGTATATCC CGTATTGAG CCGGCAAGA GCAATCGGT CGCCGCATAC  
 CTTCTTGCAA AAGTTACTA CTCGTGAAA TTCAAGACG ATACACCGG CCATAATAG GCATAACTGC GCGCGTTCT CGTTGAGCCA GCGGCGTATG  
 ~~~~~~  
 6801 ACTATTCTCA GATGACTTG GTTGAGTACT CACCACTAC AGAAAGCAT CTTACGGATG GCATGACAGT AAGACAATTA TGCAGTGTG CCATAACCAT
 TGATAAGAGT CTTACTGAAC CAATCATGA GTGTCAGTG TCTTTCTGA GAATGCTTAC CGTACTGCA TTCTCTTAAT ACGTCAGCA GGTATTGGTA
 ~~~~~~  
 6901 GAGTGATAAC ACTGCGGCA ACTTACTCT GACACGATC GAGGACCGA AGGAGTAAAC CGCTTTTTT CACACATGG GGAATCATGT AACTCGCCTT  
 CTCACATATT TGACGCCGT TGAATGAAGA CTGTTGCTAG CTTCTGCTT TCCCTCGATT GCGAAAAAC GTGTTGTACC CCCCAGTACA TTGACCGGAA  
 ~~~~~~  
 7001 GATCGTTGGG AACCGGAGCT GAATGAGCC ATACCAACG ACAGCGTGA CACCAAGATG CCTGTAGCAA TGGCAACAAC GTTGGCAAA CTATTACTG
 CTAGCAACCC TTGGCCTCGA CTTACTTCGG TATGTTTTC TCTCTGCACT GTGTTGCTAC GGACATCGTT ACCGTGTGTG CAACCGCTT GATAATTGAC
 ~~~~~~  
 7101 GCGAATCTACT TACTCTAGCT TCCCGGCAAC AATTAATAGA CTGGATGGAG GCGGATAAG TTGCAGGACC ACTTCTGCGC TCGGCCCTTC CGGTGGCTG  
 CGCTTGATGA ATGAGATCGA AGGCGCGTT TTAATTATCT GACCTACCTC CGCTATTTT ACGTCTCTG TGAAGACGG AGCCGGAAG GCCGACCGAC

Fig. 11 (Continued)

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7201 ~~~~~~GTTATTGGCT~GATAAATCTG~GAGCGGTGA~GCGTGGGTCT~CGCGGTATCA~TTGCAGACT~GGGCCAGAT~GGTAAGCCCT~CCCCTATCGT~AGTTATCTAC  
 ~~~~~~CAAATAACGA~CTATTTAGAC~CTCGGCCACT~CTCGGCCACT~CGCACCAGA~CGCCCATAGT~AACGTCCTGA~CCCCGGTCTA~CCATTCCGGA~GGGCATAGCA~TCAATAGATG  
 ~~~~~~ACGACGGGA~GTCAGGCAAC~TATGGATGAA~TATGGATGAA~AGATCGCTGA~GATAGTGCC~TCACTGATTA~AGCATGGTA~ACTGTCAGAC~CAAGTTTACT  
 ~~~~~~TGCTGCCCT~CAGTCGGTG~ATACCTACTT~GCTTTATCTG~TCTAGCGACT~CTATCCAGG~AGTGACTAAT~TCGTAACCAT~TGACAGCTG~GTTCAAATGA  
 ~~~~~~CATATATACT~TTAGATTGAT~TTAAACTTC~ATTTTAAAT~TAAAGGATC~TAGGTCAGA~TCCTTTTGA~TAATCTCATG~ACCAAATCC~CTTAACGTGA  
 ~~~~~~GTATATATGA~AATCTAACTA~AATTTGAAG~TAAATAATTAA~AATTTCTAG~ATCCACTCT~AGGAAAACT~ATTAGAGTAC~TGGTTTAGG~GAATTGCAC  
 ~~~~~~GTTTTCGGTC~CACTGAGCGT~CAGACCCGT~AGAAAGATC~AAAGGATCTT~CTTGAGATCC~TTTTTTTCTG~CGGTAAATCT~GCTGCTTGA~AACAAAAAA  
 ~~~~~~CAAAAGCAAG~GTCACTCGCA~GTCTGGGCA~TCTTTTCTAG~TTTCTAGAA~GAATCTAGG~AAAAAAGAC~CGCATTAGA~CGACCAACGT~TTGTTTTTTT  
 ~~~~~~CCACCGCTAC~CAGCGGTGGT~TTGTTTGGG~GATCAAGAGC~TACCAACTCT~TTTTCCGAG~GTAACCTGGT~TCAGCAGAGC~GCAGATACCA~AATACCTGTC  
 ~~~~~~GGTGGCGATG~GTCGCCACCA~AACAAACGC~CTAGTTCTCG~ATGTTTGA~AAAAGGTTT~CATTGACCGA~AGTCGTCTCG~CGTCTATGGT~TTATGACAAG  
 ~~~~~~TTCTAGTGTA~GGCGTAGTTA~GGCCACCACT~TCAAGAACTC~TGTAGCACCG~CCTACATACC~TCGCTCTGCT~AATCCTGTTA~CCAGTGGTG~CTGCCAGTGG  
 ~~~~~~AAGATCACAT~CGCATCAAT~CGGCTGCTA~AGTTCTTAG~ACATCGTGGC~GGATGATGG~AGCAGACGA~TTAGACAAT~GGTCACCGAC~GACGGTCAAC  
 ~~~~~~CGATAAGTCG~TGCTTTACCG~GGTGGACTC~AAGACGATAG~TTACCGGATA~AGCGGAGCG~GTCGGGCTGA~ACGGGGGTT~CGTGACACA~GCCCAGCTTG  
 ~~~~~~GCTATTTCAGC~ACAGAATGGC~CCAACCTGAG~TTCTGCTATC~AATGGCTAT~TCCGGCTGC~CAGCCCGACT~TGCCCCCAA~GCACGCTGT~CGGGTCGAAC  
 ~~~~~~GAGCGAACGA~CCTACACCGA~ACTGACGATC~CTACAGCGTG~AGCTATGAGA~AAGCGCACCG~CTTCCCGAAG~GGAGAAAGGC~GGACAGTAT~CCGGTAAGCG  
 ~~~~~~CTCGCTTGCT~GGATGTGGCT~TGACTCTATG~GATGTCCAC~TGATGCTCTC~TTCGGCTGC~GAAGGCTTC~CCTCTTCCG~CCTGTCCATA~GGCCATTCCG  
 ~~~~~~GCAGGTGCG~AACAGGAGAG~CGCAGGAGG~AGCTTCCAGG~GGGAAACGCC~TGGTATCTTT~ATAGTCCGT~CGGTTTCGC~CACCTTCAC~TTGAGCGTGG  
 ~~~~~~CGTCCACAGC~TTGCTCTCTC~GGTGTCTCTC~TCGAAGGTCC~CCCTTTGCGG~ACCAATAGAA~TATCAGGACA~GCCAAAGCG~GTGGAGACTG~AACTCGCAGC  
 ~~~~~~ATTTTGTGTA~TGCTCGTCAG~GGGGGGGAG~CCTATGGAAA~AAGCCACGCA~AGCGGCTTT~TTTACGGTTC~CTGGCTTTT~GCTGGCTTT~TGCTCACATG  
 ~~~~~~TAAAAACACT~ACGAGCAGTC~CCCCCGCTC~GGATACCTTT~TTGGGTCTGT~TGGCGCGGAA~AAATGCCAAG~GACCGGAAA~CGACCGGAAA~ACGAGTGTAC  
 ~~~~~~TTCTTTCCCTG~CGTTATCCCT~TGATTTCTG~GATAACCGTA~TTACCGCTTT~TTACCGCTTT~GATACCGCTC~GCCGACCGG~AACGACCGAG~CGCAGCGAGT  
 ~~~~~~AAGAAAGGAC~GCAATAGGG~ACTAAGACAC~CTATTGGCAT~AATGGCGAA~ACTCACTCA~CTATGGCGAG~CGGCTCGGC~TTTCTGCTC~GCGTCCGCTCA  
 ~~~~~~GAGTGGCGA~GGAAGCGGA~GAGCGGCCAA~TACGCAAAAC~GGCTCTCCC~GGCGTTGGC~CGATTCTTA~ATGCAGCTGG~CAGCAGAGT~TTCCCGACTG  
 ~~~~~~GTCACCTCGT~CCTTCGCCCT~CTCGCGGCTT~ATCGTTTGG~CGGAGAGGG~CGCGCAACCG~GCTAAGTAA~TAGTTCGACC~GTGCTGTCCA~AAGGCTGAC  
 ~~~~~~GAAAGCGGC~AGTAGCGCA~ACGCAATTAA~TGTGAGTTAG~CTCACTCAT~AGGACCCCA~GGCTTTACAC~TTTATGCTTC~CGGCTGCTAT~GTTGTGTGGA  
 ~~~~~~CTTTCGCCCG~TCACTCGCGT~TGCGTTAAAT~ACACTCAATC~GACTGAGTAA~TCCGTGGGT~CCGAAATCTG~AAATACGAAG~GCCGAGCATA~CAACACACT

Fig. 11 (Continued)

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8501 ATTGTGAGCG GATAACAATT TCACACAGGA AACAGCTATG ACCATGATTA CGCCAAGCTC GAAATTAACC CTCACTAAAG GGAACAAAAG CTGGAGCTCC
 TAACACTCGC CTATTGTTAA AGTGTGTCCT TTGTCGATAC TGGTACTAAT GCGGTTCAG CTTTAATTGG GAGTCATTC CTTTGTTC GACCTCGAGG
 SV40
 8601 ACCGCGGTGG CCGCCTCGAG GTCGAGATCC GGTGAGCCAG CAACCATAGT CCGGCCCTTA ACTCGGCCA TCCGCCCTT AACTCGGCC AGTTCGGCCC
 TGGCGCCACC GCGGAGCTC CAGCTCAGG CCAGCTGATC GTTGGTATCA GGGCGGGGAT TGAGCGGGT AGCGCGGGA TTGAGGGGG TCAAGGGGGG
 SV40
 8701 ATTCTCCGCC CCAATGGCTGA CTAATTTTT TTATTTATGC AGAGCCGAG GCGGCCCTCG CCTCTGAGCT ATTCCAGAAG TAGTGAGGAG GCTTTTTTGG
 TAAGAGGGG GGTACCGACT GATTAAAAA AATAAATACG TCTCCGCTC CCGCGGAGCC GGAGACTCGA TAAGTCTTC ATCACTCCTC CGAAAAAACC
 CMV
 8801 AGGCTAGGC TTTTGCAAA AGCTTCGACG GTATCGATTG GGTCAATGCC AACTATACC GGTATTTGAC ATTGATTTT GACTAGTTAT TAATAGTTAT
 TCCGGATCCG AAACGTTTT TCGAAGCTGC CATAGCTAAC CGAGTACAGG TTGTAATGCC GGTACAACCTG TAACTAATAA CTGATCATA ATTATCATT
 CMV
 8901 CAATTACGGG GTCATTAGTT CATAGCCCAT ATATGGAGTT CCGCGTTACA TAACTTACGG TAAATGGCCC GCTTGGCTGA CCGCCCCACG ACCCCCGCCC
 GTTAATGCC CAGTAATCAA GTATCGGTA TATACCTCAA GCGCAATGT ATTGAATGCC ATTTACCGG CGGACCGACT GCGGGTTC TGGGGGGGGG
 CMV
 9001 ATTGACGTCA AFAATGACGT ATGTTCCAT AGTAACGCC ATAGGACTT TCCATTGACG TCAATGGGTG GAGTATTTAC GGTAAACTGC CCACCTGGCA
 TAACTGCAGT TATTACTGCA TACAAGGTA TCATTGGGT TATCCCTGAA AGTAACTGC AGTTACCCAC CTCATAAATG CCATTGACG GGTGAACCGT
 CMV
 9101 GTACATCAAG TGTATCATAT GCCAAGTACG CCCCCTATTG ACCTCAATGA CGGTAAATGG CCGGCTGGC ATTATGCCCA GTACATGACC TTATGGGACT
 CATGTAGTTC ACATAGTATA CGGTTCAFG GGGGGATAAC TGCAGTTACT GCCATTACC GGGCGGACCG TAATACGGGT CATGTACTGG AATACCCCTGA
 CMV
 9201 TTCCTACTTG GAGTACATC TACGTATTAG TCATCGCTAT TACCATGGTG ATGCGGTTT GGCAGTACAT CAATGGGCGT GGATAGCGGT TTGACTCACC
 AAGGATGAAC CGTCATGTAG ATGCATAATC AGTAGCGATA ATGTACCCAC TACGCCAAAA CCGTCATGTA GTTACCCGCA CCTATCGCCA AACTGAGTGC
 CMV
 9301 GGGATTCCCA AGTCTCCACC CCATTGACGT CAATGGGAGT TTGTTTGGC ACCAAAAICA ACGGACTTT CAAAAAGTC GTAAACAATC CGCCCCATTG
 CCCTAAAGGT TCAGAGGTGG GGTAACTGCA GTTACCCTCA AACAAAACCG TGGTTTGTAG TGCCTGAAA GGTTTTACAG CATTGTTGAG GCGGGGTAAC
 CMV
 9401 ACGCAATGG GCGGTAGCG TGTACGGAT TCGGAGTGGC GAGCCCTCAG ATCCTGCATA TAAGAGCTG CTTTTGCTT GACTGGGTG TCTCTG
 TCGGTTTACC CGCCATCCGC ACATGCCCTA AGCCTCACC CTGCGGAGTC TAGGACGTAT ATTGCTGCAC GAAAAACGGA CATGACCCAG AGAGAC

FIG. 11 (Continued)

CE7scFv-IgG4 Hinge-CD28tm/cyto-4-1BB-Zeta-T2A-EGFRt e (9496 bp)

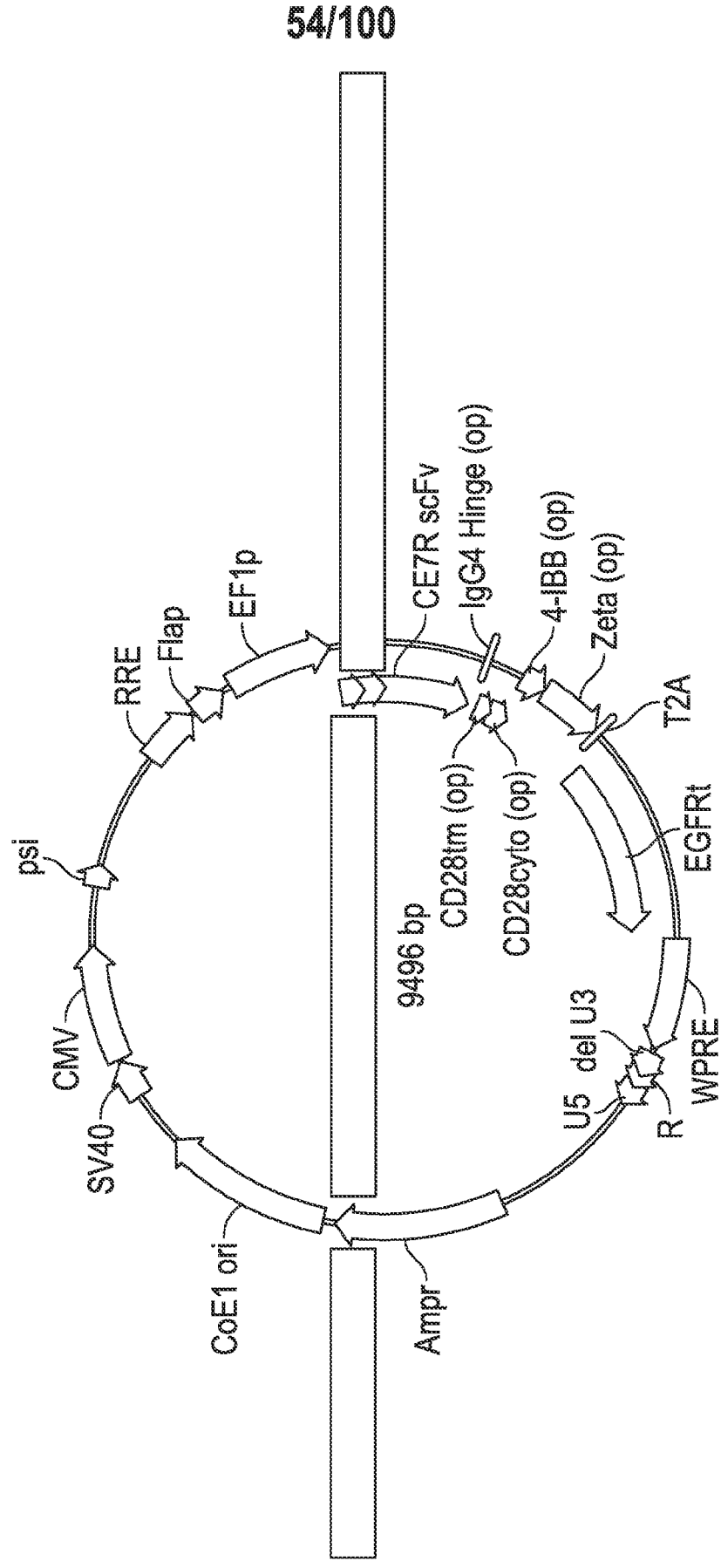


FIG. 12

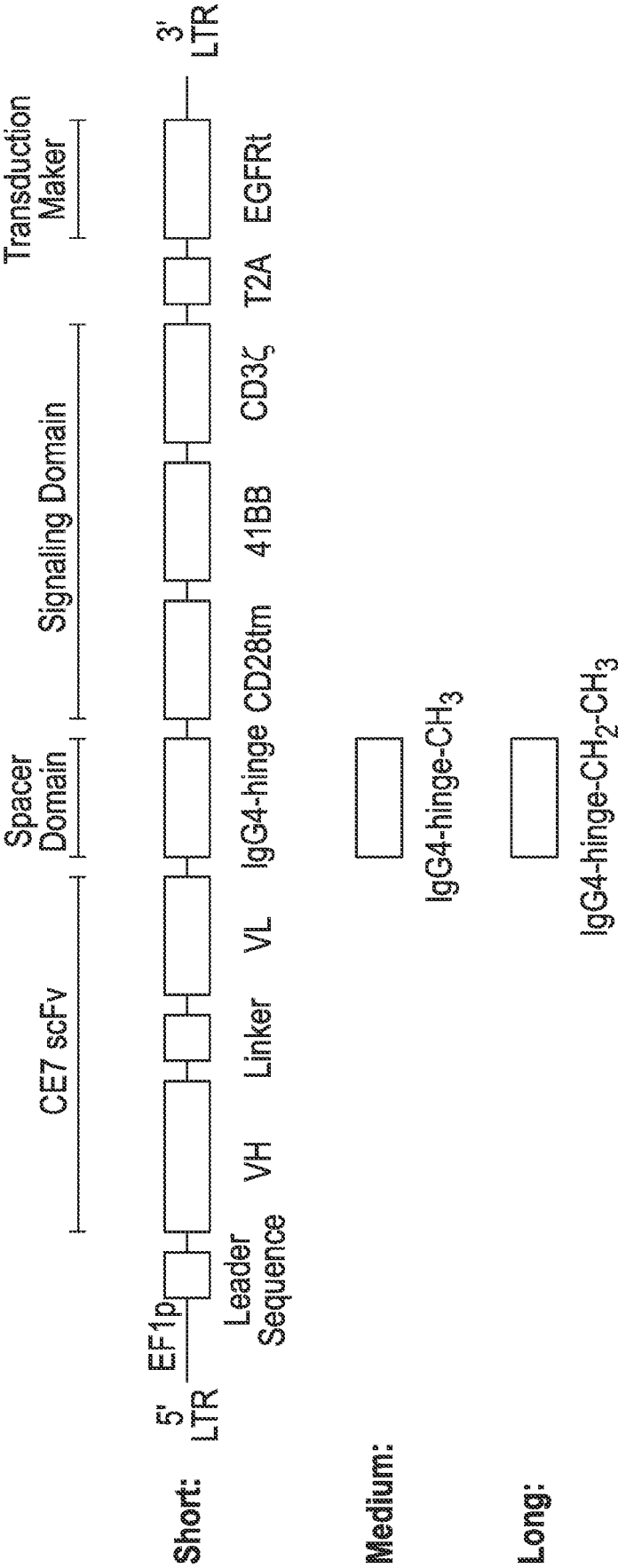
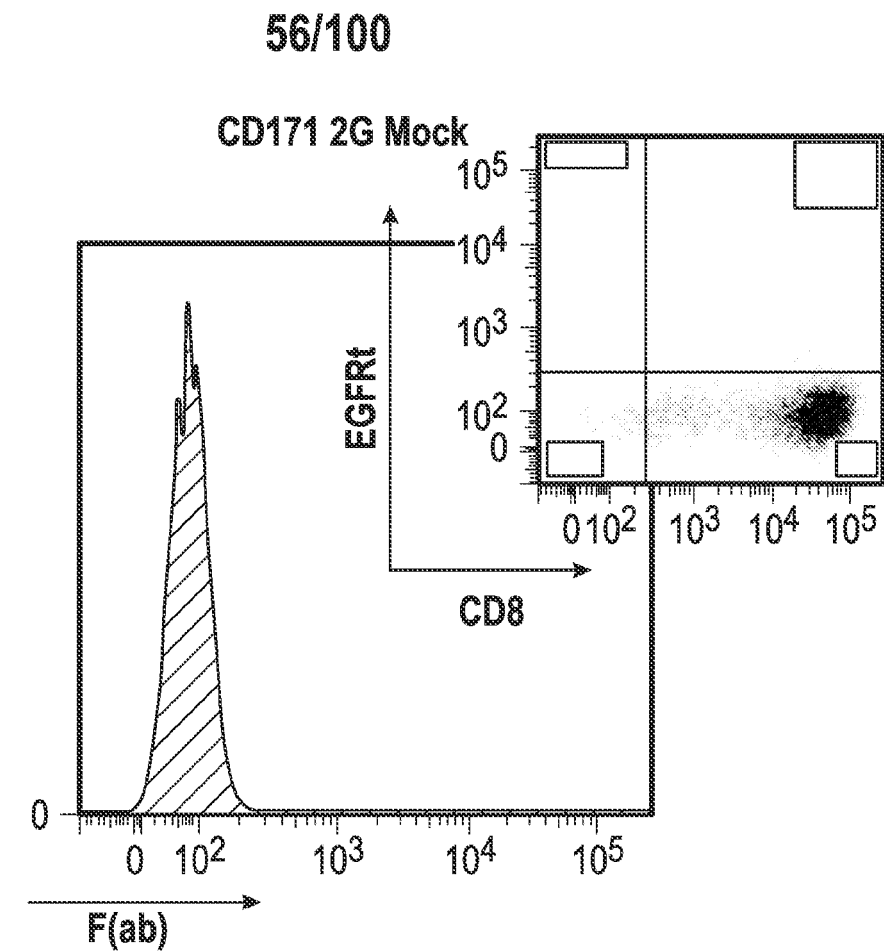
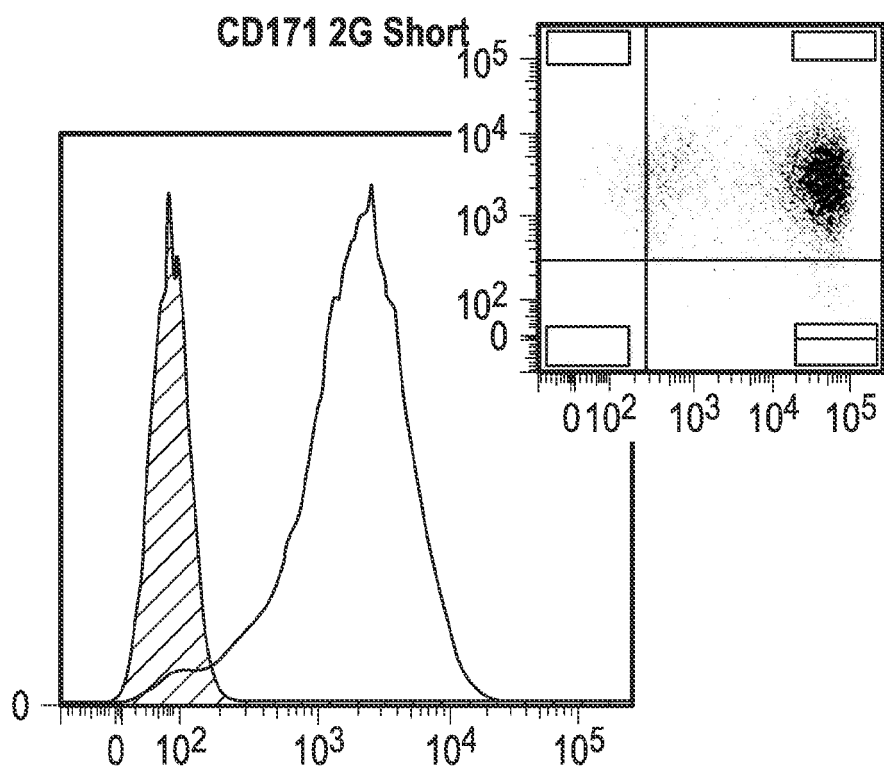
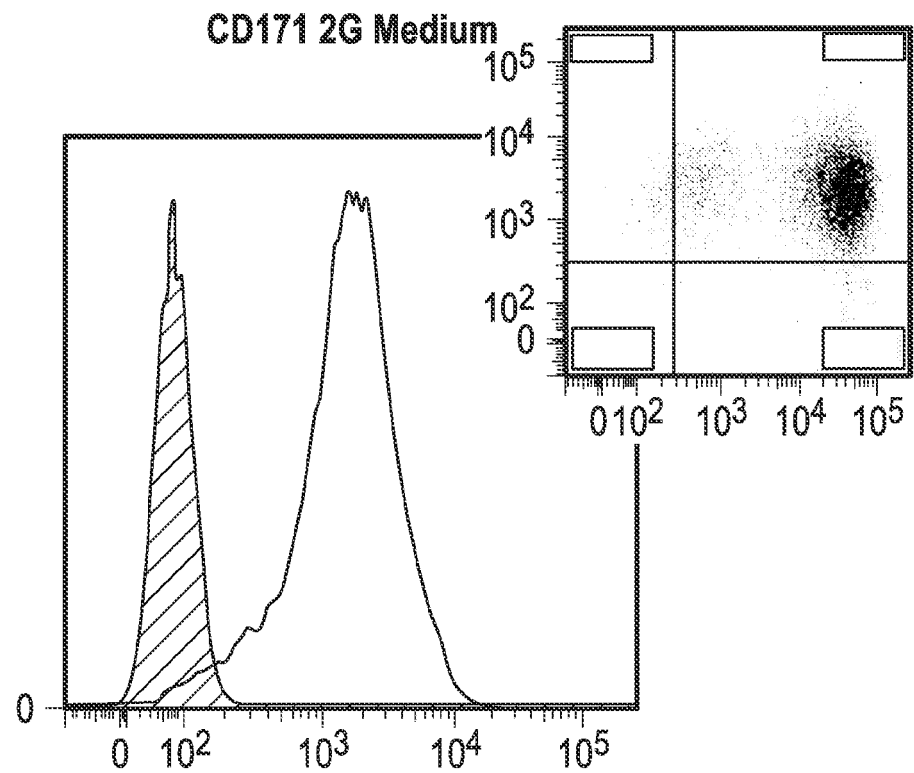
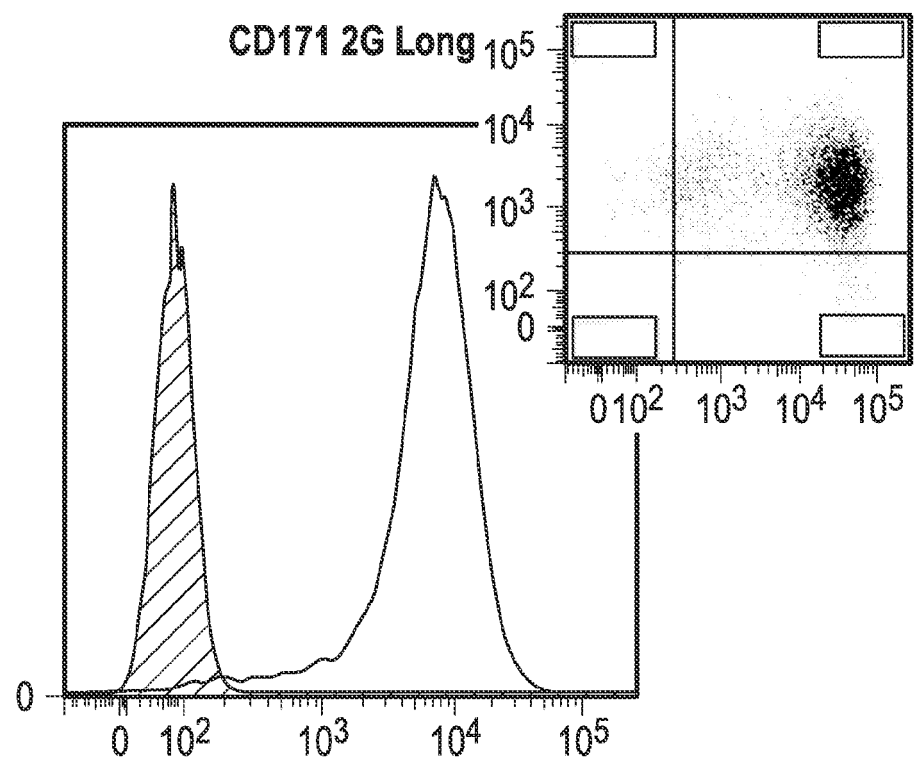


FIG. 13A

FIG. 13B



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FIG. 13B (Continued)



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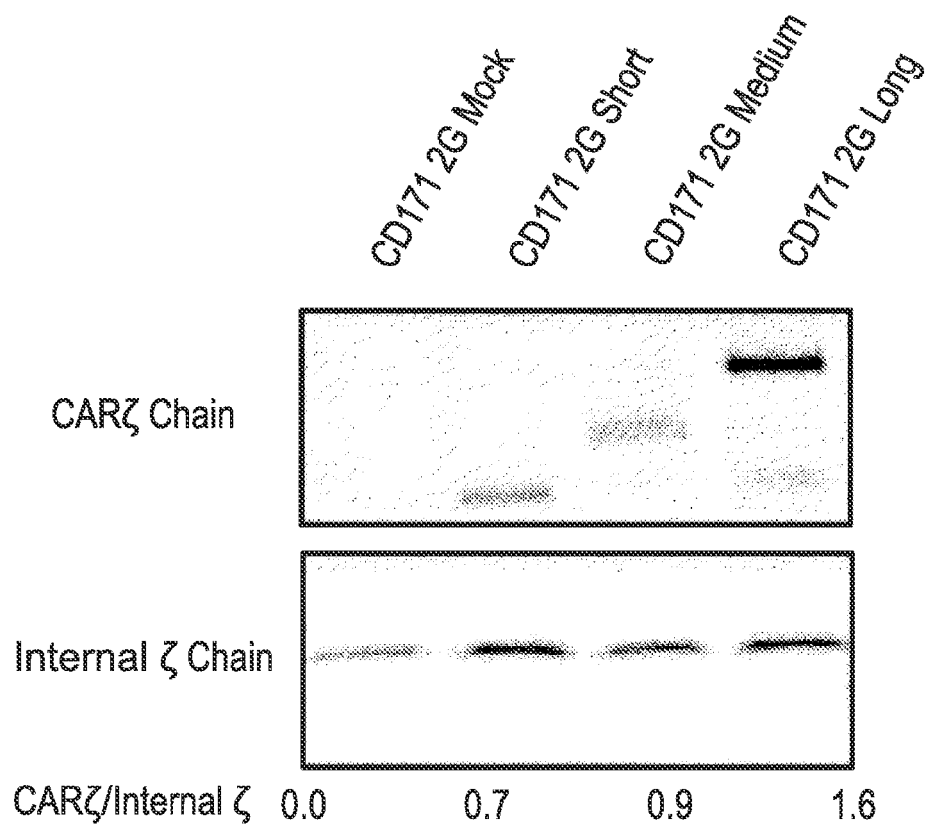
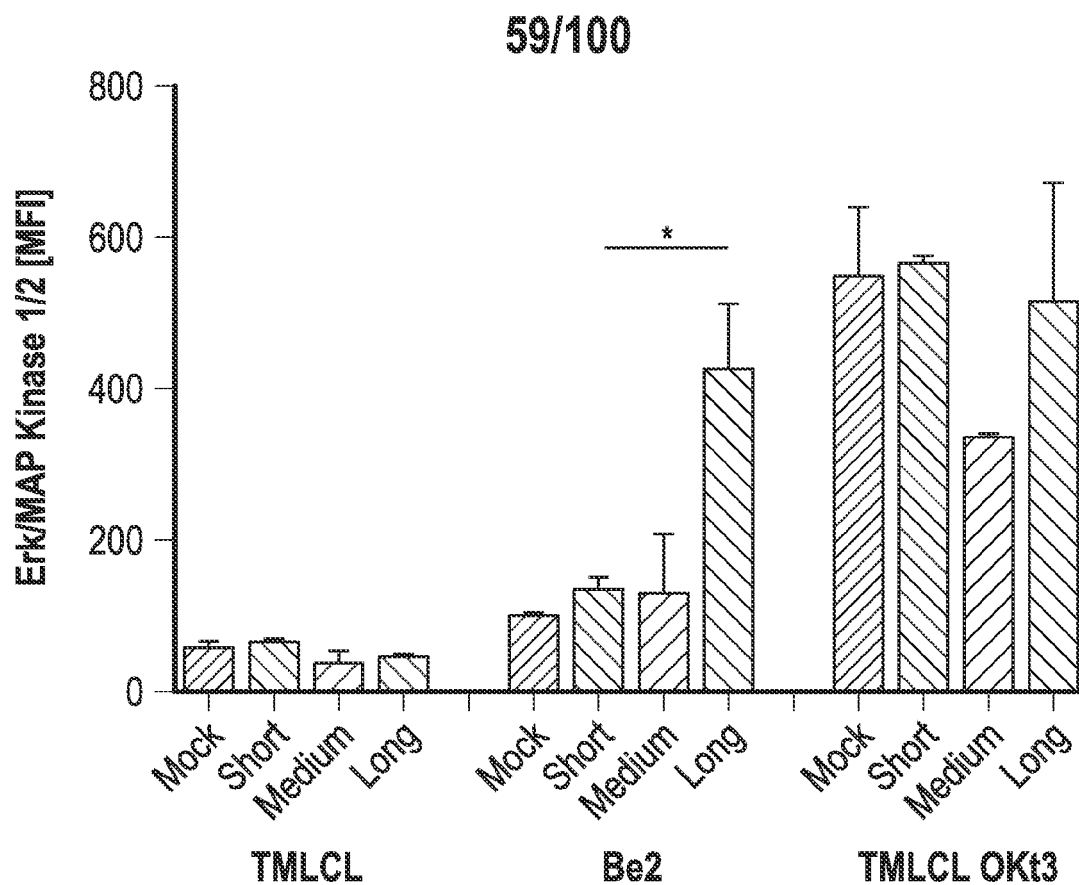
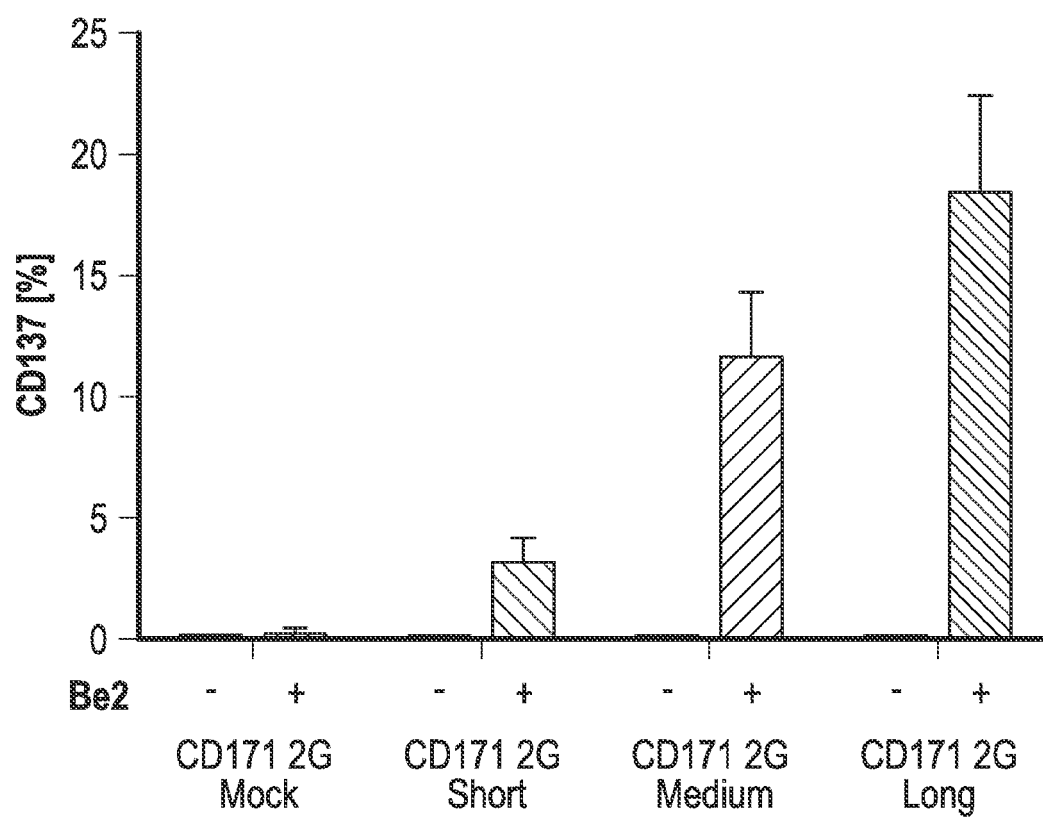


FIG. 13C



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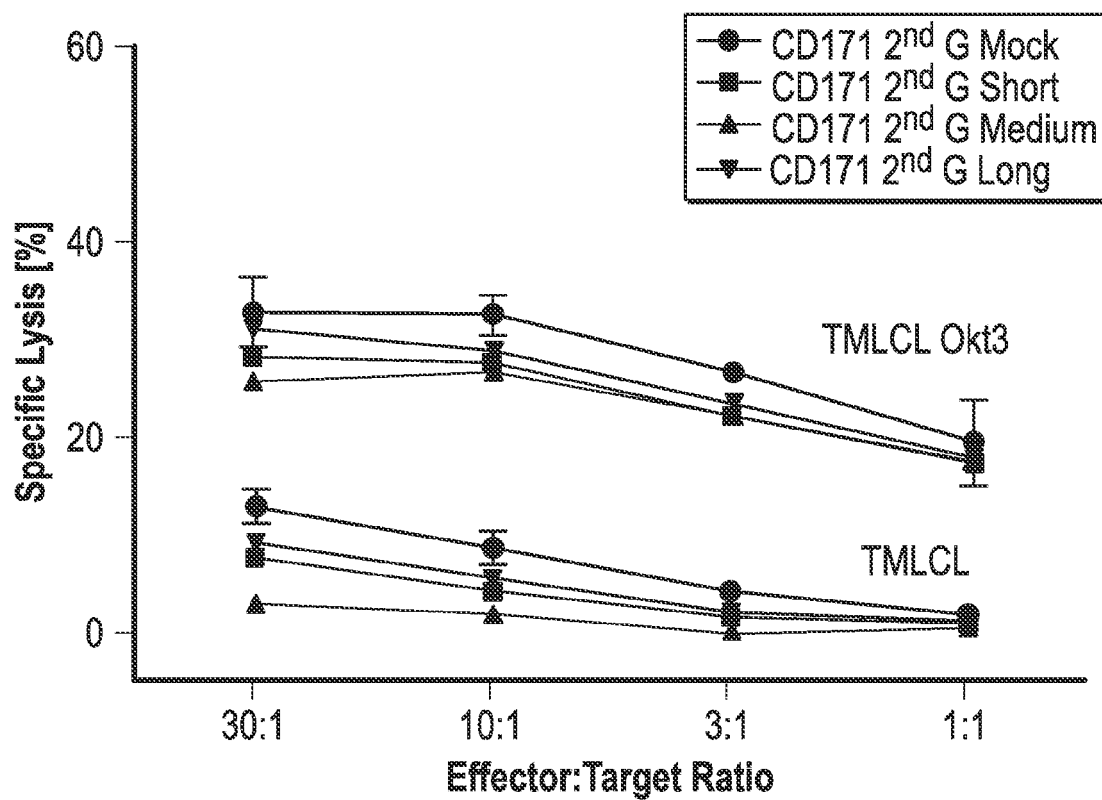
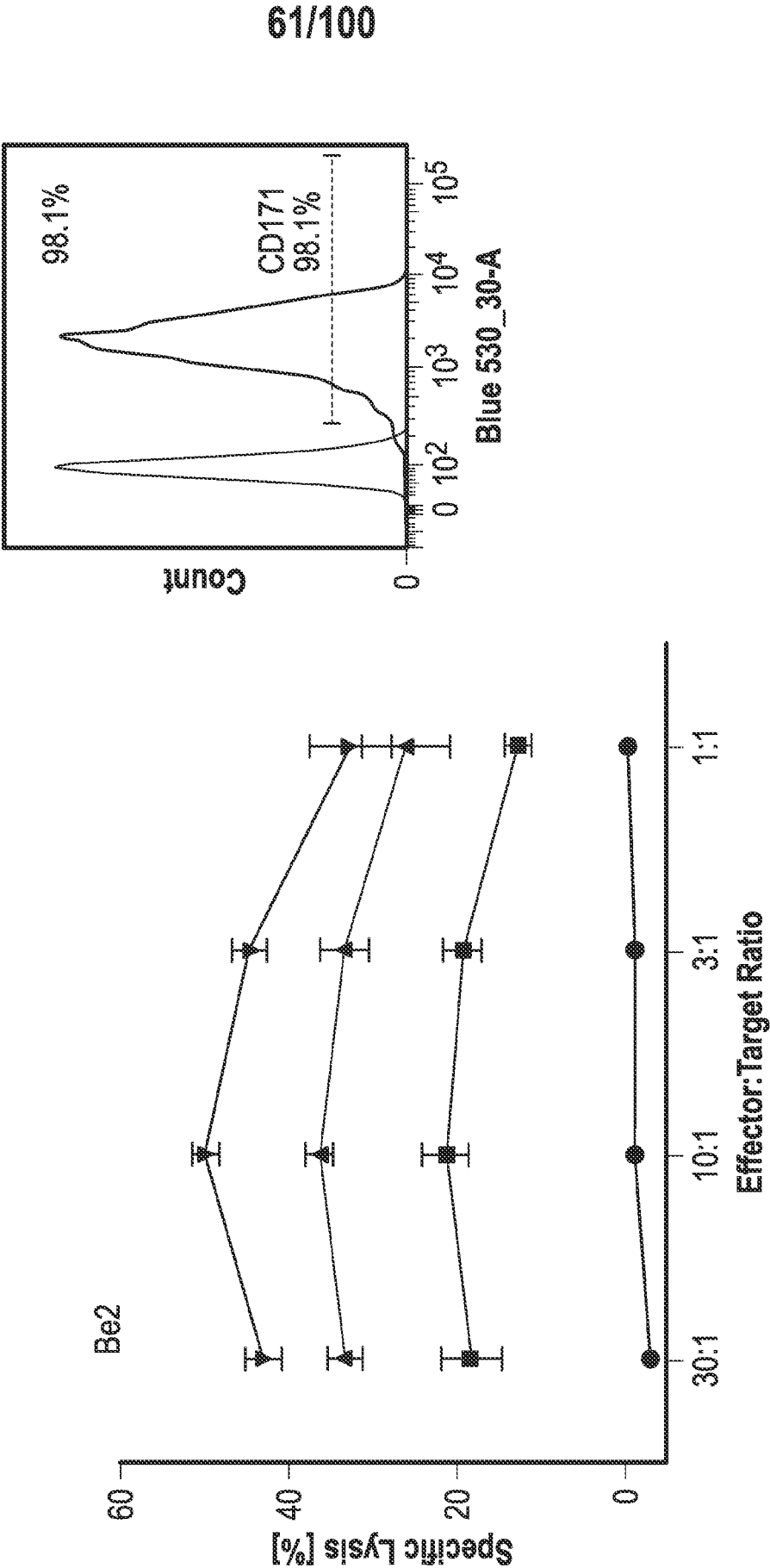


FIG. 13F

FIG. 13F (Continued)



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FIG. 13F (Continued)

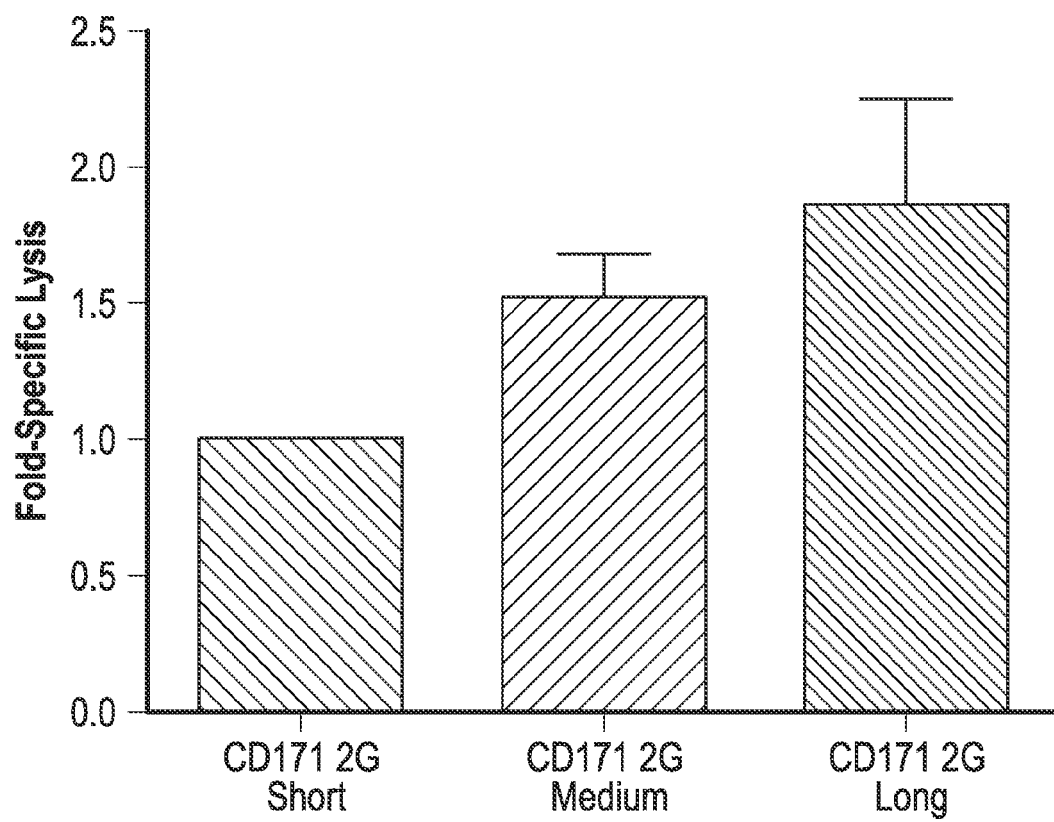


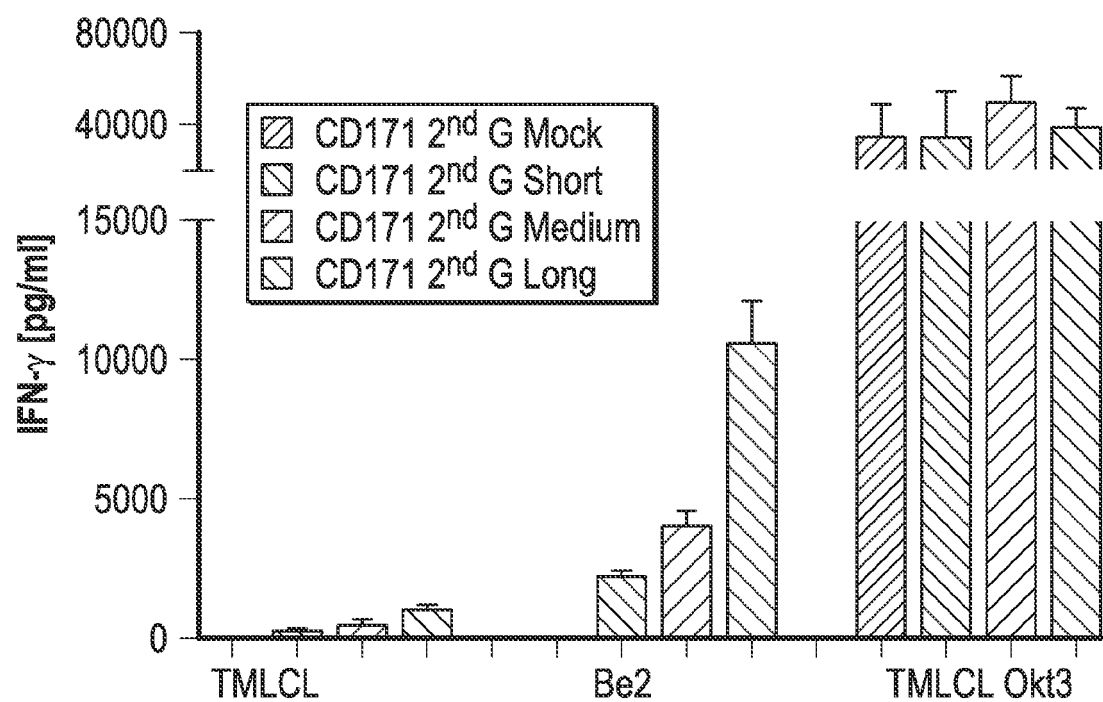
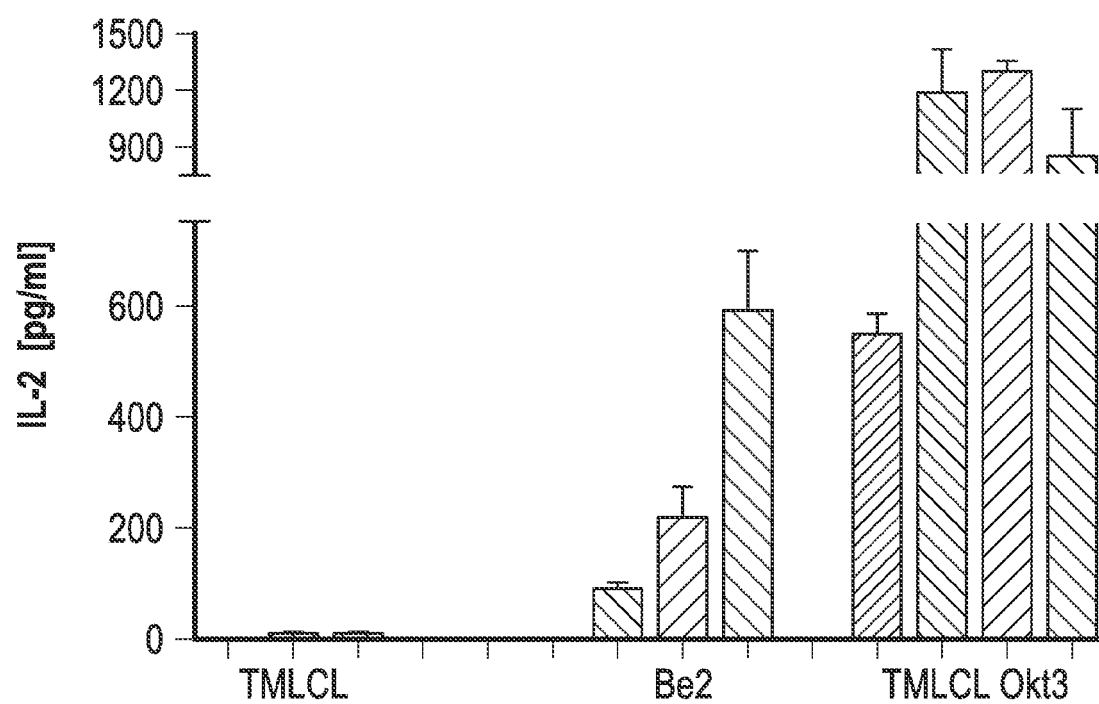
FIG. 13G**63/100**

FIG. 13G (Continued) 64/100

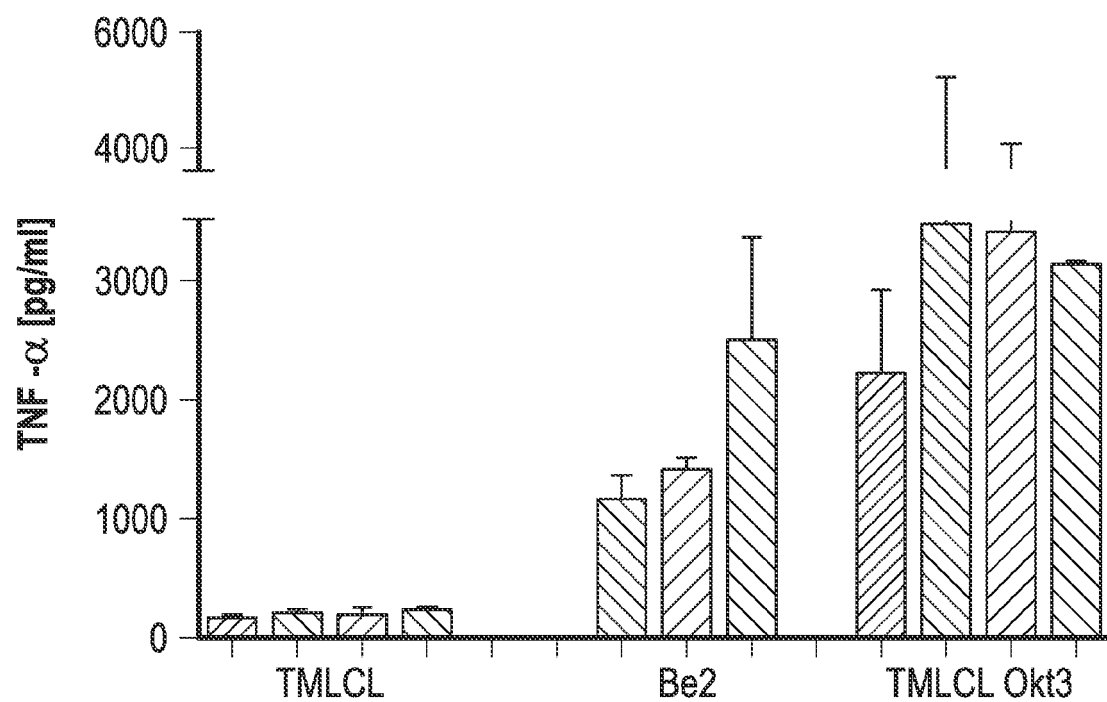


FIG. 13H

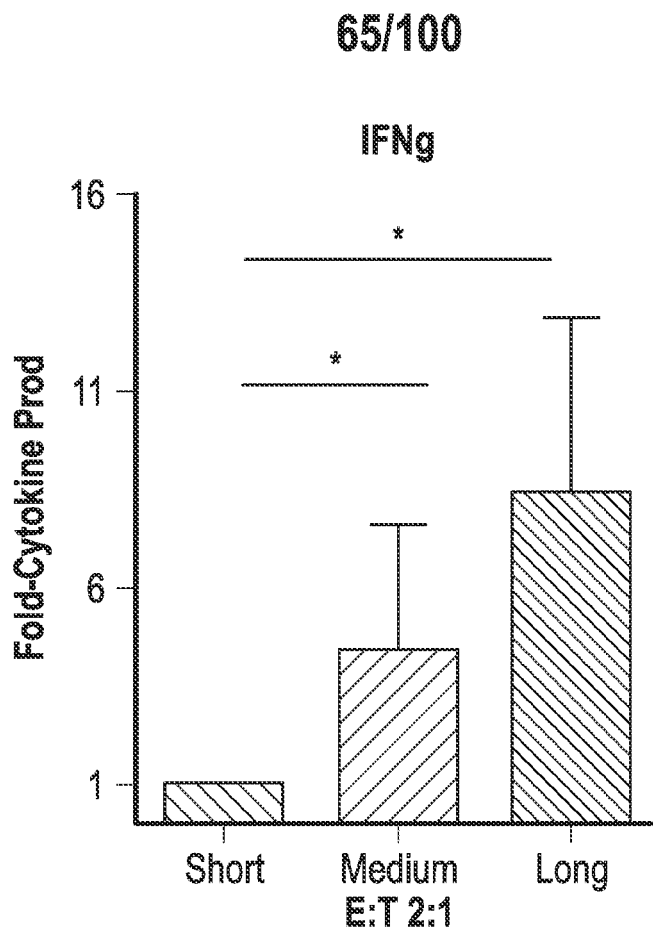
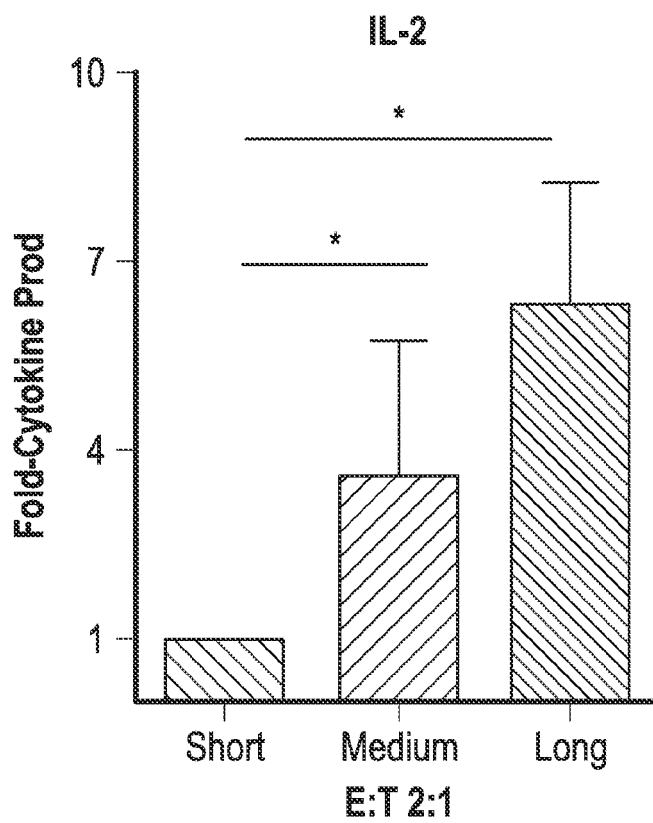
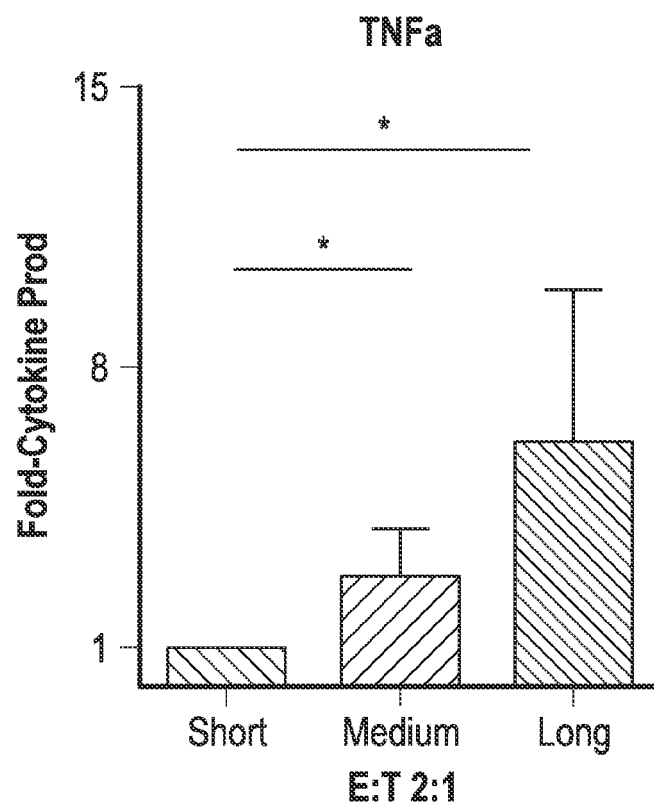


FIG. 13H (Continued) 66/100



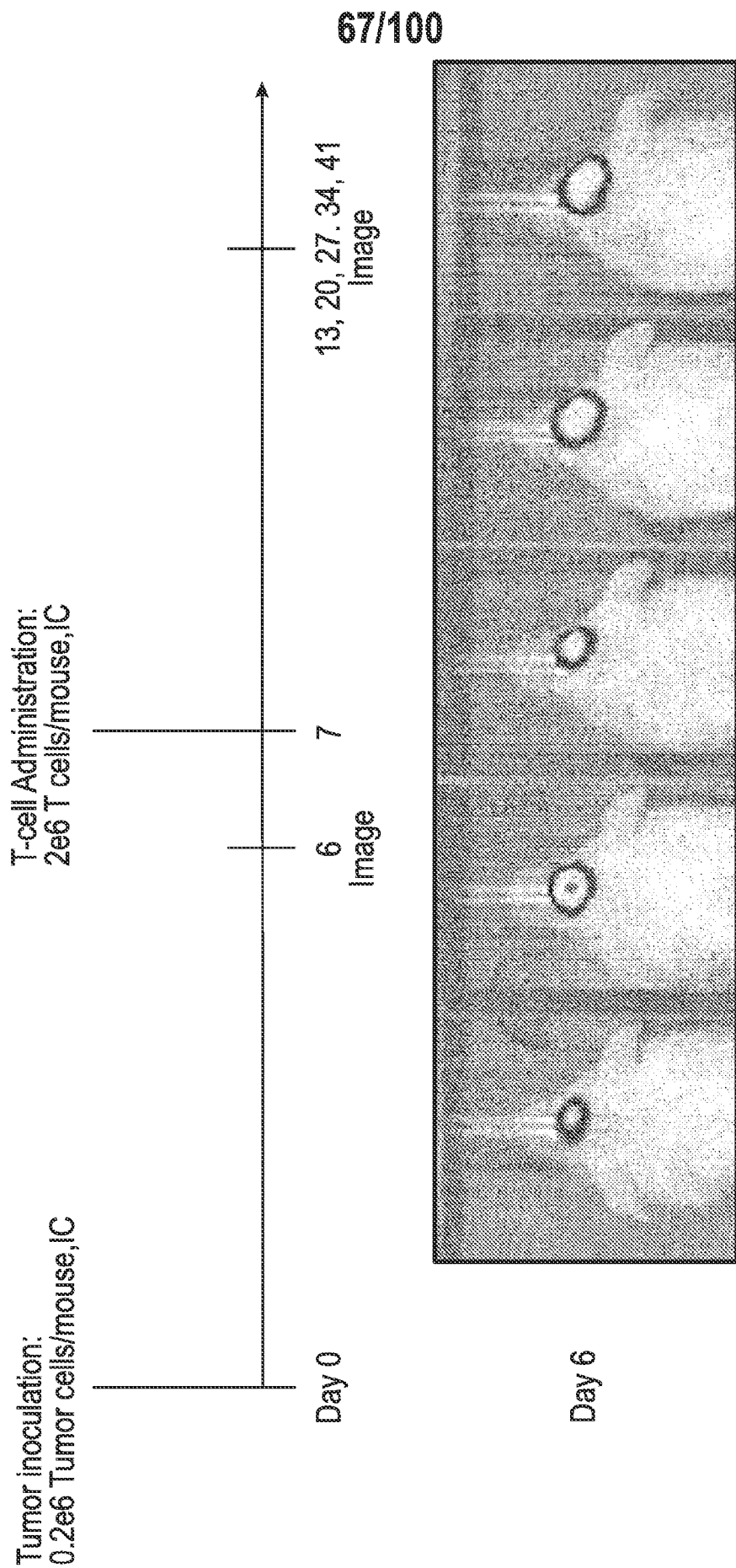
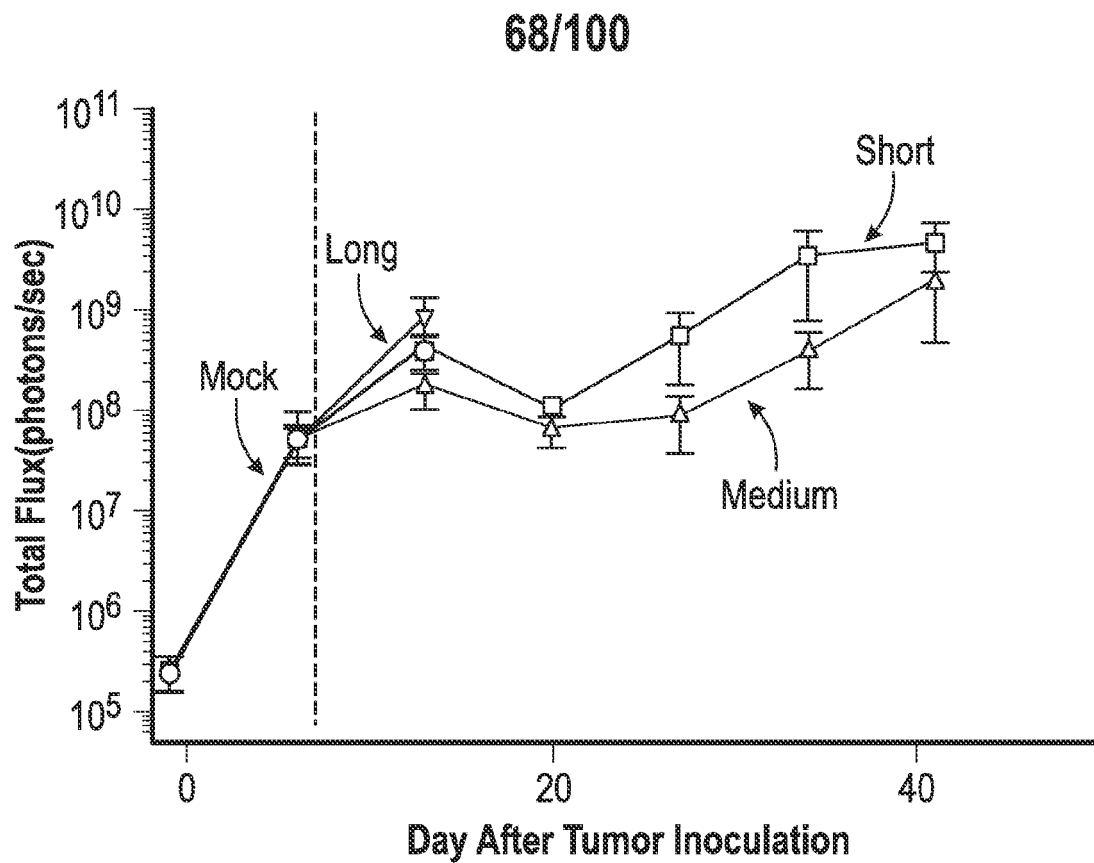
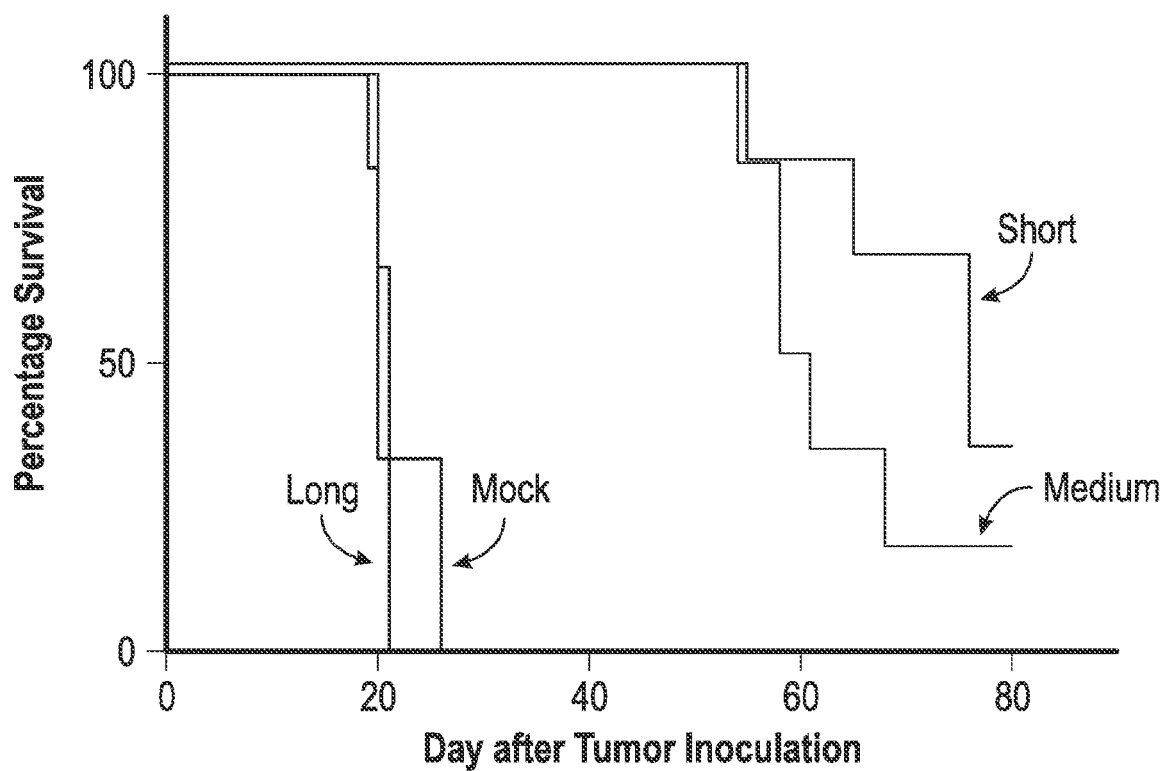


FIG. 14A



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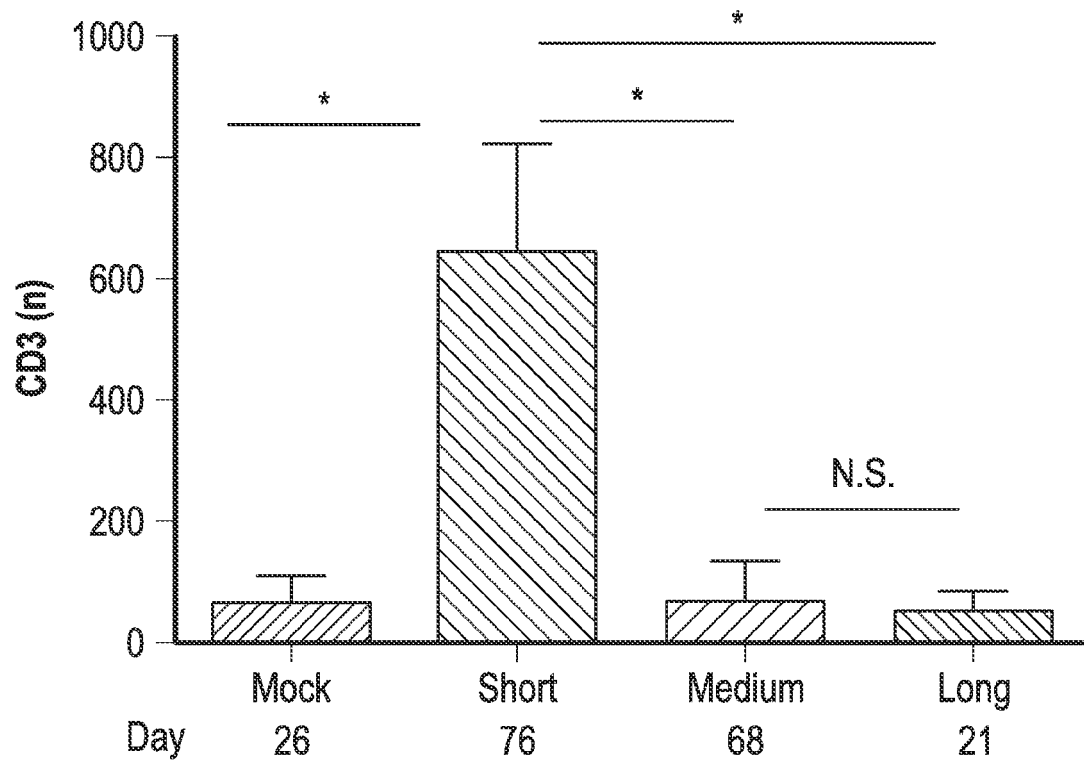
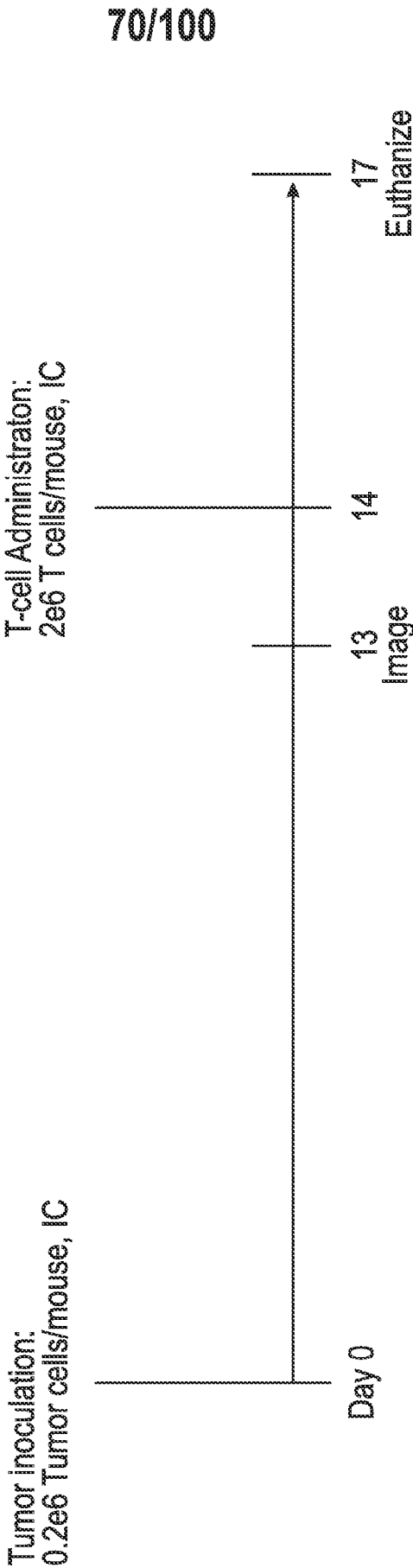
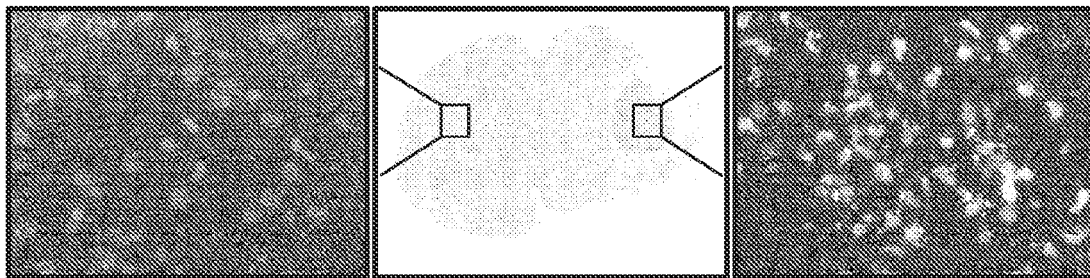
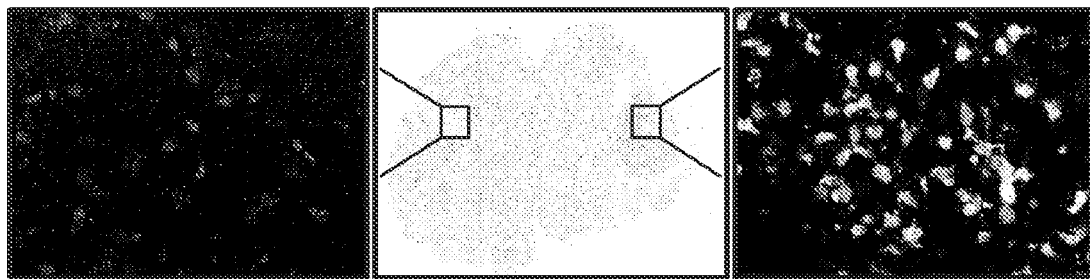


FIG. 14D

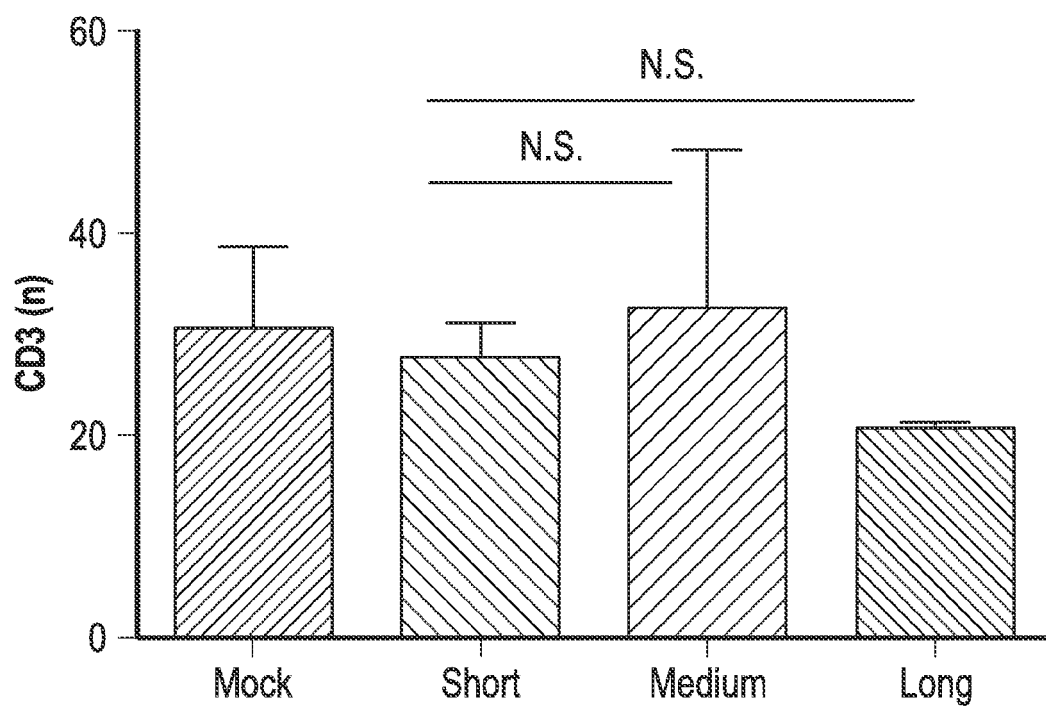


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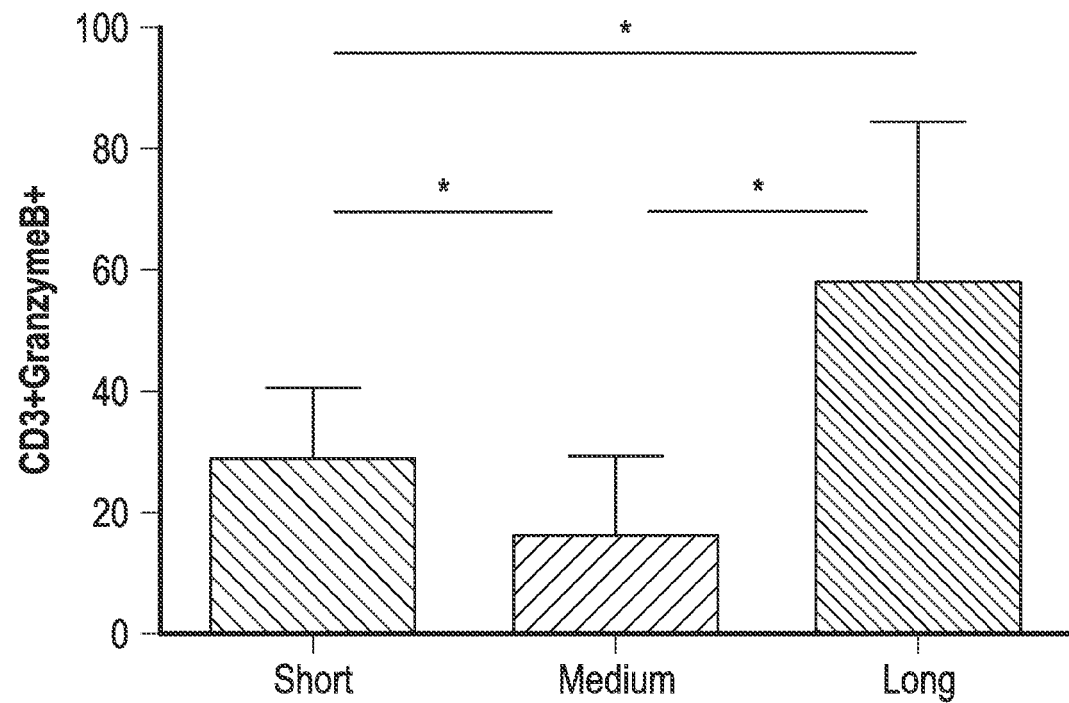
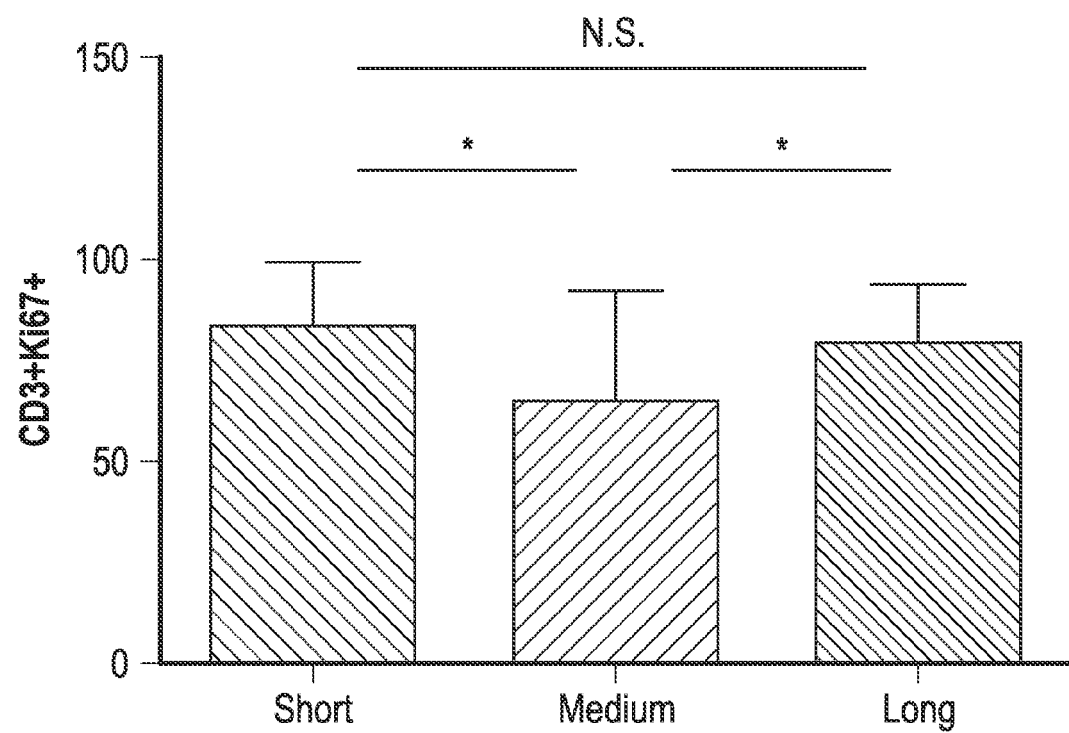
CD3, Ki67, Caspase 3, Hoechst

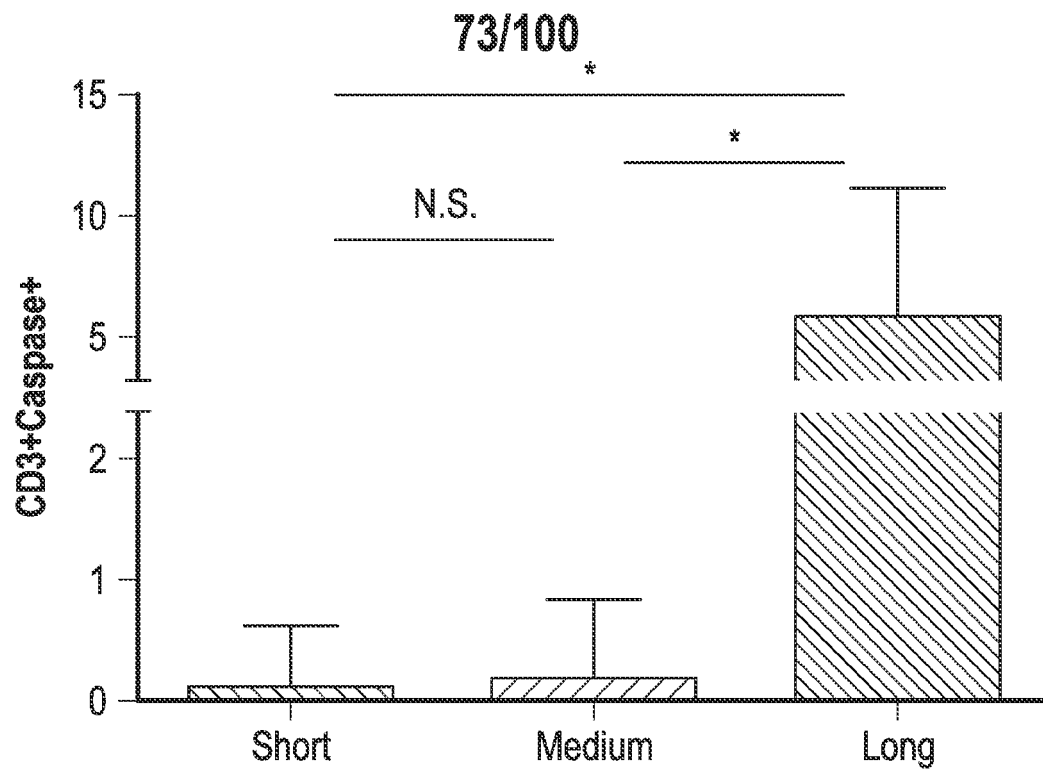
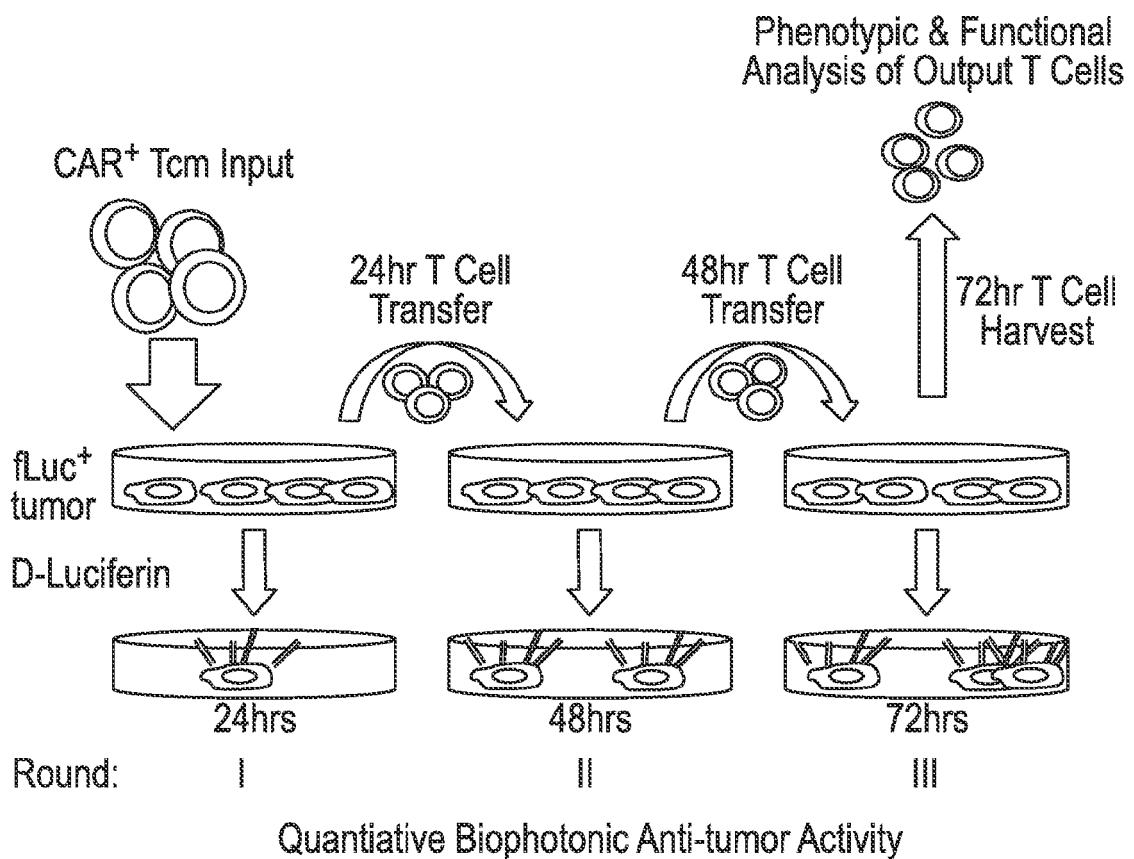
FIG. 14F1

Cd3, Ki67, Caspase 3, Hoechst

FIG. 14F2**FIG. 14G**

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FIG. 14H



**FIG. 14H (Continued)****FIG. 15A**

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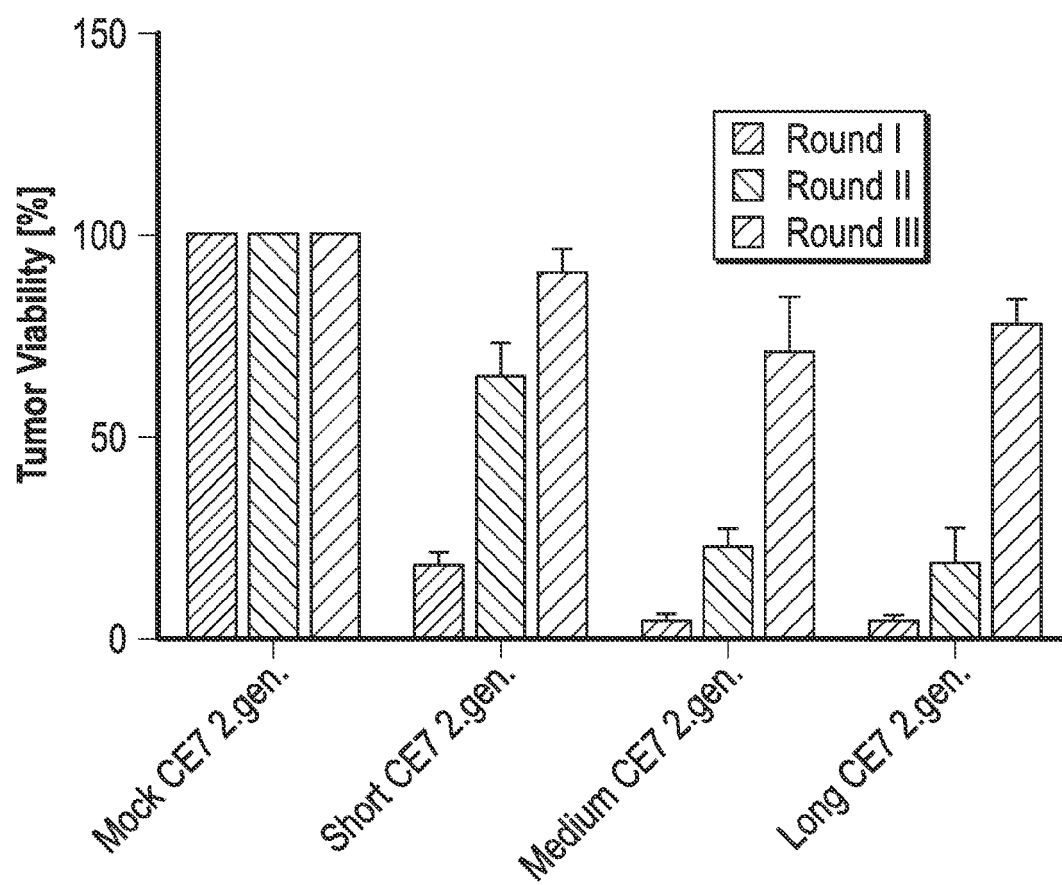


FIG. 15B

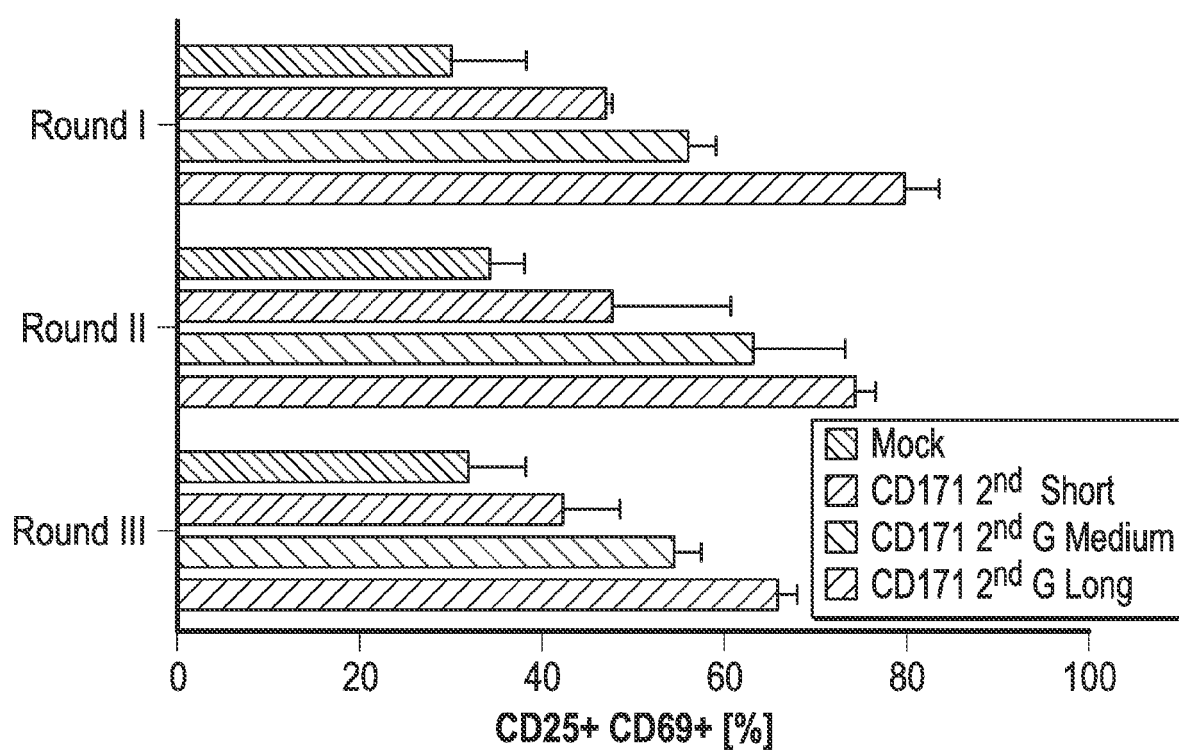
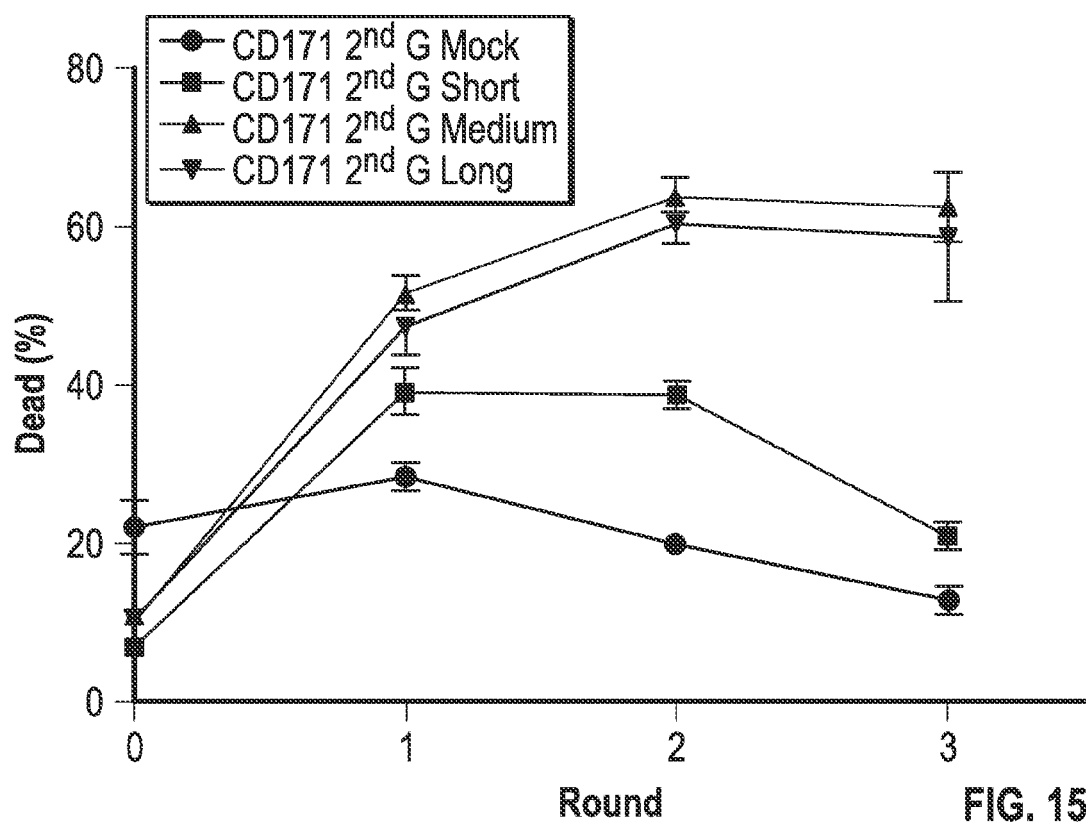
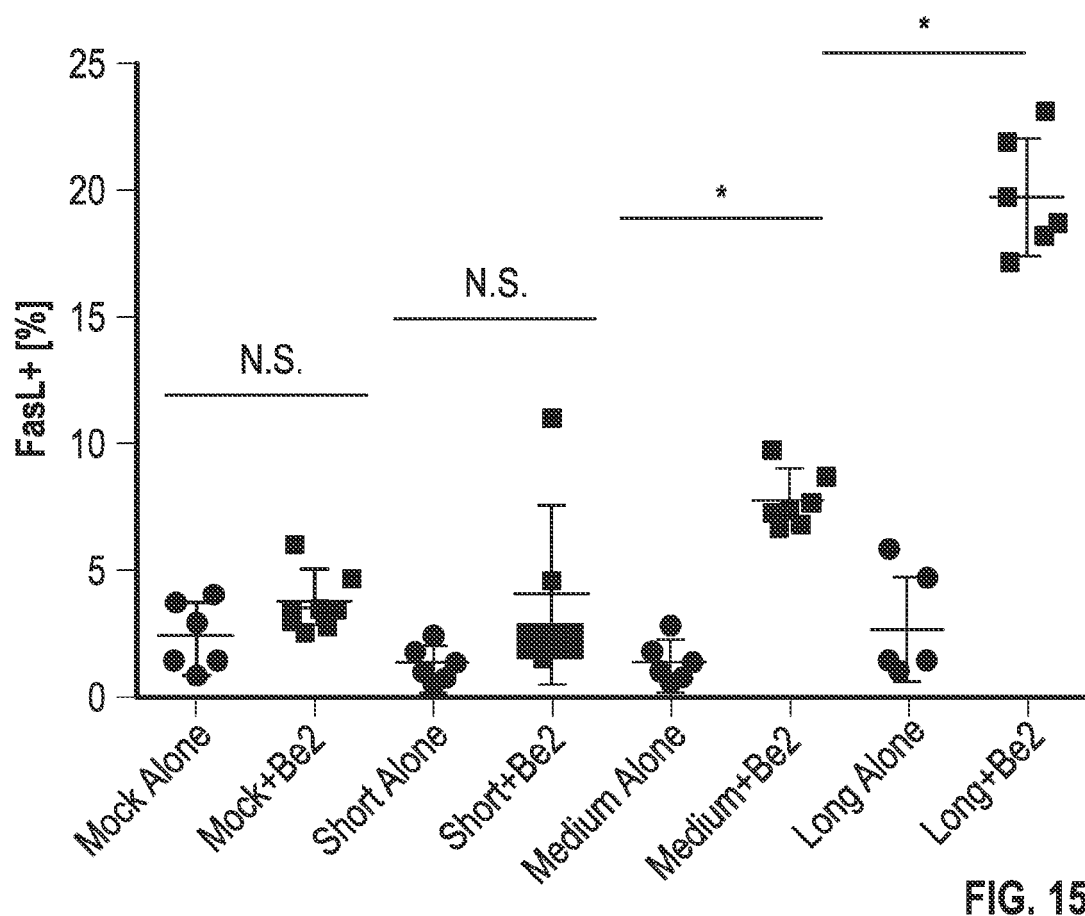
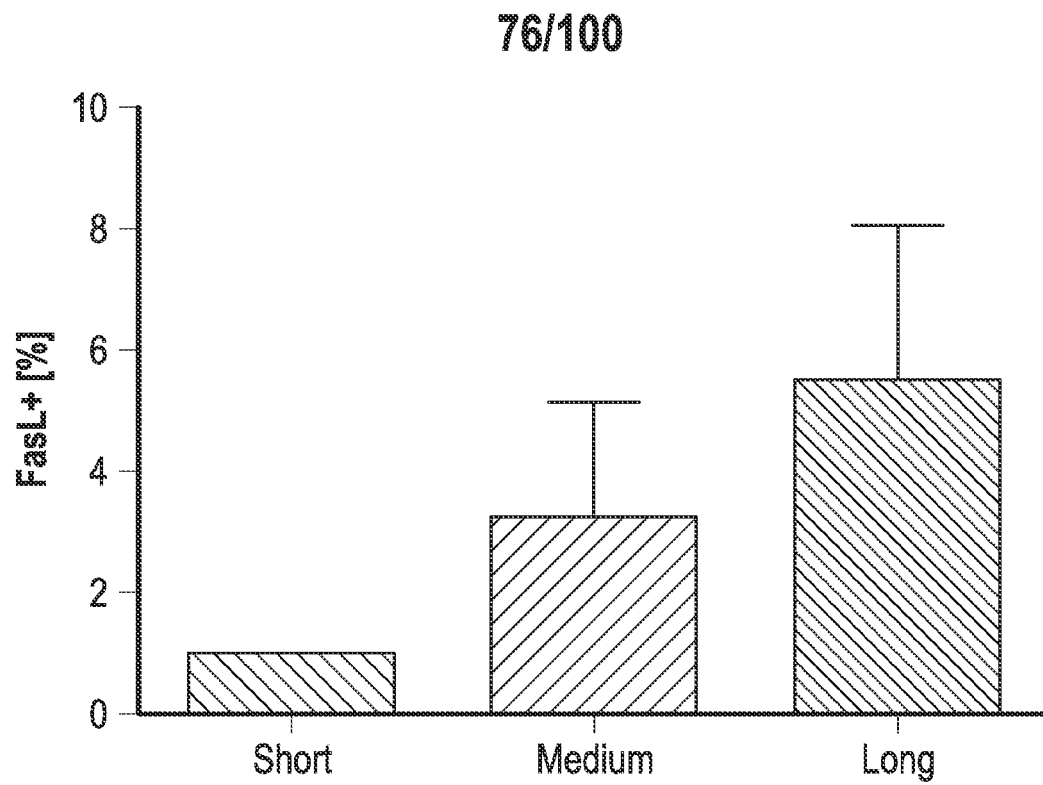
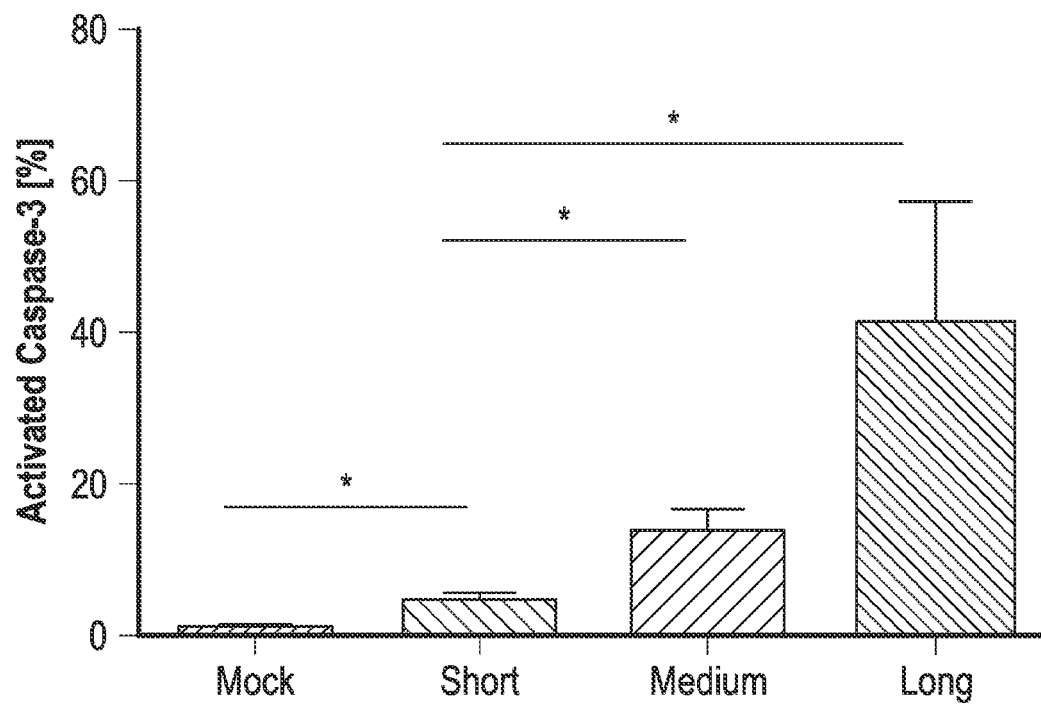


FIG. 15C

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**FIG. 15F****FIG. 15G**

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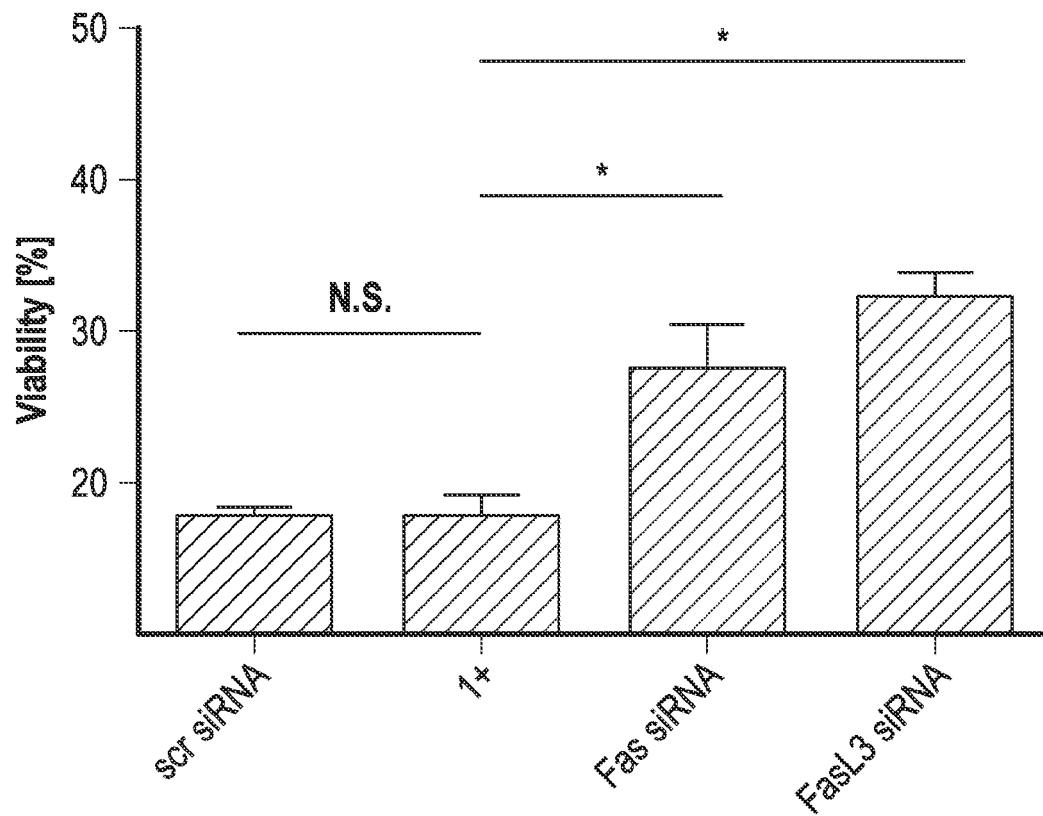


FIG. 15H

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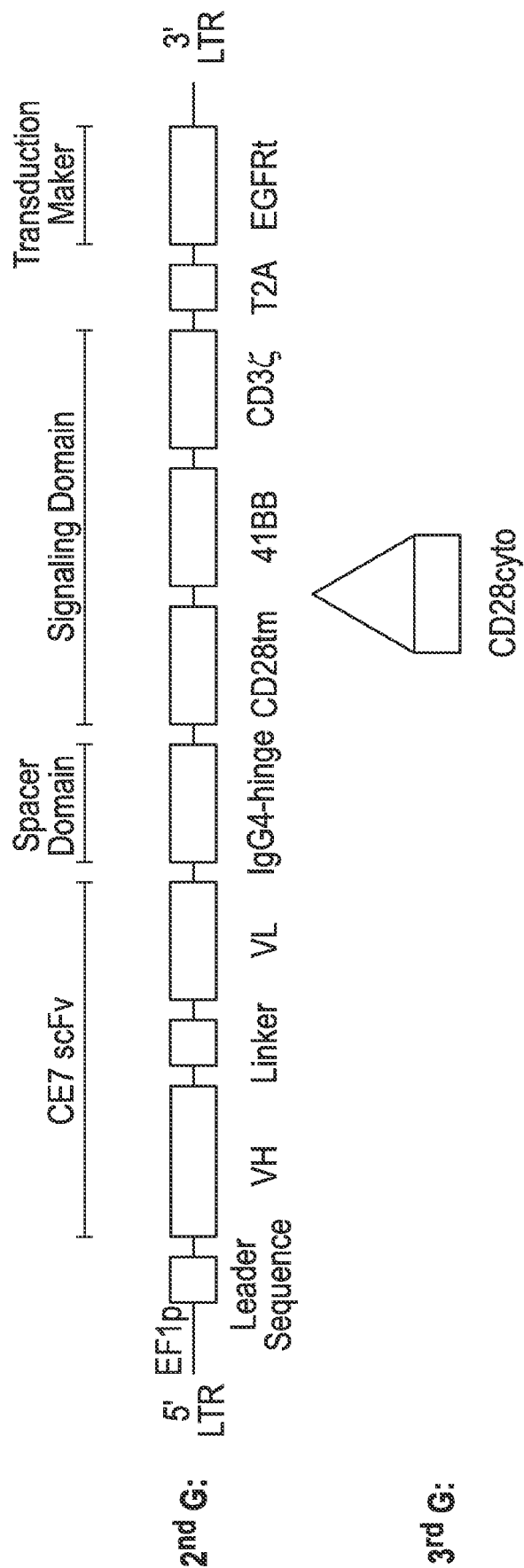


FIG. 16A

FIG. 16B **79/100**

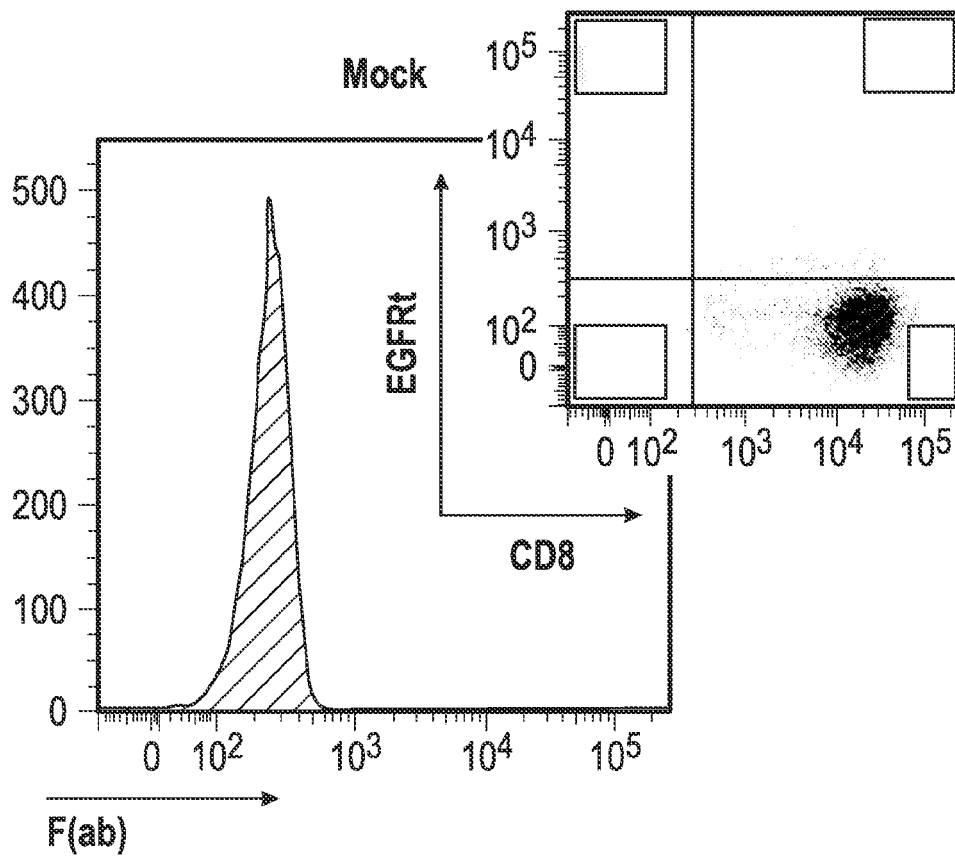
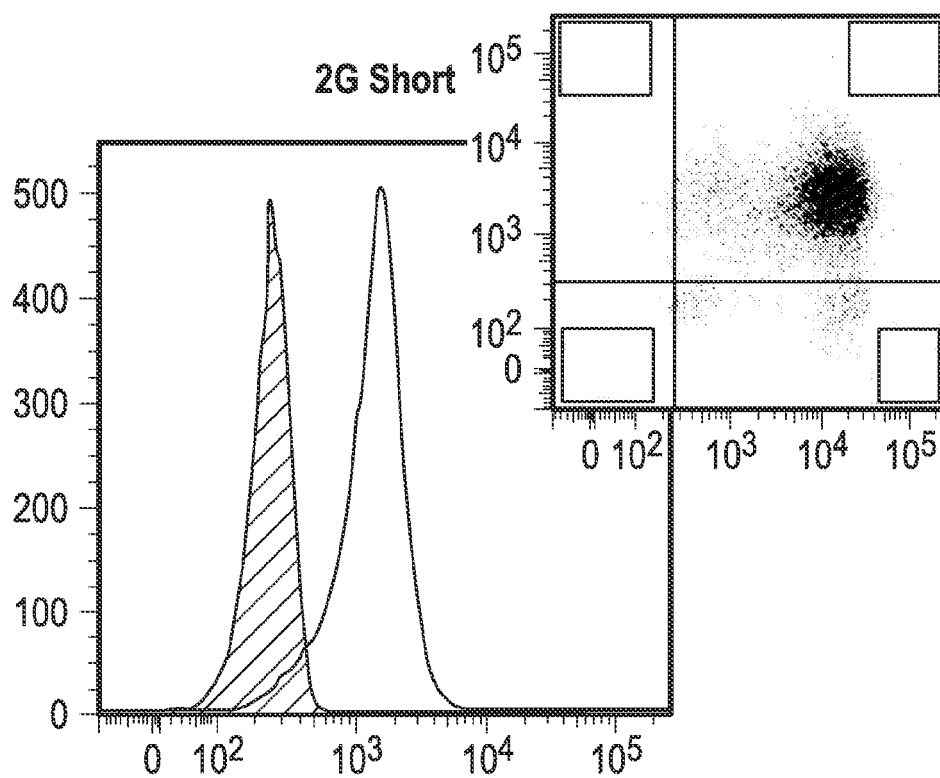
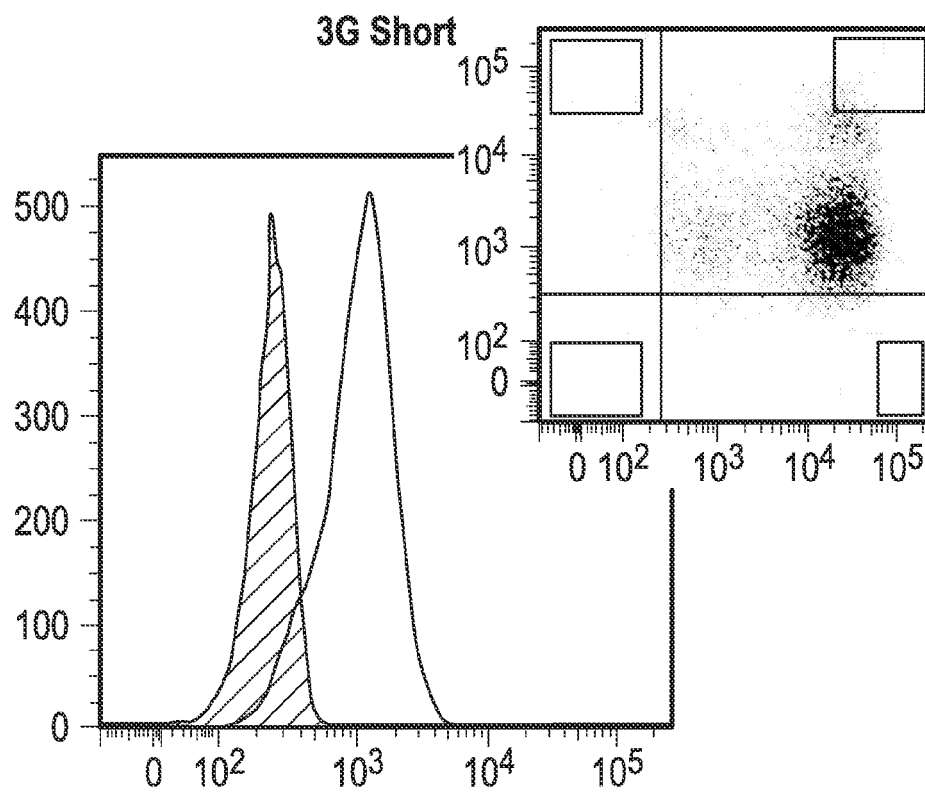
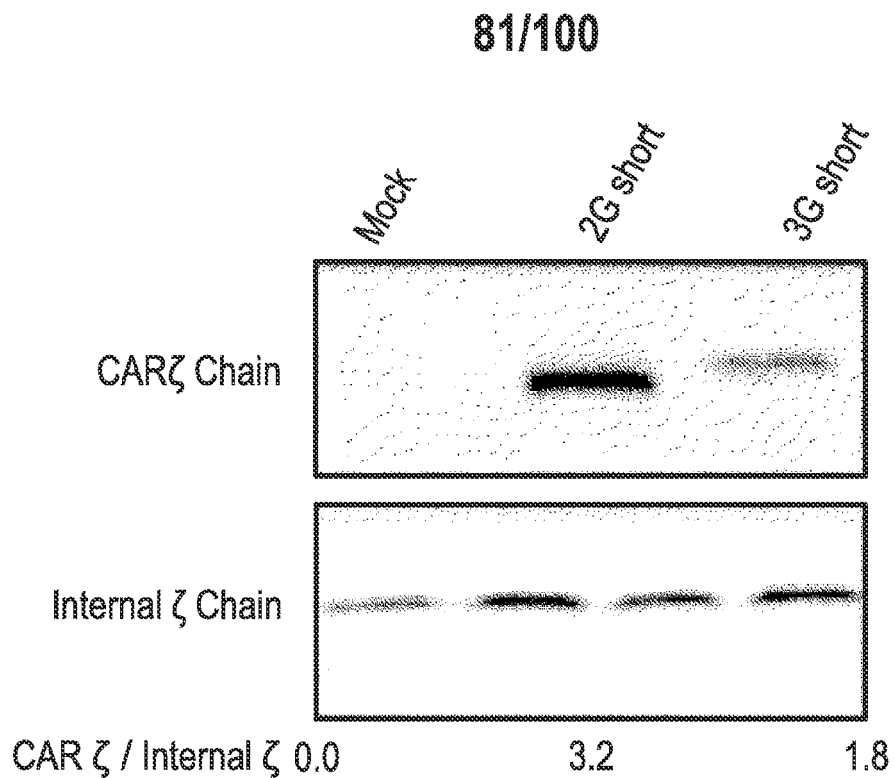
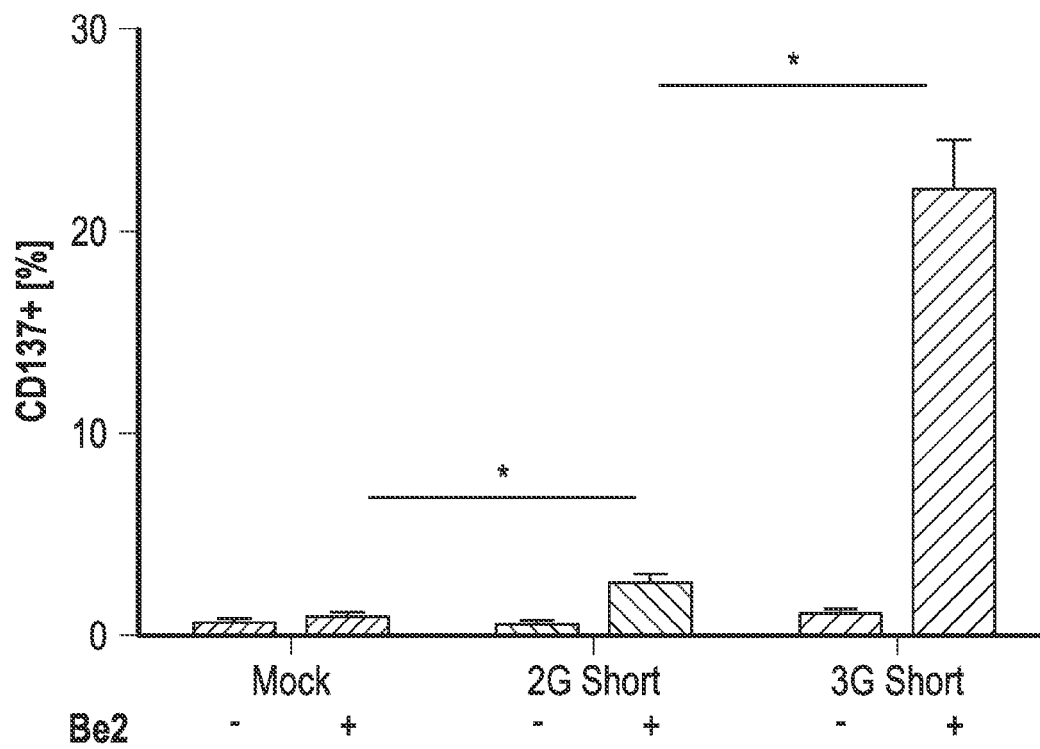


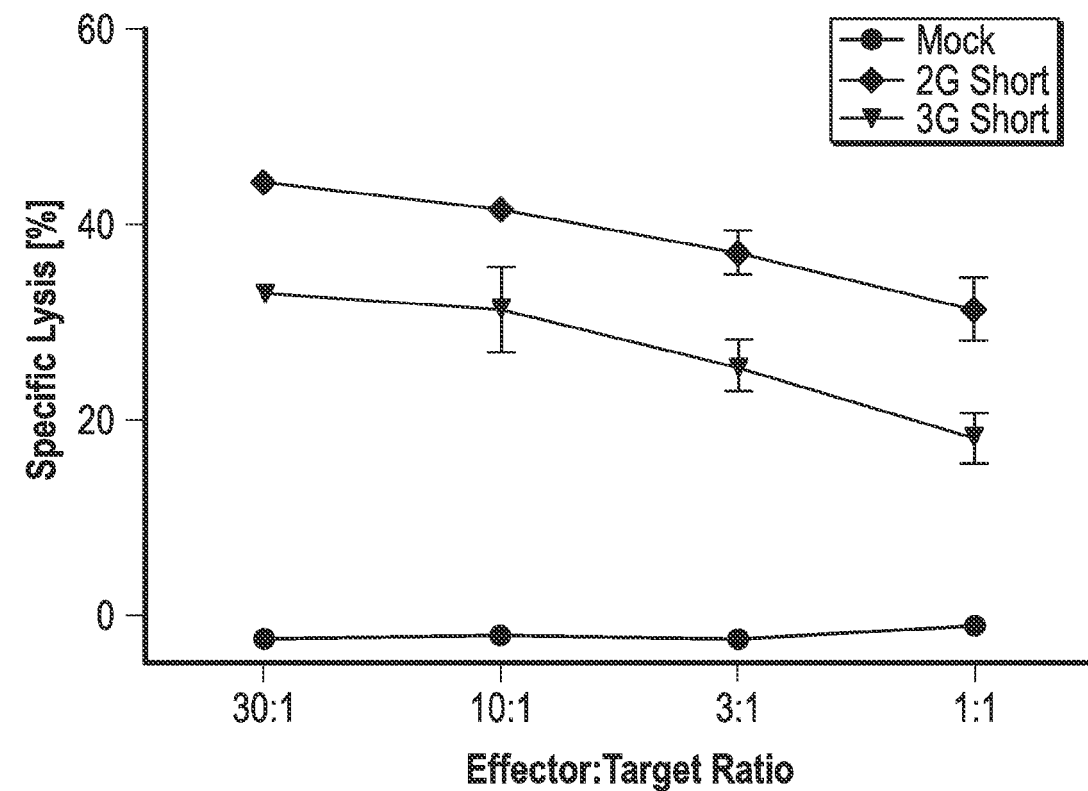
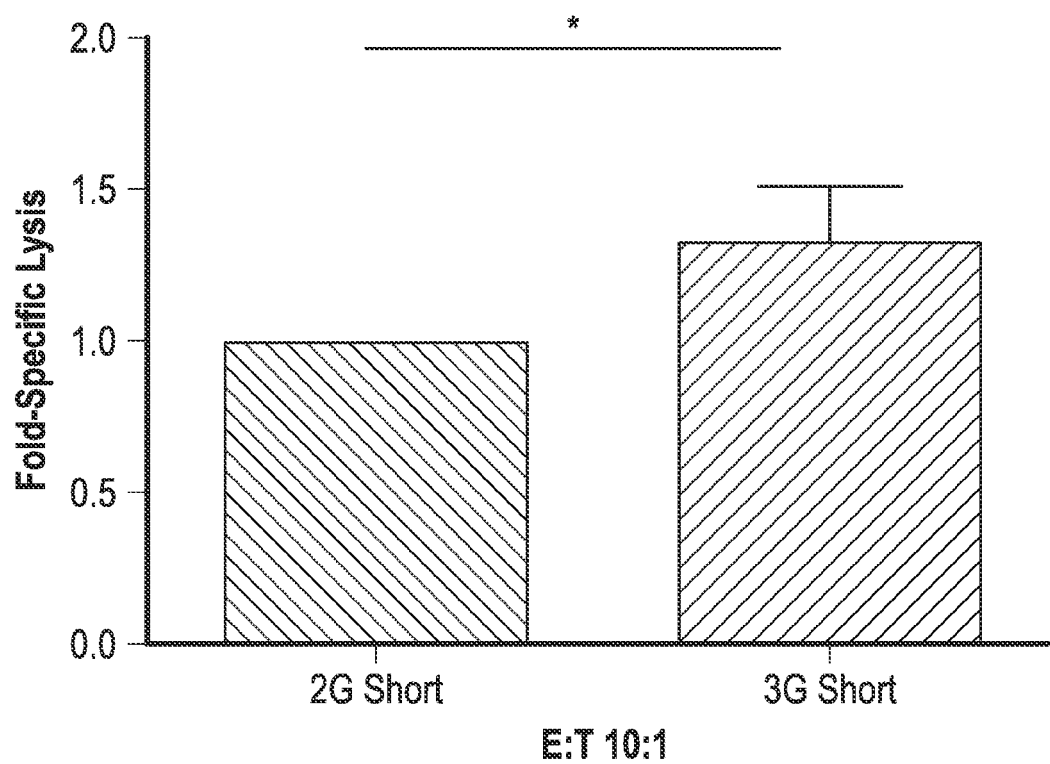
FIG. 16B (Continued) 80/100



**FIG. 16C****FIG. 16D**

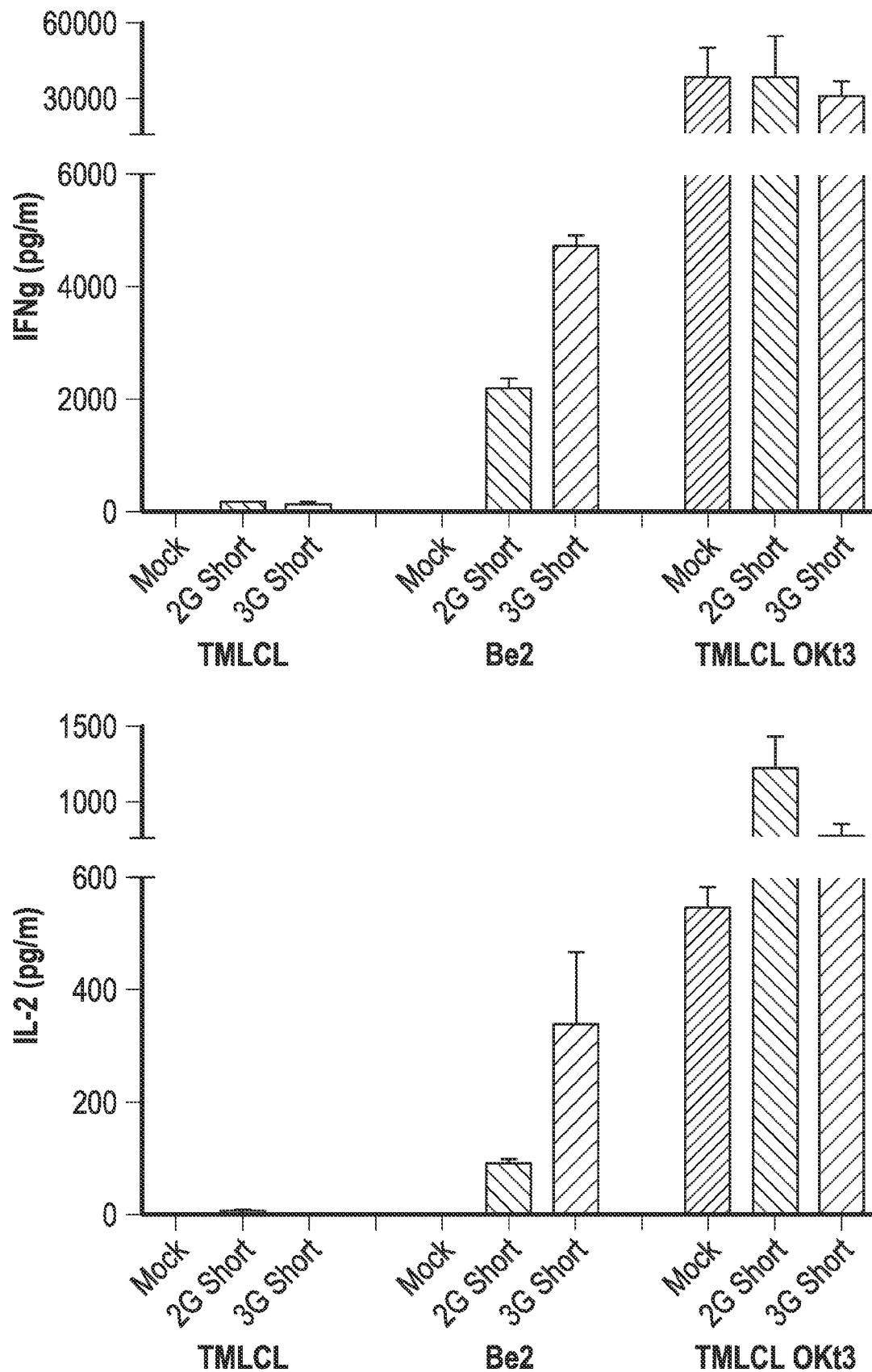
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FIG. 16E



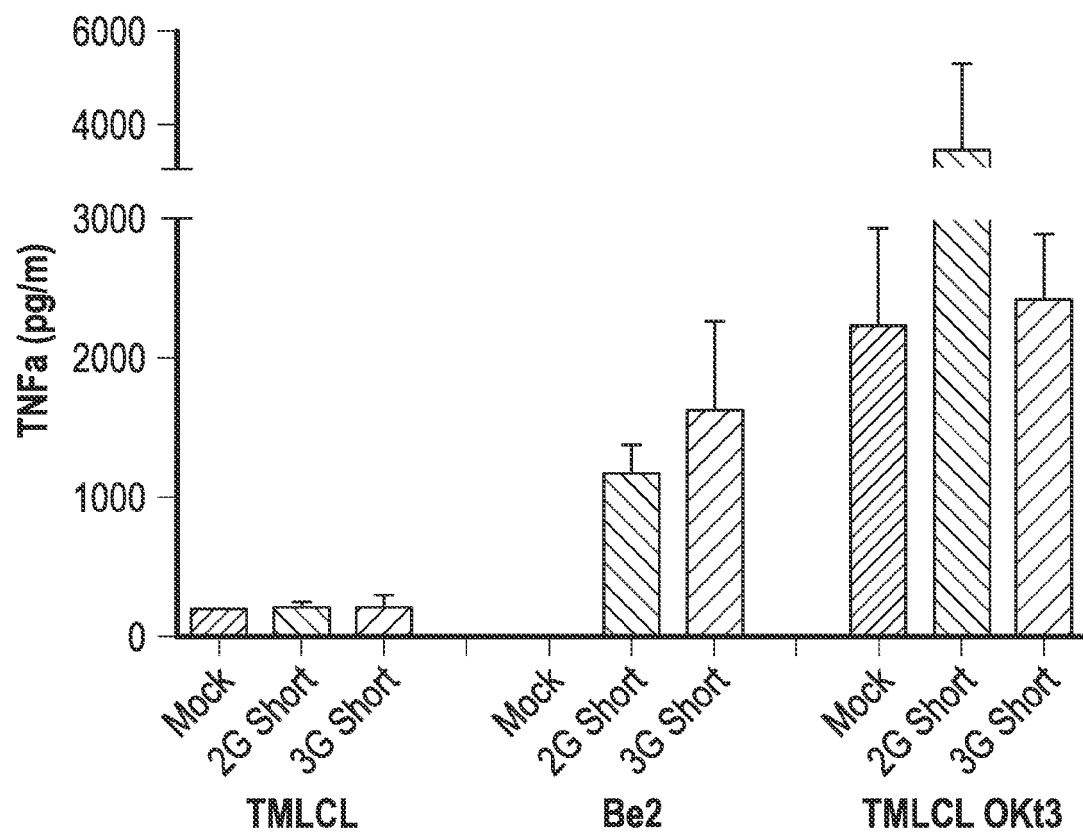
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FIG. 16F



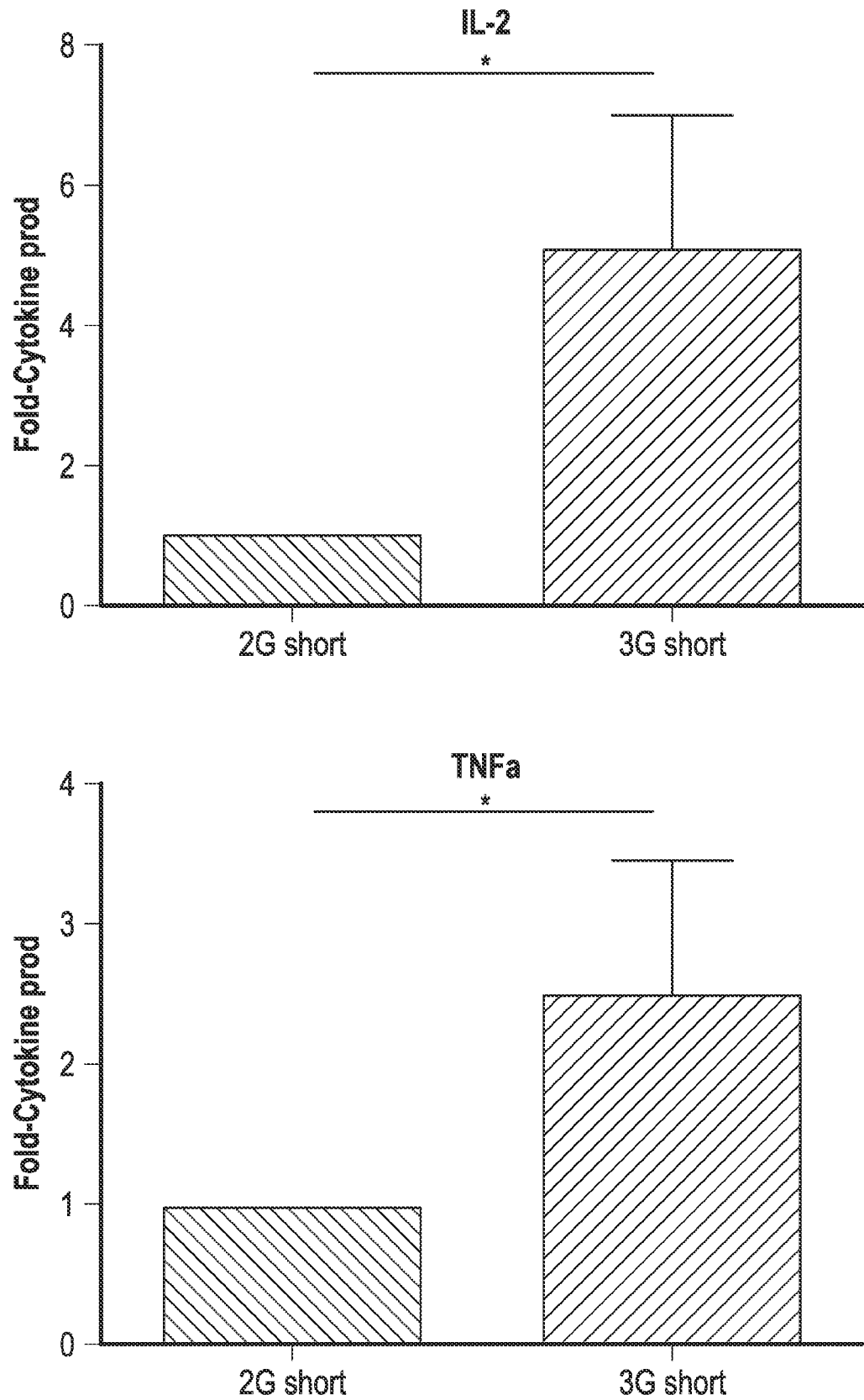
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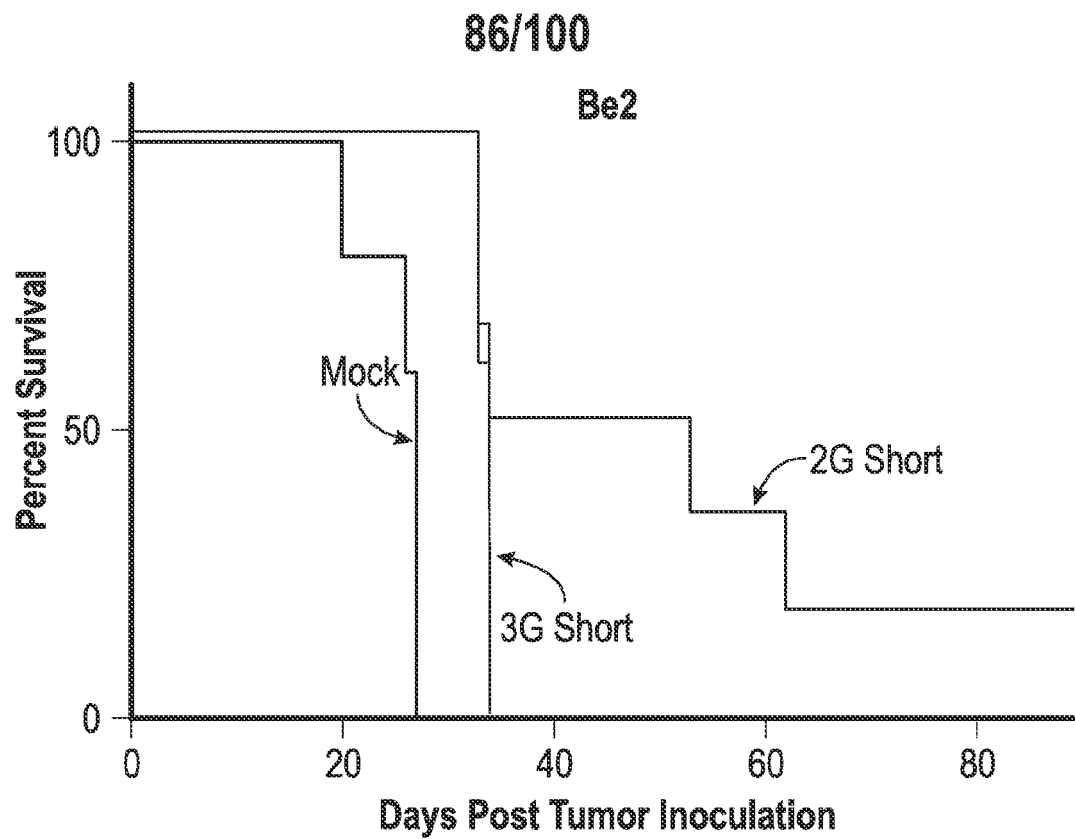
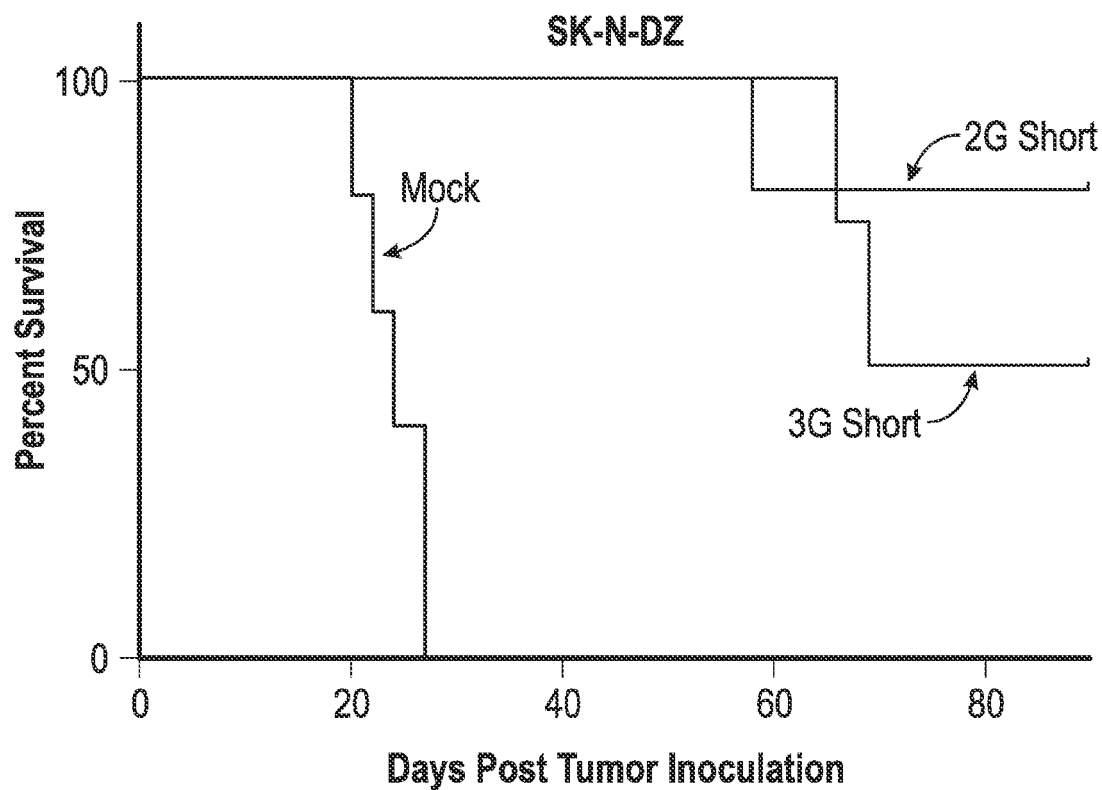
FIG. 16F (Continued)



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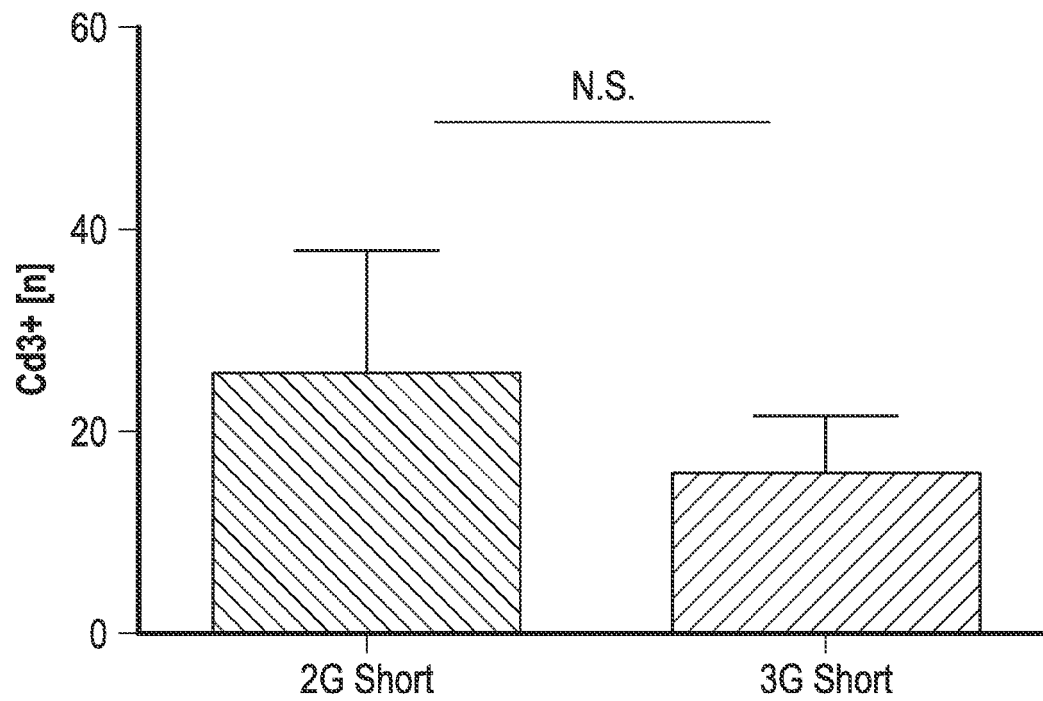
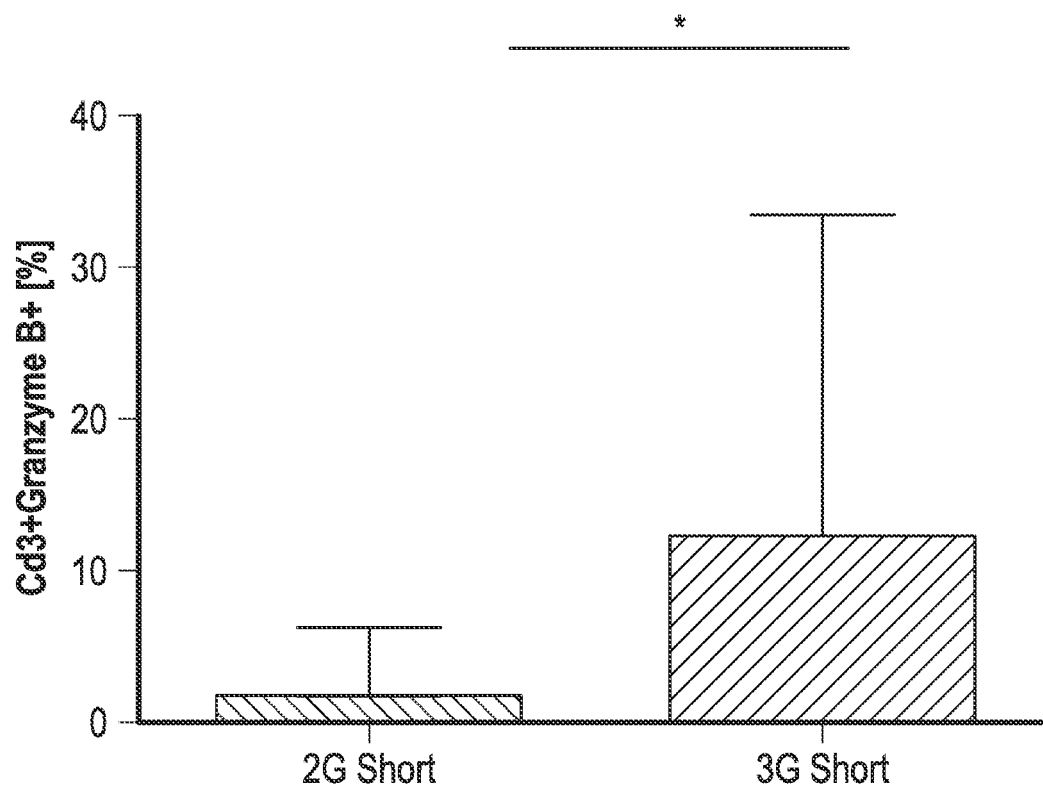
FIG. 16F (Continued)

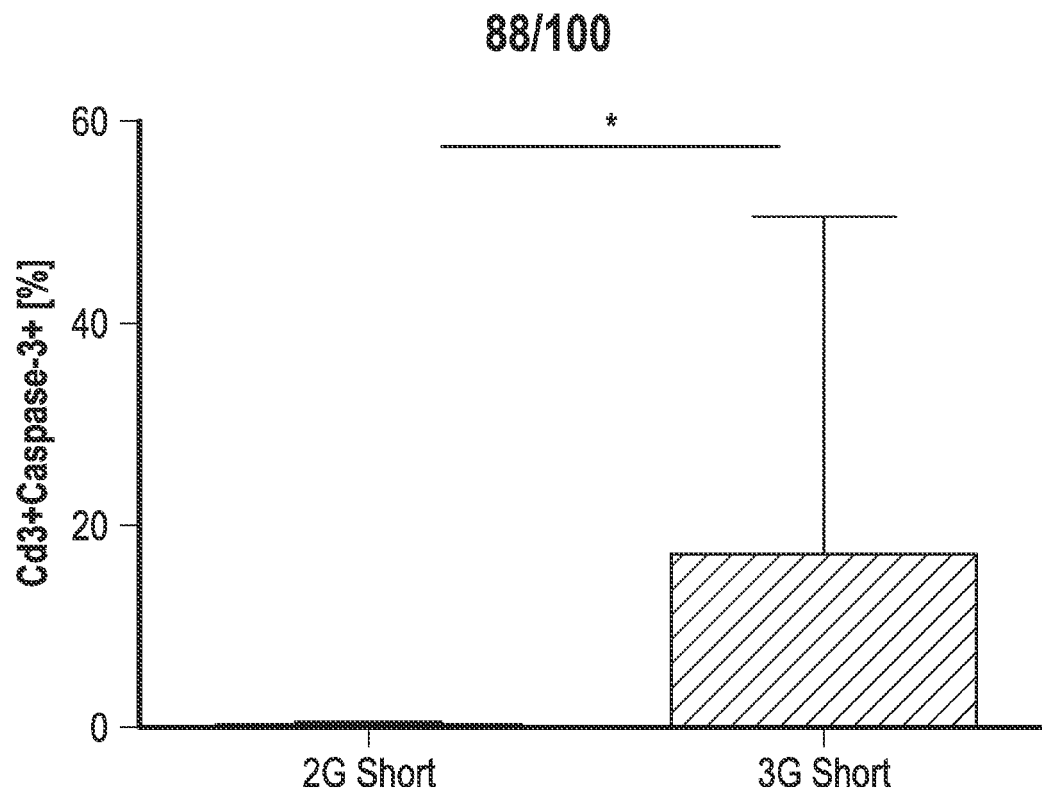
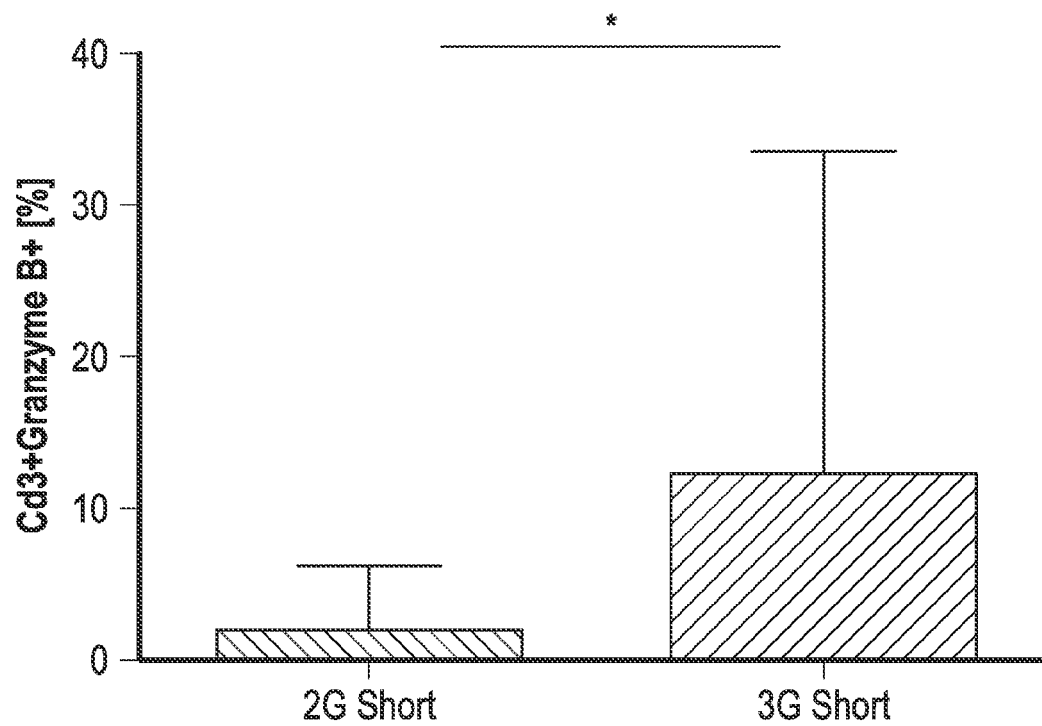


**FIG. 17A****FIG. 17B**

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FIG. 17C



**FIG. 17C (Continued)****FIG. 17D**

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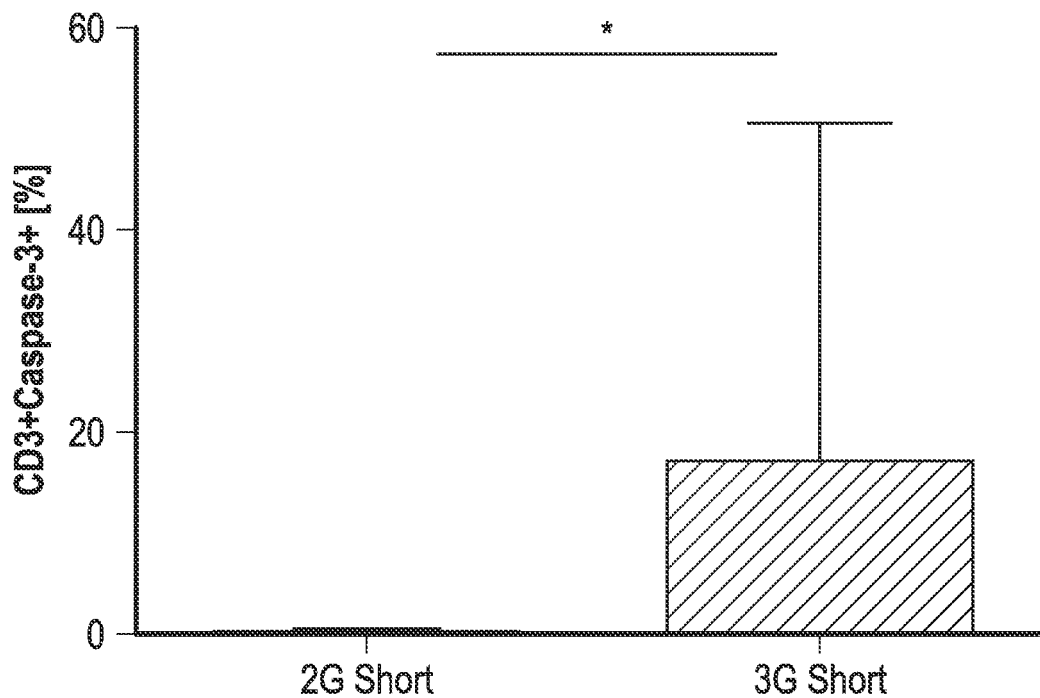


FIG. 17D (Continued)

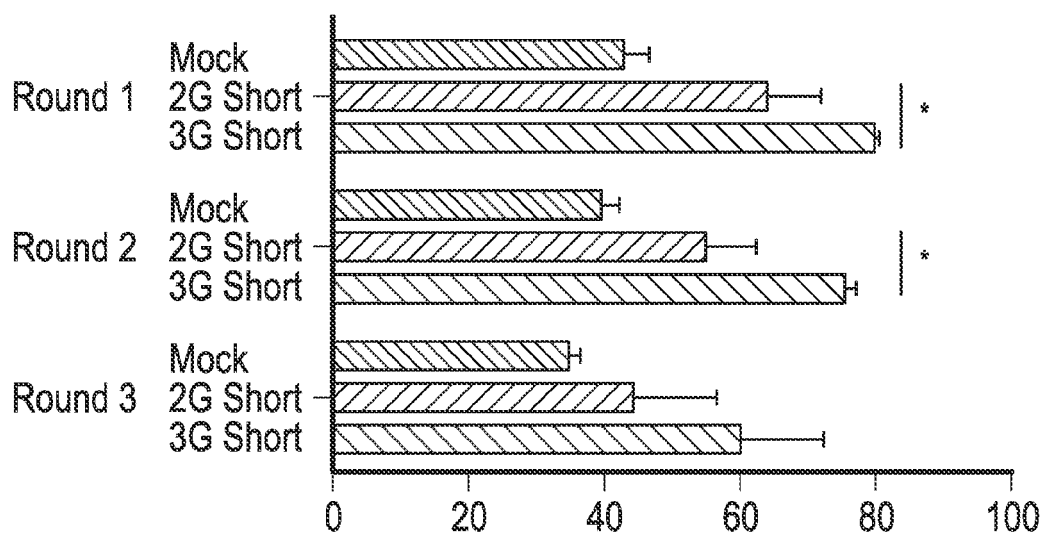


FIG. 18A

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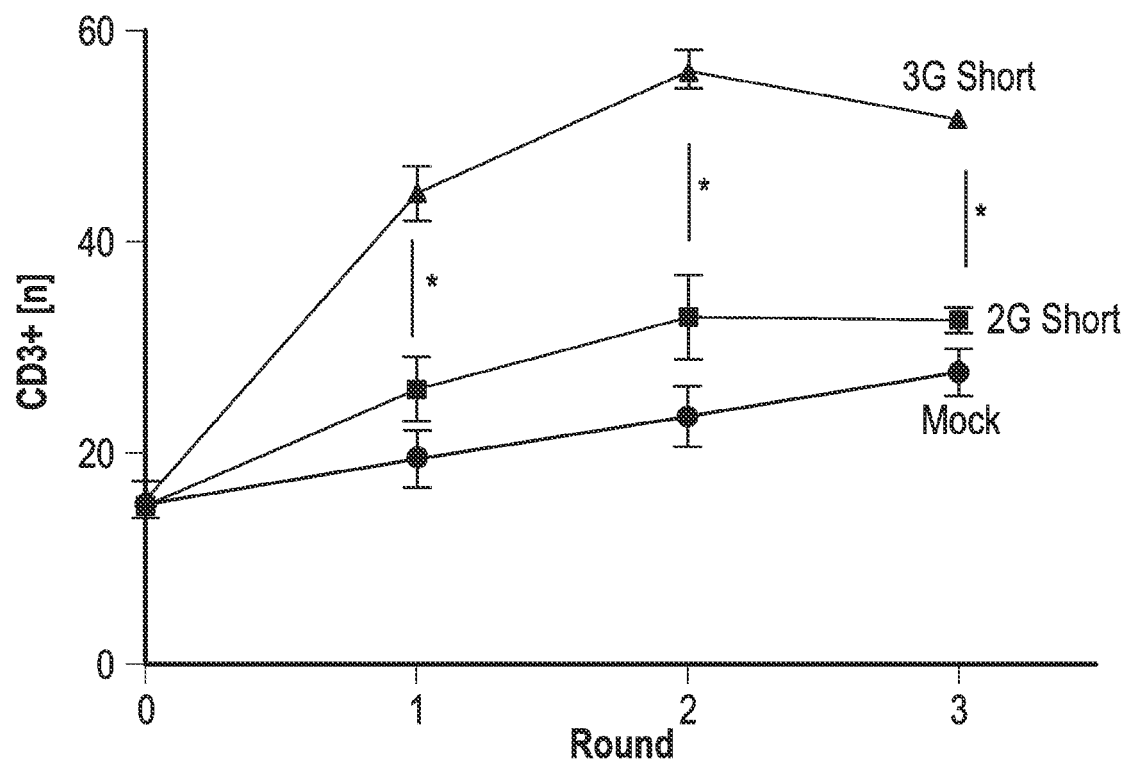


FIG. 18B

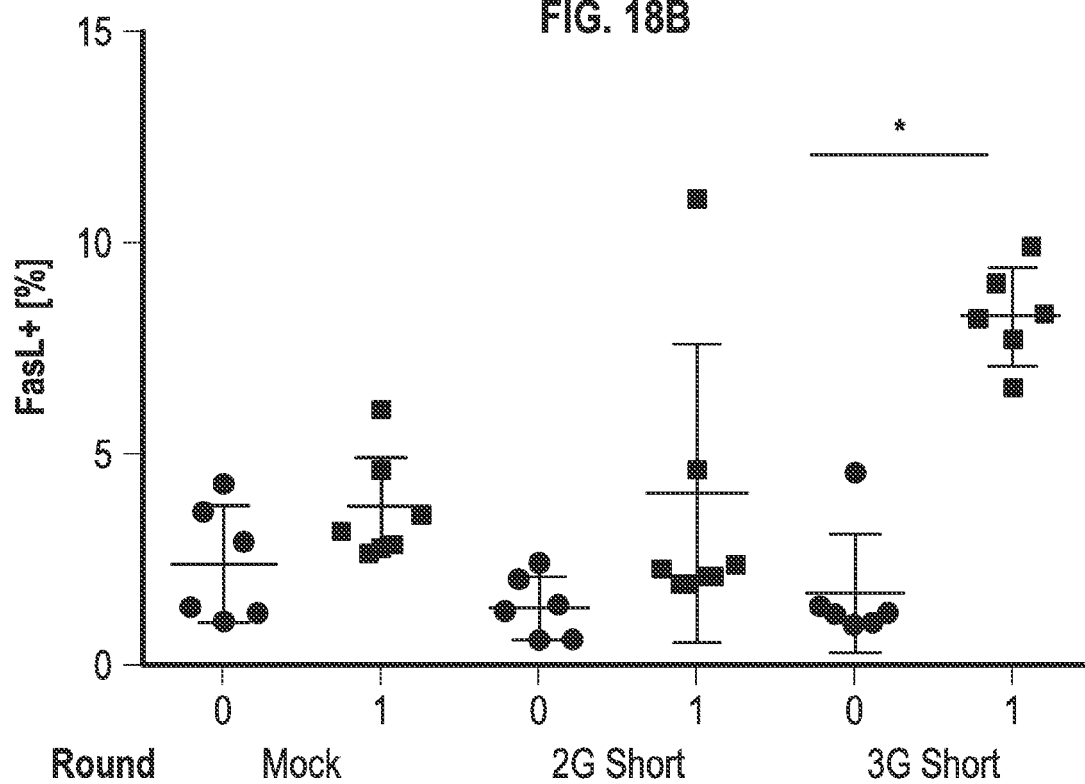
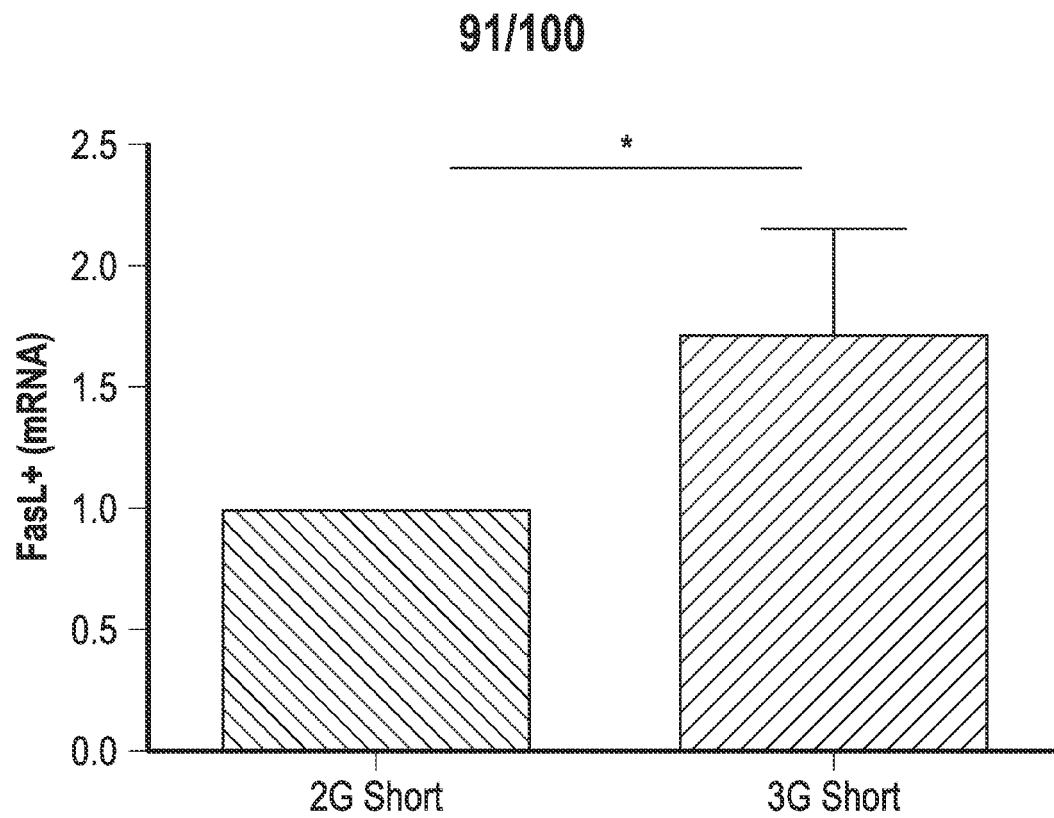
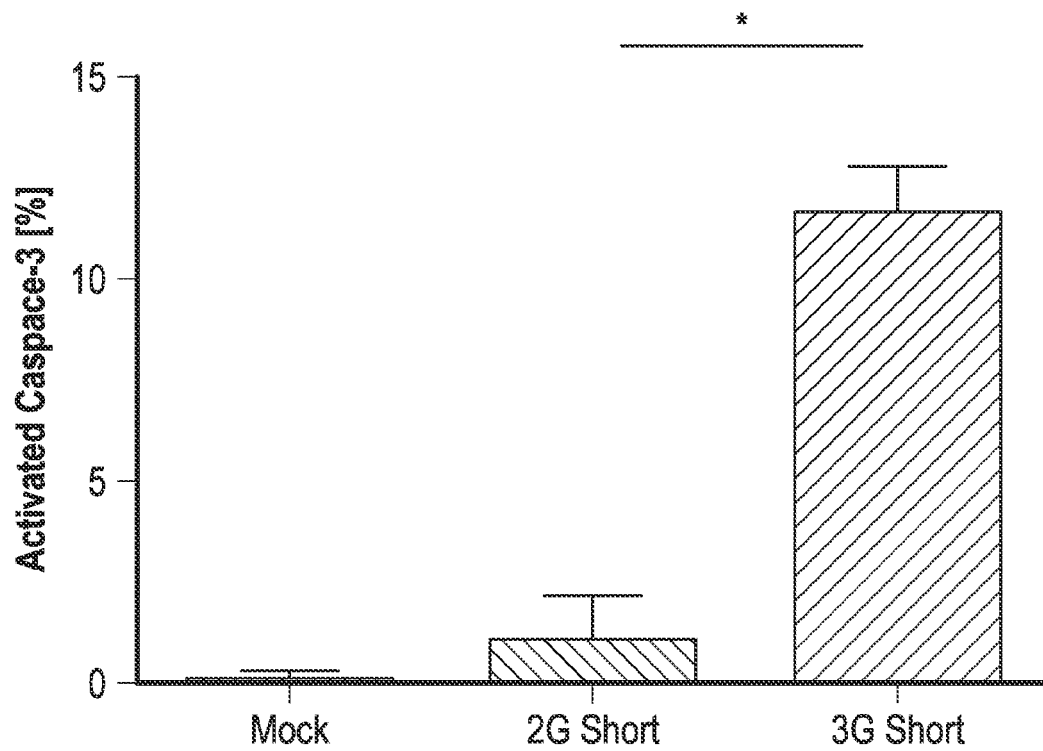


FIG. 18C

**FIG. 18D****FIG. 18E**

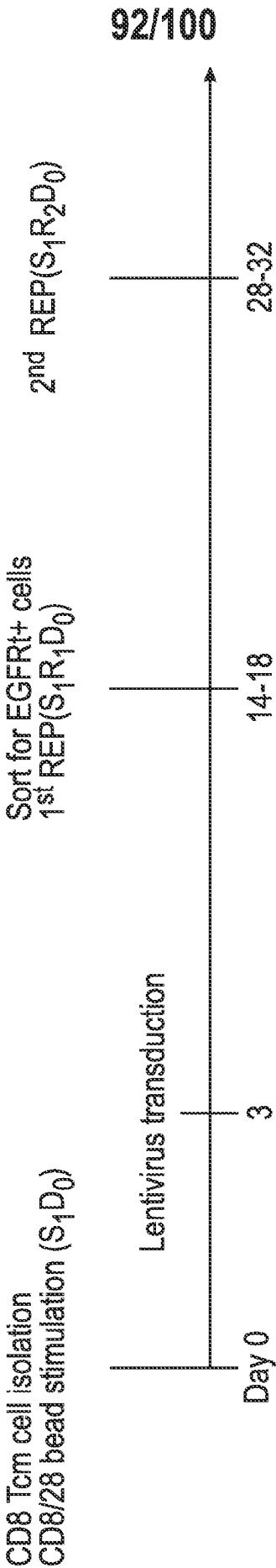
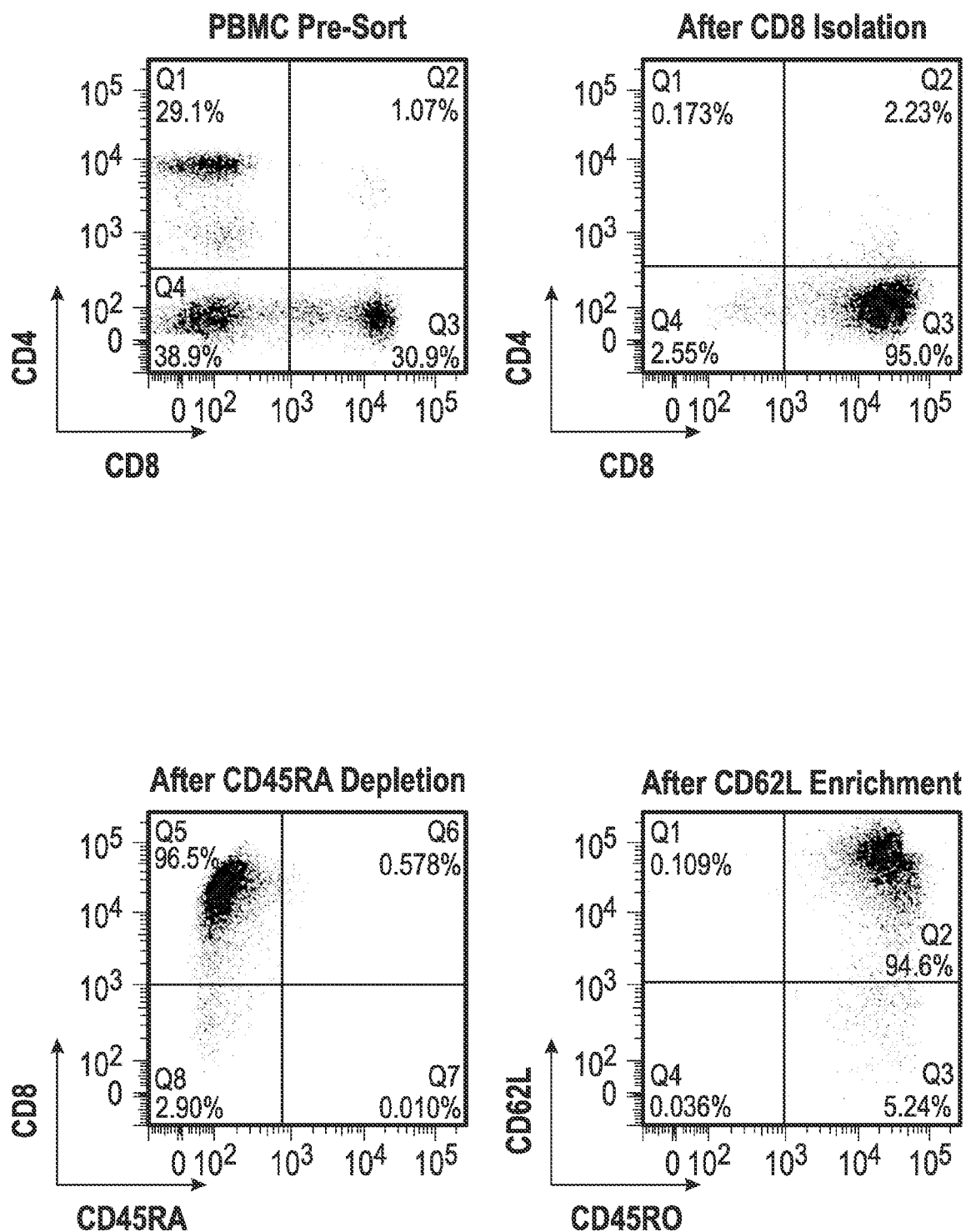


FIG. 19A

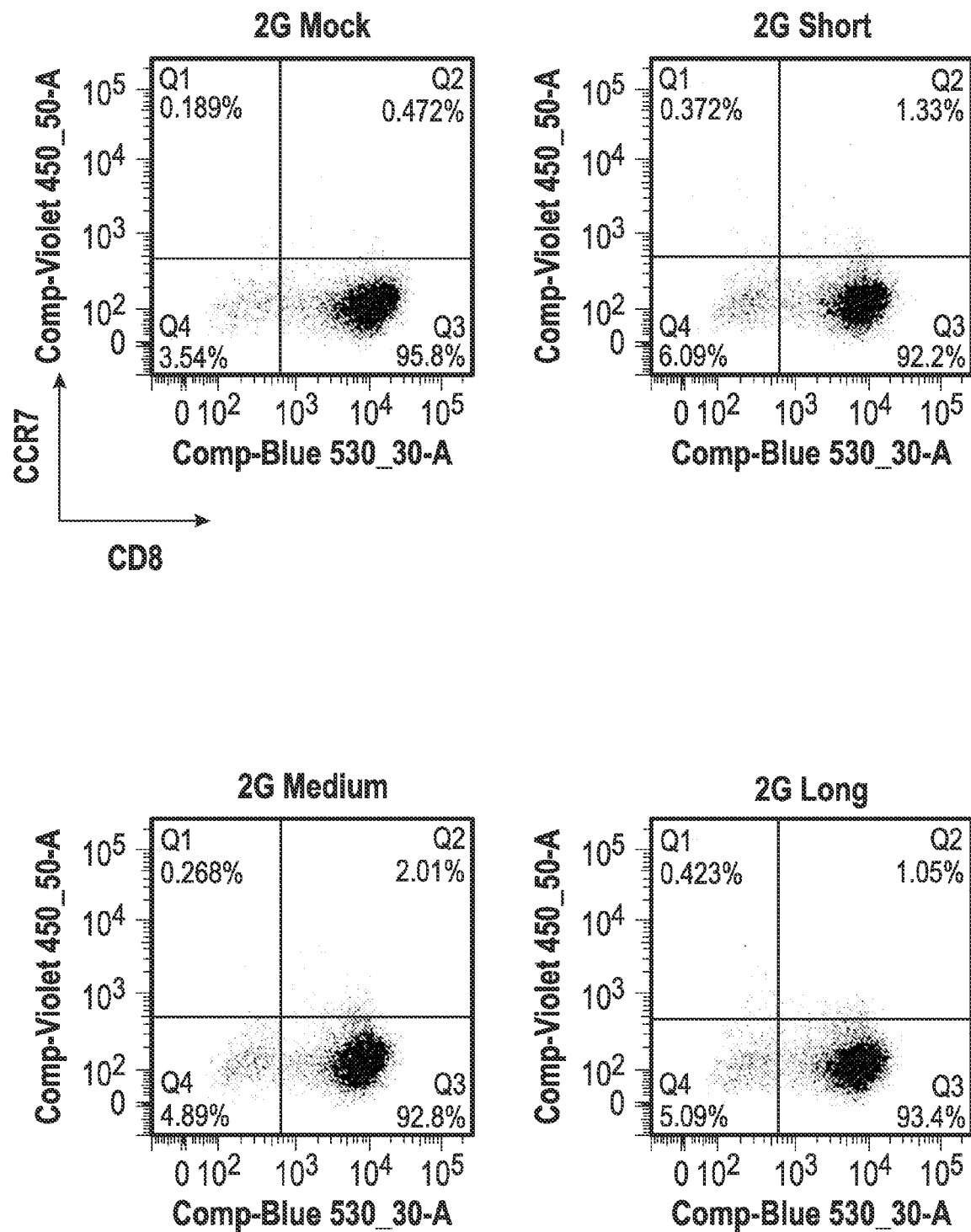
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FIG. 19B



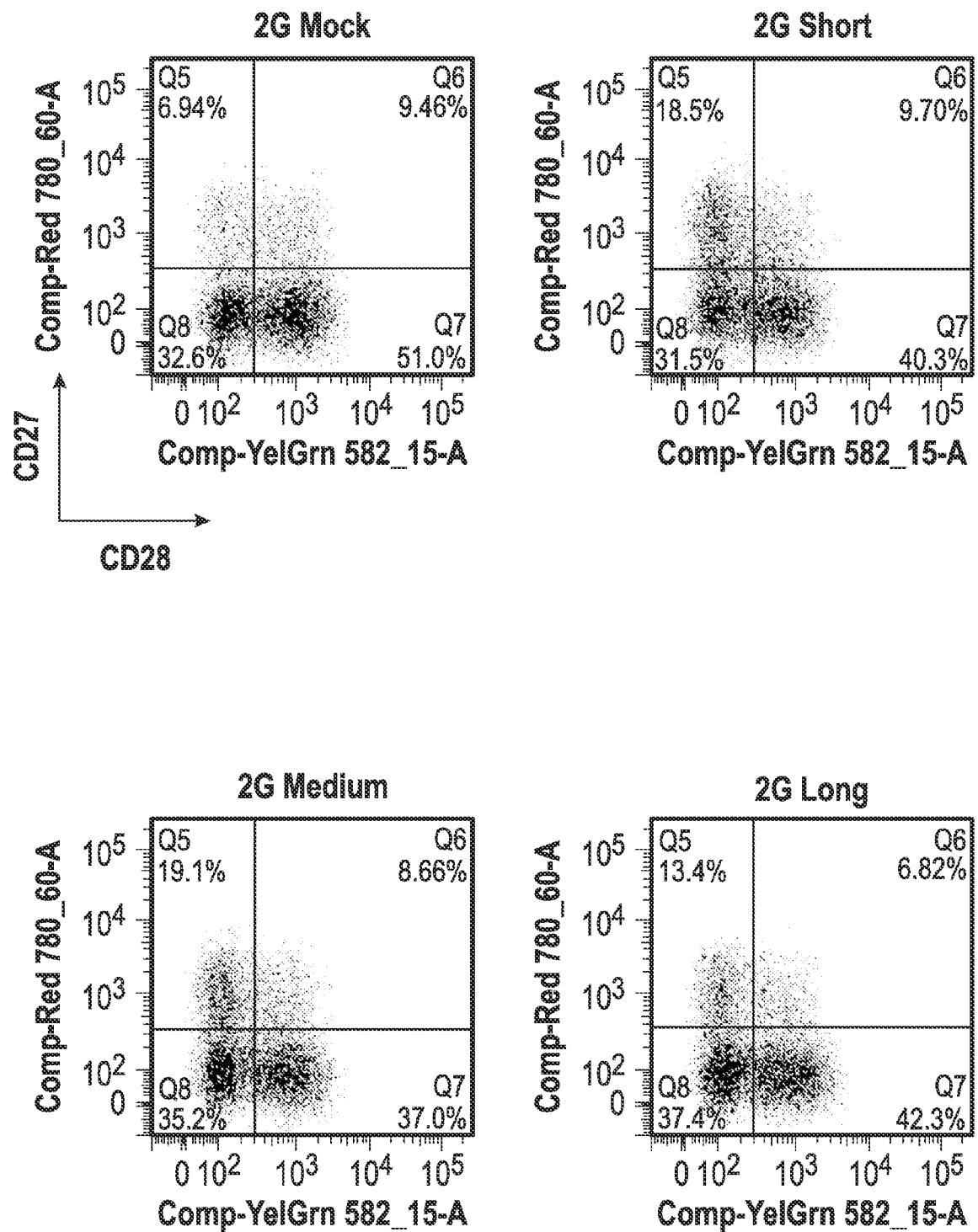
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FIG. 19C



95/100

FIG. 19C (Continued)



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FIG. 19C (Continued)

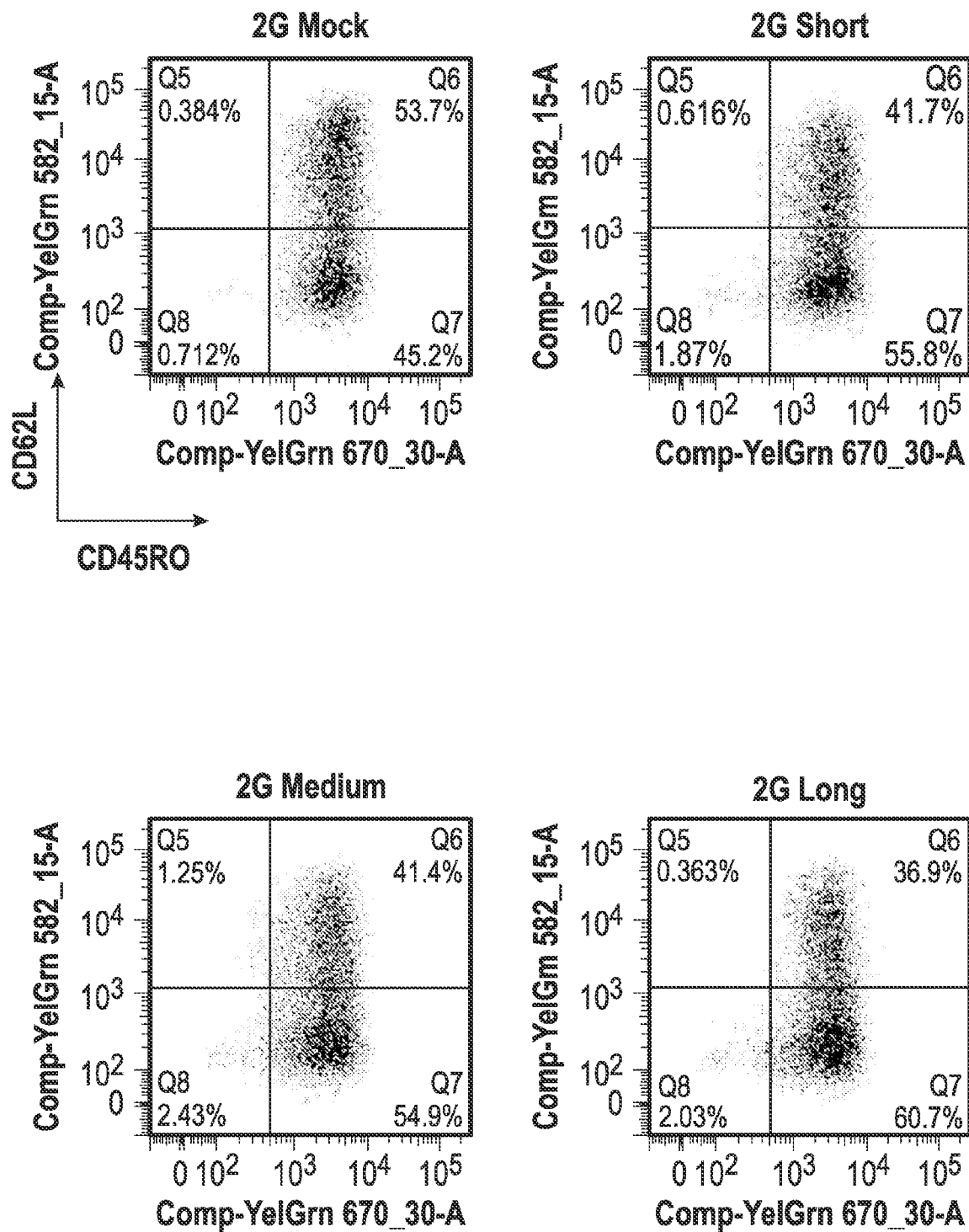
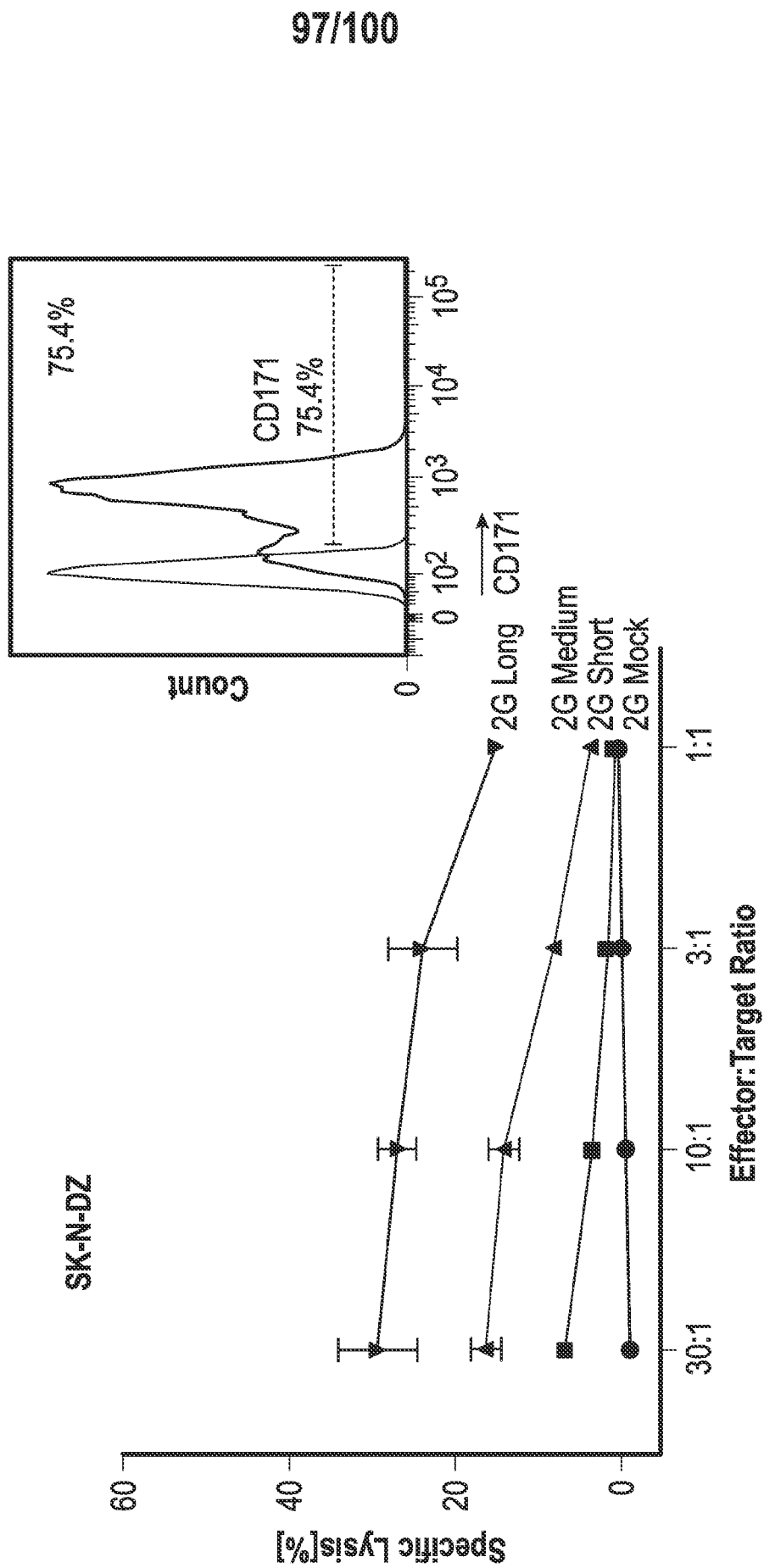


FIG. 20A



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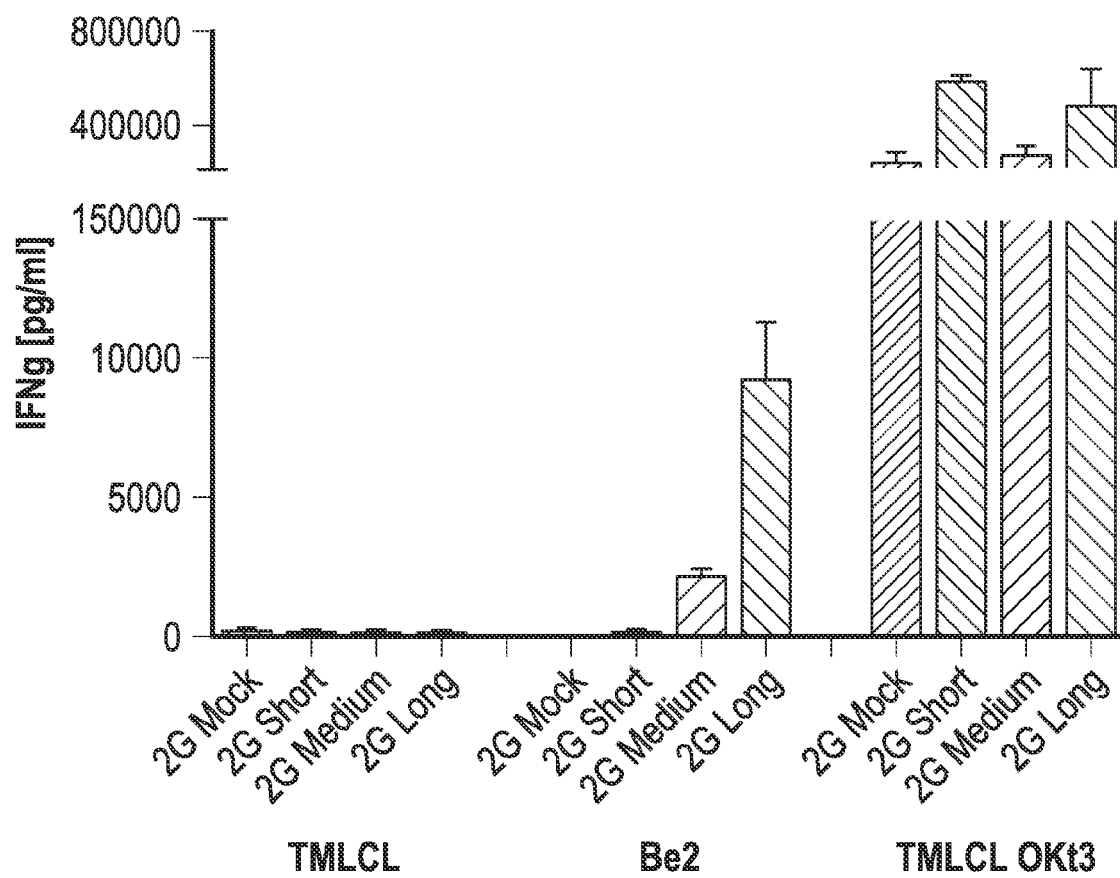
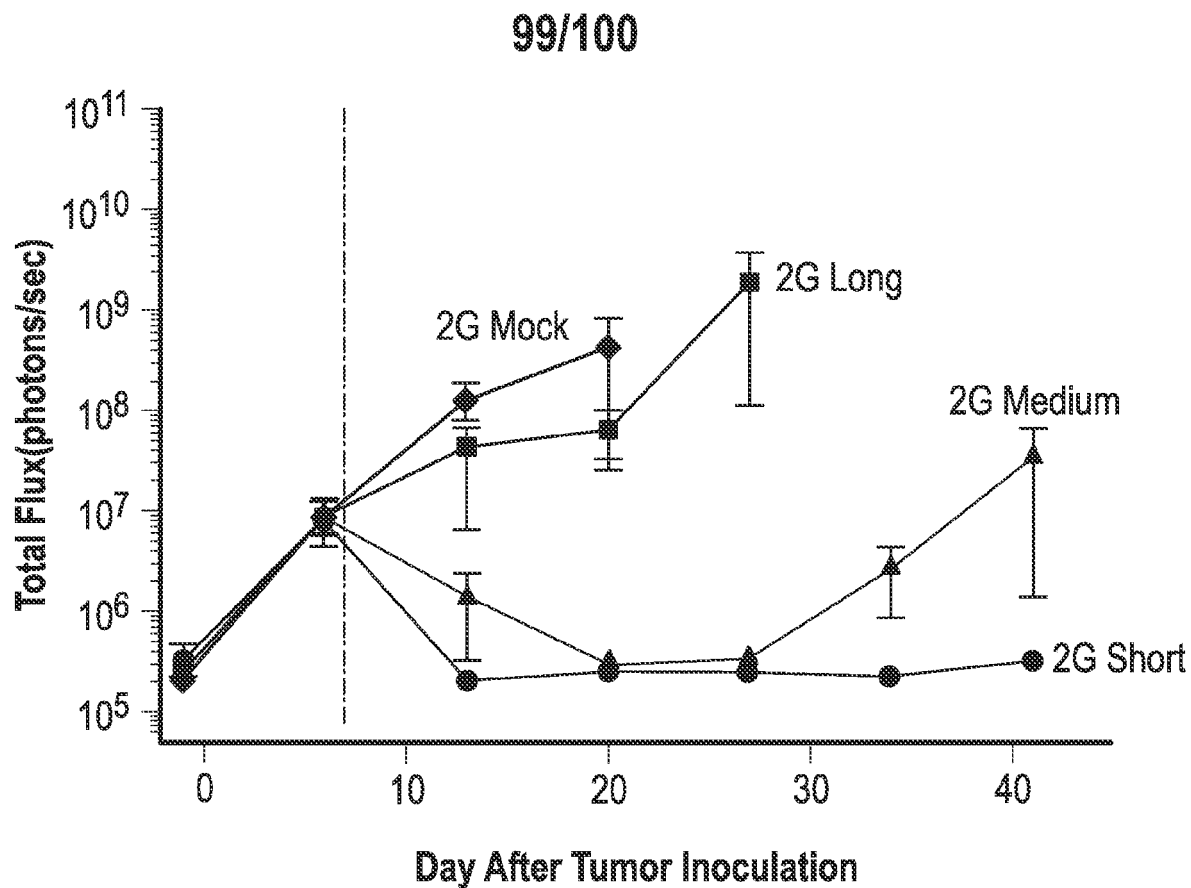
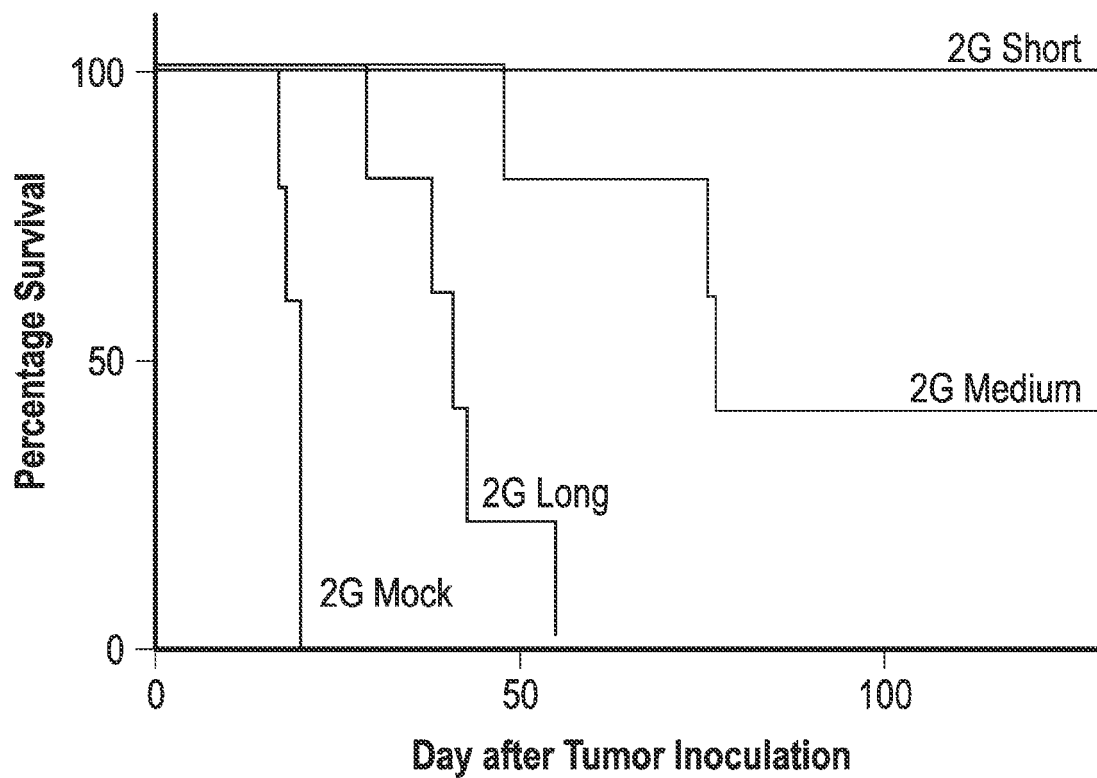


FIG. 20B

**FIG. 20C****FIG. 20D**

