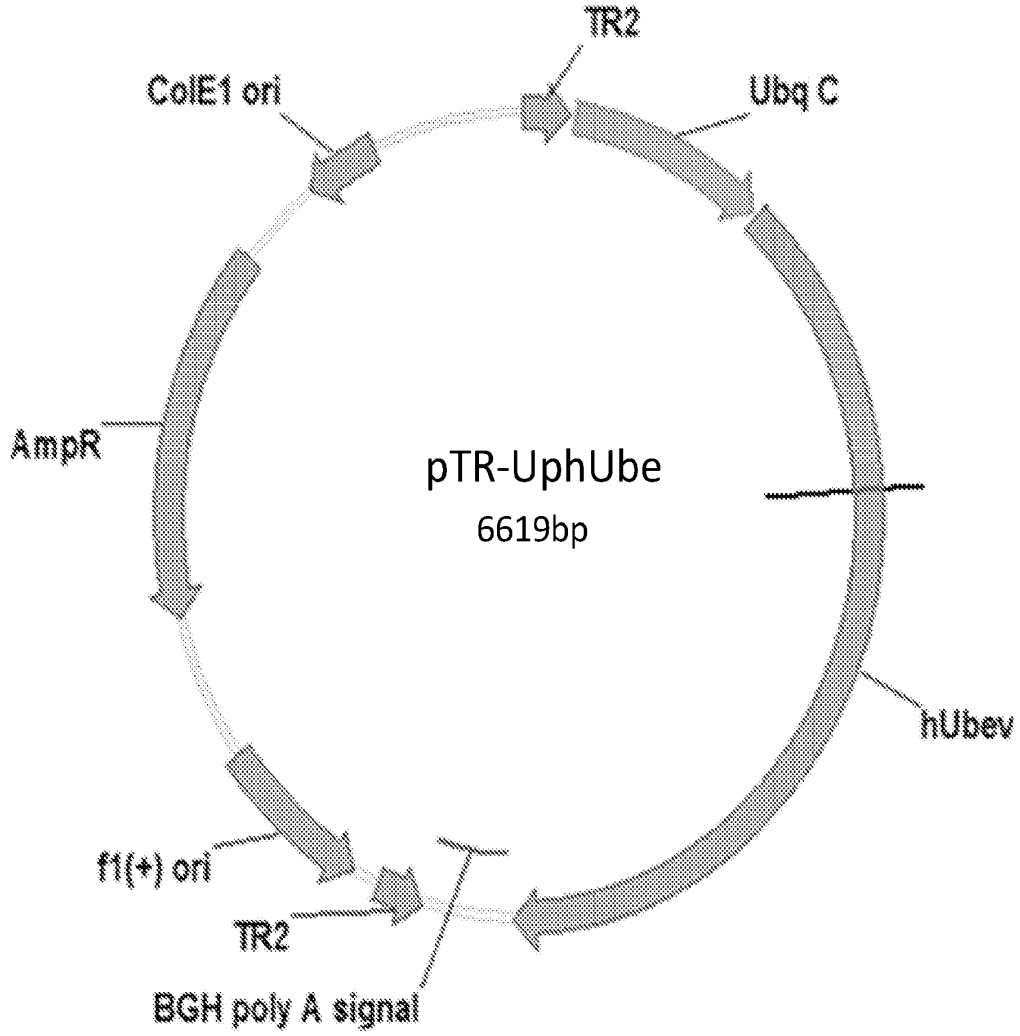

TR2
ColE1 ori
Ubq C
AmpR
pTR-UphUbe
6619bp
hUbev
f1(+) ori
TR2
BGH poly A signal

FIG. 1A(i)

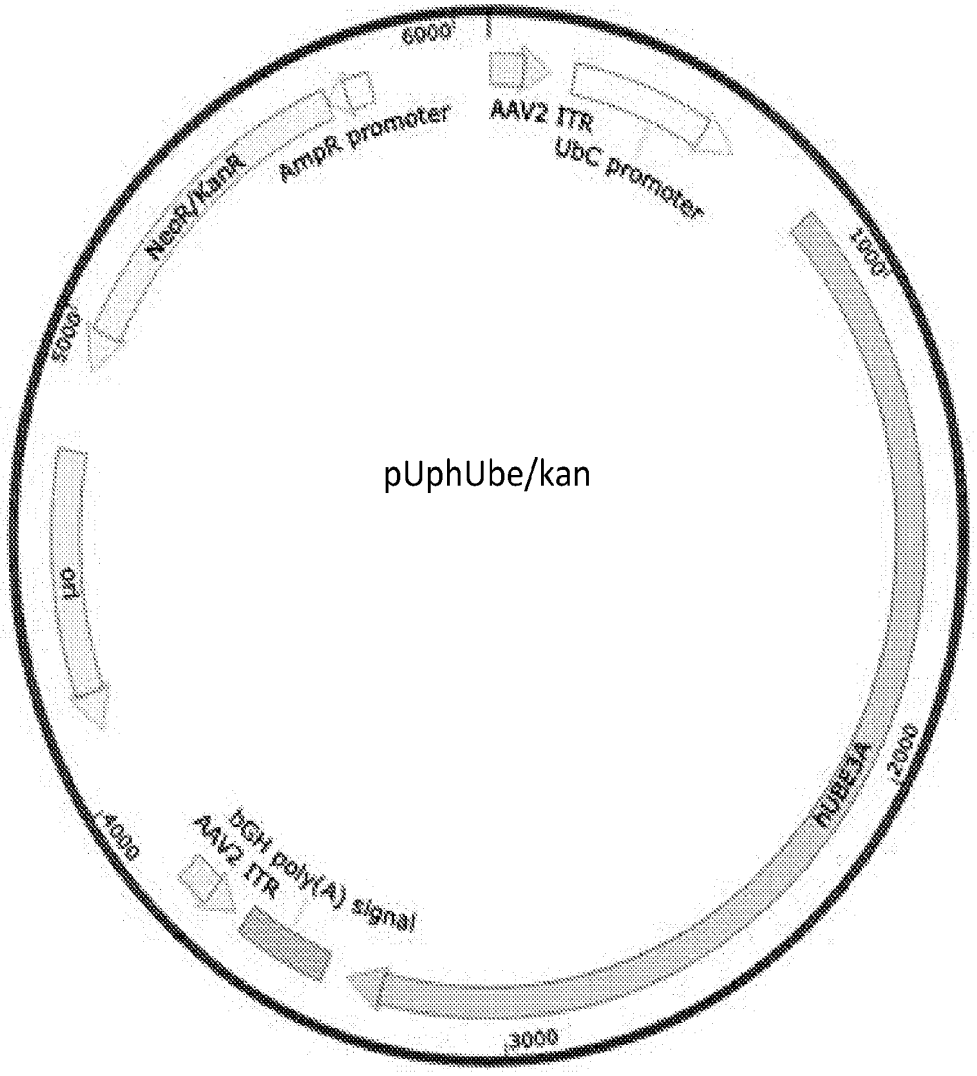
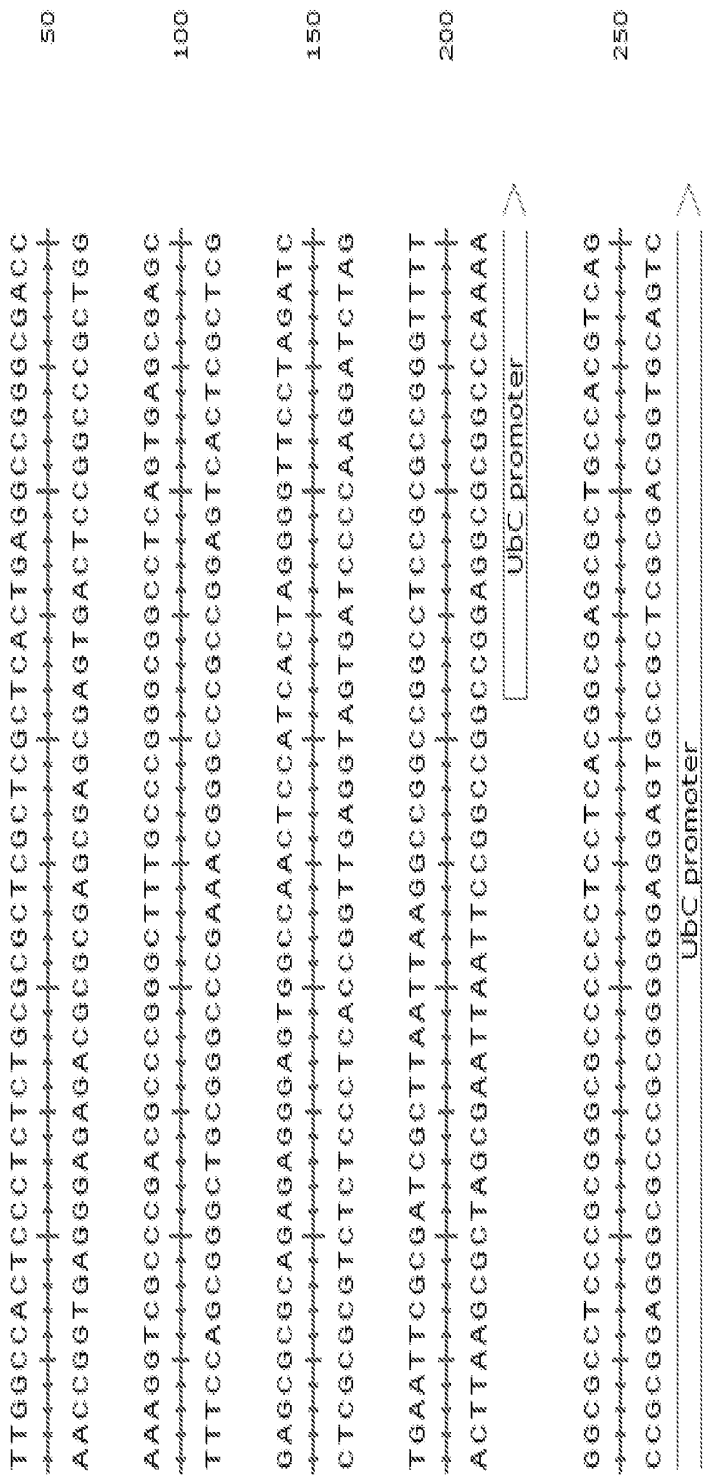

6000
AAV2 ITR
UBC promoter
1000
2000
NUBE3A
2999
3000
bGH poly(A) signal
AAV2 ITR
4000
ori
5000
NeoR/KanR
AmpR promoter
pUphUbe/kan

FIG. 1A (ii)



pTR-UphUBE3 (SEQ ID NO. 1)

FIG. 1B



pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)

pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



pTR-UphUBE3 (SEQ ID NO. 1)

FIG. 1B (continued)

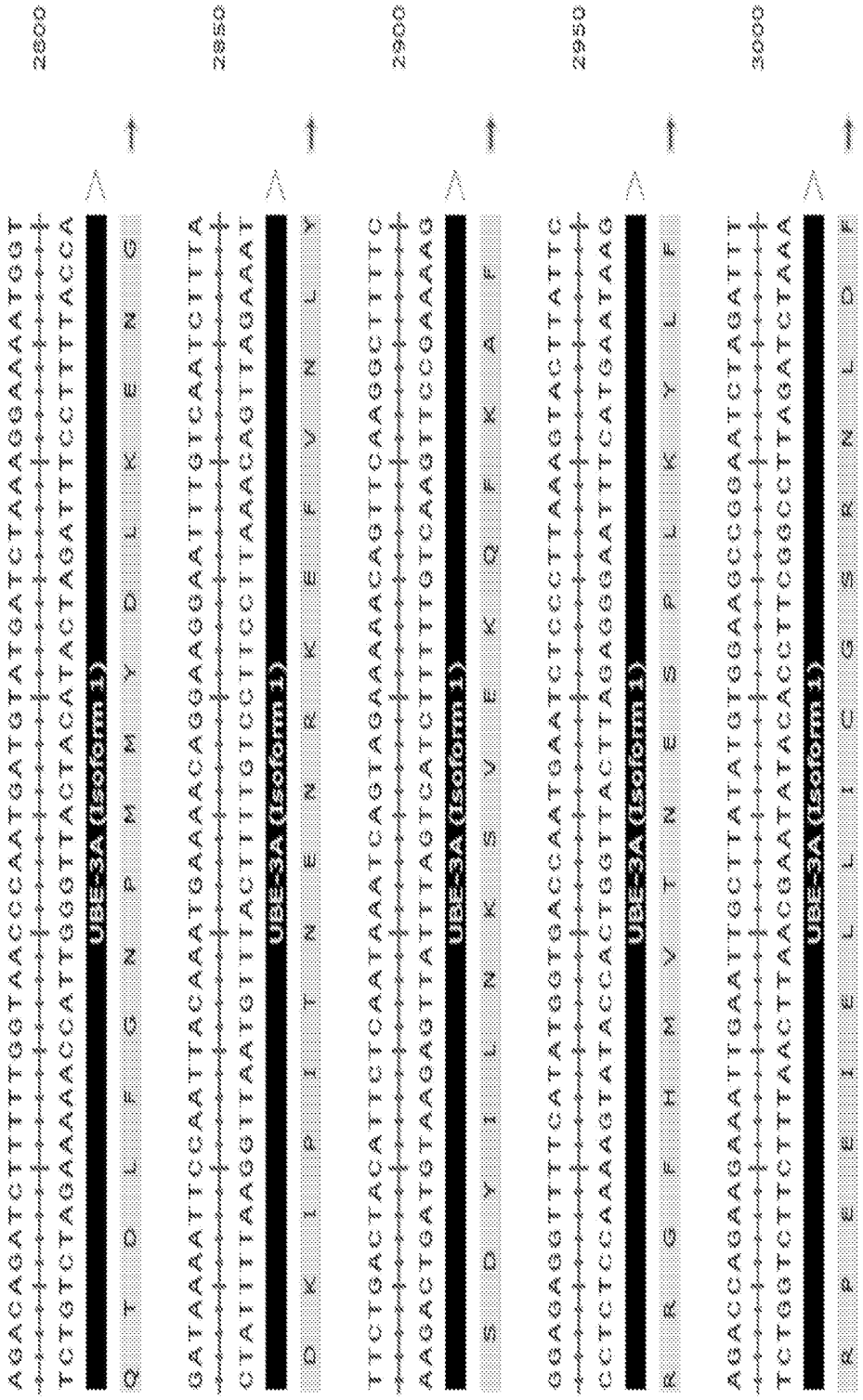


pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



pTR-UphUBE3 (SEQ ID NO. 1)

FIG. 1B (continued)

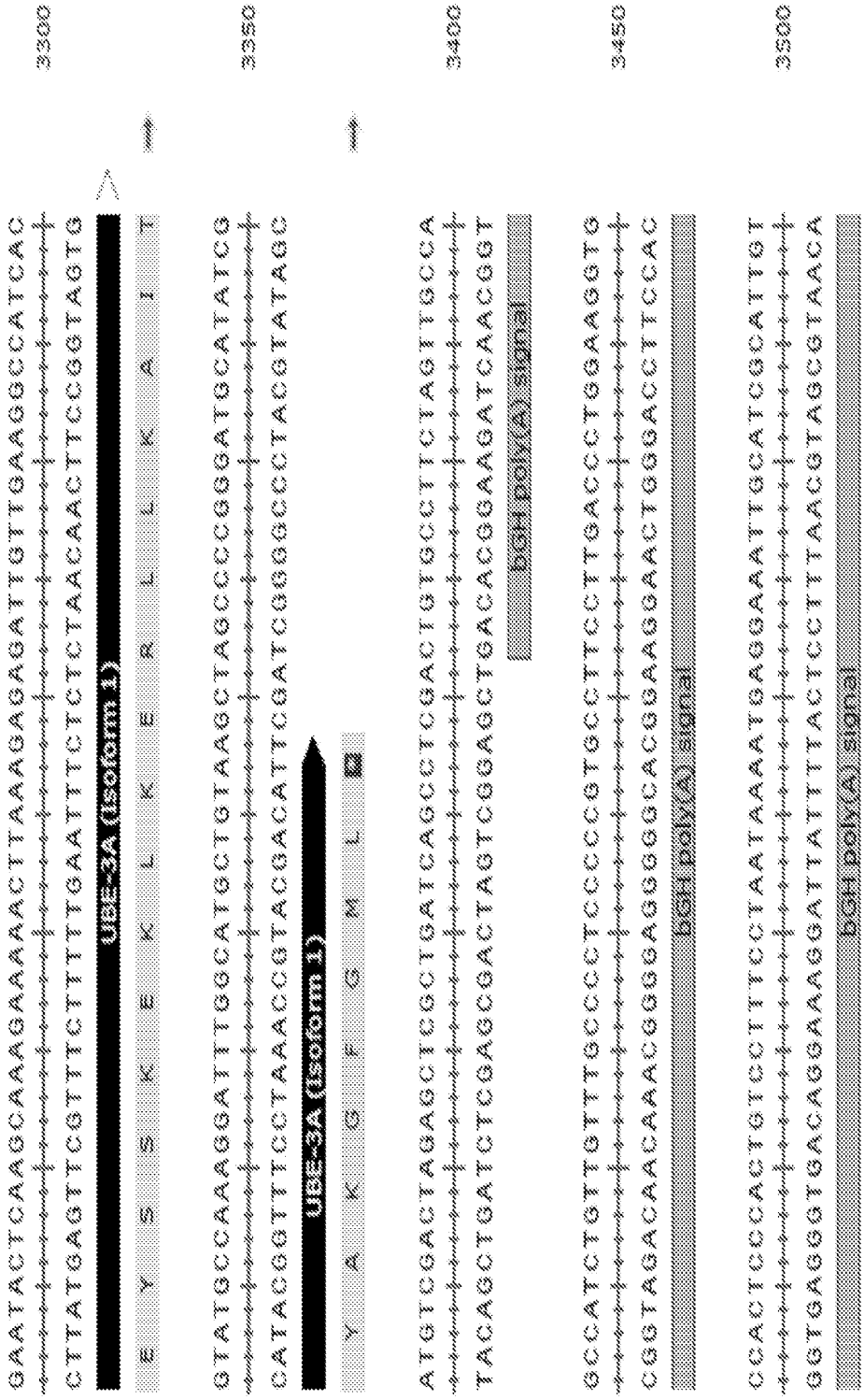


pTR-UphUBE3 (SEQ ID NO. 1)

FIG. 1B (continued)



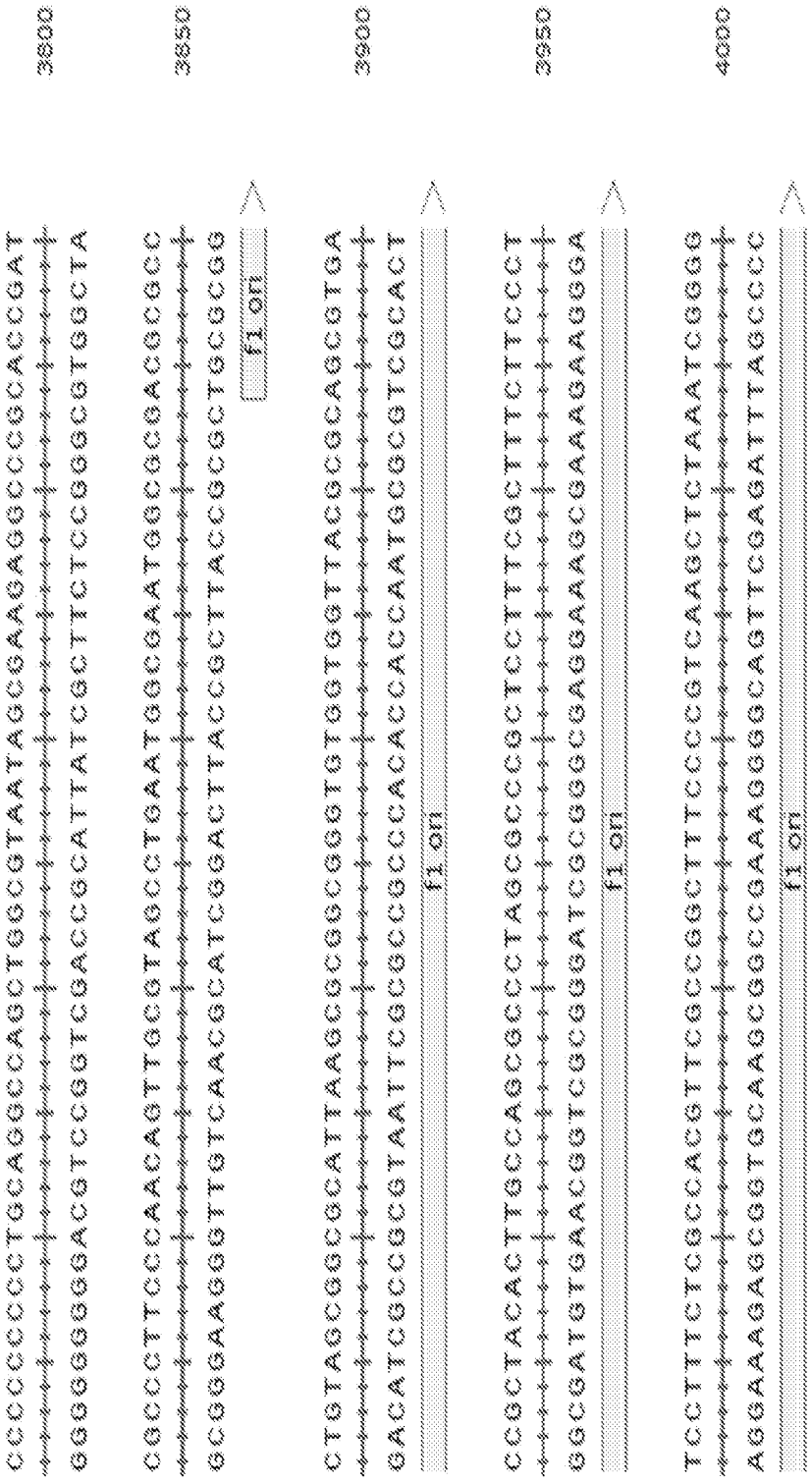
pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



pTR-UphUBE3 (SEQ ID NO. 1)

FIG. 1B (continued)

pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)

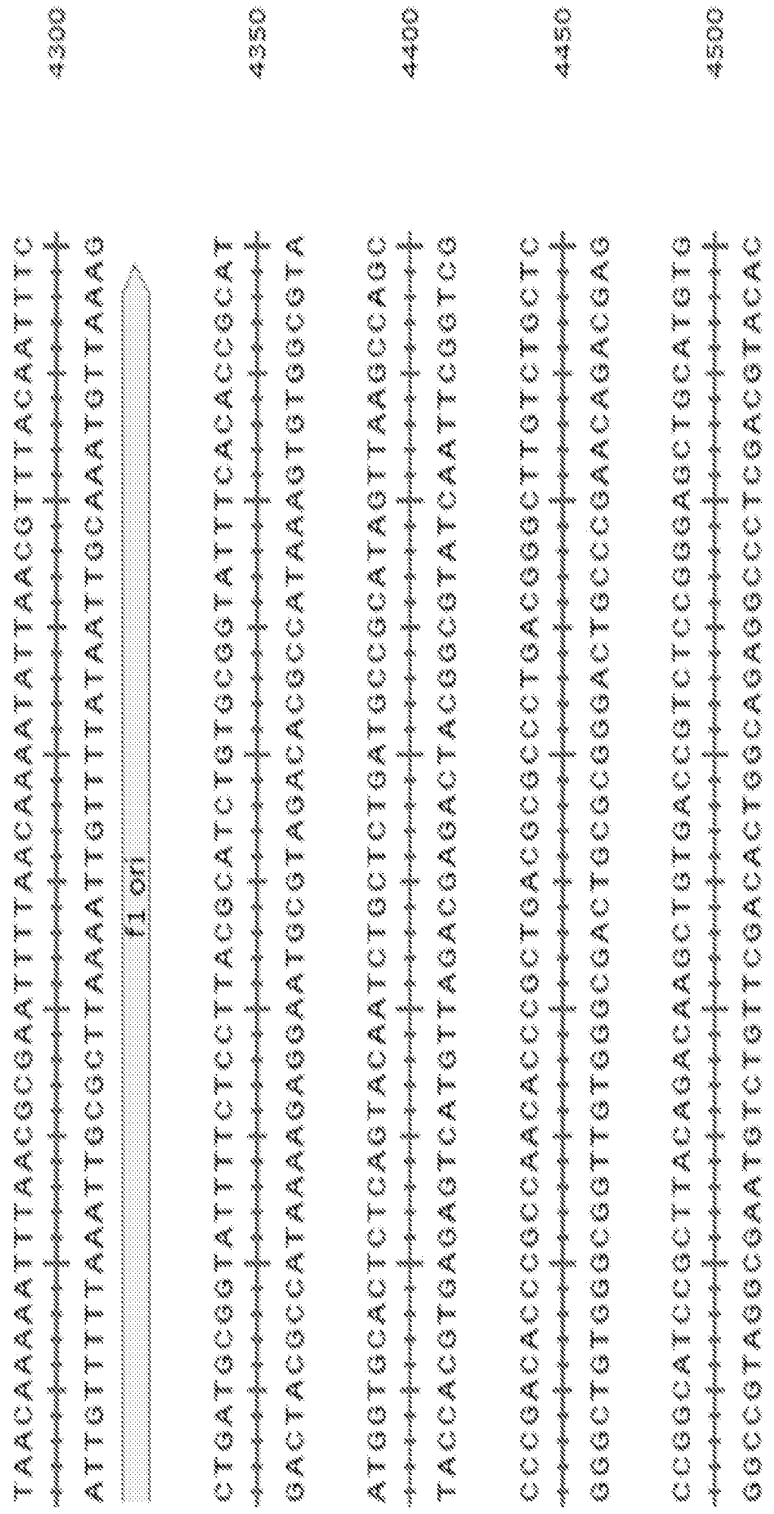


pTR-UphUBE3 (SEQ ID NO. 1)

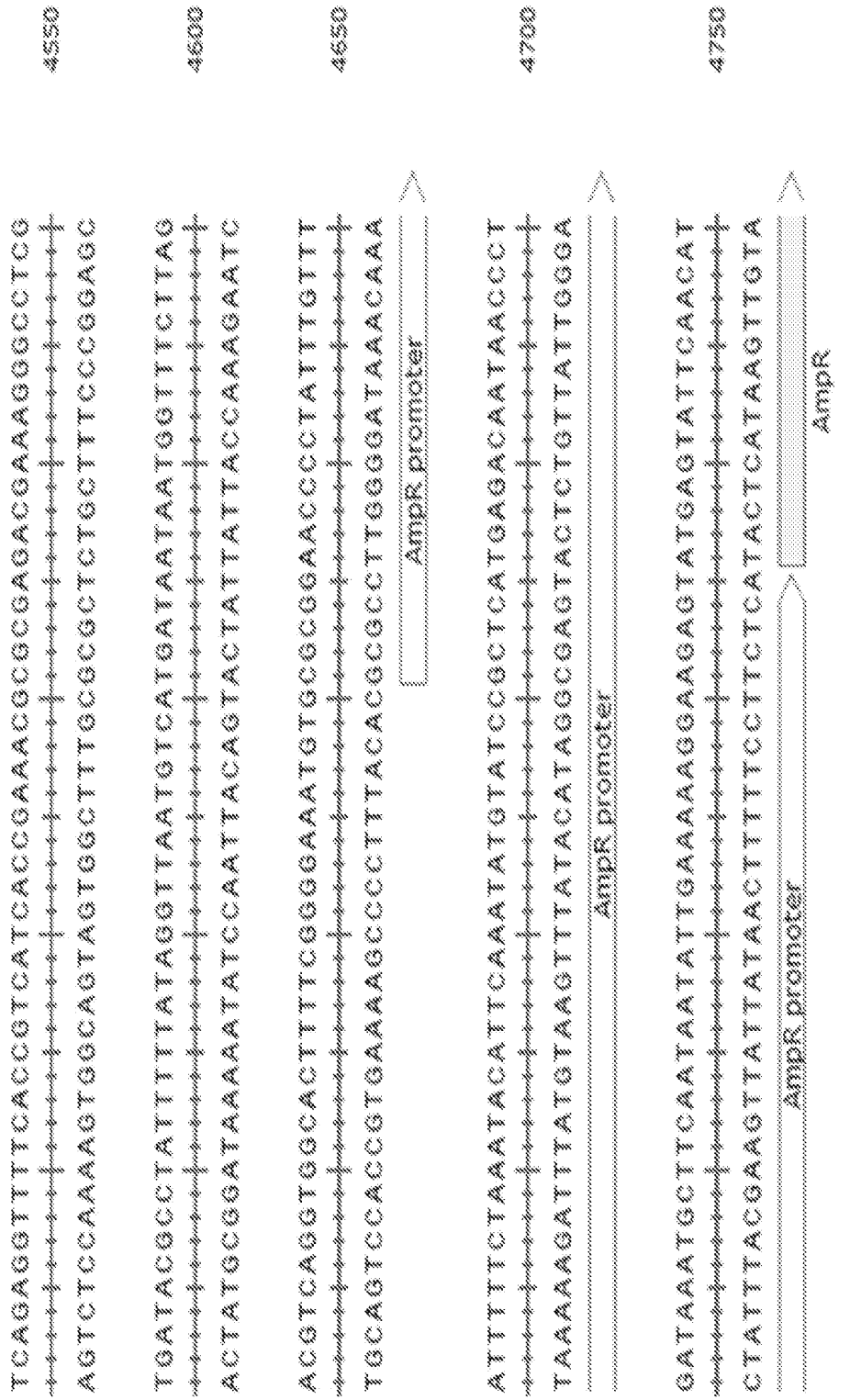
FIG. 1B (continued)



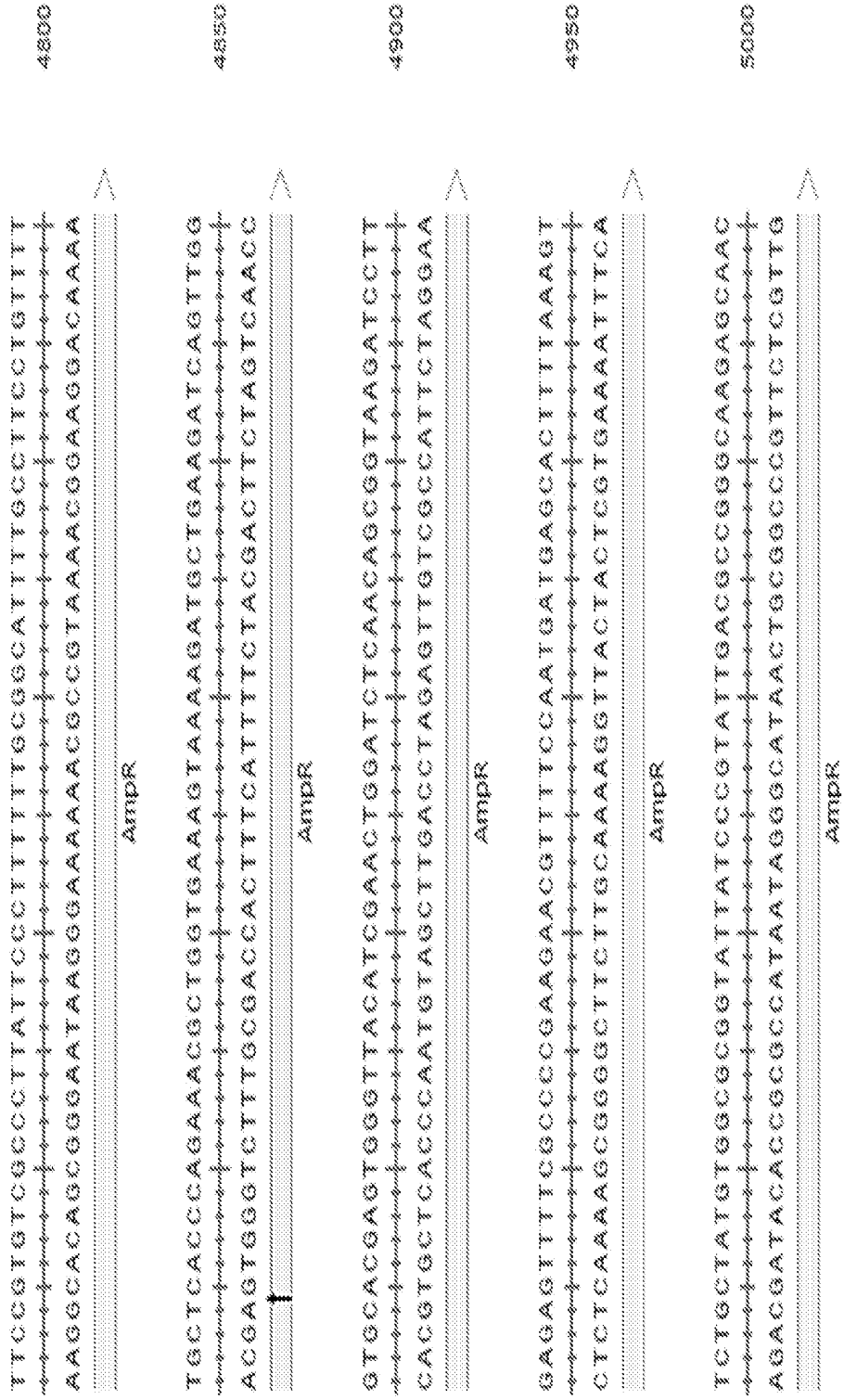
pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



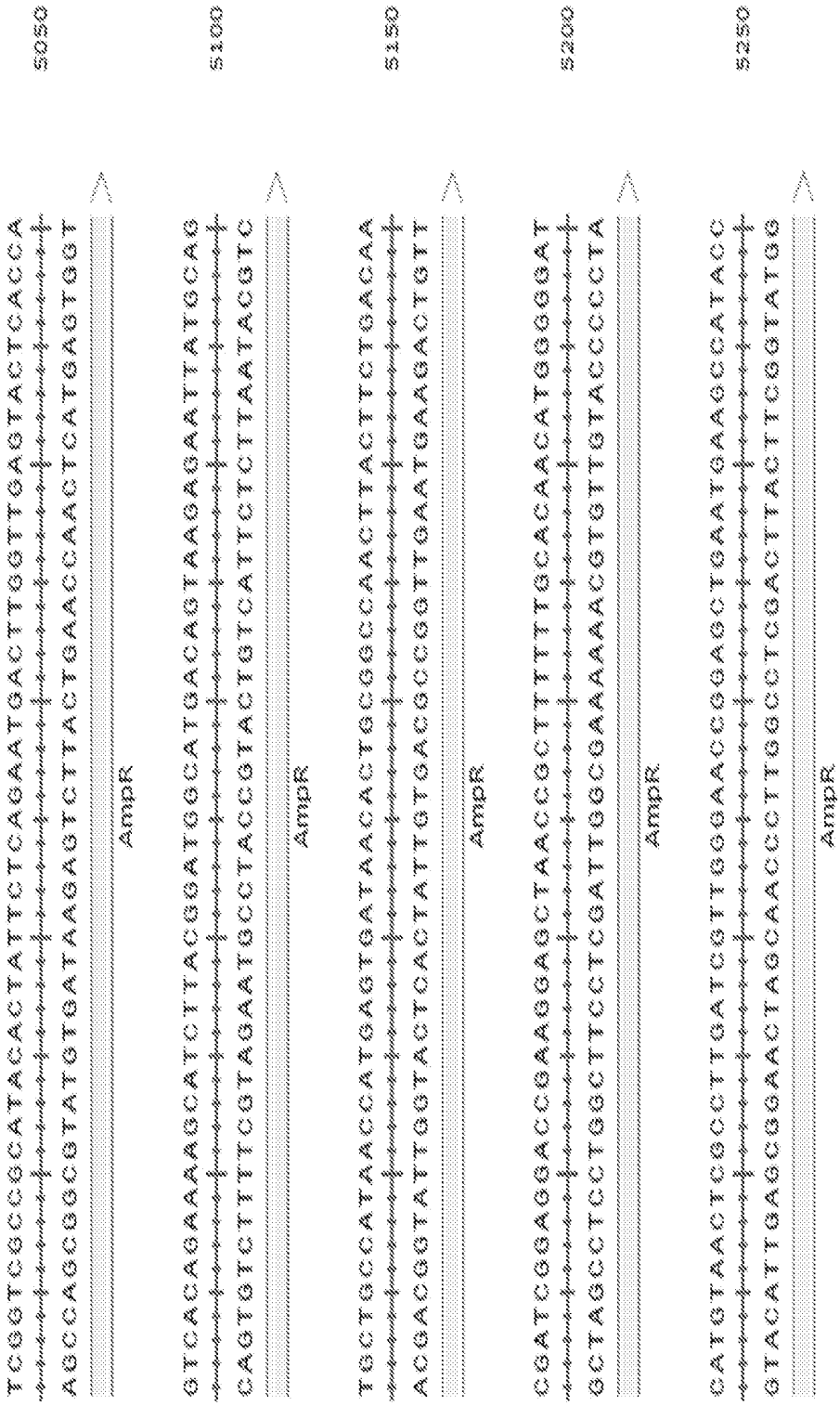
pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)

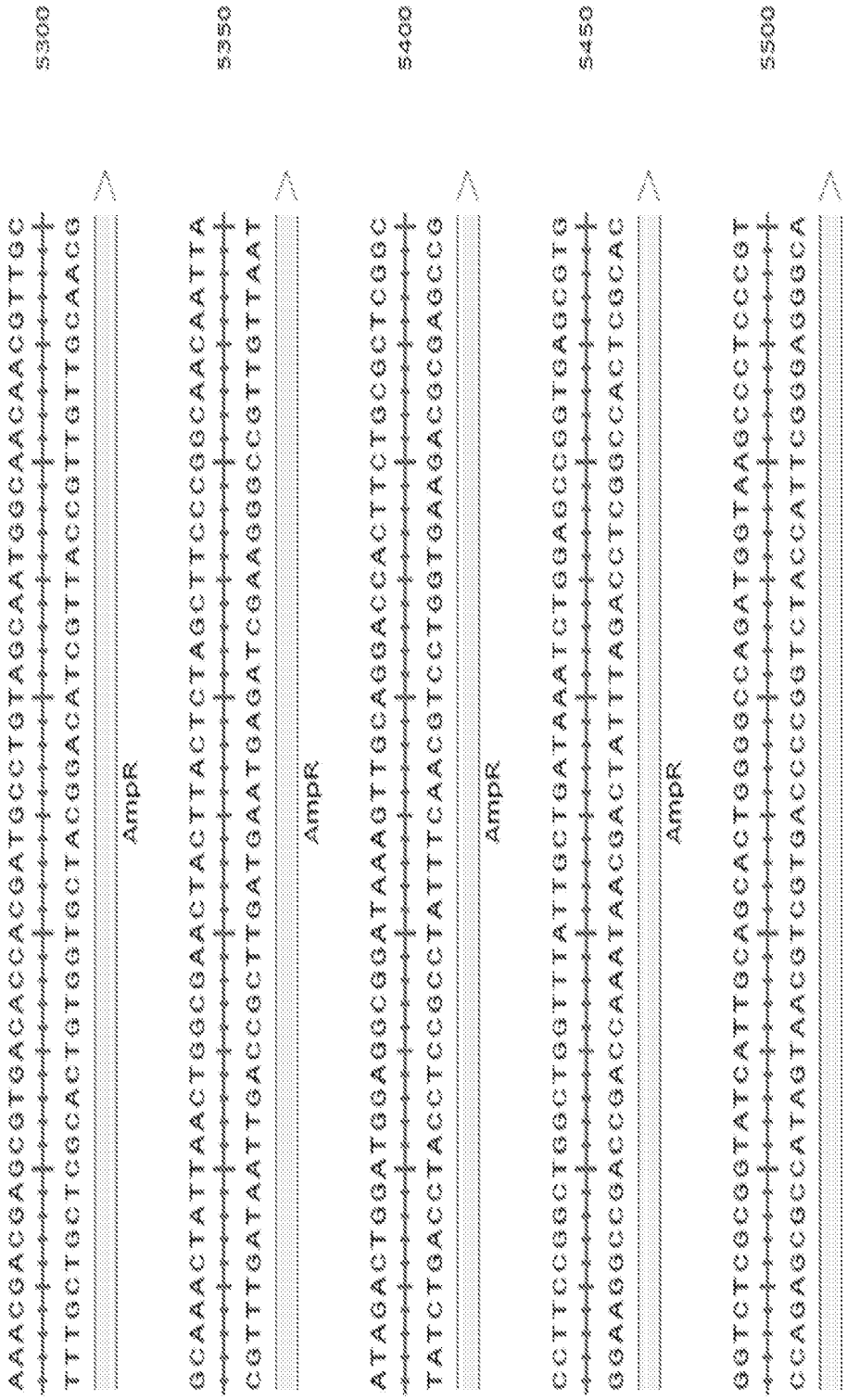


pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



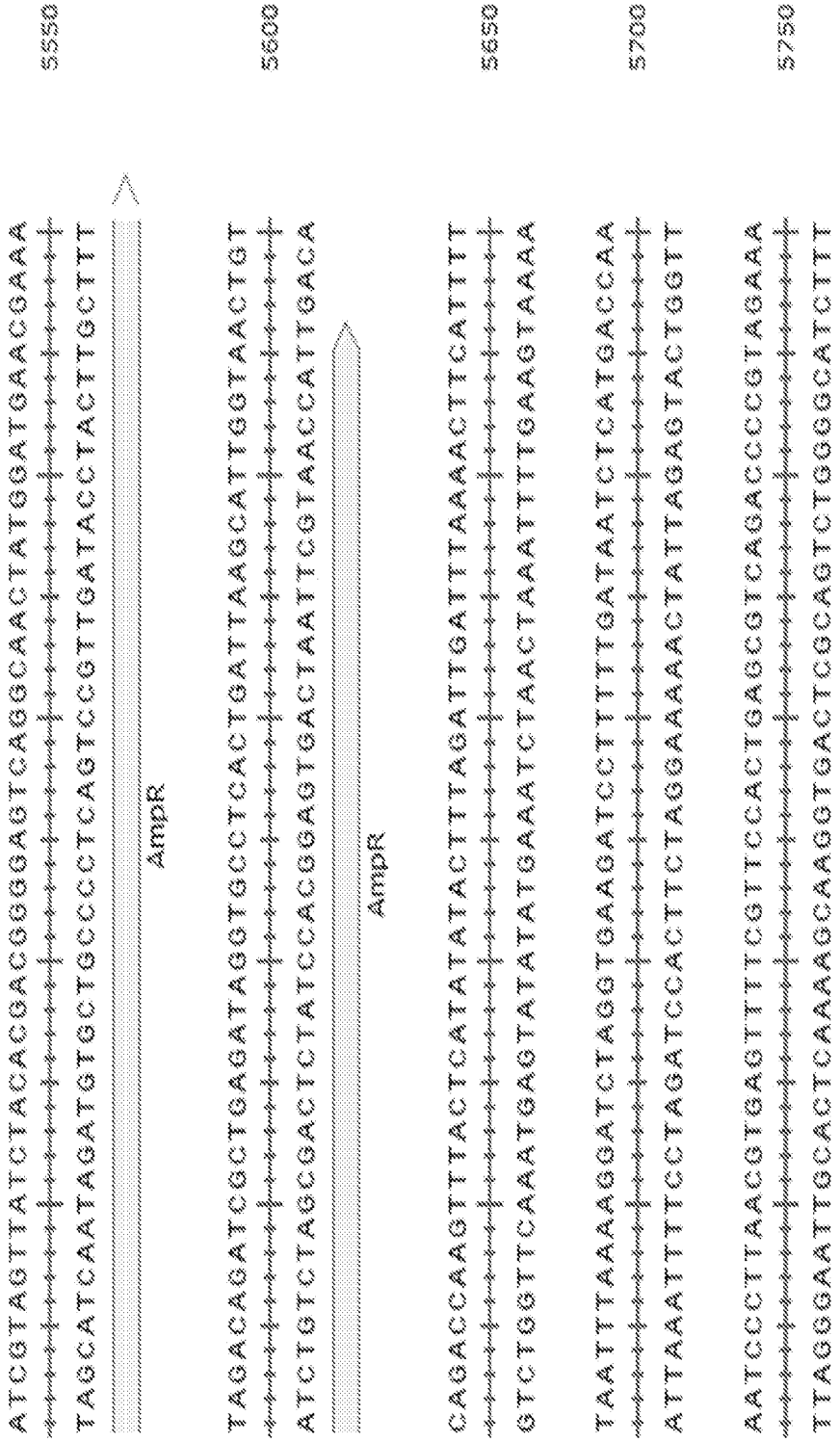
pTR-UphUBE3 (SEQ ID NO. 1)

FIG. 1B (continued)

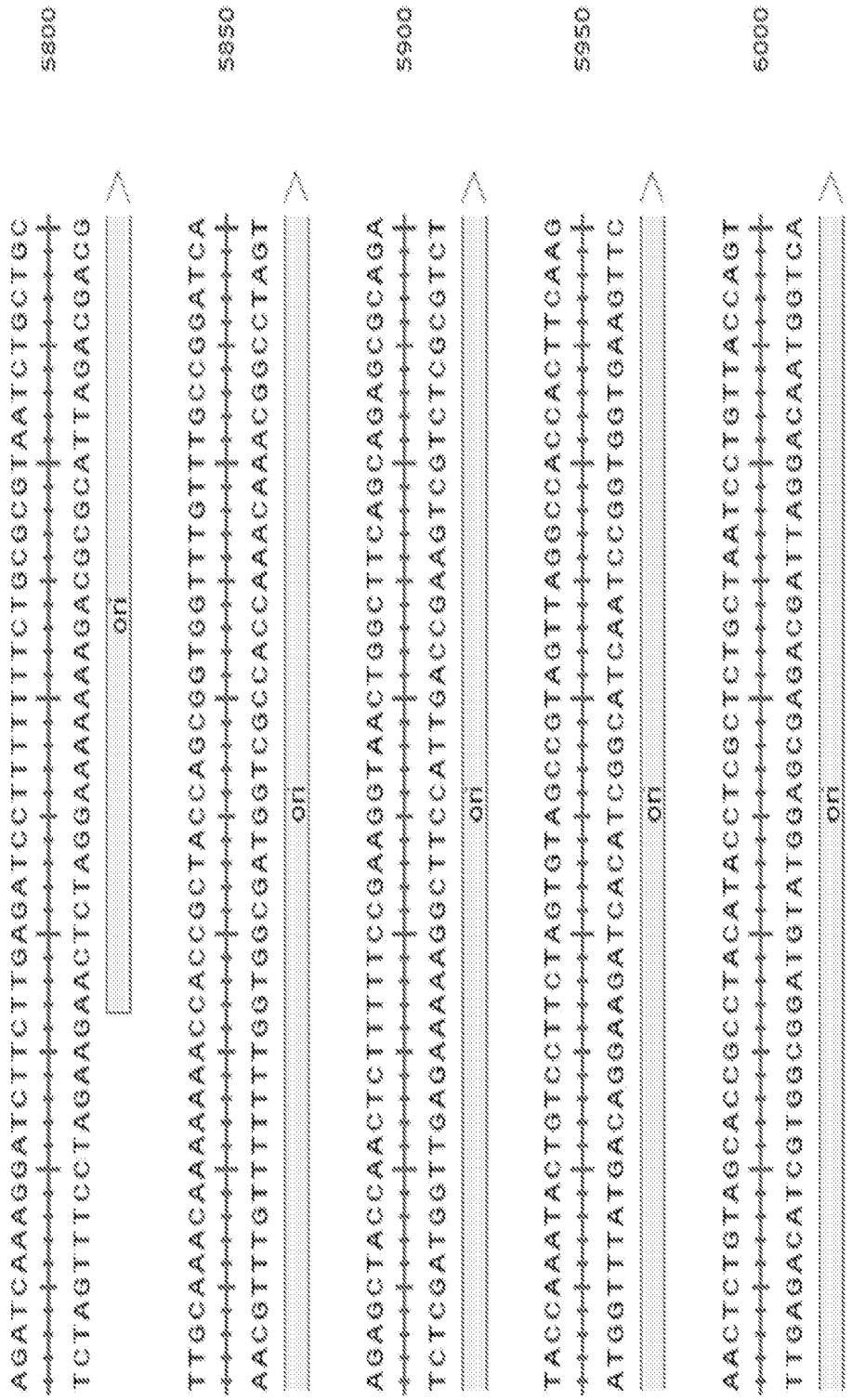


pTR-UphUBE3 (SEQ ID NO. 1)

FIG. 1B (continued)



pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)



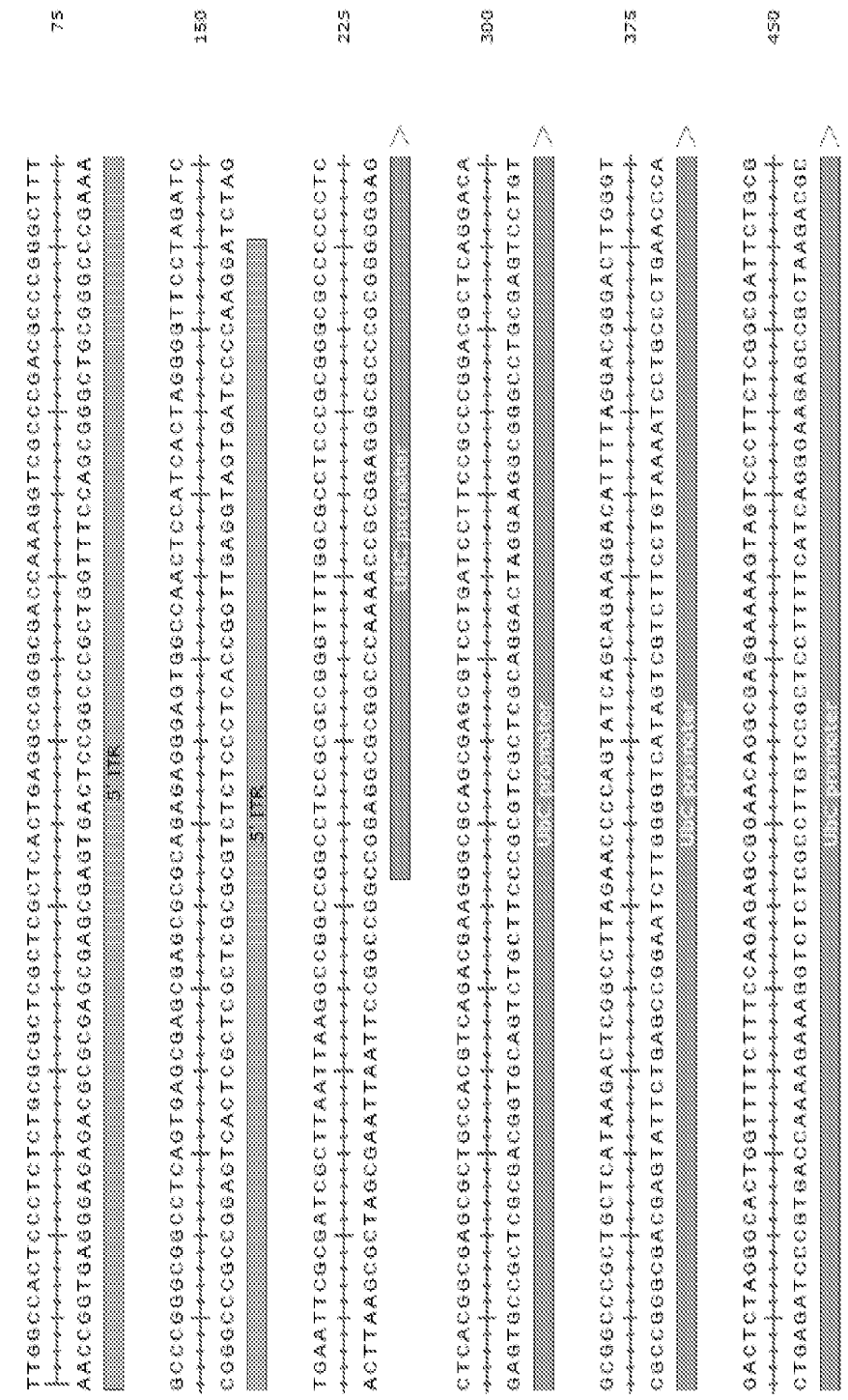
pTR-UphUBE3 (SEQ ID NO. 1)

FIG. 1B (continued)



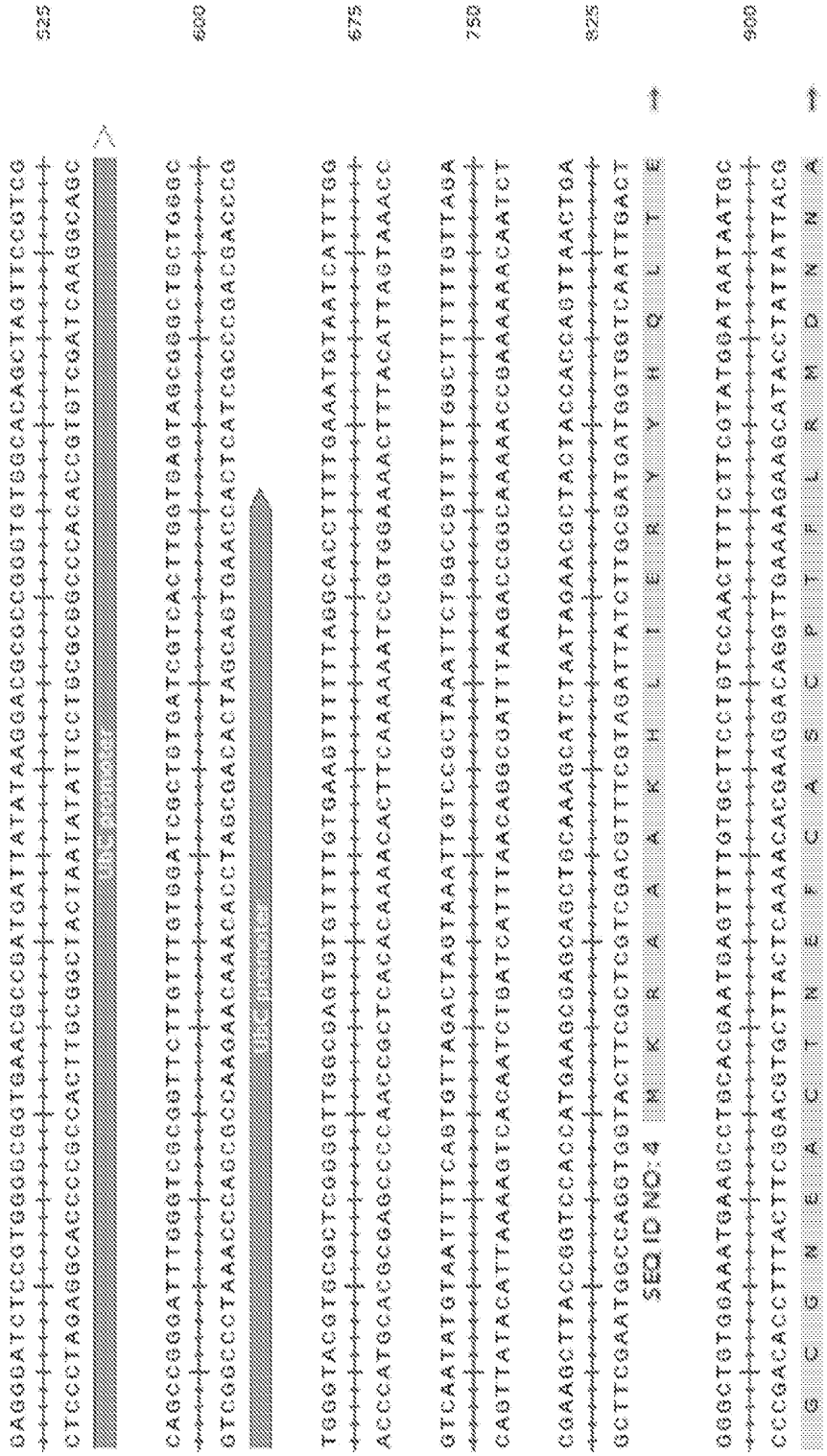
pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (continued)

pTR-UphUBE3 (SEQ ID NO. 1)
FIG. 1B (concluded)



ITR-ITR SEQUENCE OF pTR-UphUBE3 (SEQ ID NO: 2)

FIG. 1C(i)



ITR-ITR SEQUENCE OF pTR-UphUBE3 (SEQ ID NO: 2)

FIG. 1C(i) (Continued)



ITR-ITR SEQUENCE OF pTR-UphUBE3 (SEQ ID NO: 2)
FIG. 1C(i) (Continued)

ITR-ITR SEQUENCE OF pTR-UphUBE (SEQ ID NO: 2)

FIG. 1C(i) (Continued)

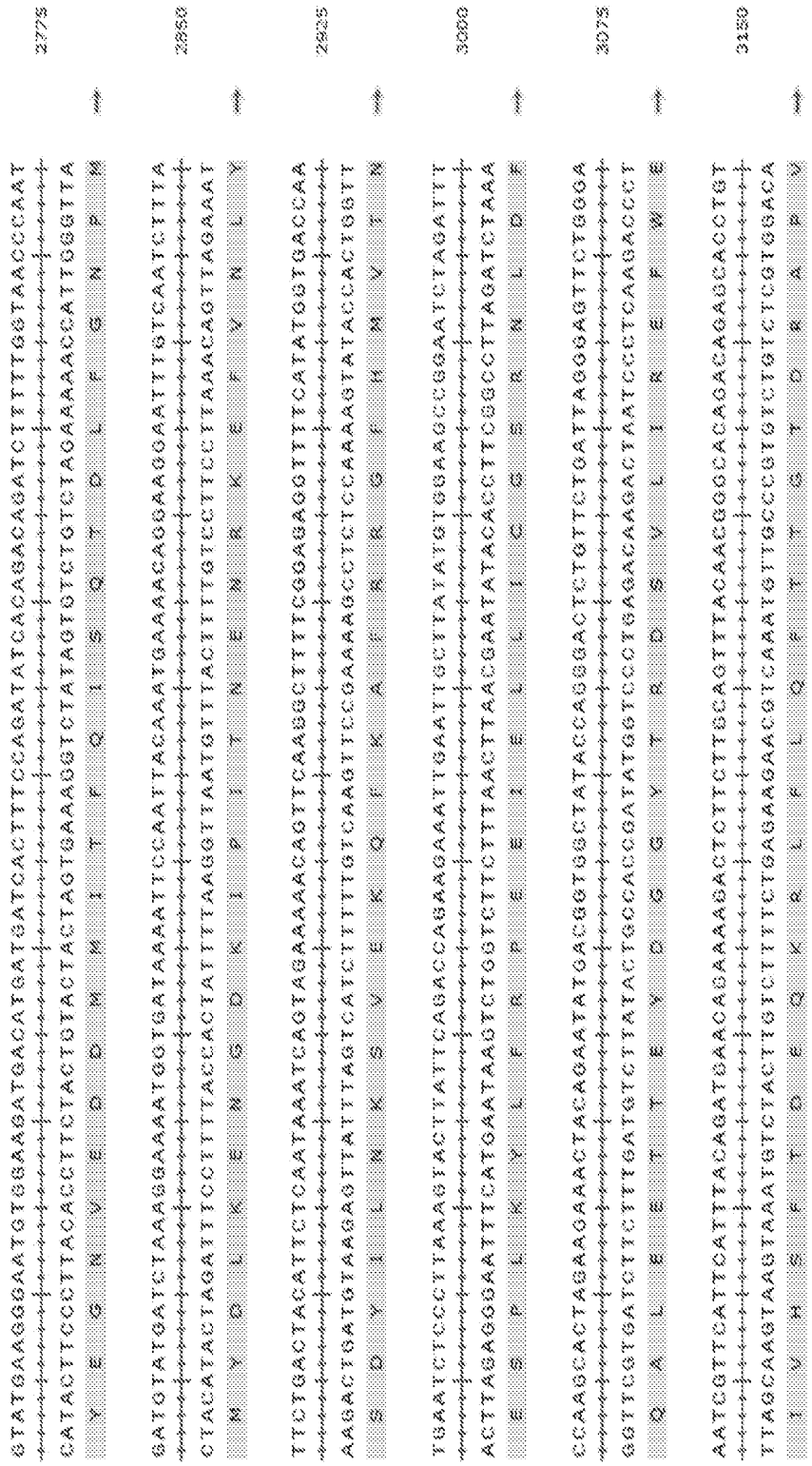


ITR-ITR SEQUENCE OF pTR-UphUBE3 (SEQ ID NO: 2)

FIG. 1C(i) (Continued)

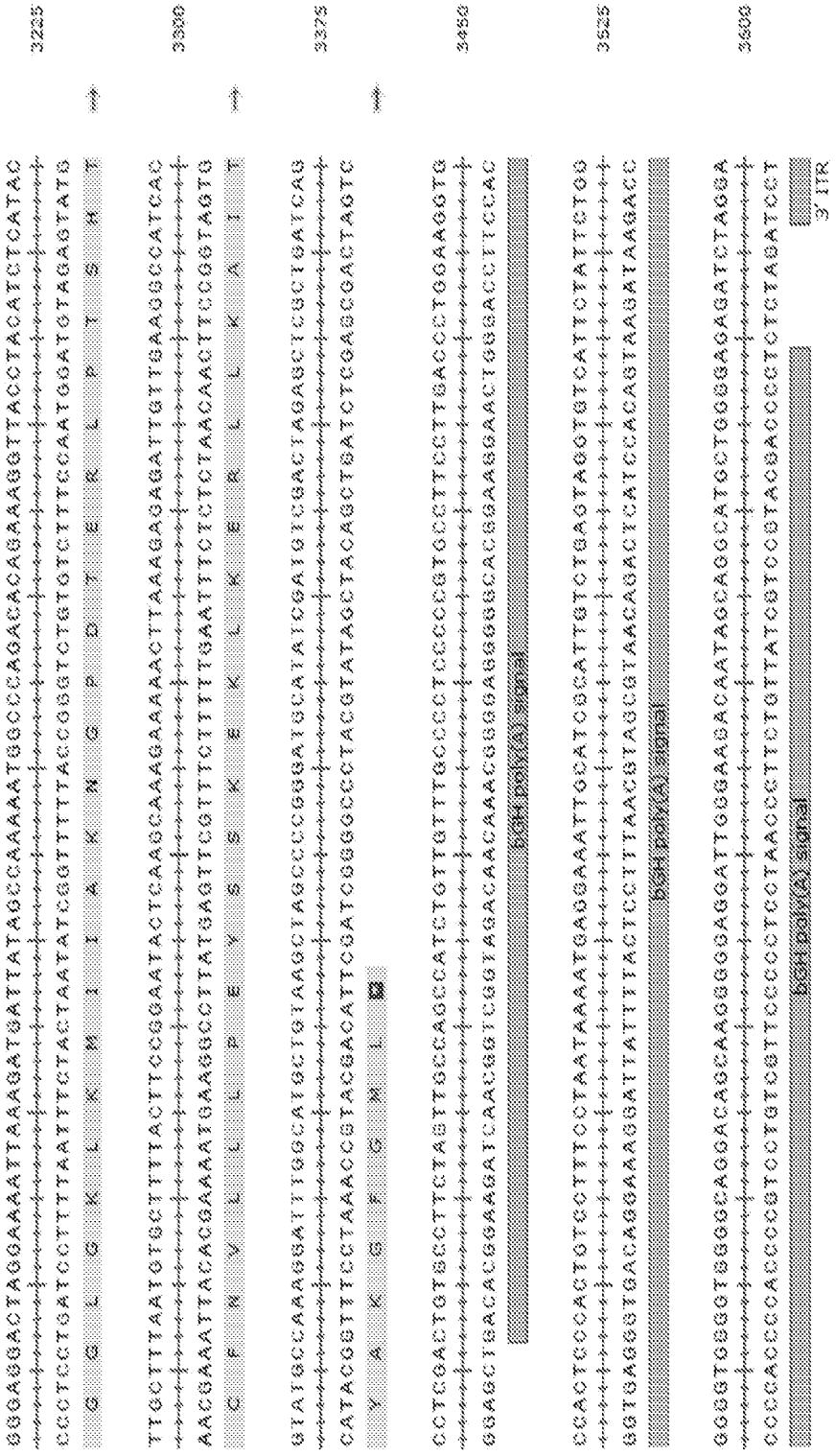
ITR-ITR SEQUENCE OF pTR-UphUBE3 (SEQ ID NO: 2)

FIG. 1C(i) (Continued)



ITR-ITR SEQUENCE OF pTR-UphUBE3 (SEQ ID NO: 2)

FIG. 1C(i) (Continued)

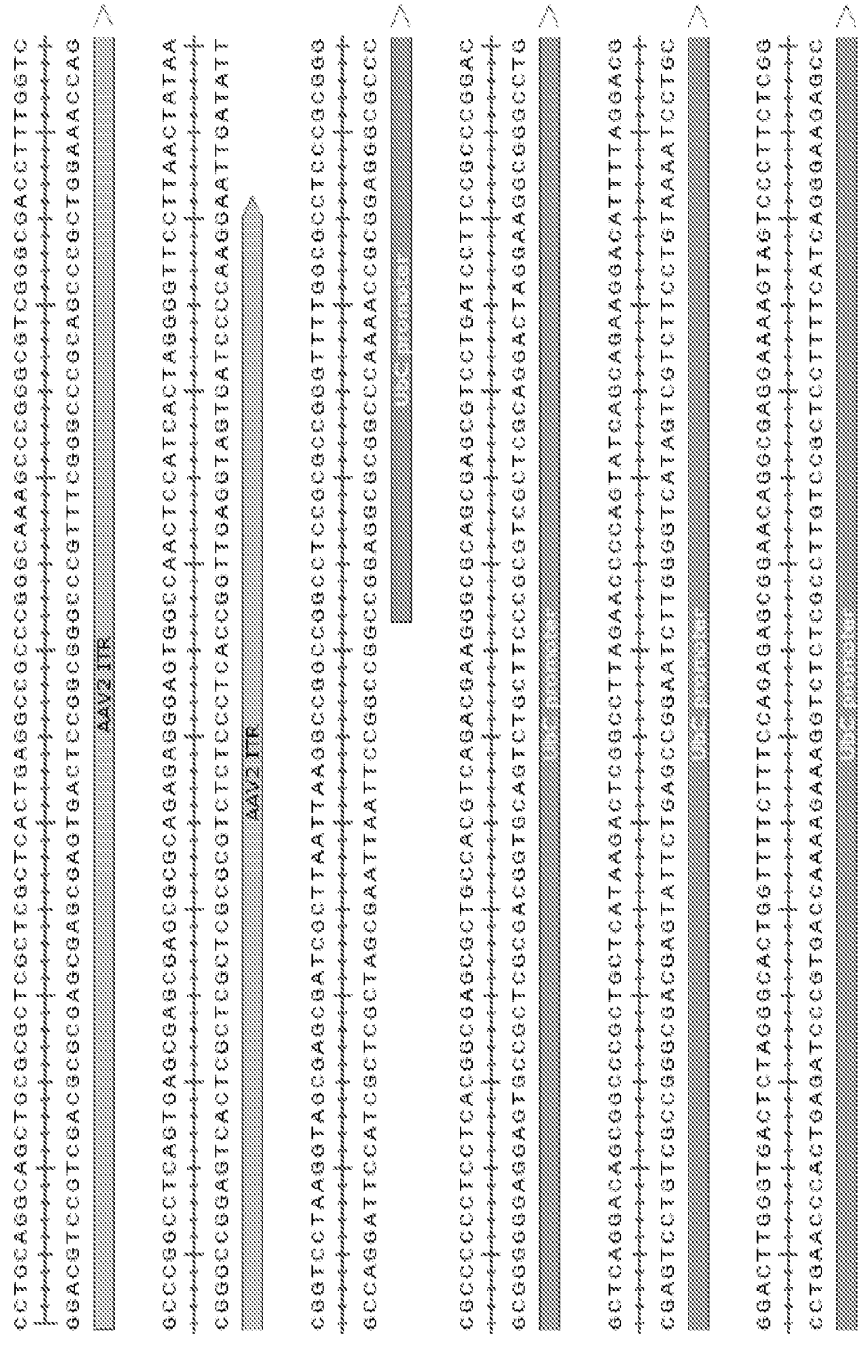


ITR-ITR SEQUENCE OF pTR-UphUBE3 (SEQ ID NO: 2)

FIG. 1C(i) (Continued)

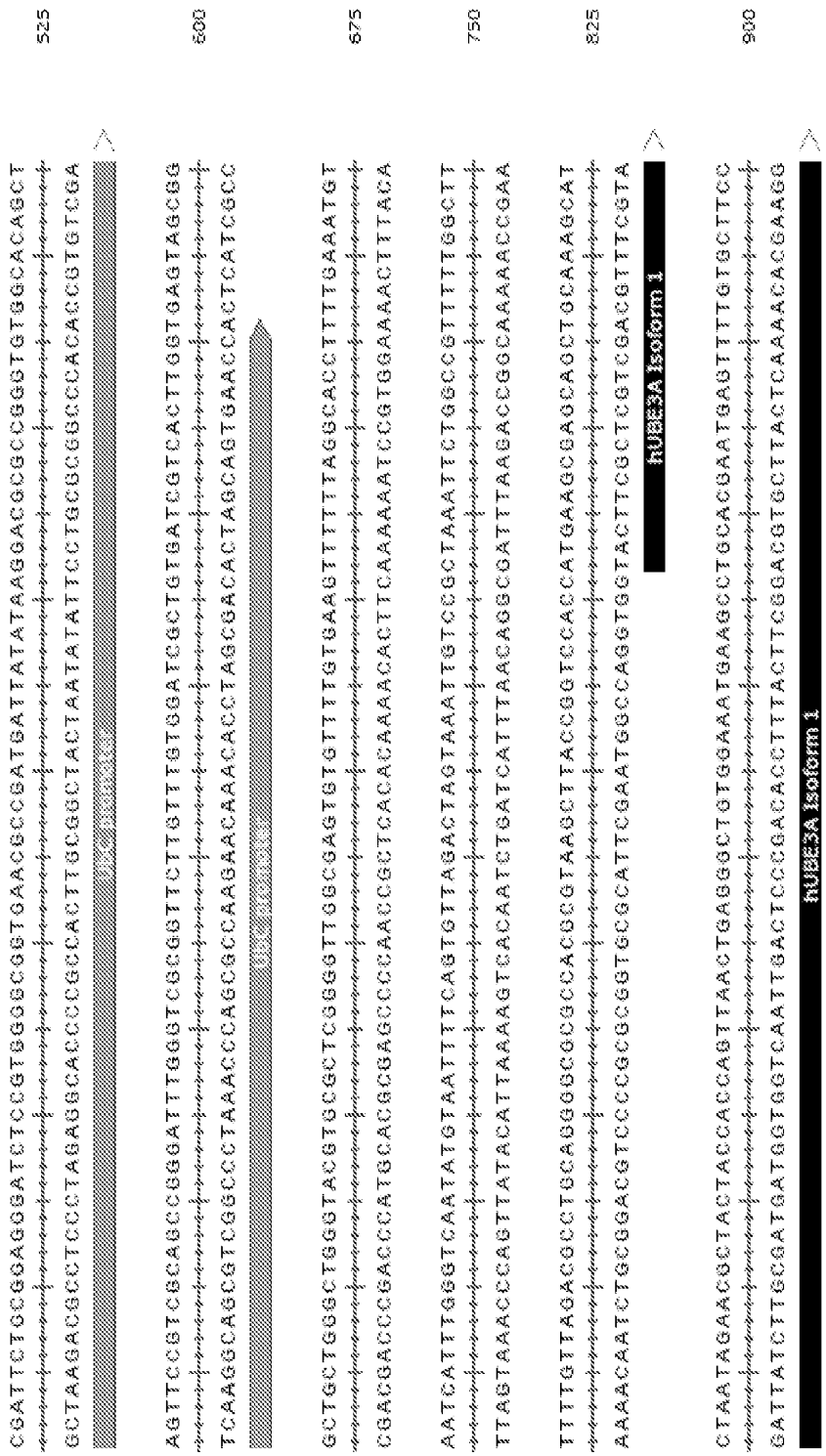
ITR-ITR SEQUENCE OF pTR-UphUBE3 (SEQ ID NO: 2)

FIG. 1C(i) (Concluded)



ITR-ITR SEQUENCE OF pUphUBE3 (SEQ ID NO: 44)

FIG. 1C(ii)



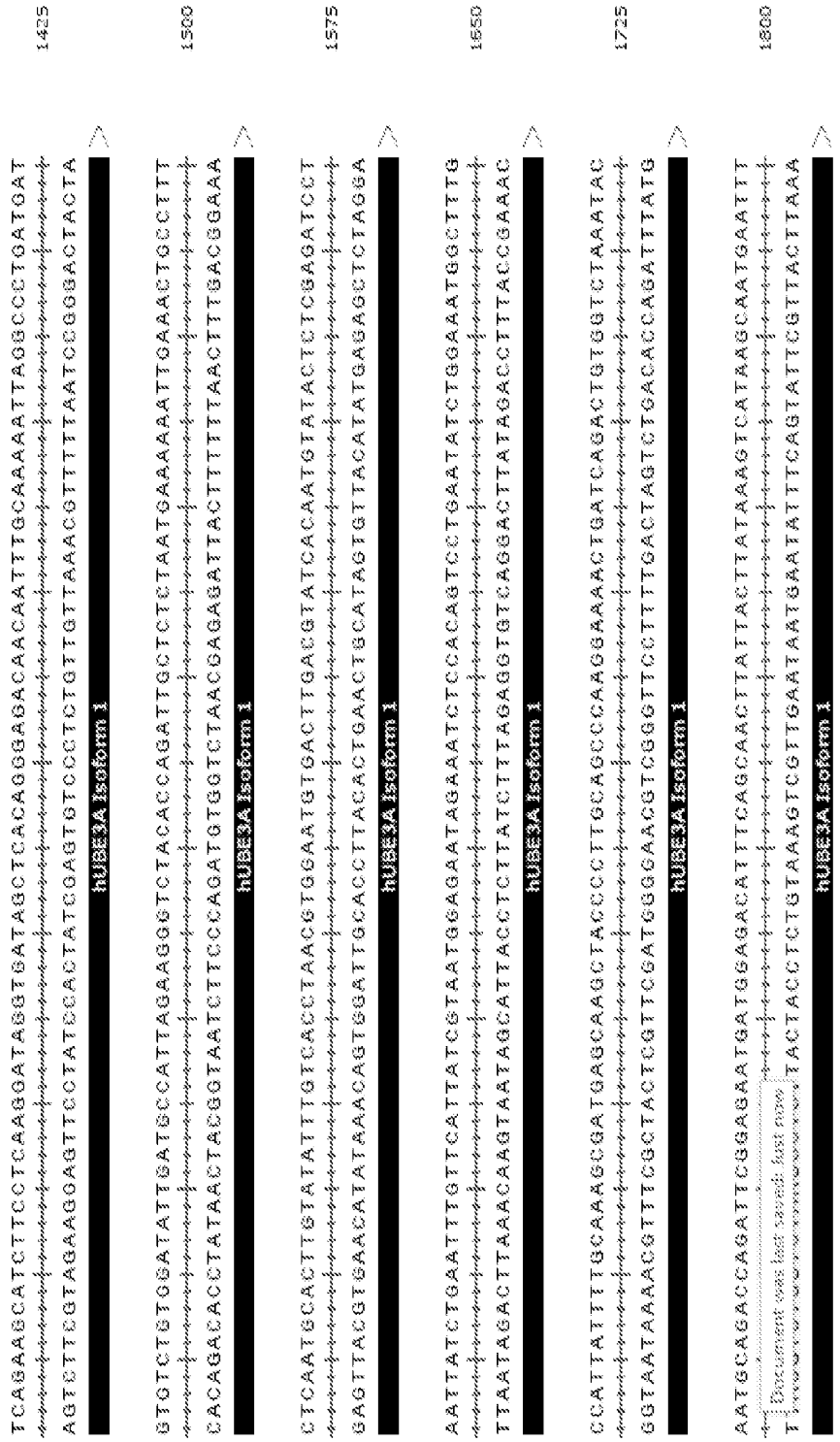
ITR-ITR SEQUENCE OF pUphUBE3 (SEQ ID NO: 44)

FIG. 1C(ii) (Continued)



ITR-ITR SEQUENCE OF pUphUBE3 (SEQ ID NO: 44)

FIG. 1C(ii) (Continued)

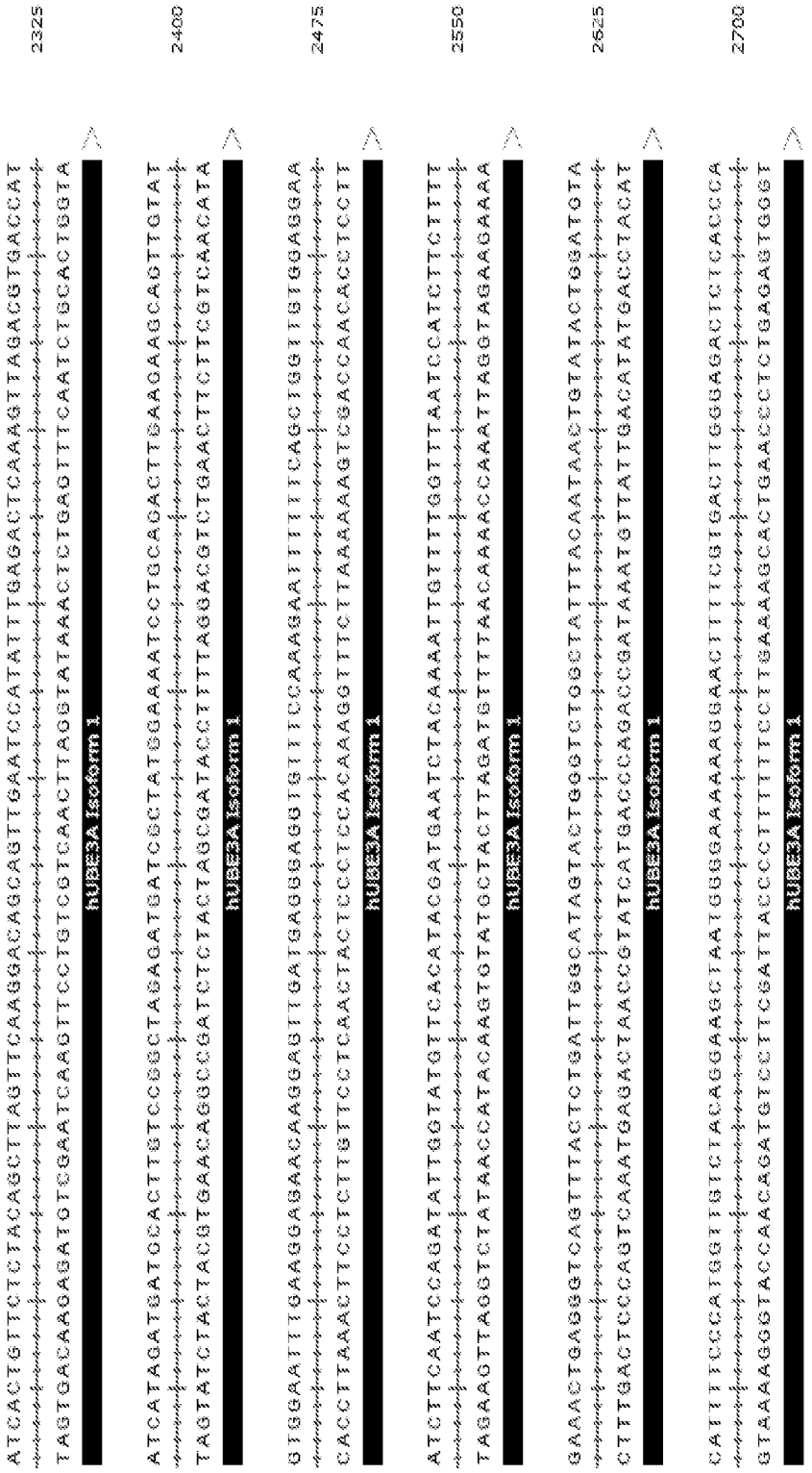


ITR-ITR SEQUENCE OF pUphUBE3 (SEQ ID NO: 44)

FIG. 1C(ii) (Continued)



ITR-ITR SEQUENCE OF pUphUBE3 (SEQ ID NO: 44)
FIG. 1C(ii) (Continued)



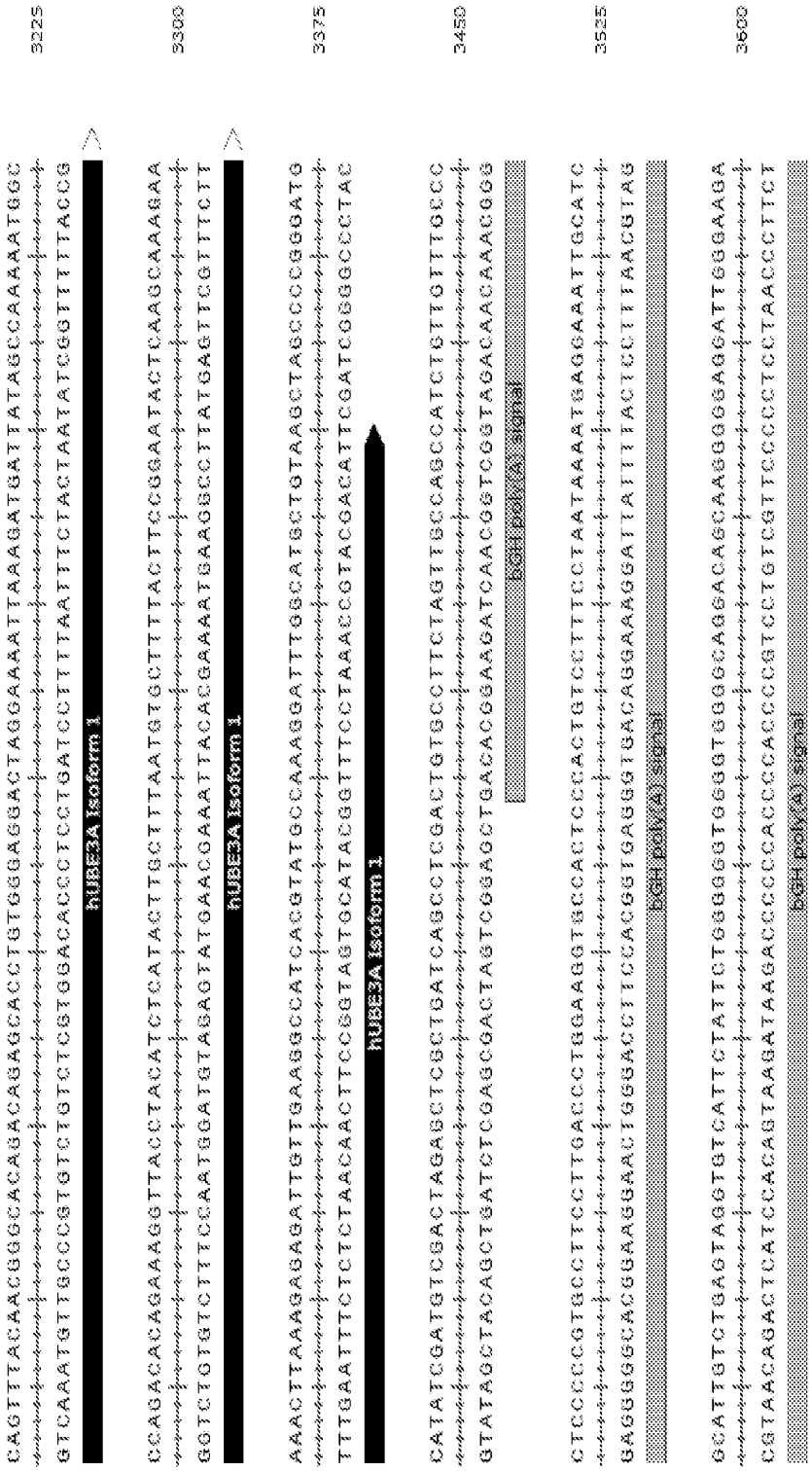
ITR-ITR SEQUENCE OF pUphUBE3 (SEQ ID NO: 44)

FIG. 1C(ii) (Continued)



ITR-ITR SEQUENCE OF pUphUBE3 (SEQ ID NO: 44)

FIG. 1C(ii) (Continued)



ITR-ITR SEQUENCE OF pUphUBE3 (SEQ ID NO: 44)

FIG. 1C(ii) (Continued)

ITR-ITR SEQUENCE OF pUphUBE3 (SEQ ID NO: 44)

FIG. 1C(ii) (Concluded)

```
   1 GGAGTAGTTT ACTGAGCCAC TAATCTAAAG TTTAATACTG TGAGTGAATA CCAGTGAGTA
  61 CCTTTGTTAA TGTGGATAAC CAATACTTGG CTATAGGAAG TTTTTTAGTT GTGTGTTTTA
 121 TNACACGTAT TTGACTTTGT GAATAATTAT GGCTTATAAT GGCTTGTCTG TTGGTATCTA
 181 TGTATAGCGT TTACAGTTTC CTTTAAAAAA CATGCATTGA GTTTTTTAAT AGTCCAACCC
 241 TTAAAATAAA TGTGTTGTAT GGCCACCTGA TCTGACCACT TTCTTTCATG TTGACATCTT
 301 TAATTTTAAA ACTGTTTTAT TTAGTGCTTA AATCTTGTTN ACAAAATTGT CTTCCTAAGT
 361 AATATGTCTA CCTTTTTTTT TGGAATATGG AATATTTTGC TAACTGTTTC TCAATTGCAT
 421 TTTACAGATC AGGAGAACCT CAGTCTGACG ACATTGAAGC TAGCCGAATG TAAGTGTAAC
 481 TTGGTTGAGA CTGTGGTTCT TATTTTGAGT TGCCCTAGAC TGCTTTAAAT TACGTCACAT
 541 TATTTGGAAA TAATTTCTGG TTAAAAGAAA GGAATCATTT AGCAGTAAAT GGGAGATAGG
 601 AACATACCTA CTTTTTTTCC TATCAGATAA CTCTAAACCT CGGTAACAGT TTACTAGGTT
 661 TCTACTACTA GATAGATAAA TGCACACGCC TAAATTCTTA GTCTTTTTGC TTCCCTGGTA
 721 GCAGTTGTAG GGAAATAGGG AGGTTGAGGA AAGAGTTTAA CAGTCTCAAC GCCTACCATA
 781 TTTAAGGCAT CAAGTACTAT GTTATAGATA CAGAGATGCG TAATAATTAG TTTTCACCCT
 841 ACAGAAATTT ATATTATACT CAAGAGTGAA AGATGCAGAA GCAAATAATT TCAGTCACTG
 901 AGGTAGAATG GTATCCAAAA TACAATAGTA ACATGAAGGA GTACTGGAGT ACCAGGTATG
```

UBE3A GENE (SEQ ID NO: 3)

FIG. 1D

961 CAATAGGAAT CTAGTGTAGA TGGCAGGGAA GTAAGAGTGG CCAGGAAATG CTAAGTTCAG
1021 TCTTGAAATG TGACTGGGAA TCAGGCAGCT ATCAACTATA AGTCAAATGT TTACAAGCTG
1081 TTAAAAATGA AATACTGATT ATGTAAAAGA AAACCGGATT GATGCTTTAA ATAGACTCAT
1141 TTTCNTAATG CTAATTTTTA AAATGATAGA ATCCTACAAN TCTTAGCTGT AAACCTTGTG
1201 ATTTTTCAGC TGTTGTACTA AACAACTTAA GCACATATAC CATCAGACAA GCCCCCNTCC
1261 CCCCTTTTAA ACCAAAGGAA TGTATACTCT GTTAATACAG TCAGTAAGCA TTGACATTCT
1321 TTATCATAAT ATCCTAGAAA ATATTTATTA ACTATTTCAC TAGTCAGGAG TTGTGGTAAA
1381 TAGTGCATCT CCATTTTCTA CTTCTCATCT TCATACACAG GTTAATCACT TCAGTGCTTG
1441 ACTAACTTTT GCCTTGATGA TATGTTGAGC TTTGTACTTG AGAGCTGTAC TAATCACTGT
1501 GCTTATTGTT TGAATGTTTG GTACAGGAAG CGAGCAGCTG CAAAGCATCT AATAGAACGC
1561 TACTACCACC AGTTAACTGA GGGCTGTGGA AATGAAGCCT GCACGAATGA GTTTTGTGCT
1621 TCCTGTCCAA CTTTTCTTCG TATGGATAAT AATGCAGCAG CTATTAAAGC CCTCGAGCTT
1681 TATAAGATTA ATGCAAAACT CTGTGATCCT CATCCCTCCA AGAAAGGAGC AAGCTCAGCT
1741 TACCTTGAGA ACTCGAAAGG TGCCCCCAAC AACTCCTGCT CTGAGATAAA AATGAACAAG
1801 AAAGGCGCTA GAATTGATTT TAAAGGTAAG ATGTTTTATT TTCAATTGAG AATTGTTGCC

UBE3A GENE (SEQ ID NO: 3)

FIG. 1D (Continued)

1861 TGAAAACCAT GTGGGAGATT TAAATGTATT AGTTTTTATT TGTTTTTTCT TCTGTGACAT
1921 AAAGACATTT TGATATCGTA GAACCAATTT TTTATTGTGG TAACGGACAG GAATAATAAC
1981 TACATTTTAC AGGTCTAATC ATTGCTAATT AGAAGCAGAT CATATGCCAA AAGTTCATTT
2041 GTTAATAGAT TGATTTGAAC TTTTTAAAAT TCTTAGGAAA AATGTATTAA GTGGTAGTGA
2101 ATCTCCAAAA CTATTTAAGA GCTGTATTAT GATTAAATCAG TACATGACAT ATTGGTTCAT
2161 ATTTATAATT AAAGCTATAC ATTAATAGAT ATCTTGATTA TAAAGAAAGT TTAAACTCAT
2221 GATCTTATTA AGAGTTATAC ATTGTTGAAA GAATGTAAAA GCATGGGTGA GGTCATTGGT
2281 ATAGGTAGGT AGTTCATTGA AAAAAATAGG TAAGCATTAA ATTTTGTTTG CTGAATCTAA
2341 GTATTAGATA CTTTAAGAGT TGTATATCAT AAATGATATT GAGCCTAGAA TGTTTGGCTG
2401 TTTTACTTTT AGAACTTTTT GCAACAGAGT AAACATACAT ATTATGAAAA TAAATGTTCT
2461 CTTTTTTCCT CTGATTTTCT AGATGTGACT TACTTAACAG AAGAGAAGGT ATATGAAATT
2521 CTTGAATTAT GTAGAGAAAG AGAGGATTAT TCCCCTTTAA TCCGTGTTAT TGGAAGAGTT
2581 TTTTCTAGTG CTGAGGCATT GGTACAGAGC TTCCGGAAAG TTAAACAACA CACCAAGGAA
2641 GAACTGAAAT CTCTTCAAGC AAAAGATGAA GACAAAGATG AAGATGAAAA GGAAAAAGCT
2701 GCATGTTCTG CTGCTGCTAT GGAAGAAGAC TCAGAAGCAT CTTCCTCAAG GATAGGTGAT

UBE3A GENE (SEQ ID NO: 3)

FIG. 1D (Continued)

2761 AGCTCACAGG GAGACAACAA TTTGCAAAAA TTAGGCCCTG ATGATGTGTC TGTGGATATT
2821 GATGCCATTA GAAGGGTCTA CACCAGATTG CTCTCTAATG AAAAAATTGA AACTGCCTTT
2881 CTCAATGCAC TTGTATATTT GTCACCTAAC GTGGAATGTG ACTTGACGTA TCACAATGTA
2941 TACTCTCGAG ATCCTAATTA TCTGAATTTG TTCATTATCG TAATGGAGAA TAGAAATCTC
3001 CACAGTCCTG AATATCTGGA AATGGCTTTG CCATTATTTT GCAAAGCGAT GAGCAAGCTA
3061 CCCCTTGCAG CCCAAGGAAA ACTGATCAGA CTGTGGTCTA AATACAATGC AGACCAGATT
3121 CGGAGAATGA TGGAGACATT TCAGCAACTT ATTACTTATA AAGTCATAAG CAATGAATTT
3181 AACAGTCGAA ATCTAGTGAA TGATGATGAT GCCATTGTTG CTGCTTCGAA GTGCTTGAAA
3241 ATGGTTTACT ATGCAAATGT AGTGGGAGGG GAAGTGGACA CAAATCACAA TGAAGAAGAT
3301 GATGAAGAGC CCATCCCTGA GTCCAGCGAG CTGACACTTC AGGAACTTTT GGGAGAAGAA
3361 AGAAGAAACA AGAAAGGTCC TCGAGTGGAC CCCCTGGAAA CTGAACTTGG TGTTAAAACC
3421 CTGGATTGTC GAAAACCACT TATCCCTTTT GAAGAGTTTA TTAATGAACC ACTGAATGAG
3481 GTTCTAGAAA TGGATAAAGA TTATACTTTT TTCAAAGTAG AAACAGAGAA CAAATTCTCT
3541 TTTATGACAT GTCCCTTTAT ATTGAATGCT GTCACAAAGA ATTTGGGATT ATATTATGAC
3601 AATAGAATTC GCATGTACAG TGAACGAAGA ATCACTGTTC TCTACAGCTT AGTTCAAGGA
3661 CAGCAGTTGA ATCCATATTT GAGACTCAAA GTTAGACGTG ACCATATCAT AGATGATGCA

UBE3A GENE (SEQ ID NO: 3)
FIG. 1D (Continued)

3721 CTTGTCCGGG TAAGTTGGGC TGCTAGATTA AAAACCTAAT AATGGGGATA TCATGATACA
3781 GTTCAGTGAA TTCATTTTAA AAGTGACTGA AAAAAATGAT ACCATATAGC ATAGGAACAC
3841 ATGGACATTT CTGATCTTAT ATAAGTATTA TACTTTTGTT GTTCCTGTGC AAGTTTATAG
3901 ATGTGTTCTA CAAAGTATCG GTTGTATTAT ATAATGGTCA TGCTATCTTT GAAAAAGAAT
3961 GGGTTTTCTA AATCTTGAAA ACTAAATCCA AAGTTTCTTT CATTCAGAAG AGAATAGAGT
4021 GTTGGACAAA GACCAGAACA AGAGAAATGT GGAGATACCC AATAATAAGT GTGGATGTGC
4081 AGTCTTGAAC TGGGAGTAAT GGTACAGTAA AACCATACCA TAAAATTATA GGTAGTGTCC
4141 AAAAAATTCC ATCGTGTAAA ATTCAGAGTT GCATTATTGT GGACTTGAAG AAGCAGTTGT
4201 ATGTGGGACG GTATCGATAA GCTTGATATC GAATTCCTGC AGCCCGGGGG ATCCACTAGT
4261 GTGGTAATTA ATACTAAGTC TTACTGTGAG AGACCATAAA CTGCTTTAGT ATTCAGTGTA
4321 TTTTTCTTAA TTGAAATATT TAACTTATGA CTTAGTAGAT ACTAAGACTT AACCCTTGAG
4381 TTTCTATTCT AATAAAGGAC TACTAATGAA CAATTTTGAG GTTAGACCTC TACTCCATTG
4441 TTTTTGCTGA AATGATTTAG CTGCTTTTCC ATGTCCTGTG TAGTCCAGAC TTAACACACA
4501 AGTAATAAAA TCTTAATTAA TTGTATGTTA ATTTCATAAC AAATCAGTAA AGTTAGCTTT
4561 TTACTATGCT AGTGTCTGTT TTGTGTCTGT CTTTTTGATT ATCTTTAAGA CTGAATCTTT
4621 GTCTTCACTG GCTTTTTATC AGTTTGCTTT CTGTTTCCAT TTACATACAA AAAGTCAAAA

UBE3A GENE (SEQ ID NO: 3)

FIG. 1D (Continued)

4681 ATTTGTATTT GTTTCCTAAT CCTACTCCTT GTTTTTATTT TGTTTTTTTC CTGATACTAG
4741 CAATCATCTT CTTTTCATGT TTATCTTTTC AATCACTAGC TAGAGATGAT CGCTATGGAA
4801 AATCCTGCAG ACTTGAAGAA GCAGTTGTAT GTGGAATTTG AAGGAGAACA AGGAGTTGAT
4861 GAGGGAGGTG TTTCCAAAGA ATTTTTTCAG CTGGTTGTGG AGGAAATCTT CAATCCAGAT
4921 ATTGGTAAAT ACATTAGTAA TGTGATTATG GTGTCGTATC ATCTTTTGAG TTAGTTATTT
4981 GTTTATCTTA CTTTGTAAAT ATTTTCAGCT ATGAAGAGCA GCAAAAGAAG GATTTGGTAT
5041 GGATTACCCA GAATCACACA TCATGACTGA ATTTGTAGGT TTTAGGAACT GATTTGTATC
5101 ACTAATTTAT TCAAATTCTT TTATTTCTTA GAAGGAATAT TCTAATGAAG GAAATTATCT
5161 CTTTGGTAAA CTGAATTGAA AGCACTTTAG AATGGTATAT TGGAACAGTT GGAGGGATTT
5221 CTTTGCTTTT TGTTGTCTAA AACCATCATC AAACTCACGG TTTTCCTGAC CTGTGAACTT
5281 CAAAGAACAA TGGTTTGAAG AGTATTGAGA GACTGTCTCA CAAGTATGTC ATGCTCAAAG
5341 TTCAGAAACA CTAGCTGATA TCACATTAAT TAGGTTTATT TGCTATAAGA TTTCTTGGGG
5401 CTTAATATAN GTAGTGTTCC CCCAAACTTT TTGAACTCCA GAACTCTTTT CTGCCCTAAC
5461 AGTAGCTACT CAGGAGCTGA GGCAGGAGAA TTGTTTGAAC CTAGGAGGCA GAGGTTGCAG
5521 TGAGCTGAGA TCGTGCCACT CCAGCCCACC CCTGGGTAAC AGAGCGAGAC TCCATCTCAA
5581 AGAAAAAAAT GAAAAATTGT TTTCAAAAAT AGTACGTGTG GTACAGATAT AAGTAATTAT

UBE3A GENE (SEQ ID NO: 3)
FIG. 1D (Continued)

5641 ATTTTTATAA ATGAAACACT TTGGAAATGT AGCCATTTTT TGTTTTTTTA TGTTTATTTT
5701 TCAGCTATGG GTGGATAAAG CATGAATATA ACTTTTCTTA TGTGTTAGTA GAAAATTAGA
5761 AAGCTTGAAT TTAATTAACG TATTTTTCTA CCCGATGCCA CCAAATTACT TACTACTTTA
5821 TTCCTTTGGC TTCATAAAAT TACATATCAC CATTCACCCC AATTTATAGC AGATATATGT
5881 GGACATTGTT TTCTCAAGTG CTAATATAAT AGAAATCAAT GTTGCATGCC TAATTACATA
5941 TATTTTAAAT GTTTTATATG CATAATTATT TTAAGTTTAT ATTTGTATTA TTCATCAGTC
6001 CTTAATAAAA TACAAAAGTA ATGTATTTTT AAAAATCATT TCTTATAGGT ATGTTCACAT
6061 ACGATGAATC TACAAAATTG TTTTGGTTTA ATCCATCTTC TTTTGAAACT GAGGGTCAGT
6121 TTACTCTGAT TGGCATAGTA CTGGGTCTGG CTATTTACAA TAACTGTATA CTGGATGTAC
6181 ATTTTCCCAT GGTTGTCTAC AGGAAGCTAA TGGGGAAAAA AGGAACTTTT CGTGACTTGG
6241 GAGACTCTCA CCCAGTAAGT TCTTTGTCAT TTTTTTAATT CAGTCTCTTA GATTTTATTT
6301 AAATGCAAAA ATTTAATTTA TGTCAAAATT TTAAAGTTTT TGTTTAGAAT CTTTGTTGAT
6361 ACTCTTATCA ATAAGATAAA AATGTTTTAA TCTGACCGAA GTACCAGAAA CACTTAAAAA
6421 CTCAAAGGGG GACATTTTTA TATATTGCTG TCAGCACGAA GCTTTCGTAA GATTGATTTC
6481 ATAGAGAAGT GTTTCTAAAC ATTTTGTTTG TGTTTTAGTG AAATCTTAAG AGATAGGTAA
6541 AAATCAGAGT AGCCCTGGCT AAGGGTCTTG GTAGTTACAA CGAGTGTGCC TGCTCCTACC

UBE3A GENE (SEQ ID NO: 3)
FIG. 1D (Continued)

6601 ACCCCCACCC CCACCTTGAG ACACCACAGA ATTTCTCATA GAGCACAGTG TGAATTCTAT
6661 TGCTAAATTG GTGGTATGGG GTTTCTCAGC AGAGAAATGGG ACATCACAGT GACTGACAAT
6721 CTTTCTTTTA TAGGTTGGAA ACTATTTGGG GGACTGGAGG GATACTGTCT ACACTTTTTA
6781 CAATTTTTAT TGATAAGATT TTTGTTGTCT TCTAAGAAGA GTGATATAAA TTATTTGTTG
6841 TATTTTGTAG TTCTATGGTG GCCTCAATTT ACCATTTCTG GTTGCTAGGT TCTATATCAG
6901 AGTTTAAAAG ATTTATTGGA GTATGAAGGG AATGTGGAAG ATGACATGAT GATCACTTTC
6961 CAGATATCAC AGACAGATCT TTTTGGTAAC CCAATGATGT ATGATCTAAA GGAAAATGGT
7021 GATAAAATTC CAATTACAAA TGAAAACAGG AAGGTAATAA ATGTTTTTAT GTCACATTTT
7081 GTCTCTTCAT TAACACTTTC AAAGCATGTA TGCTTATAAT TTTTAAAGAA GTATCTAATA
7141 TAGTCTGTAC AAAAAAAAAA CAAGTAACTA AGTTTATGTA AATGCTAGAG TCCACTTTTC
7201 TAAATCTTGG ATATAAGTTG GTATGAAAGC ACACAGTTGG GCACTAAAGC CCCTTTTAGA
7261 GAAAGAGGAC ATGAAGCAGG AGATAGTTAA TAGCTAAGTG TGGTTGTAGT ATAAAGCAAG
7321 AAGCAGGGTG TTTCTTGTAT TAAGCTGTAA GCAGGAACCT CATGATTAAG GTCTTTATCA
7381 CAGAACAAAT AAAAATTACA TTTAATTTAC ACATGTATAT CCTGTTTGTG ATAAAAATAC
7441 ATTTCTGAAA AGTATACTTT ACGTCAGATT TGGGTTCTAT TGACTAAAAT GTGTTCATCG
7501 GGAATGGGAA TAACCCAGAA CATAACAAGC AAAAAATTAT GACAAATATA TAGTATACCT

UBE3A GENE (SEQ ID NO: 3)

FIG. 1D (Continued)

7561 TTAAGAAACA TGTTTATATT GATATAATTT TTTGATTAAA TATTATACAC ACTAAGGGTA
7621 CAANGCACAT TTTCCTTTTA TGANTTNGAT ACAGTAGTTT ATGTGTCAGT CAGATACTTC
7681 CACATTTTTG CTGAACTGGA TACAGTAAGC AGCTTACCAA ATATTCTATG GTAGAAAACT
7741 NGGACTTCCT GGTTTGCTTA AATCAAATAT ATTGTACTCT CTTAAAACGG TTGGCATTTA
7801 TAAATAGATG GATACATGGT TTAAATGTGT CTGTTNACAT ACCTAGTTGA GAGAACCTAA
7861 AGAATTTTCT GCGTCTCCAG CATTTATATT CAGTTCTGTT TAATACATTA TCGAAATTGA
7921 CATTTATAAG TATGACAGTT TTGTGTATAT GGCCTTTTCA TAGCTTAATA TTGGCTGTAA
7981 CAGAGAATTG TGAAATTGTA AGAAGTAGTT TTCTTTGTAG GTGTAAAATT GAATTTTTAA
8041 GAATATTCTT GACAGTTTTA TGTATATGGC CTTTTCATAG CTTAATATTG GCTATAACAG
8101 AGAATTGTGA AATTGTTAAG AAGTAGGTGT AAAATTGAAT TTTTAAGAAT ATTCTTGAAT
8161 GTTTTTTTCT TGGAAAAATT AAAAAGCTAT GCAGCCCAAT AACTTGTGTT TTGTTTGCAT
8221 AGCATATTAT AAGAAGTTCT TGTGATTAAT GTTTTCTACA GGAATTTGTC AATCTTTATT
8281 CTGACTACAT TCTCAATAAA TCAGTAGAAA AACAGTTCAA GGCTTTTCGG AGAGGTTTTC
8341 ATATGGTGAC CAATGAATCT CCCTTAAAGT ACTTATTCAG ACCAGAAGAA ATTGAATTGC
8401 TTATATGTGG AAGCCGGGTA AGAAAGCAGG TGTCTGCAAA AAGTCATGTA TCGATTTATT
8461 GTTTGTAATG ATACAGTAGT ATAGCAGATA ACTAAGACAT ATTTTCTTGA ATTTGCAGAA

UBE3A GENE (SEQ ID NO: 3)

FIG. 1D (Continued)

8521 TCTAGATTTC CAAGCACTAG AAGAAACTAC AGAATATGAC GGTGGCTATA CCAGGGACTC
8581 TGTTCTGATT AGGTGAGGTA CTTAGTTCTT CAGAGGAAGA TTTGATTCAC CAAAGGGGTG
8641 TGTGATTTTG CTTCAGACCT TTATCTCTAG GTACTAATTC CCAAATAAGC AAACTCACAA
8701 ATTGTCATCT ATATACTTAG ATTTGTATTT GTAATATAAT CACCATTTTT CAGAGCTAAT
8761 CTTGTGATTT ATTTCATGAA TGAAGTGTTG TTATATATAA GTCTCATGTA ATCTCCTGCA
8821 TTTGGCGTAT GGATTATCTA GTATTCCTCA CTGGTTAGAG TATGCTTACT GCTGGTTAGA
8881 AGATAATTAA AATAAGGCTA CCATGTCTGC AATTTTTCCT TTCTTTTGAA CTCTGCATTT
8941 GTGAACTGTT ACATGGCTTC CCAGGATCAA GCACTTTTTG AGTGAAATGG TAGTCTTTTA
9001 TTTAATTCTT AAGATAATAT GTCCAGATAC ATACTAGTAT TTCCATTTTA CACCCTAAAA
9061 AACTAAGCCC TGAATTCTCA CAGAAAGATG TAGAGGTTCC CAGTTCTATC TGCTTTTAAA
9121 CAAATGCCCT TACTACTCTA CTGTCTACTT CTGTGTACTA CATCATCGTA TGTAGTTGTT
9181 TGCATTTGGG CCAGTTGGTT GGGGCAGGGG TCTTTTTTTC TTTTGTCCCT TAATCTGTAT
9241 CACTTTTTCC TCCCAAAGTT GAGTTAAAGG ATGAGTAGAC CAGGAGAATA AAGGAGAAAG
9301 GATAAATAAA ATATATACCC AAAGGCACCT GGAGTTAATT TTTCCAAATA TTCATTTCAG
9361 TCTTTTTCAA TTCATAGGAT TTTGTCTTTT GCTCATTACT GACTGCATAA TGTGATTATA
9421 CCATAGTTTA AATAGTCACT TCCTGTTACT ACACACTTGG GTTTTCTCAA TTTTTTACTA

UBE3A GENE (SEQ ID NO: 3)
FIG. 1D (Continued)

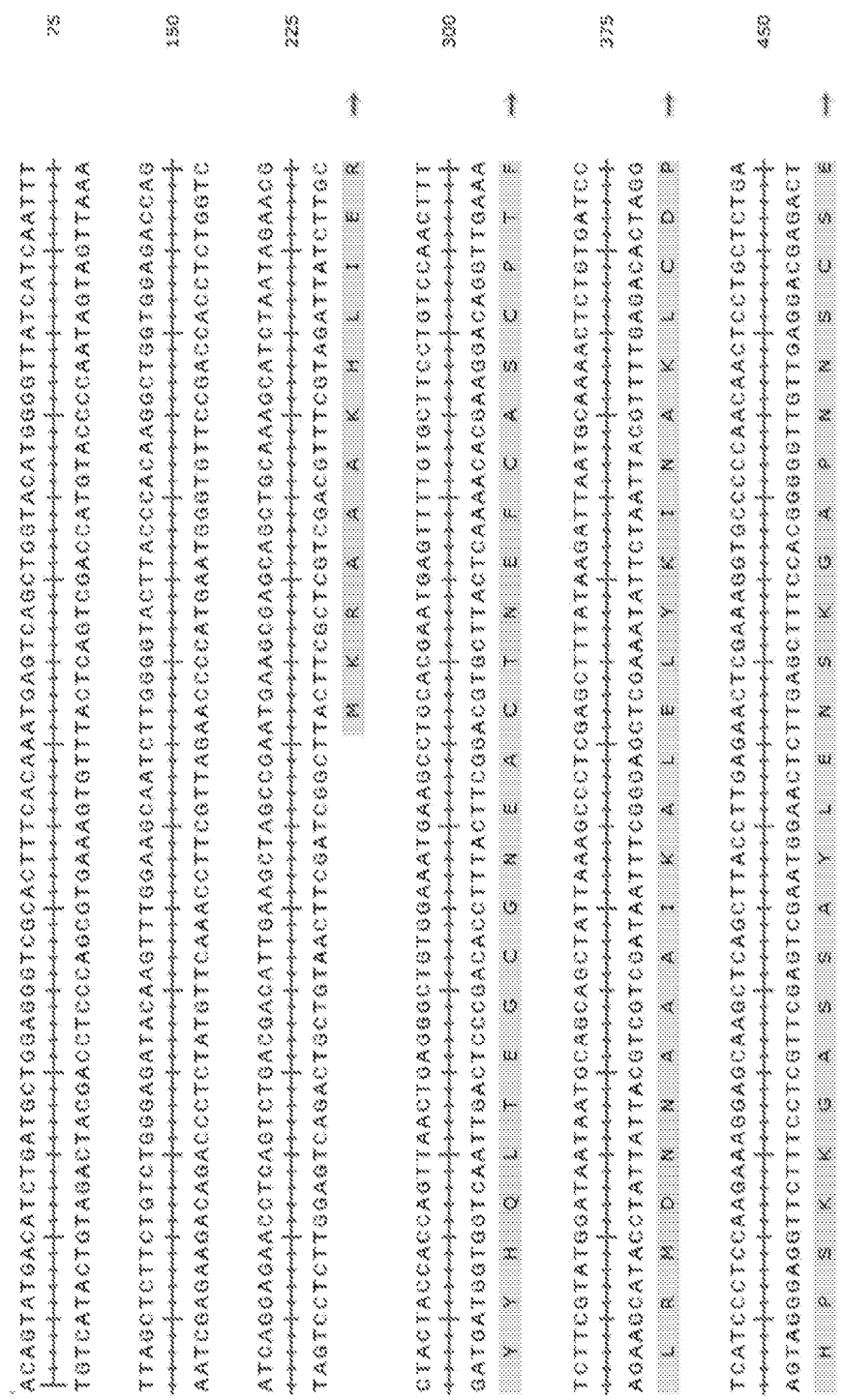
9481 TTGTAGTACT AATATTTTAC TATATTGTAA TCTAATCCAA ATTTTTACGT ATTCAGAGCT
9541 GTTCAGGATA AATTTGCTTG GAAATTTTTA AATCACCAGA AGTGATACTA TCCTGATAAT
9601 TAACTTCCAA GTTGTCTCTT AATATAGTTT TAATGCAAAT CATAAGCTTA TGTTAGTACC
9661 AGTCATAATG AATGCCAAAC TGAAACCAGT ATTGTATTTT TTCTCATTAG GGAGTTCTGG
9721 GAAATCGTTC ATTCATTTAC AGATGAACAG AAAAGACTCT TCTTGCAGTT TACAACGGGC
9781 ACAGACAGAG CACCTGTGGG AGGACTAGGA AAATTAAAGA TGATTATAGC CAAAAATGGC
9841 CCAGACACAG AAAGGTAGGT AATTATTAAC TTGTGACTGT ATACCTACCG AAAACCTTGC
9901 ATTCCTCGTC ACATACATAT GAACTGTCTT TATAGTTTCT GAGCACATTC GTGATTTTAT
9961 ATACAAATCC CCAAATCATA TTAGACAATT GAGAAAATAC TTTGCTGTCA TTGTGTGAGG
10021 AAACTTTTAA GAAATTGCCC TAGTTAAAAA TTATTATGGG GCTCACATTG GTTTGGAATC
10081 AAATTAGTGT GATTCATTTA CTTTTTTGAT TCCCAGCTTG TTAATTGAAA GCCATATAAC
10141 ATGATCATCT ATTTAGAATG GTTACATTGA GGCTCGGAAG ATTATCATTT GATTGTGCTA
10201 GAATCCTGTT ATCAAATCAT TTTCTTAGTC ATATTGCCAG CAGTGTTTCT AATAAGCATT
10261 TAAGAGCACA CACTTTGCAG TCTTGTAAAA CAGGTTTGAG TATTTTCTCC ACCTTAGAGG
10321 AAGTTACTTG ACTTCTCAGT GACCTAACCT CTAAAGTGCA TTTACTGATG TCCTCTCTGT
10381 GGTTTTGTTG TGGAAAGATT TAGTTAAATG AACTGTAAGA ATTCAGTACC TAAAATGGTA

UBE3A GENE (SEQ ID NO: 3)

FIG. 1D (Continued)

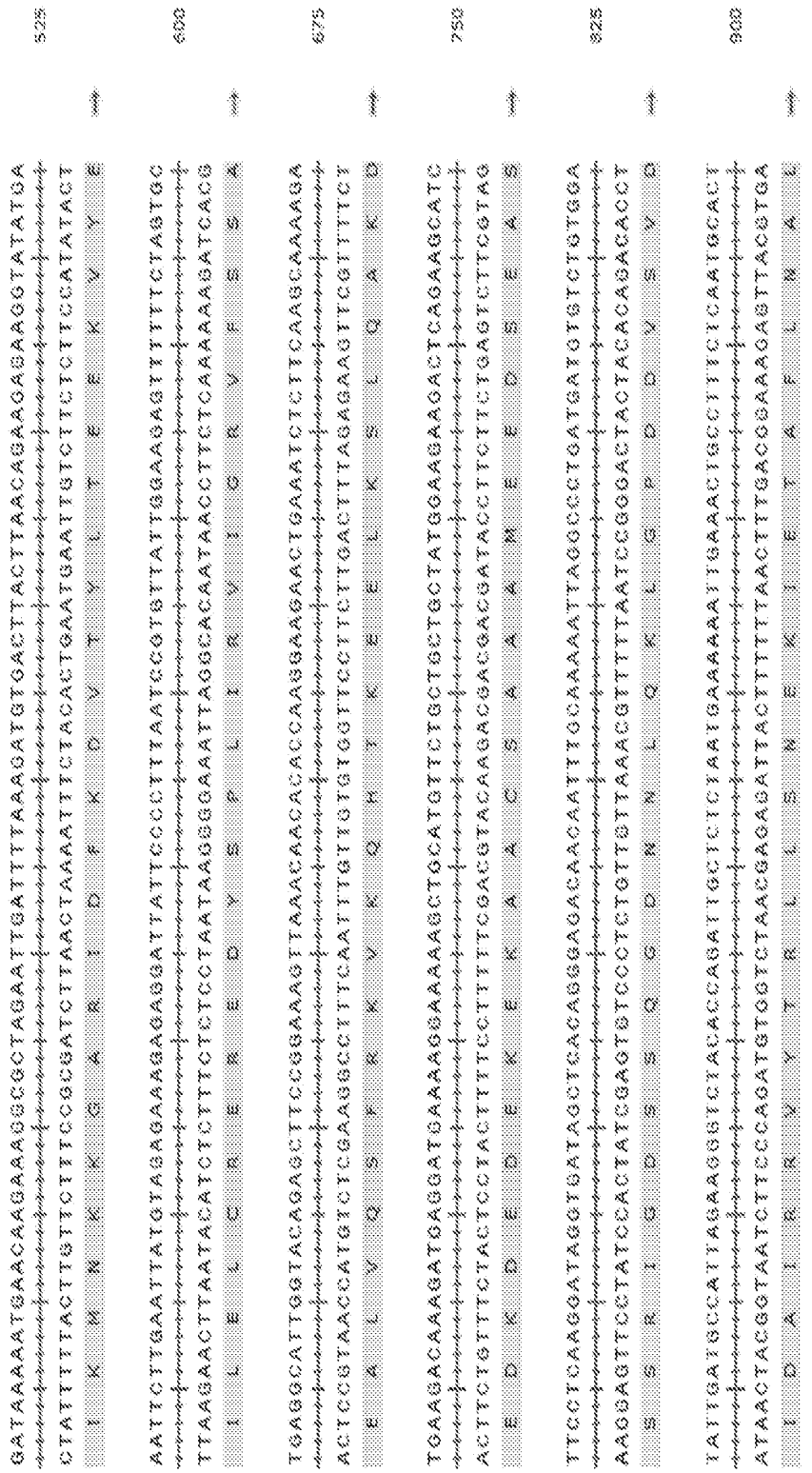
```
10441 TCTGTTATGT AGTAAAAACT CAATGGATAC AGTATCTTAT CATCGTCACT AGCTTTGAGT
10501 AATTTATAGG ATAAAGGCAA CTTGGTAGTT ACACAACAAA AAGTTTATGA TTTGCATTAA
10561 TGTATAGTTT GCATTGCAGA CCGTCTCAAC TATATACAAT CTAAAAATAG GAGCATTTAA
10621 TTCTAAGTGT ATTTCCCATG ACTTACAGTT TTCCTGTTTT TTTCCCCTTT TCTCTATTTA
10681 GGTTACCTAC ATCTCATACT TGCTTTAATG TGCTTTTACT TCCGGAATAC TCAAGCAAAG
10741 AAAAACTTAA AGAGAGATTG TTGAAGGCCA TCACGTATGC CAAAGGATTT GGCATGCTGT
10801 AAAACAAAAC AAAACAAAAT AAAACAAAAA AAAGGAAGGA AAAAAAAAGA AAAAATTTAA
10861 AAAATTTTAA AAATATAACG AGGGATAAAT TTT (SEQ ID NO: 3)
```

UBE3A GENE (SEQ ID NO: 3)
FIG. 1D (Concluded)



UBE3Av1 cDNA (SEQ ID NO. 5)

FIG. 1E



UBE3Av1 cDNA (SEQ ID NO. 5)
FIG. 1E (Continued)

UBE3Av1 cDNA (SEQ ID NO. 5)

FIG. 1E (Continued)

UBE3Av1 cDNA (SEQ ID NO. 5)

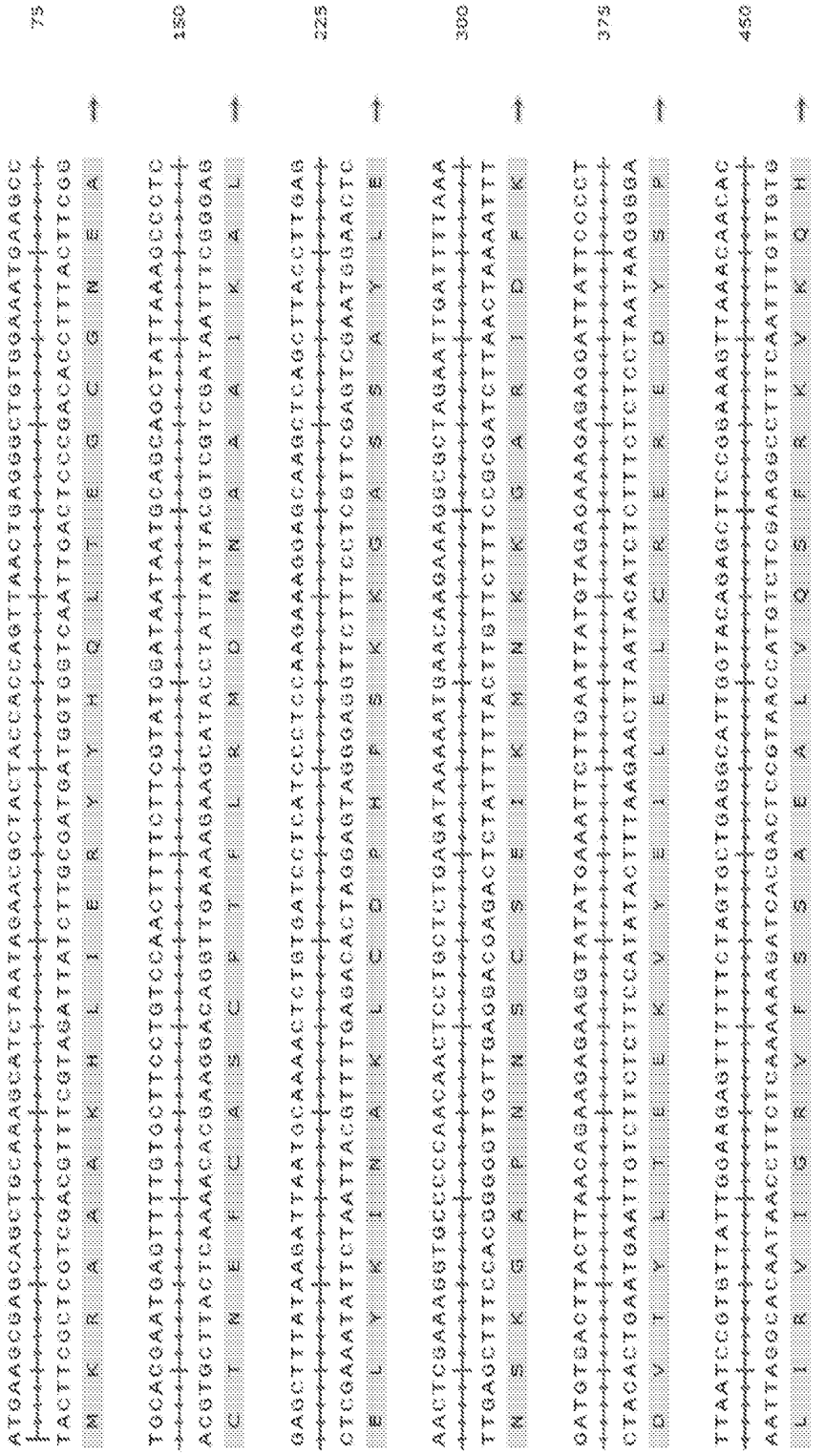
FIG. 1E (Continued)

UBE3Av1 cDNA (SEQ ID NO. 5)

FIG. 1E (Continued)

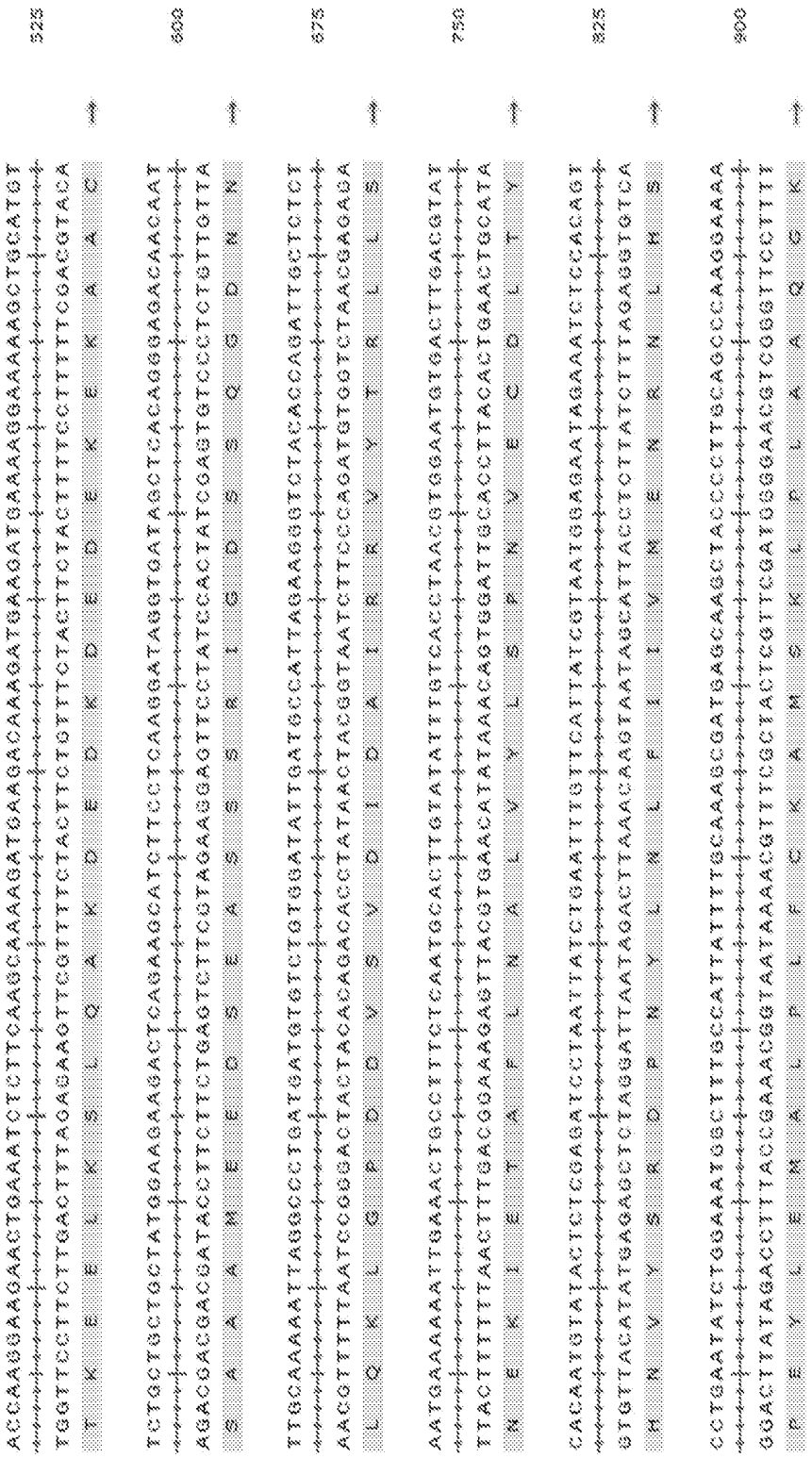
UBE3Av1 cDNA (SEQ ID NO. 5)
FIG. 1E (Continued)

UBE3Av1 cDNA (SEQ ID NO. 5)
FIG. 1E (Concluded)



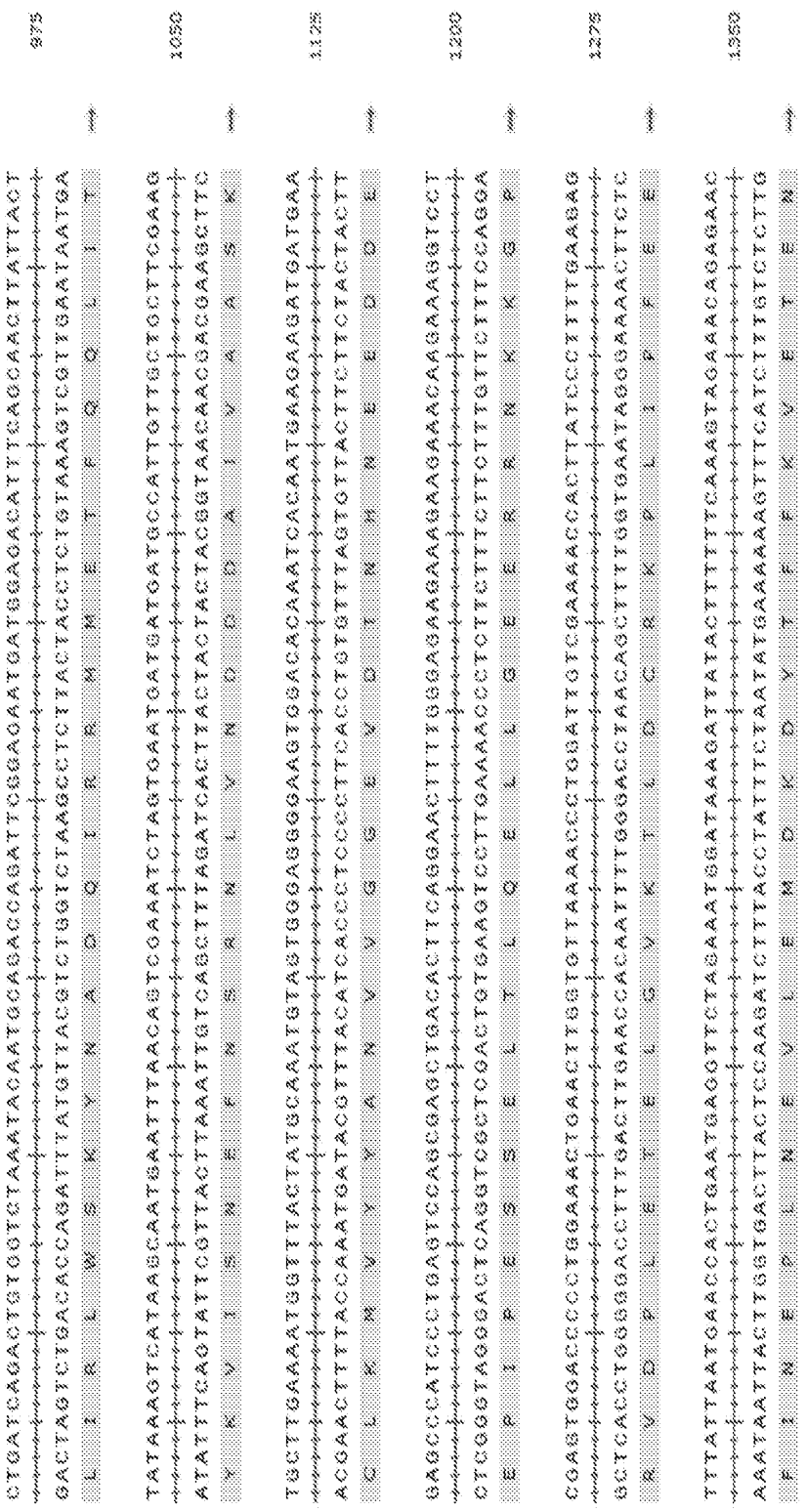
UBE3Av1 cDNA coding region (SEQ ID NO. 25)

FIG. 1F



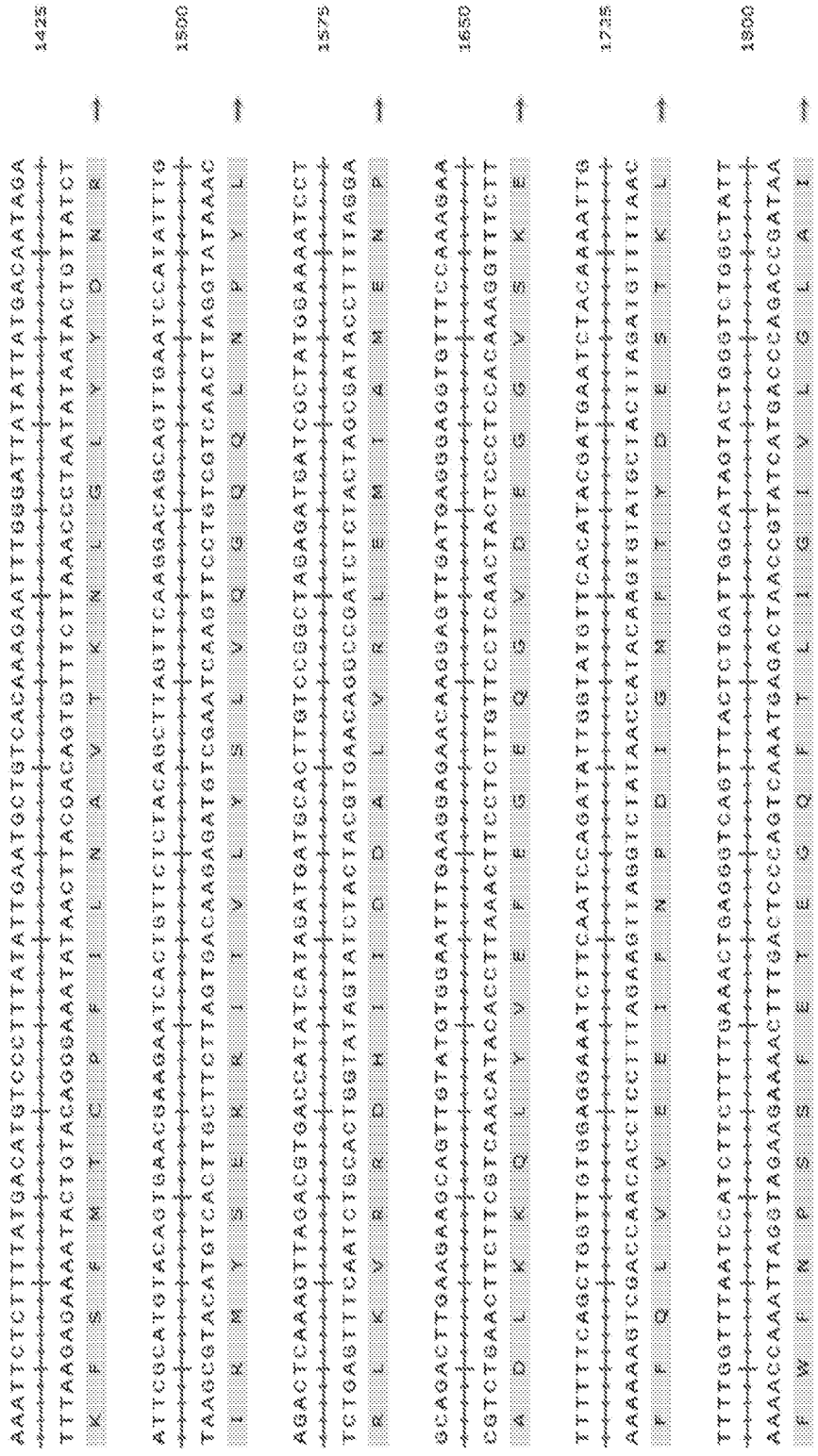
UBE3Av1 cDNA coding region (SEQ ID NO. 25)

FIG. 1F (Continued)



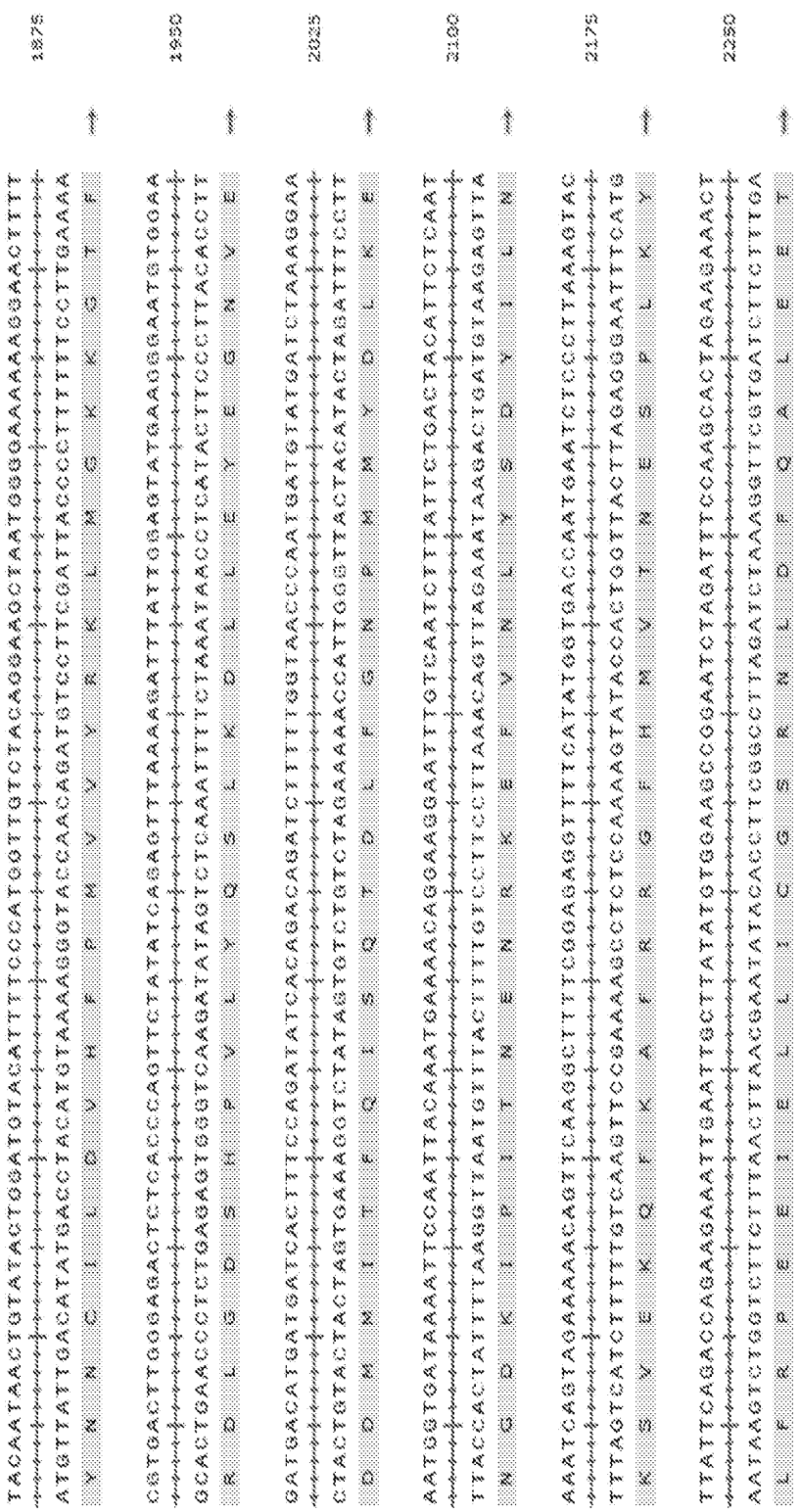
UBE3Av1 cDNA coding region (SEQ ID NO. 25)

FIG. 1F (Continued)



UBE3Av1 cDNA coding region (SEQ ID NO. 25)

FIG. 1F (Continued)



UBE3Av1 cDNA coding region (SEQ ID NO. 25)

FIG. 1F (Continued)

UBE3Av1 cDNA coding region (SEQ ID NO. 25)

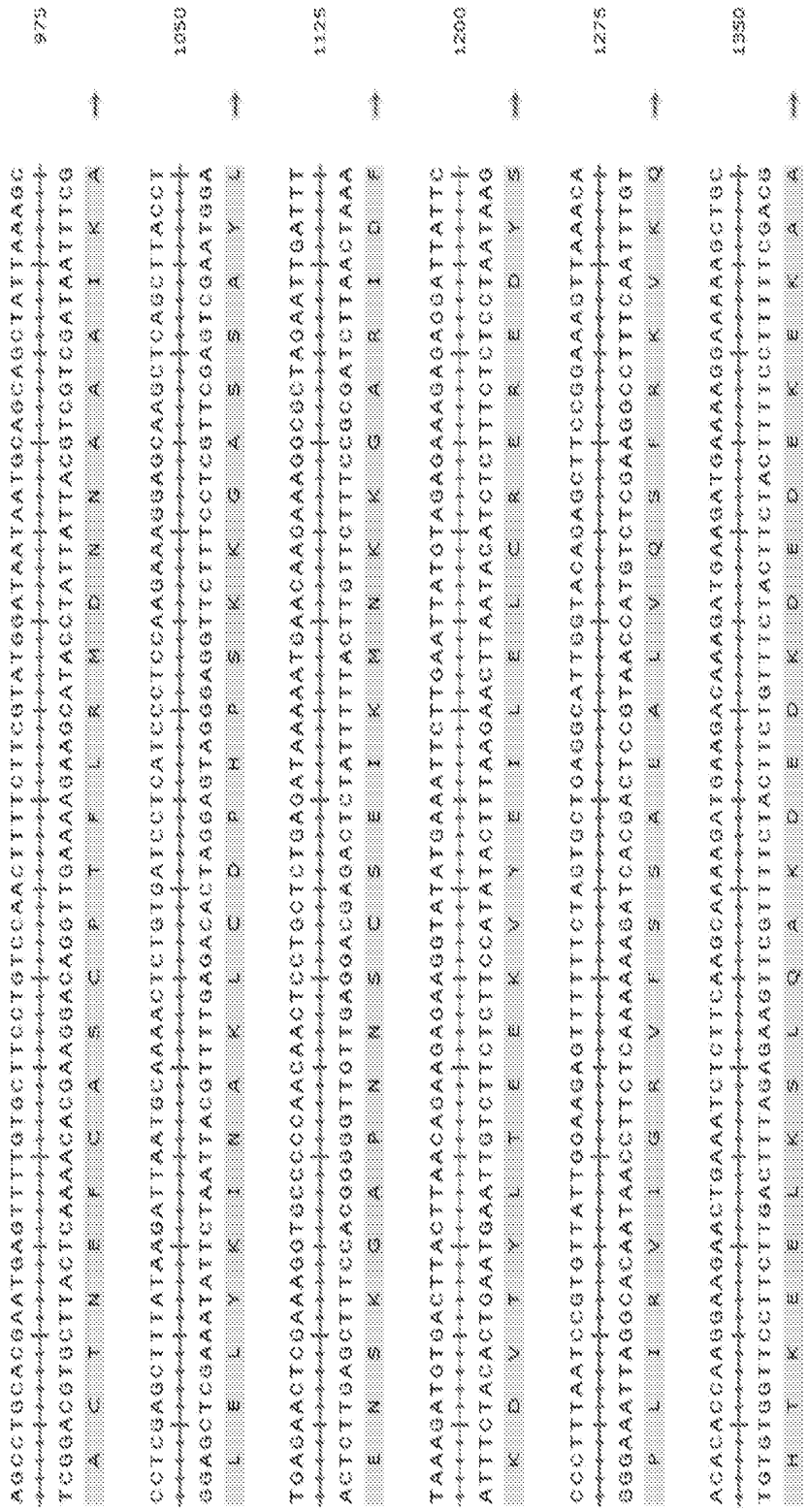
FIG. 1F (Concluded)

UBE3Av2 cDNA (SEQ ID NO: 6)

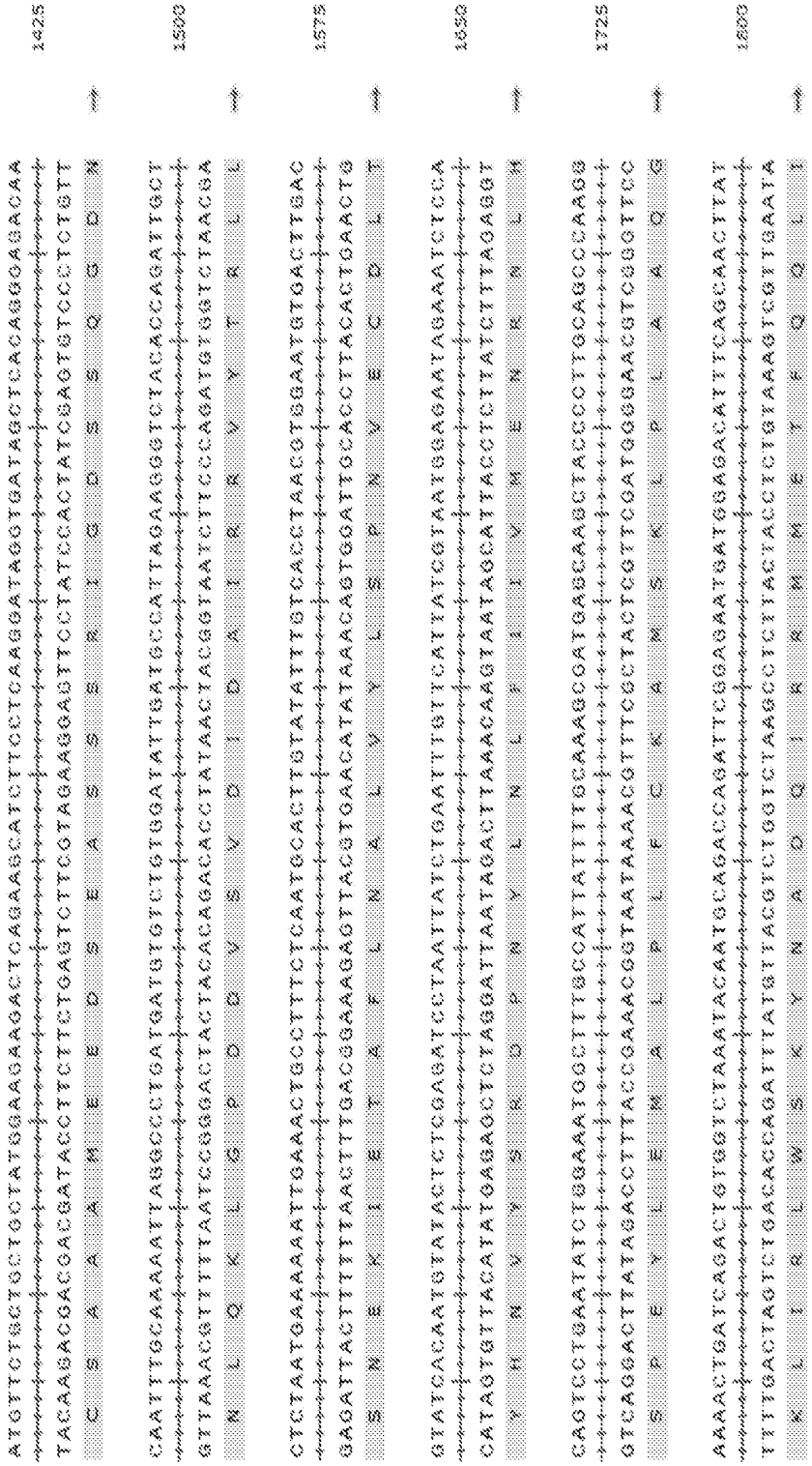
FIG. 1G

UBE3Av2 cDNA (SEQ ID NO: 6)

FIG. 1G (Continued)

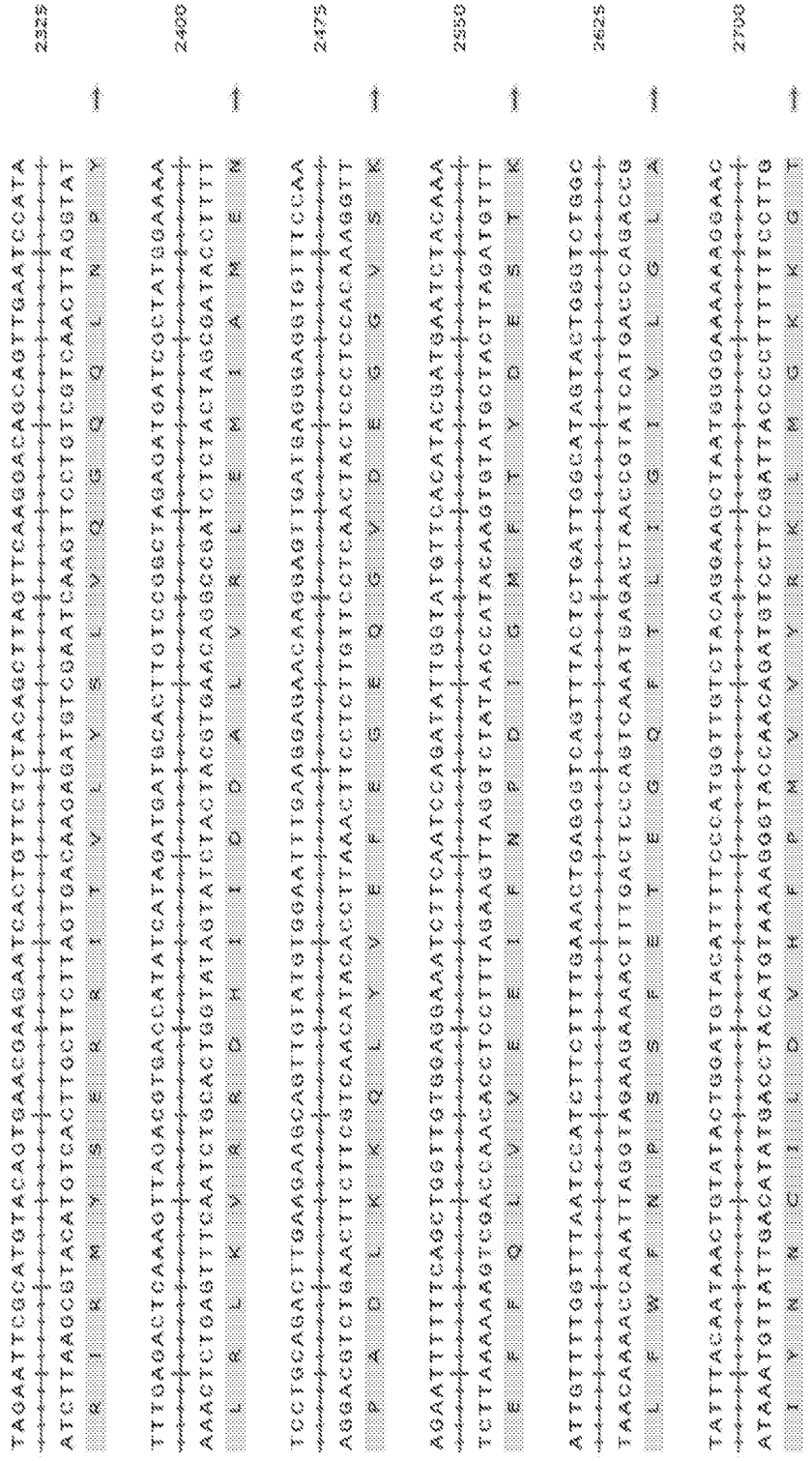


UBE3Av2 cDNA (SEQ ID NO: 6)
FIG. 1G (Continued)



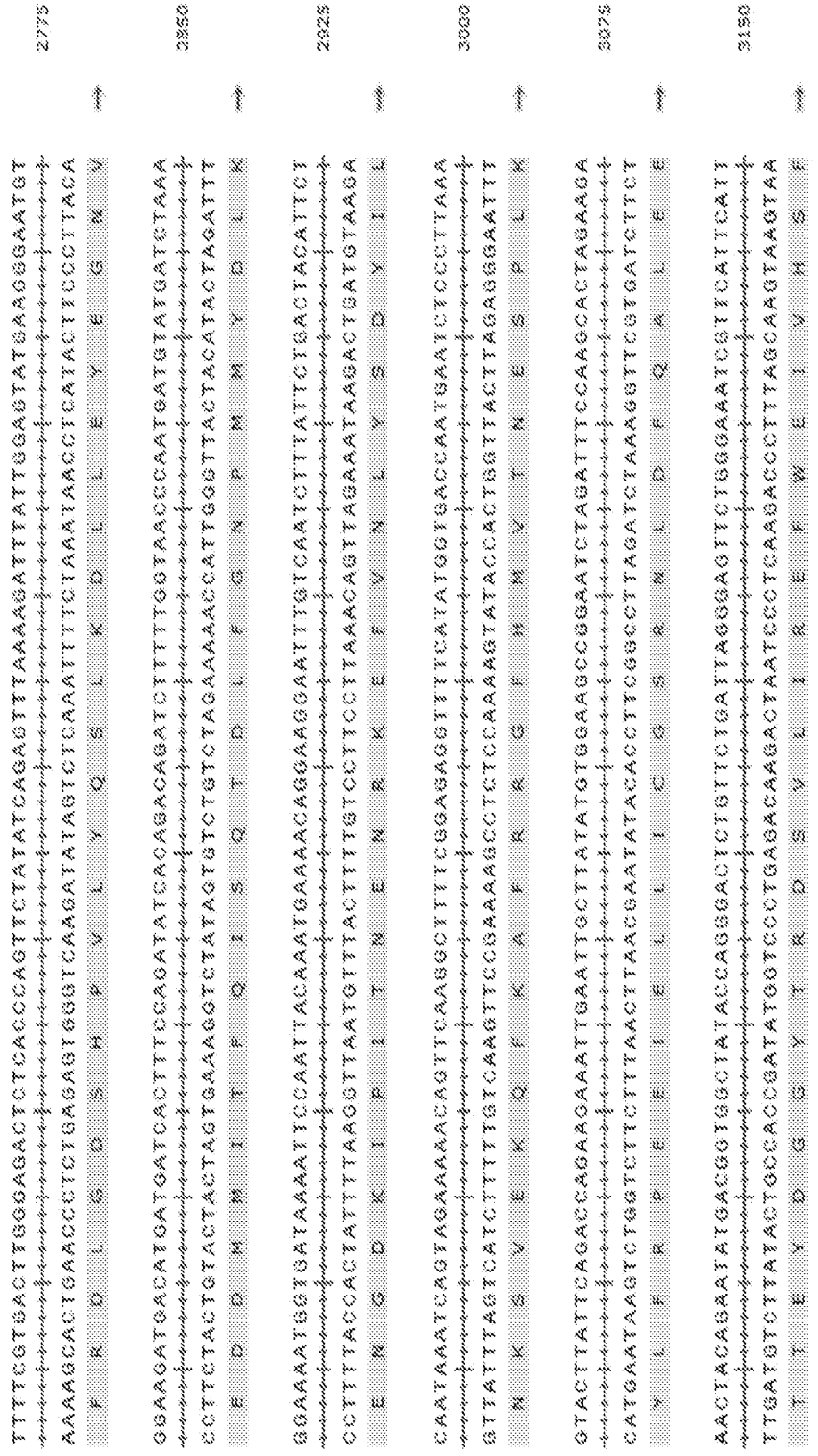
UBE3Av2 cDNA (SEQ ID NO: 6)
FIG. 1G (Continued)

UBE3Av2 cDNA (SEQ ID NO: 6)
FIG. 1G (Continued)



UBE3Av2 cDNA (SEQ ID NO: 6)

FIG. 1G (Continued)



UBE3Av2 cDNA (SEQ ID NO: 6)
FIG. 1G (Continued)

UBE3Av2 cDNA (SEQ ID NO: 6)

FIG. 1G (Continued)

TATATGAACAAATCCTTTATTATTATAATTTTTTTTGCGTGAAAGTGTTACATATTCTTTCACTTGTATG 3675
ATATACTTGTTTAGGAAATAATATTAATAAAAAACGCACTTTCACAATGTATAAGAAGTGAACATAC

TACAGAGAGGTTTTTCTGAATATTTATTTTAAGGGTTAAATCACTTTTGCTTGTGTTTATTACTGCTTGAGGTTG 3750
ATGTCTCTCCAAAAAGACTTATAAATAAAATTCCCAATTTAGTGAAAACGAACACAAATAATGACGAACTCCAAC

AGCCTTTTTGAGTATTTAAAAAATATATACCAACAGAACTACTCTCCCAAGGAAAATATTGCCACCATTTGTAGAC 3825
TCGGAAAACTCATAAAATTTTTTATATATGGTTGTCTTGATGAGAGGGTTCCTTTTTATAACGGTGGTAAACATCTG

CACGTAACCTTCAAGTATGTGCTACTTTTTTTGTCCCTGTATCTAACTCAAATCAGGAACTGTATTTTTTTTAATG 3900
GTGCATTGGAAGTTCATACACGATGAAAAAACAGGGACATAGATTGAGTTTAGTCCTTGACATAAAAAAAATTAC

ATTTGCTTTTGAAACTTGAAGTCTTGAAAACAGTGTGATGCAATTACTGCTGTTCTAGCCCCCAAAGAGTTTTCT 3975
TAAACGAAAACTTTGAACTTCAGAACTTTTGTCACACTACGTTAATGACGACAAGATCGGGGTTTCTCAAAAGA

GTGCAAAATCTTGAGAATCAATCAATAAAGAAAGATGGAAGGAGAAATTGGAATGTTTTAACTGCAGCCC 4050
CACGTTTTAGAACTCTTAGTTATTTCTTTCTACCTTCCTTCCCTCTTTAACCTTACAAAATTGACGTCGGG

UBE3Av2 cDNA (SEQ ID NO: 6)

FIG. 1G (Continued)

```
                                                                  4125
TCAGAACTTTAGTAACAGCACAACAAATTAAAAAACAAAAACAACTCATGCCACAGTATGTCGTCTTCATGTGTCT
AGTCTTGAAATCATTGTCGTGTTGTTTAATTTTTTGTTTTTGTTGAGTACGGTGTCATACAGCCAGAAGTACACAGA

                                                                  4200
TGCAATGAACTGTTTTCAGTAGCCAATCCTCTTTCTTTAGTATATGAAAGGACAGGGATTTTTGTTCTTGTTTCT
ACGTTACTTGACAAAGTCATCGGTTAGGAGAAAGAAATCATATACTTTCCTGTCCCTAAAAACAAGAACAACAAGA

                                                                  4275
CGTTGTTGTTTTAAGTTTACTGGGGAAAGTGCATTTGGCCAAATGAAATGGTAGTCAAGCCTATTGCAACAAAGT
GCAACAACAAAATTCAAATGACCCCTTTCACGTAAACCGGTTTACTTTACCATCAGTTCGGATAACGTTGTTTCA

                                                                  4350
TAGGAAGTTTGTTGTTTATTATAAACAAAAAGCATGTGAAAGTGCACTTAAGATAGAGTTTTTATTAATTA
ATCCTTCAAACAACAAATATATTTGTTTTTCGTACACTTTCACGTGAATTCTATCTCAAAAATAATTAAT

                                                                  4425
CTTACTTATTACCTAGATTTTAAATAGACAATCCAAAGTCTCCCCTTCGTGTTGCCATCATCTTGTTGAATCAGC
GAATGAATAATGGATCTAAAAATTTATCTGTTAGGTTTCAGAGGGGAAGCACAACGGTAGTAGAACAACTTAGTCG

                                                                  4500
CATTTTATCGAGGCACGTGATCAGTGTTGCAACATAATGAAAAAGATGGCTACTGTGCCTTGTGTTACTTAATCA
GTAAAATAGCTCCGTGGCACTAGTCACAACGTTGTATTACTTTTTCTACCGATGACACGGAACACAATGAATTAGT
```

UBE3Av2 cDNA (SEQ ID NO: 6)

FIG. 1G (Continued)

```
TACAGTAAGCTGACCTGGAAATGAAACTATTACTCCTAAGAATTACATTGTATAGCCCCACAGATTAAATT
ATGTCATTCGACTGGACCTTTACTTACTTTGATAATGAGGATTCTTAATGTAACATATCGGGGTGTCTAATTTAA
                                                                      4575

TAATTAATTAATTCAAAACATGTTAAACGTTACTTTCATGTACTATGGAAAAGTACAAGTAGGTTTACATTACTG
ATTAATTAAGTTTTGTACAATTTGCAATGAAAGTACATGATACCTTTTCATGTTCATCCAAATGTAAATGAC
                                                                      4650

ATTTCCAGAAGTAAGTAGTTTCCCCTTTCCTAGTCTTCTGTGTATGTGATGTTGTTAATTTCTTTTATTGCATTA
TAAAGGTCTTCATTCATCAAAGGGGAAAGGATCAGAAGACACATACACTACAACAATTAAAGAAAATAACGTAAT
                                                                      4725

TAAAATAAAAAGGATTATGTATTTTTAACTAAGGTGAGACATTGATATATCCTTTTGCTACAAGCTATAGCTAATG
ATTTTATTTTCCTAATACATAAAATTGATTCCACTCTGTAACTATATAGGAAAACGATGTTCGATATCGATTAC
                                                                      4800

TGCTGAGCTTGTGCCTTGGTGATTGATTGACTGATTGTTTTAACTGTAGATCAACCTGAT
ACGACTCGAACACGGAACCACTAACTAACTAACTGACTAACAAAATTGACTAATGACATCTAGTTGGACTA
                                                                      4875

GATTTGTTTGTTTGAAATTGGCAGGAAAAATGCAGCTTTCAAATCATTGGGGGAGAAAAAGGATGTCTTTCAGG
CTAAACAAACAAACTTTAACGTCCTTTTTACGTCGAAAGTTTAGTAACCCCCCTCTTTTTCCTACAGAAAGTCC
                                                                      4950
```

UBE3Av2 cDNA (SEQ ID NO: 6)

FIG. 1G (Continued)

UBE3Av2 cDNA (SEQ ID NO: 6)

FIG. 1G (Concluded)

UBE3Av3 cDNA (SEQ ID NO: 8)

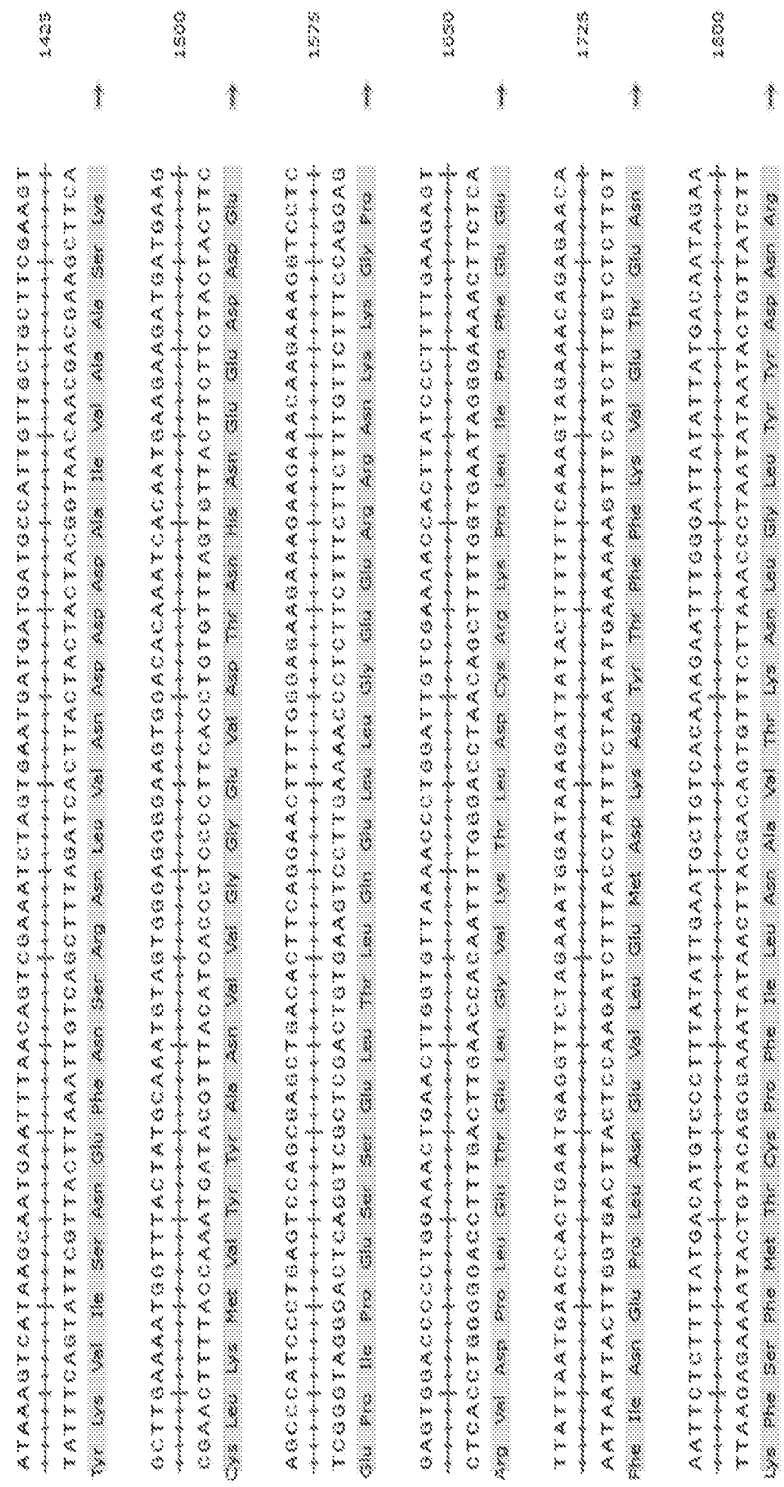
FIG. 1H

UBE3Av3 cDNA (SEQ ID NO: 8)

FIG. 1H (Continued)



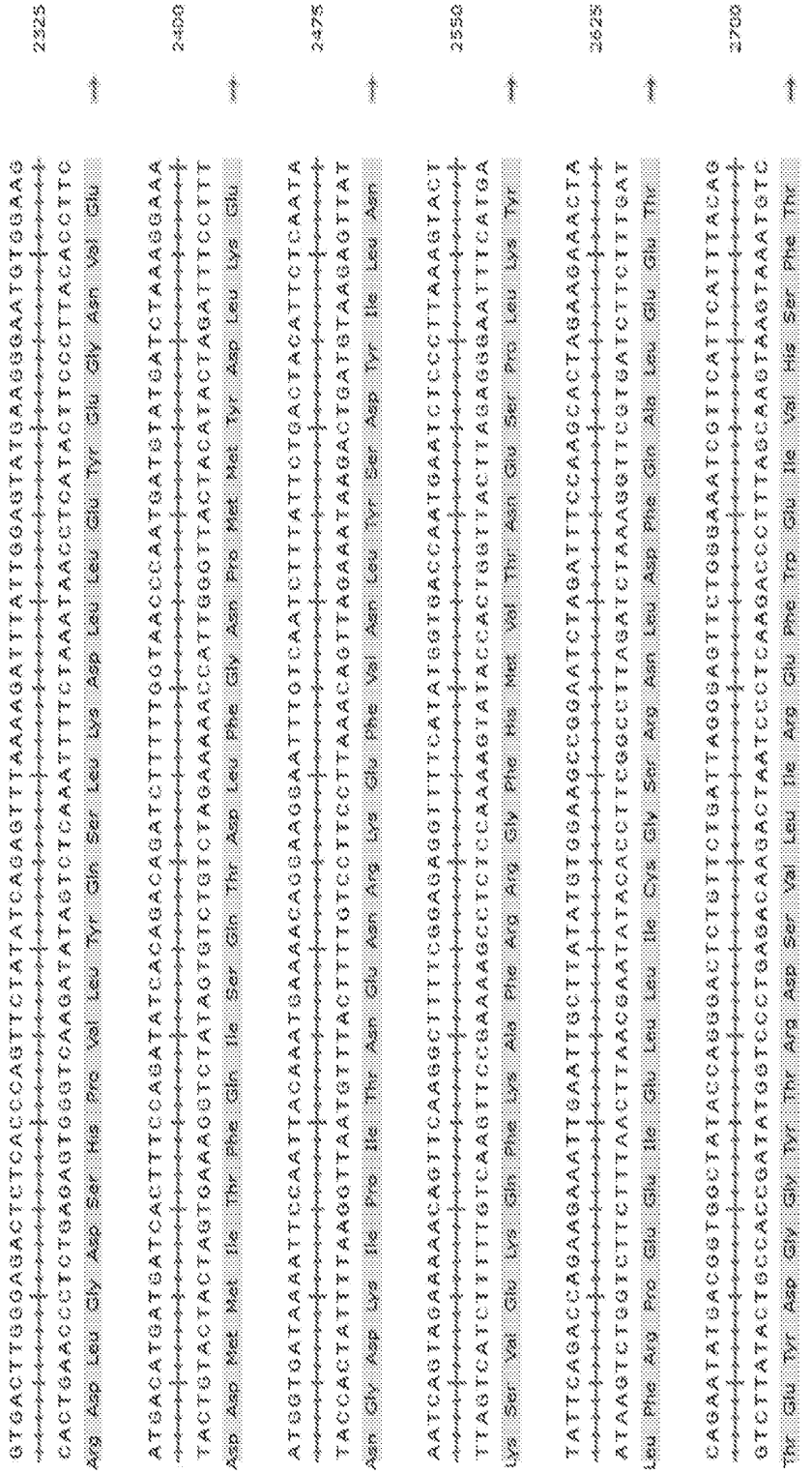
UBE3Av3 cDNA (SEQ ID NO: 8)
FIG. 1H (Continued)



UBE3Av3 cDNA (SEQ ID NO: 8)
FIG. 1H (Continued)

UBE3Av3 cDNA (SEQ ID NO: 8)

FIG. 1H (Continued)



UBE3Av3 cDNA (SEQ ID NO: 8)
FIG. 1H (Continued)

UBE3Av3 cDNA (SEQ ID NO: 8)
FIG. 1H (Concluded)

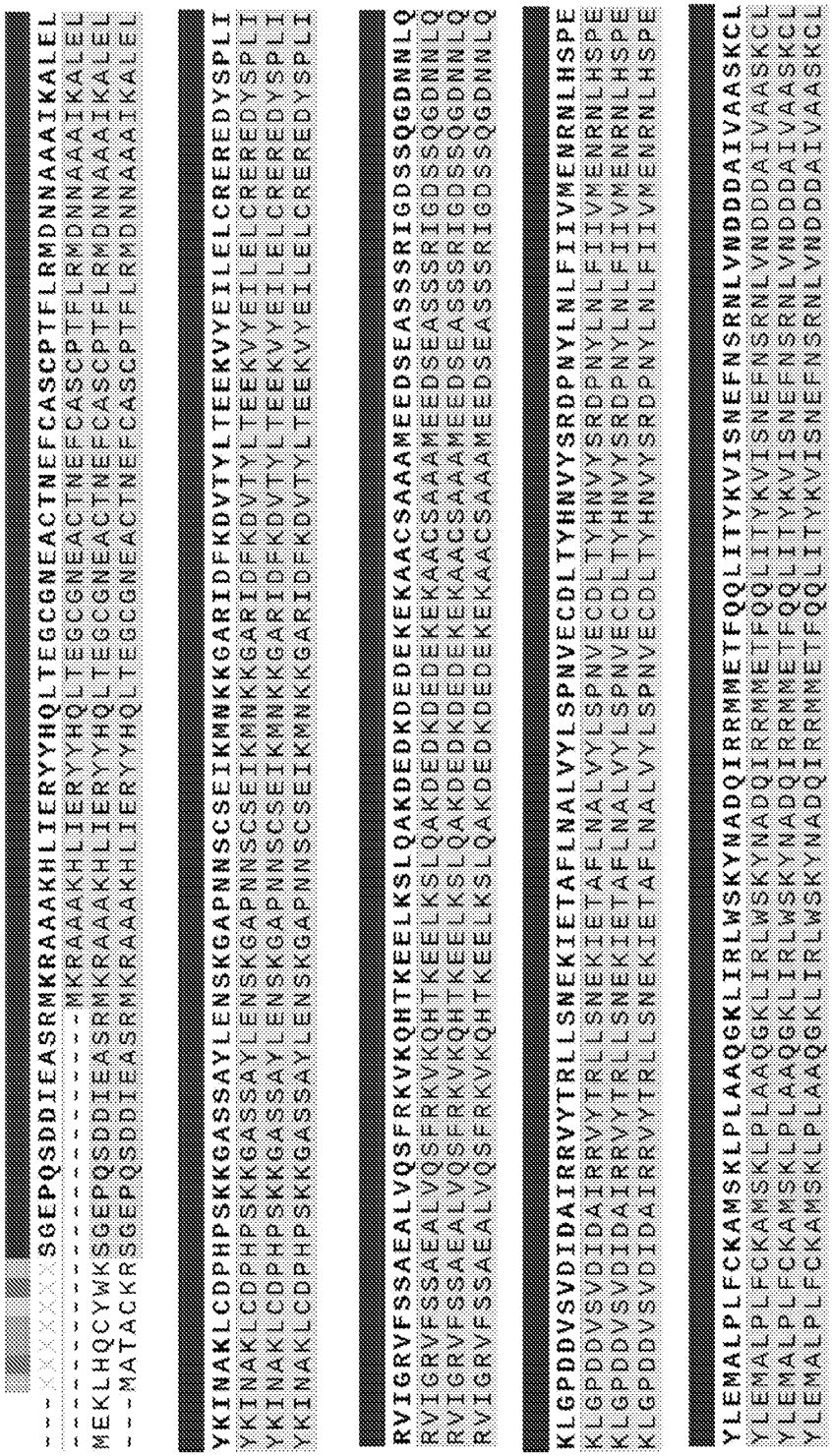


FIG. 1I

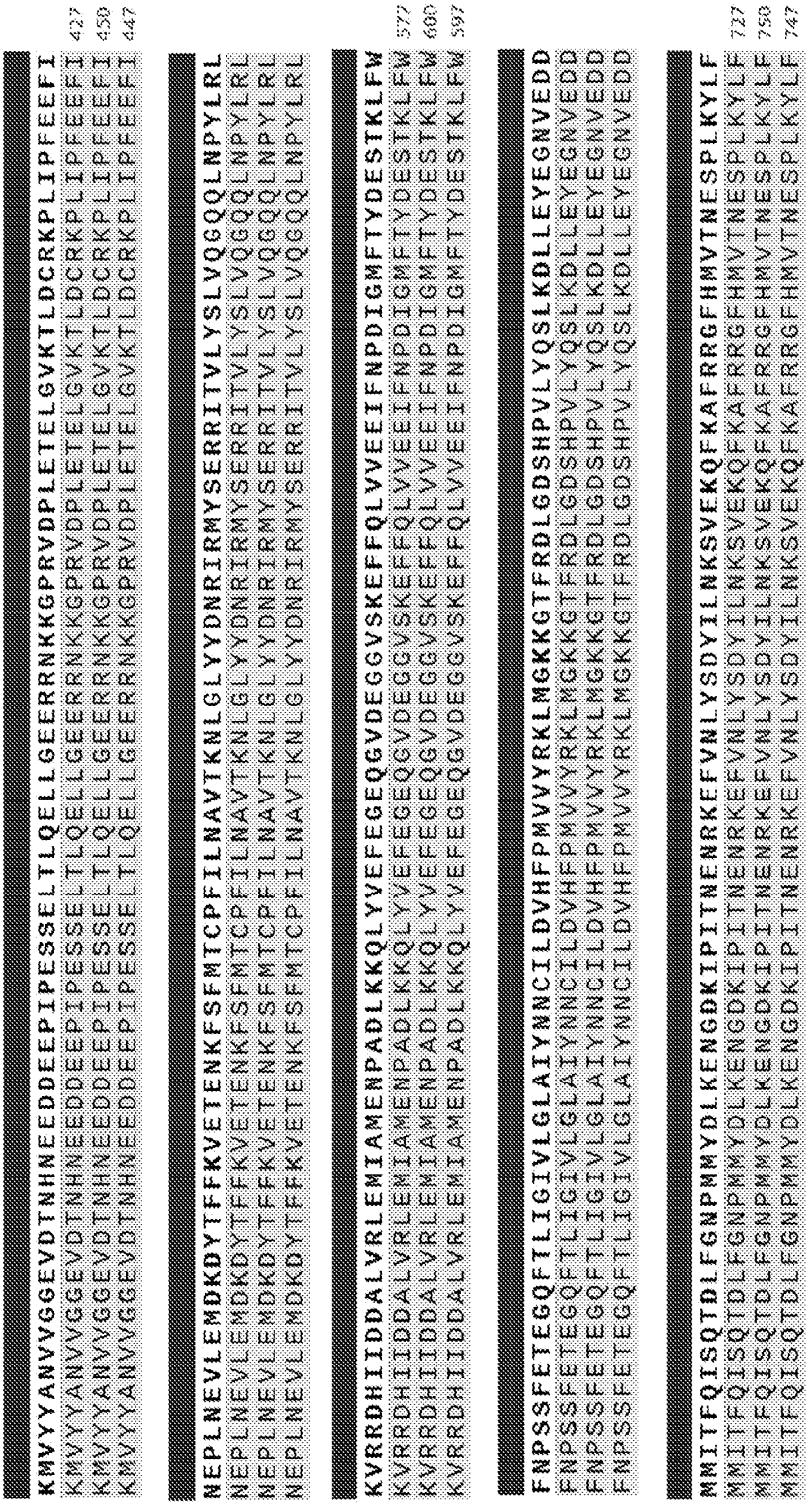


FIG. 1I (Continued)

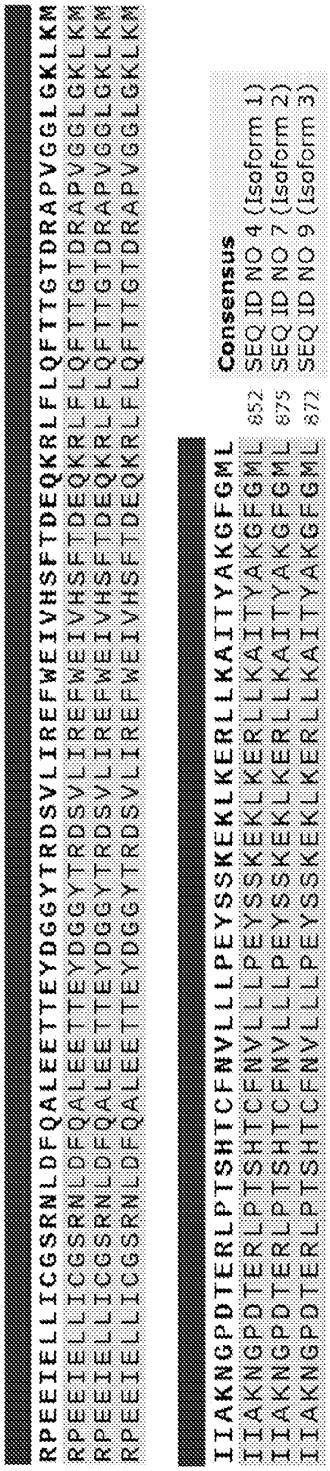


FIG. 1I (Concluded)

AAV ITR	GENBANK ACCESSION NO.	SEQ ID NO:	SEQUENCE
AAV-1 ITR	NC_002077.1	14	TTGCCCACTCCCTCTCTGCGCGCTCGCTCGCTCGGTGGGGCCTGCGGACCAAAG GTCCGCAGACGGCAGAGCTCTGCTCTGCCGGCCCCACCGAGCGAGCGAGCGCGC AGAGAGGGAGTGGCCAACTCCATCACTAGGGGTAATC
AAV-2 ITR	NC_001401.2	15	AGGAACCCCTAGTGATGGAGTTGGCCACTCCCTCTCTGCGCGCTCGCTCGCTCA CTGAGGCCGCCCGGGCAAAGCCCGGGCGTCGGGCGACCTTTGGTCGCCCGGCCT CAGTGAGCGAGCGAGCGCGCAGAGAGGGAGTGGCCAA
AAV-3A ITR	JB292182.1	16	TTGGCCACTCCCTCTATGCGCACTCGCTCGCTCGGTGGGGCCTGGCGACCAAAG GTCGCCAGACGGACGTGCTTTGCACGTCCGGCCCCACCGAGCGAGCGAGTGCGC ATAGAGGGAGTGGCCAACTCCATCACTAGAGGTAT
AAV-4 ITR	NC_001829.1	17	ATGCCGGGGTTCTACGAGATCGTGCTGAAGGTGCCCAGCGACCTGGACGAGCAC CTGCCCGGCATTTCTGACTCTTTTGTGAGCTGGGTGGCCGAGAAGGAATGGGAG CTGCCGCCGGATTCTGACATGGACTTGAATCTGATTGA
AAV-5 ITR	NC_006152	18	CTCTCCCCCCTGTCGCGTTCGCTCGCTCGCTGGCTCGTTTGGGGGGGTGGCAGC TCAAAGAGCTGCCAGACGACGGCCCTCTGGCCGTCGCCCCCCCAAACGAGCCAG CGAGCGAGCGAACGCGACAGGGGGAGAGTGCCAC
AAV-6 ITR	AF028704.1	19	TTGGCCACTCCCTCTCTGCGCGCTCGCTCACTGAGGCCGGGCGACCAAAG GTCGCCCGACGCCCGGGCTTTGCCCGGGCGGCCTCAGTGAGCGAGCGAGCGCGC AGAGAGGGAGTGGCCAACTCCATCACTAGGGGTTCCT
AAV-7 ITR	NC_006260.1	20	TTGGCCACTCCCTCTATGCGCGCTCGCTCGGTGGGGCCTGCGGACCAAAG GTCCGCAGACGGCAGAGCTCTGCTCTGCCGGCCCCACCGAGCGAGCGAGCGCGC ATAGAGGGAGTGGCCAACTCCATCACTAGGGGTACCG
AAV-8 ITR	NC_006261.1	21	CAGAGAGGGAGTGGCCAACTCCATCACTAGGGGTAGCGCGAAGCGCCTCCCACG CTGCCGCGTCAGCGCTGACGTAAATTACGTCATAGGGGAGTGGTCCTGTATTAG CTGTCACGTGAGTGCTTTTGCGGCATTTTGCGACACCA
	partial ITR SEQUENCE	22	CTGCGCGCTCGCTCGCTCACTGAGGCCGCCCGGGCAAAGCCCGGGCGTCGGGCG ACCTTTGGTCGCCCGGCCTCAGTGAGCGAGCGAGCGCGCAGAGAGGGAGTGGCC AA

FIG. 1J

AAV 9.1

FIG. 1K



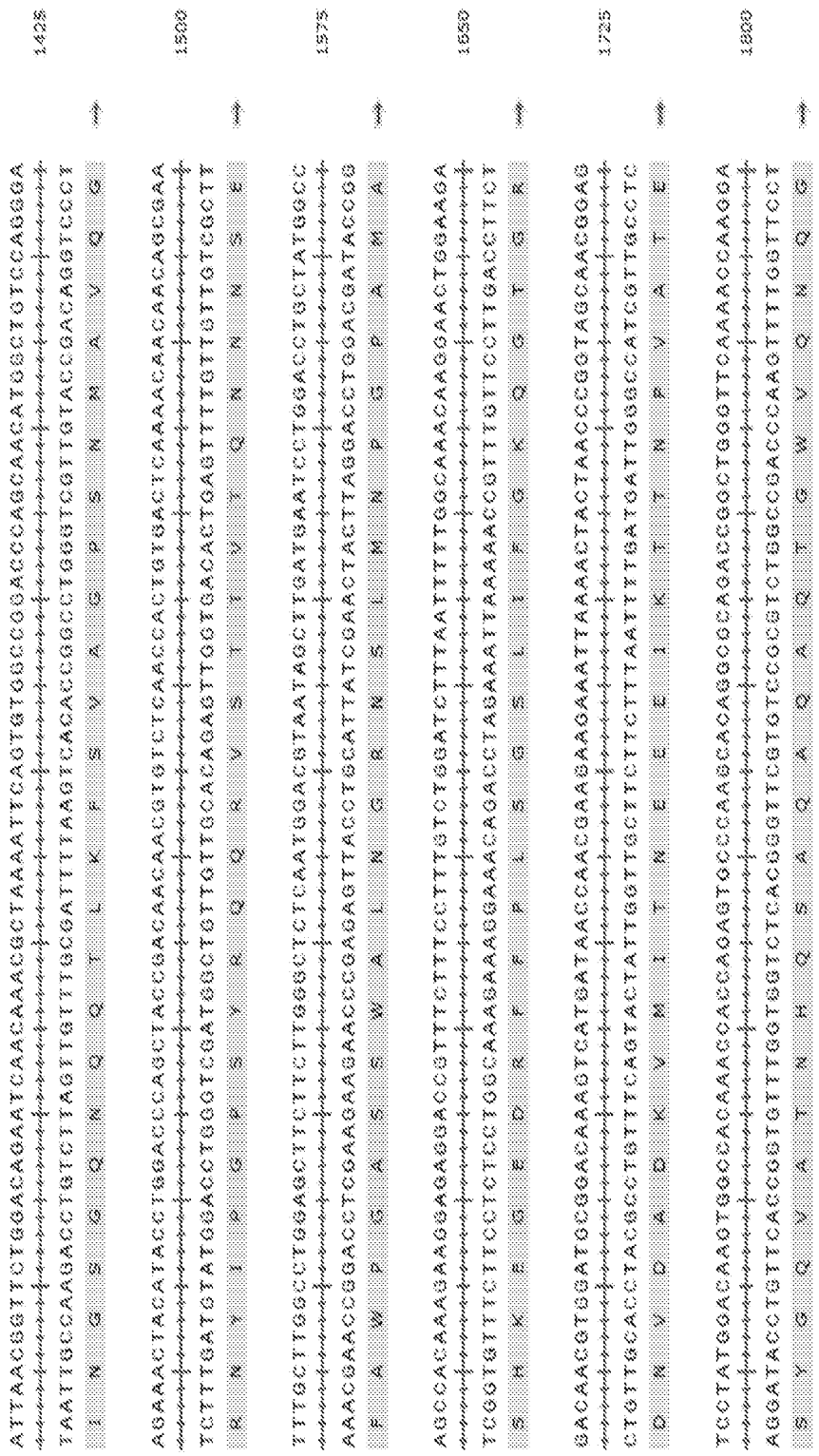
AAV 9.1

FIG. 1K (Continued)



AAV 9.1

FIG. 1K (Continued)



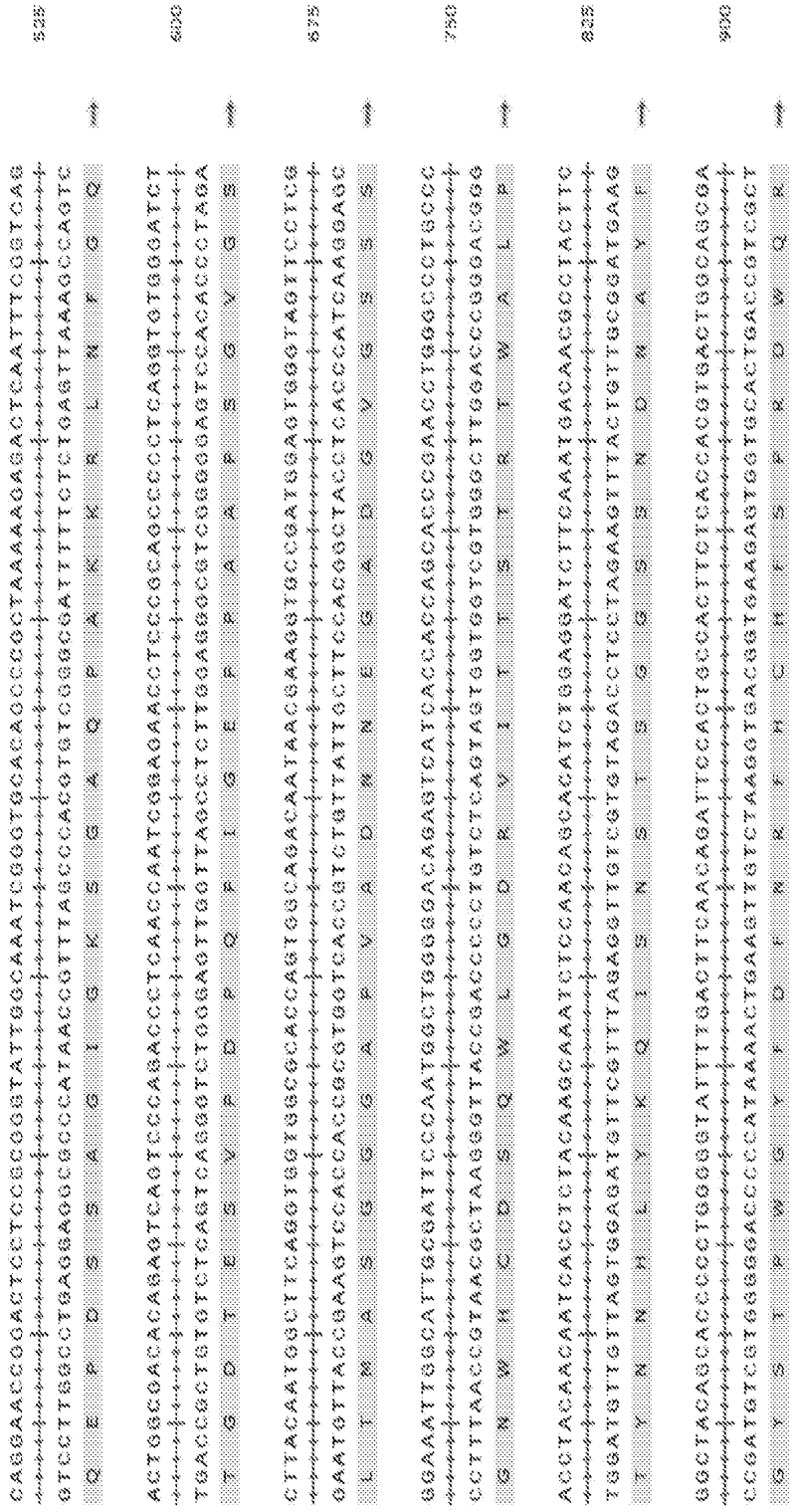
AAV 9.1

FIG. 1K (Continued)

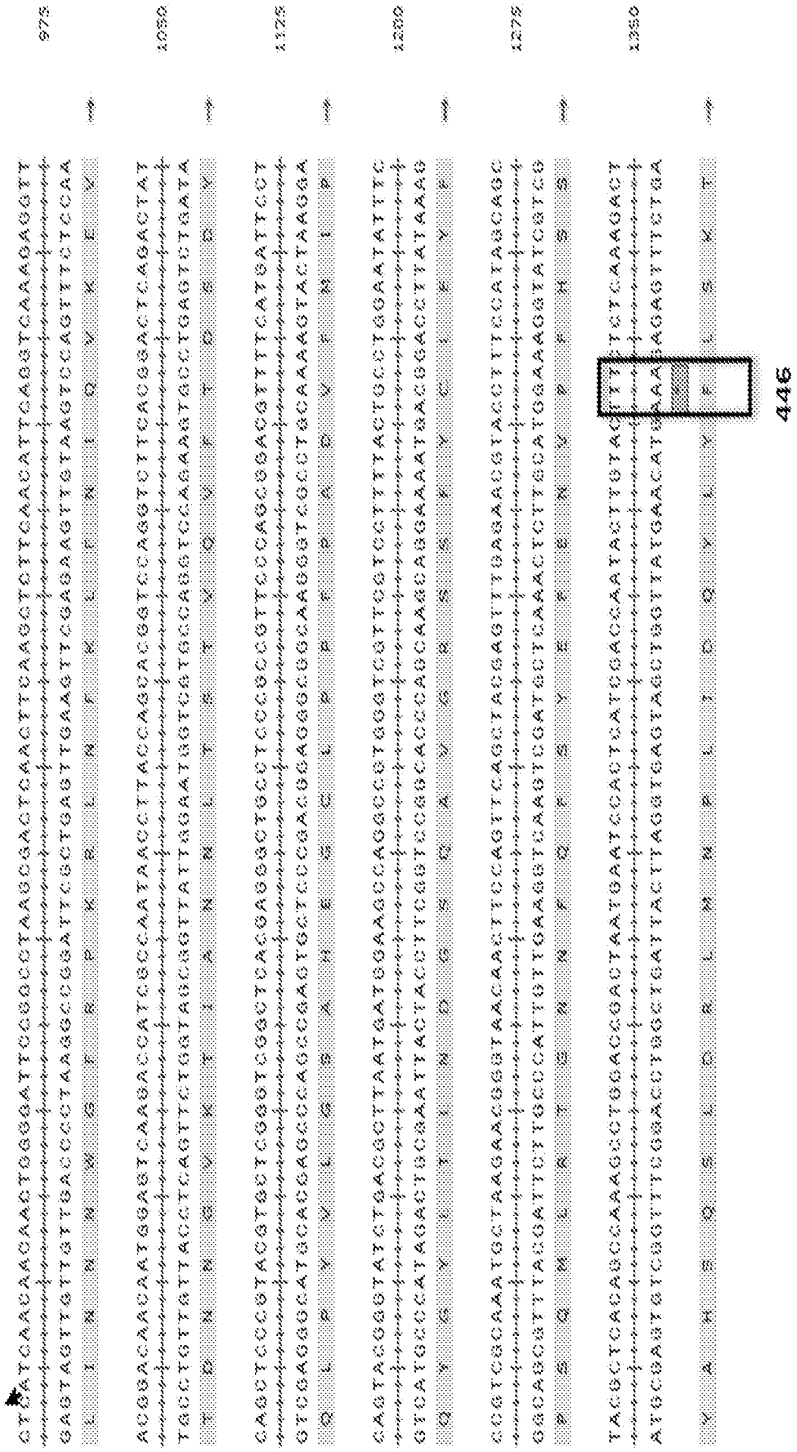


AAV 9.1

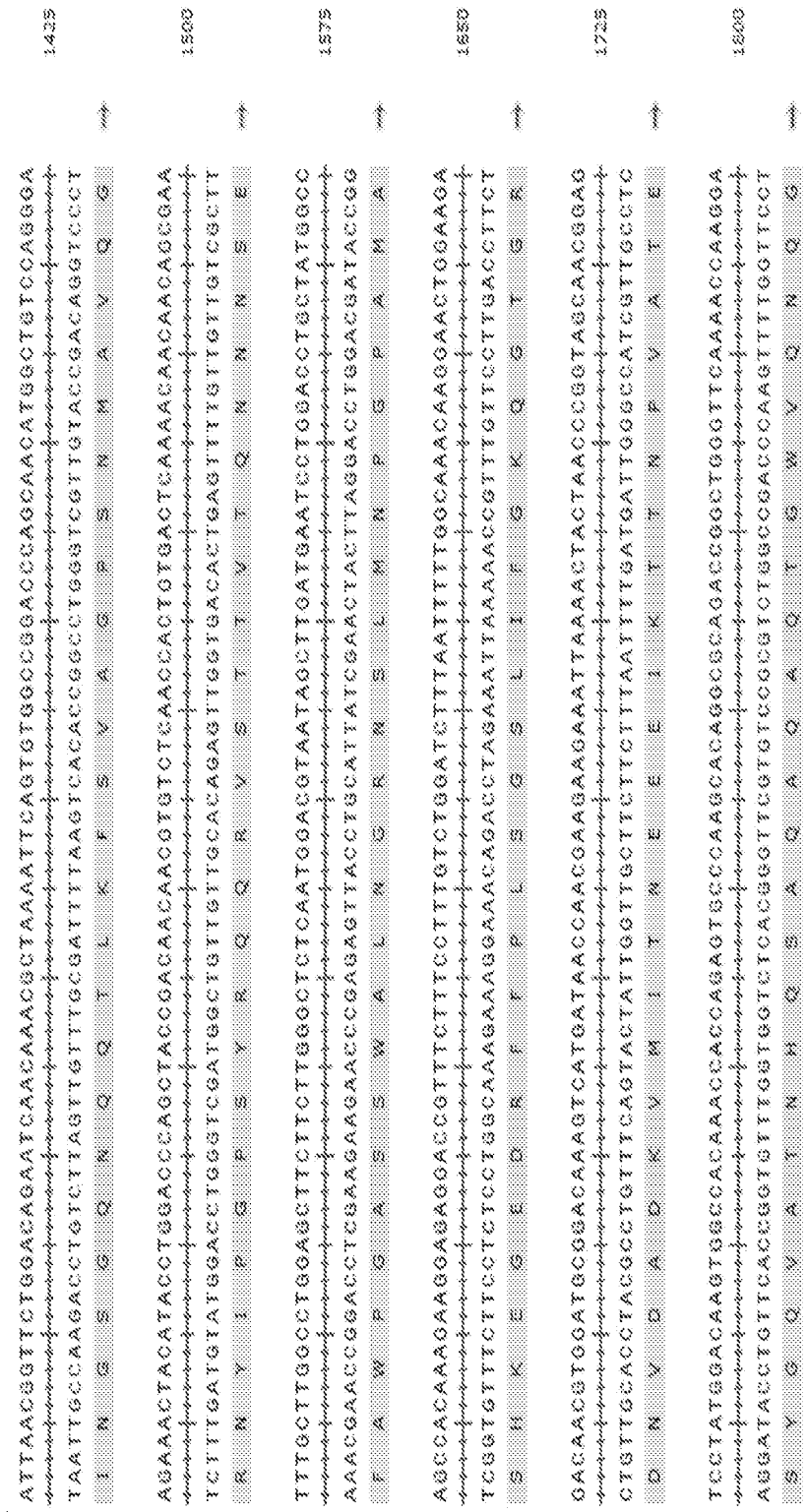
FIG. 1K (Concluded)



AAV 9.2
FIG. 1L



AAV 9.2
FIG. 1L (Continued)



AAV 9.2
FIG. 1L (Continued)



FIG. 1L (Concluded)



FIG. 1M



AZUL DOMAIN

FIG 1N

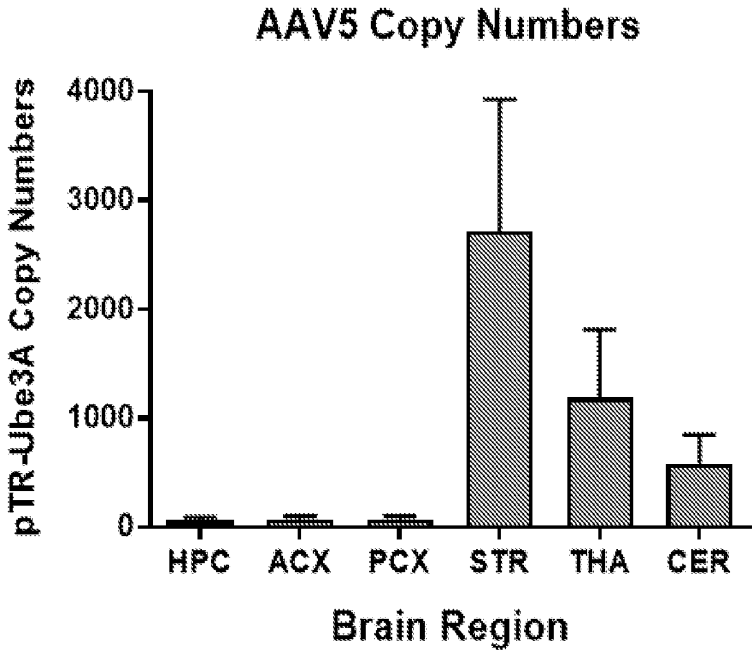

AAV5 Copy Numbers
pTR-Ube3A Copy Numbers
4000
3000
2000
1000
0
HPC
ACX
PCX
STR
THA
CER
Brain Region

FIG. 2A

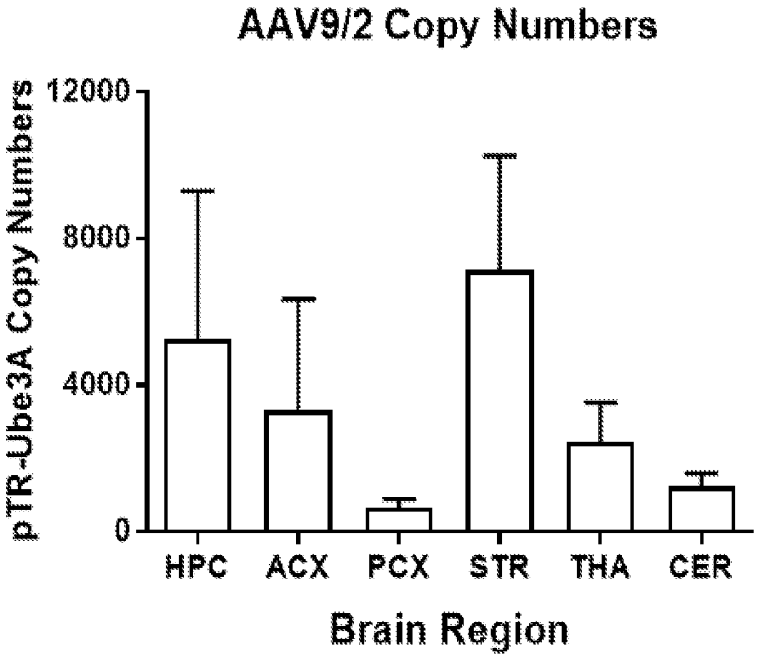

AAV9/2 Copy Numbers
pTR-Ube3A Copy Numbers
12000
8000
4000
0
HPC
ACX
PCX
STR
THA
CER
Brain Region

FIG. 2B

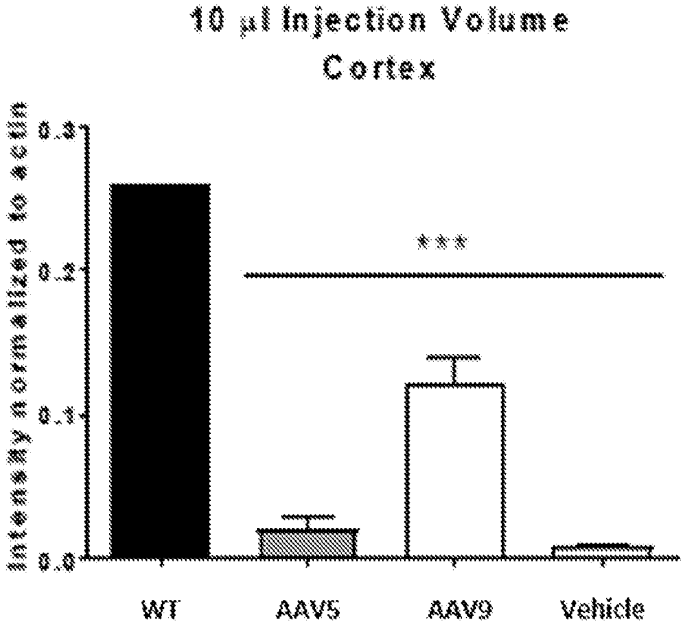

10 µl Injection Volume
Cortex
Intensity normalized to actin
0.3
0.2
0.1
0.0
***
WT
AAV5
AAV9
Vehicle

FIG. 3A

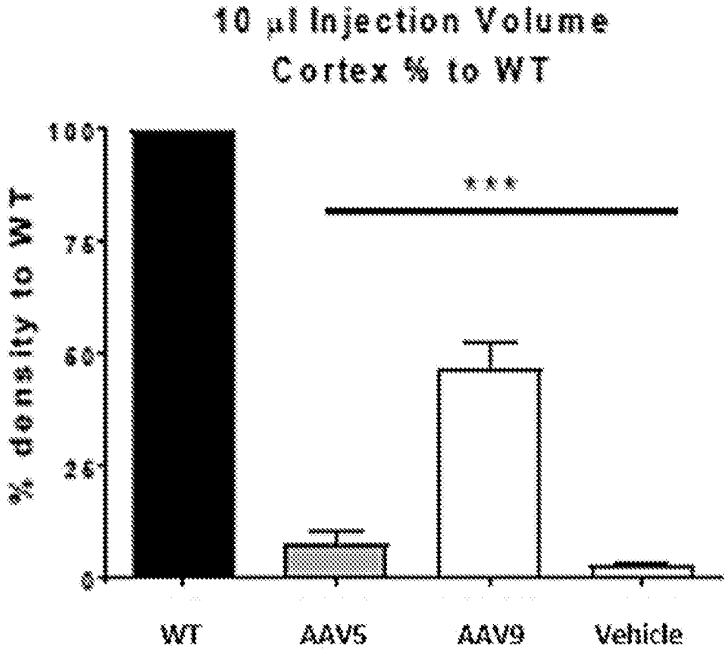

10 µl Injection Volume
Cortex % to WT
% density to WT
100
75
50
25
0
***
WT
AAV5
AAV9
Vehicle

FIG. 3B

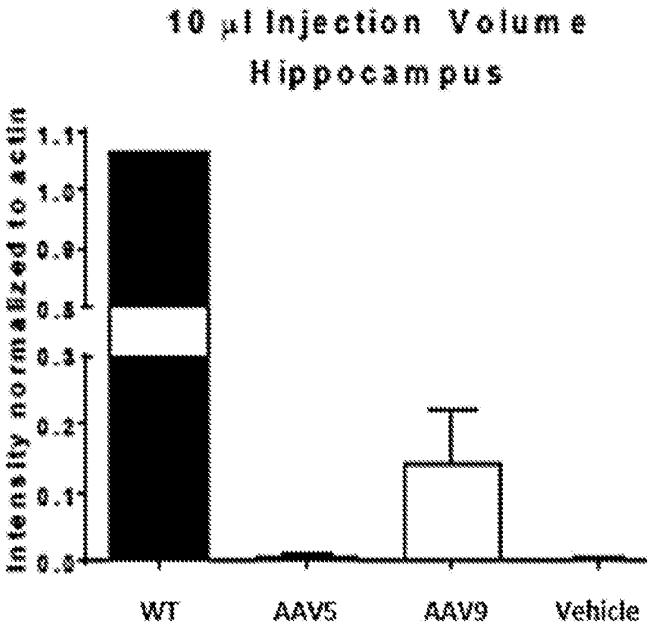

10 µl Injection Volume
Hippocampus
Intensity normalized to actin
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
WT
AAV5
AAV9
Vehicle

FIG. 3C

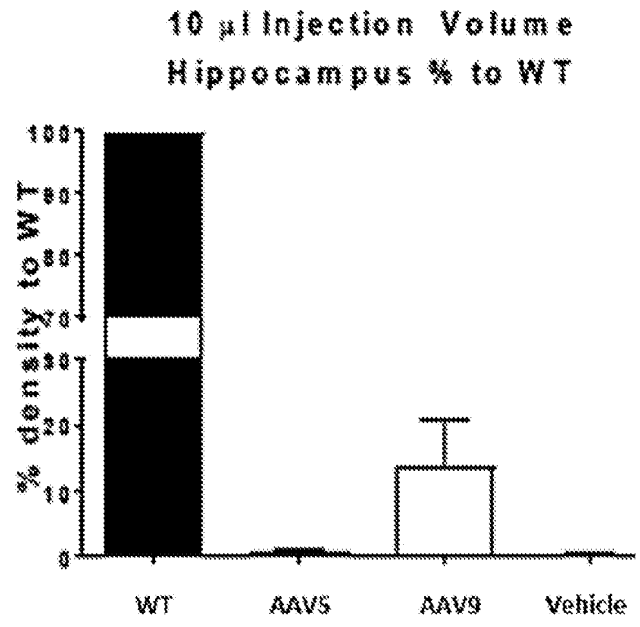

10 µl Injection Volume
Hippocampus % to WT
% density to WT
100
90
80
70
60
50
40
30
20
10
0
WT
AAV5
AAV9
Vehicle

FIG. 3D

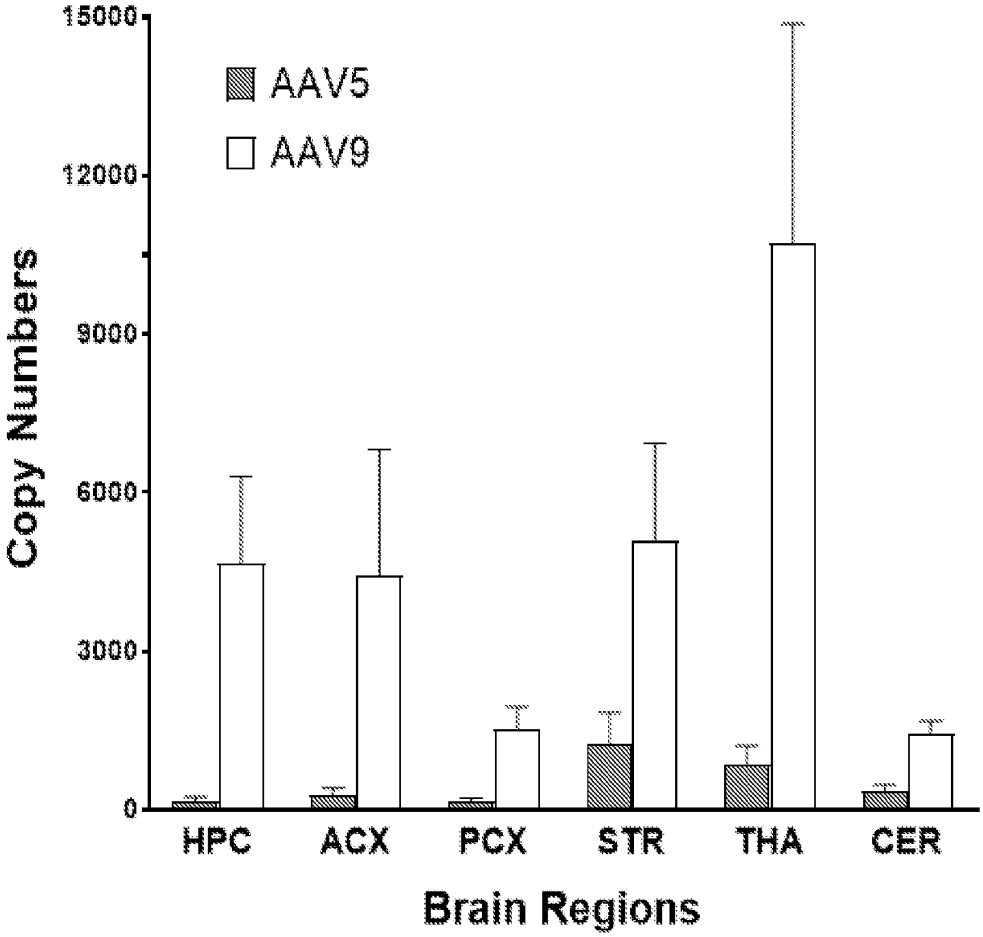

15000
12000
9000
6000
3000
0
Copy Numbers
AAV5
AAV9
HPC
ACX
PCX
STR
THA
CER
Brain Regions

FIG. 4

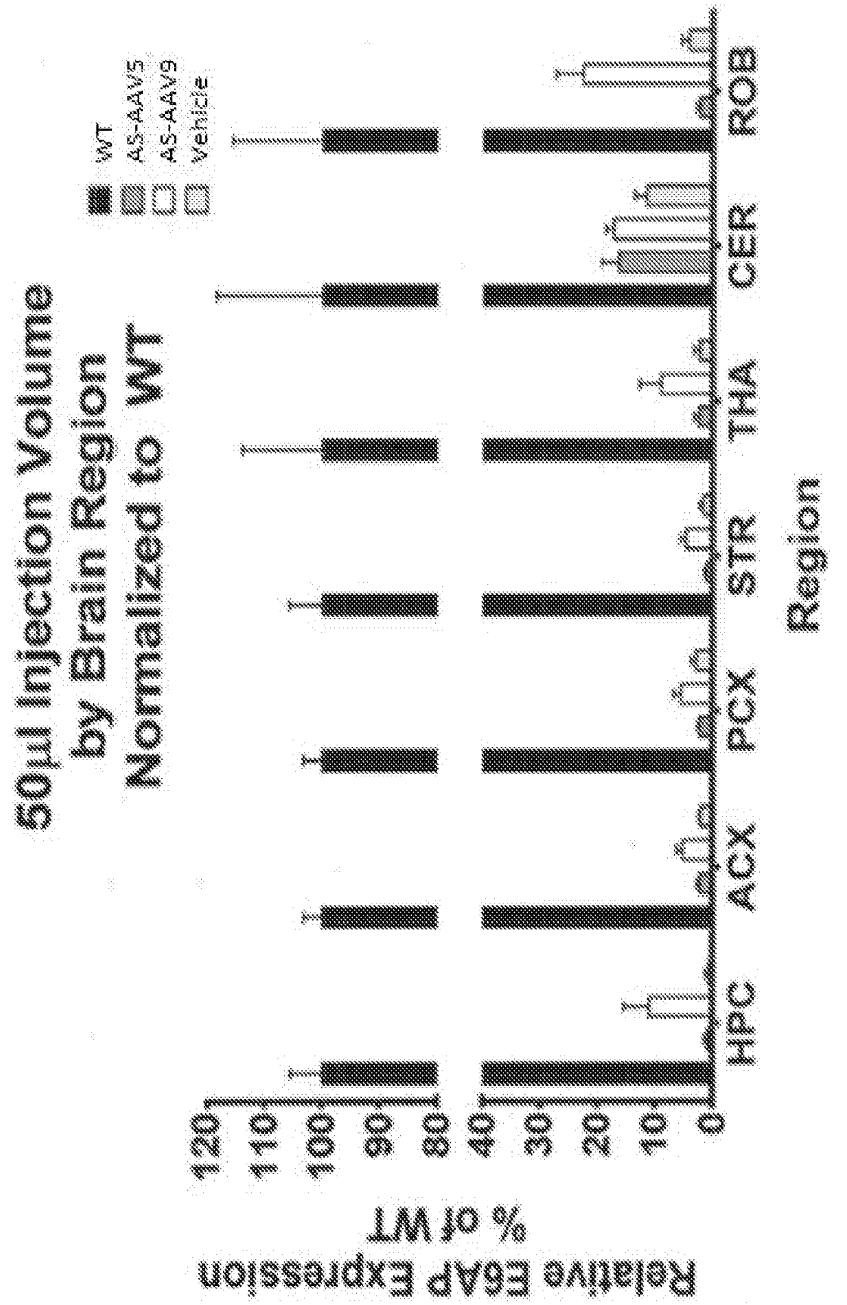

50µl Injection Volume
by Brain Region
Normalized to WT
WT
AS-AAV5
AS-AAV9
Vehicle
Relative E6AP Expression
% of WT
120
110
100
90
80
40
30
20
10
0
HPC
ACX
PCX
STR
THA
CER
ROB
Region

FIG. 5A

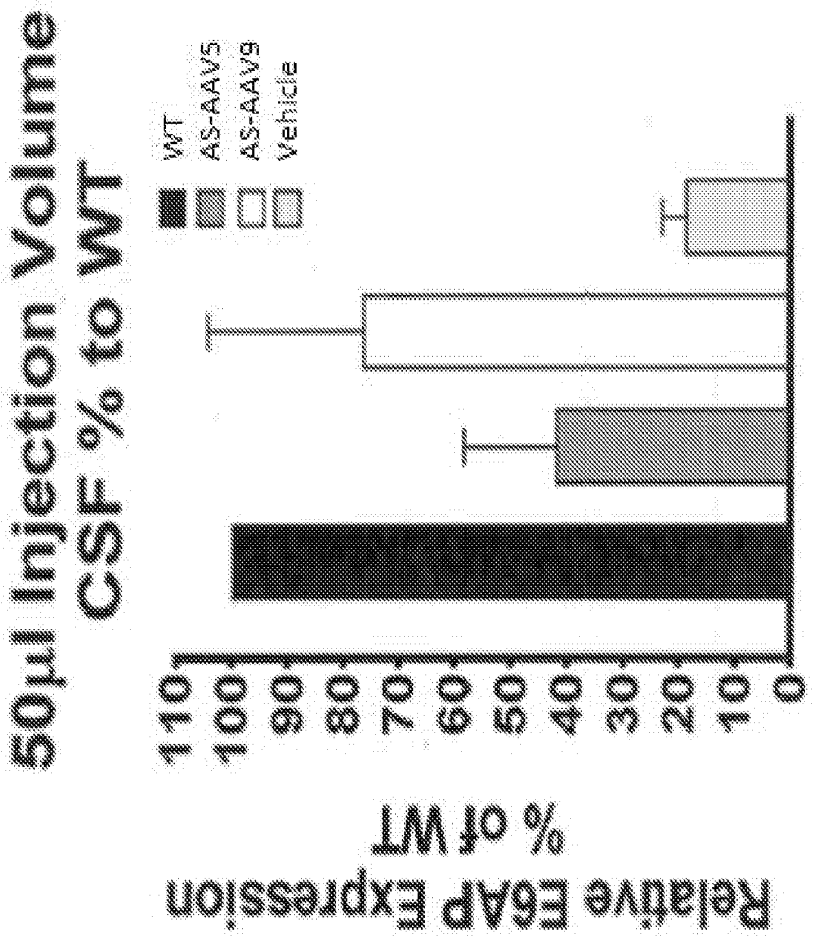

50µl Injection Volume
CSF % to WT
WT
AS-AAV5
AS-AAV9
Vehicle
110
100
90
80
70
60
50
40
30
20
10
0
Relative E6AP Expression
% of WT

FIG. 5B

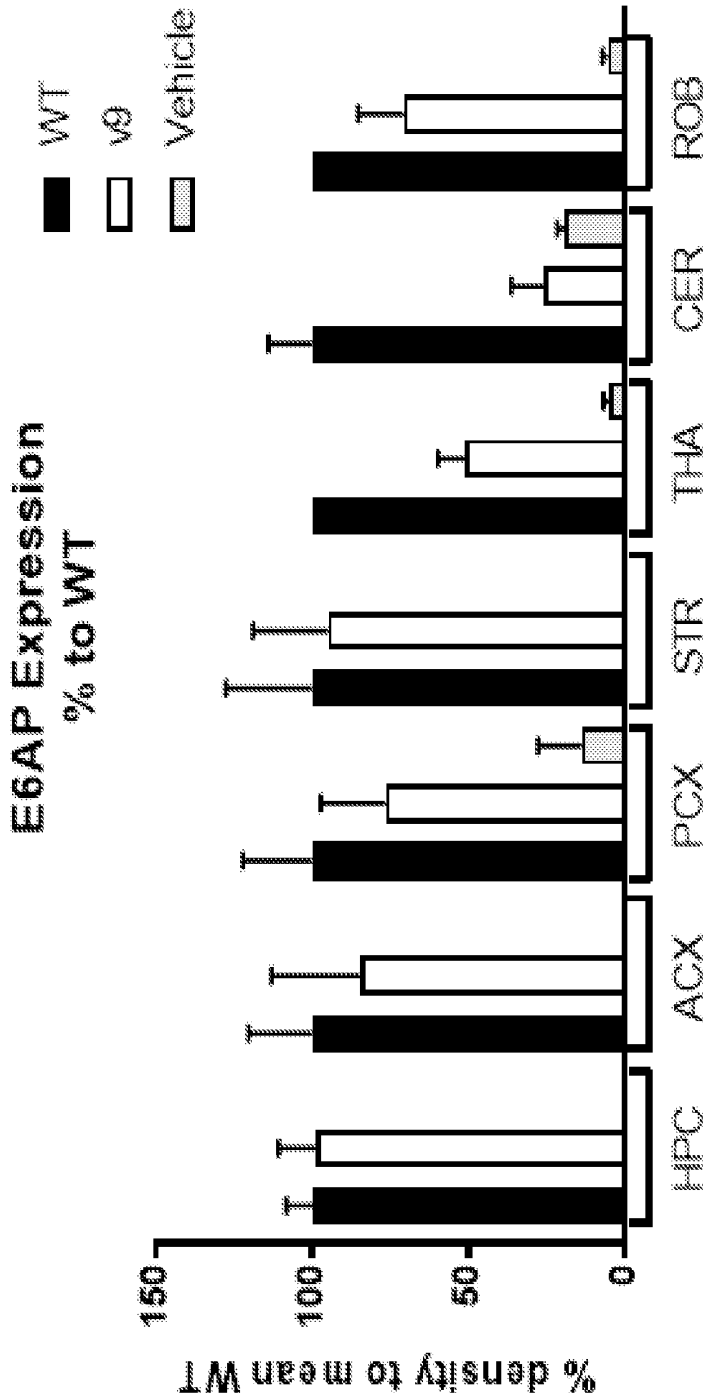

E6AP Expression
% to WT
WT
v9
Vehicle
% density to mean WT
150
100
50
0
HPC
ACX
PCX
STR
THA
CER
ROB

FIG. 6

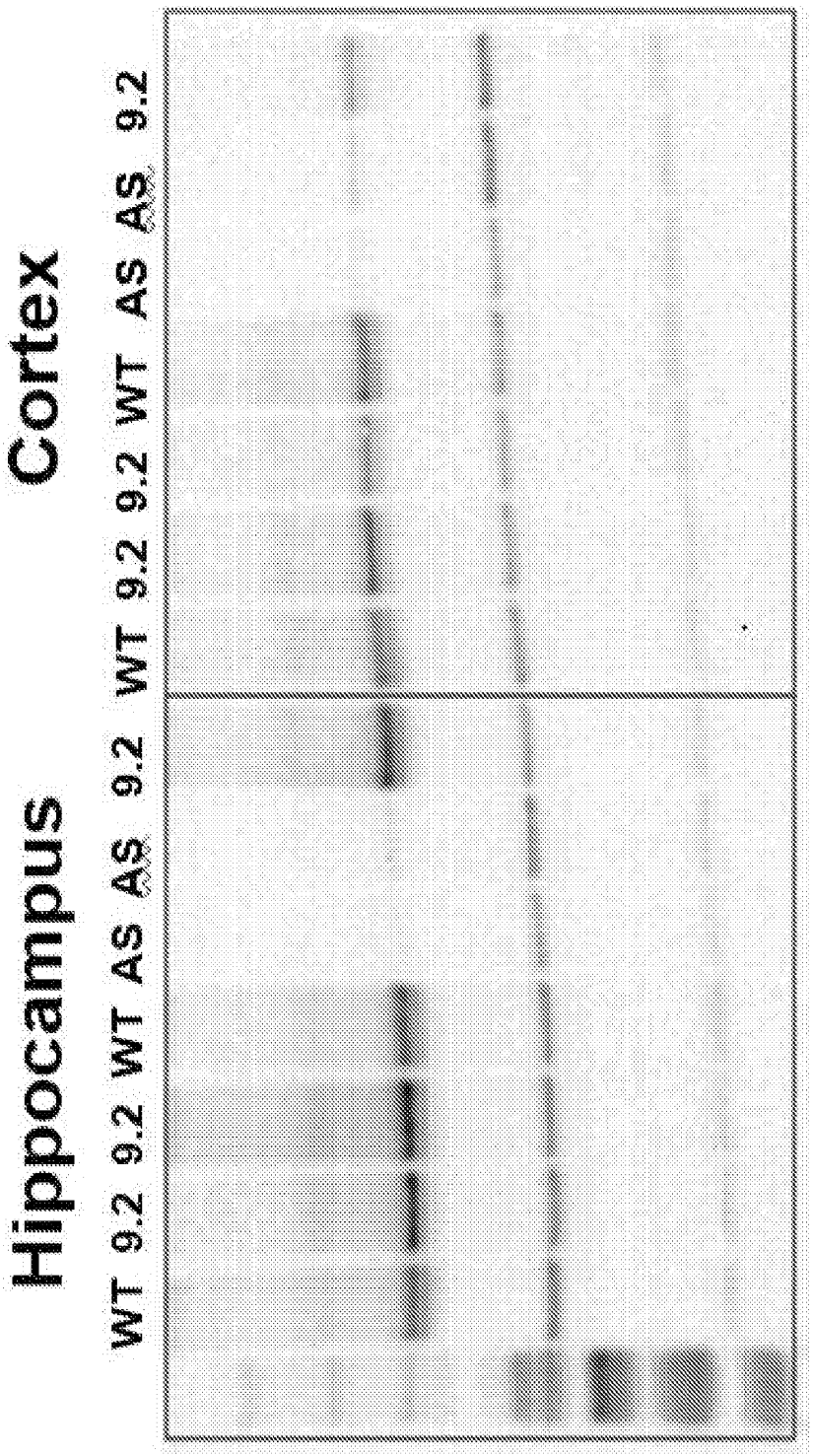


FIG. 7A

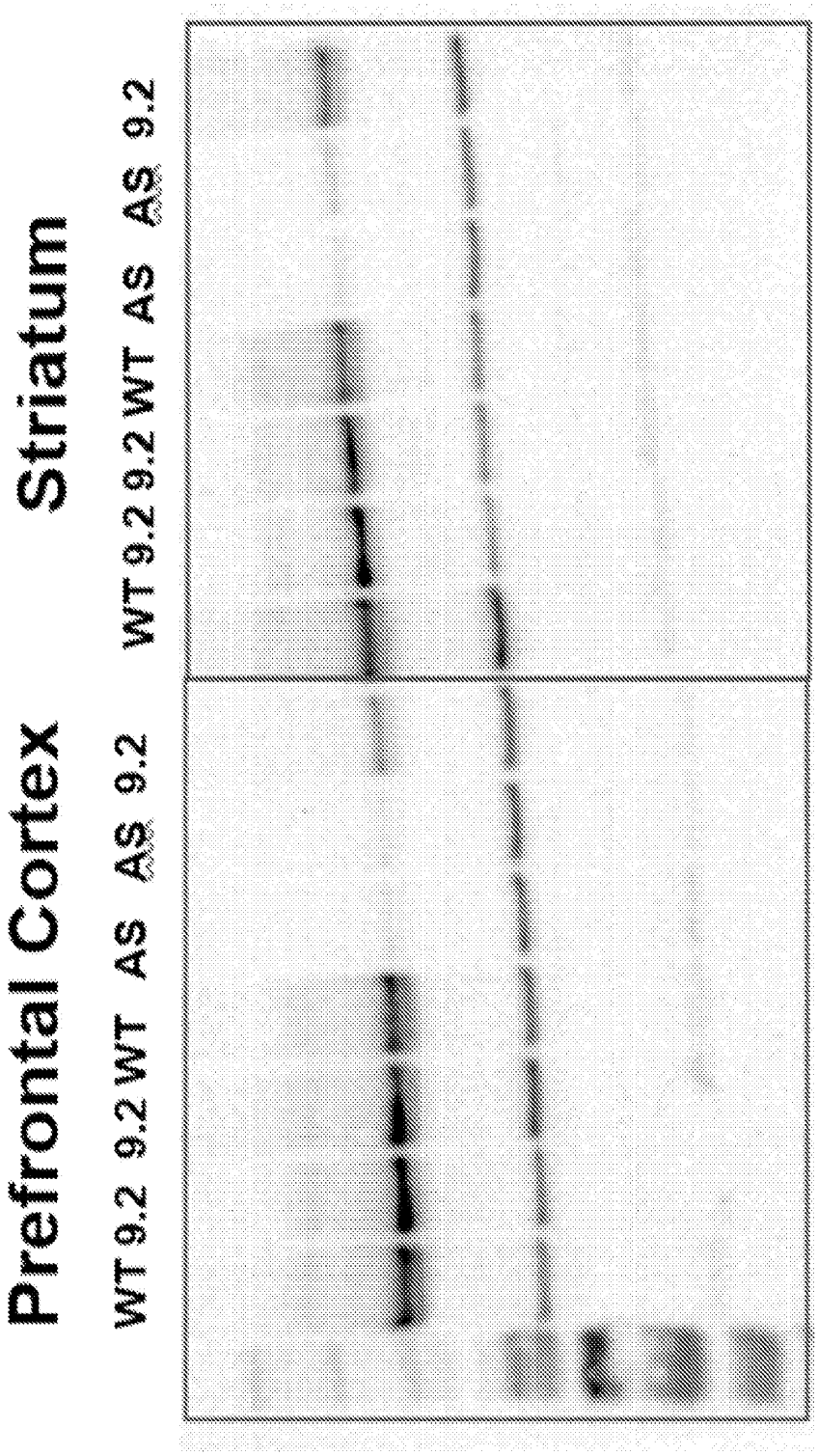

Prefrontal Cortex
WT 9.2 9.2 WT AS AS 9.2
Striatum
WT 9.2 9.2 WT AS AS 9.2

FIG. 7B

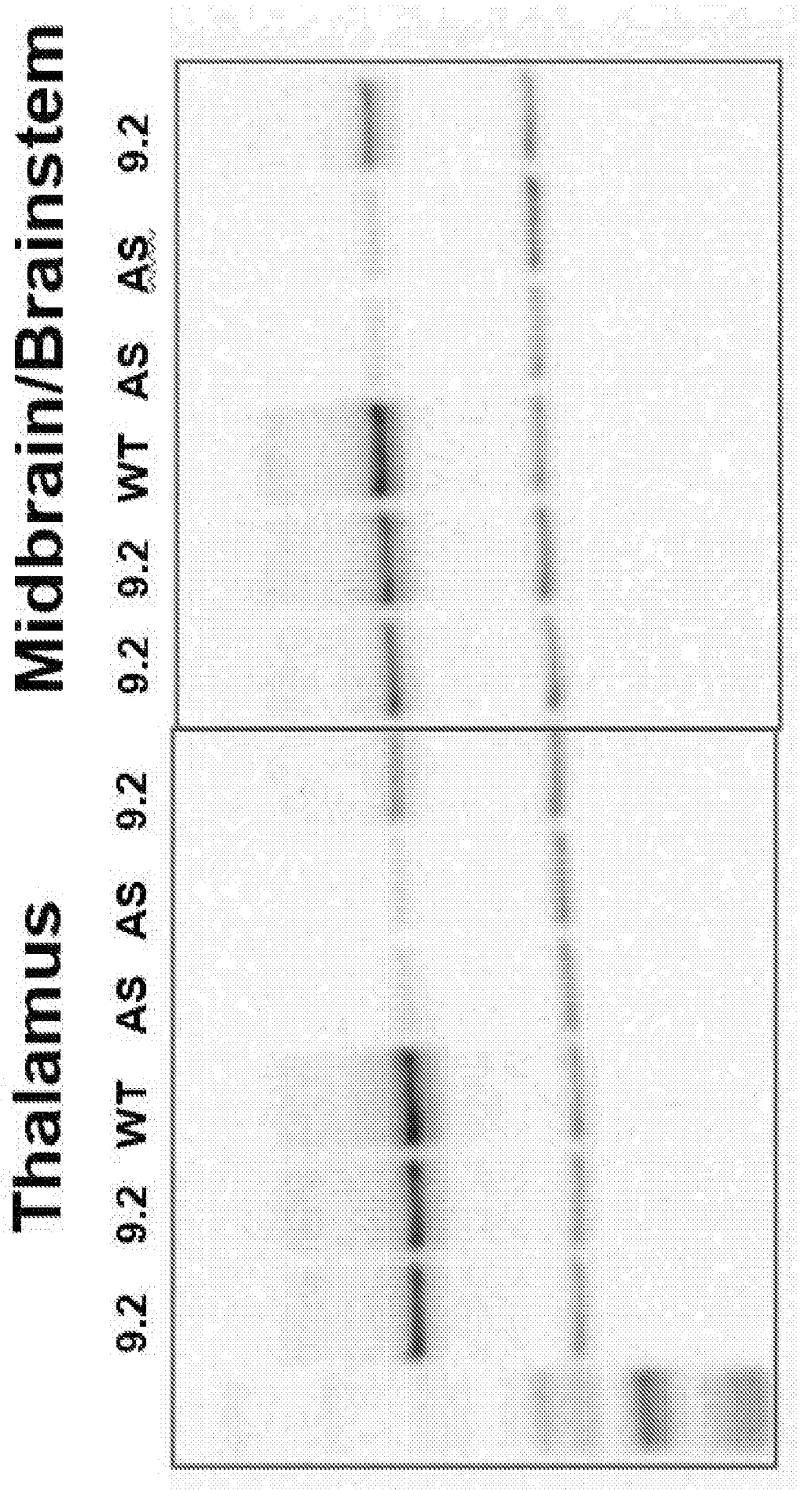


FIG. 7C

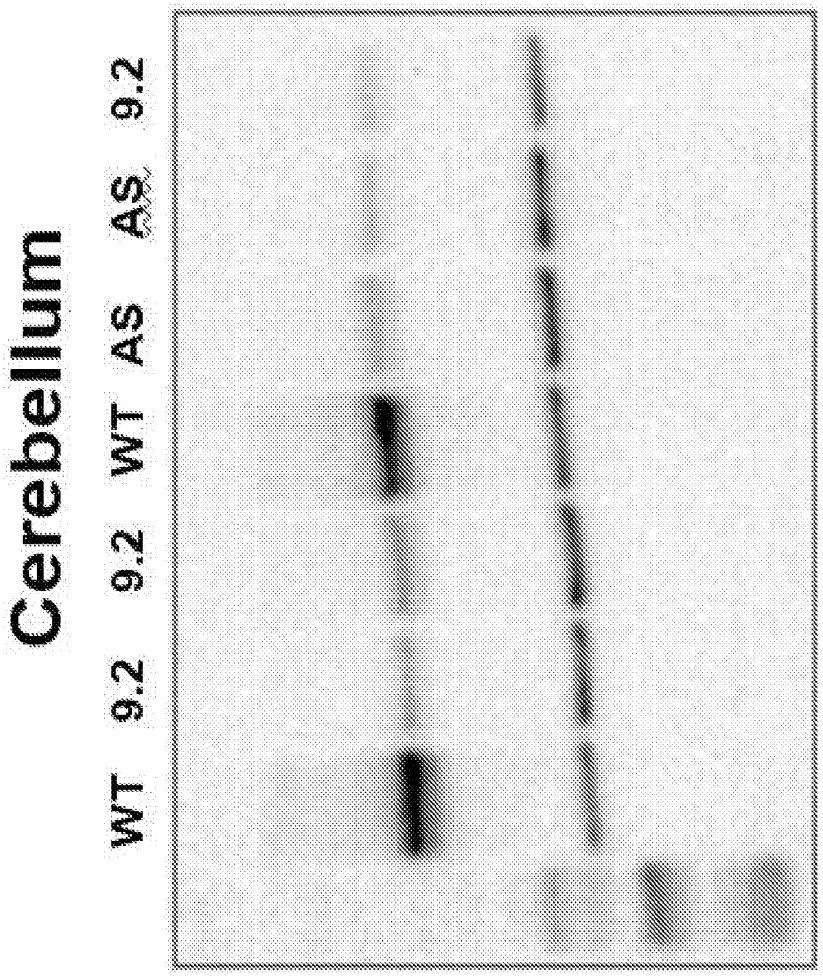


FIG. 7D

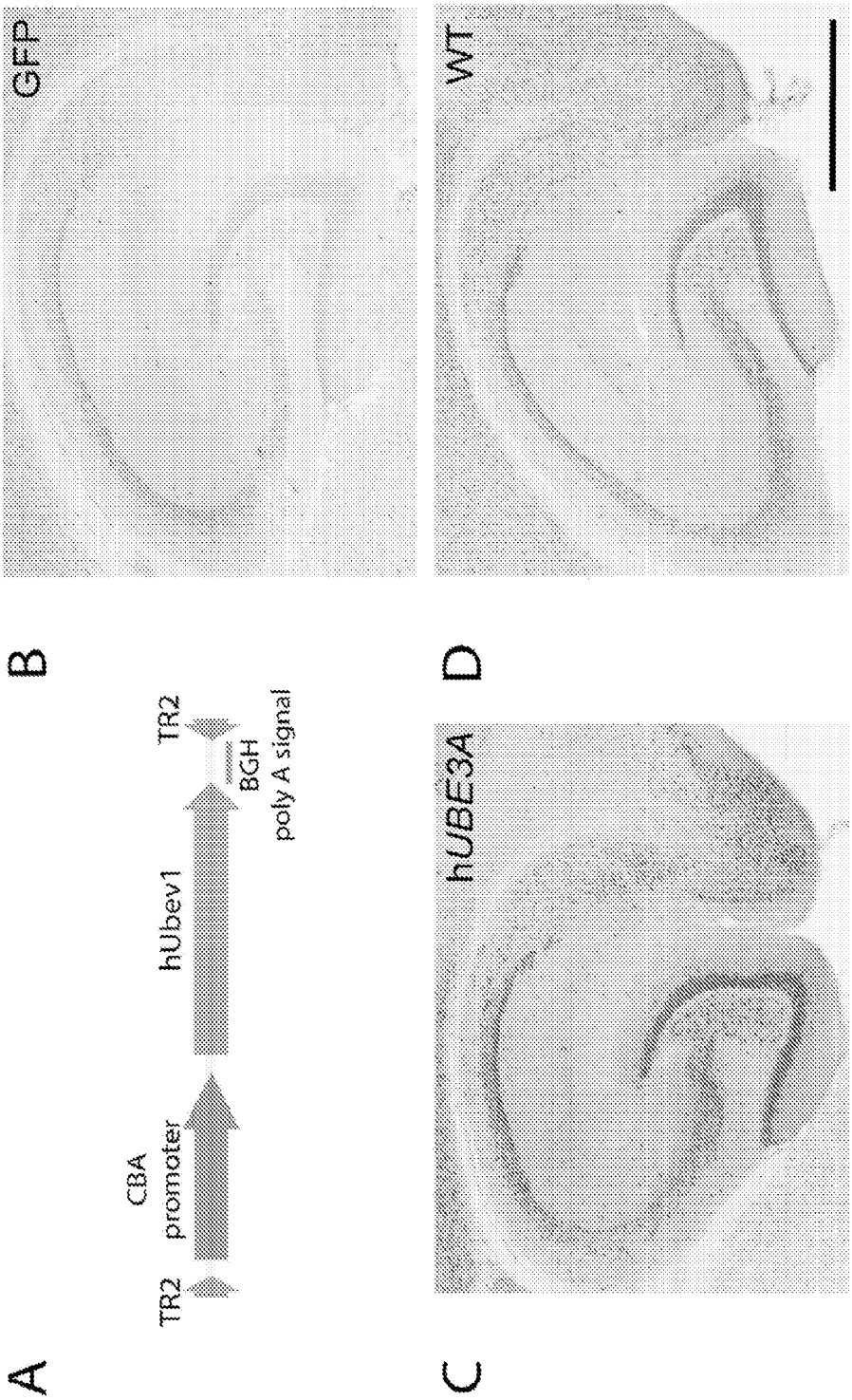

A
TR2
CBA promoter
hUbev1
TR2
BGH poly A signal
B
GFP
C
hUBE3A
D
WT

FIG. 8

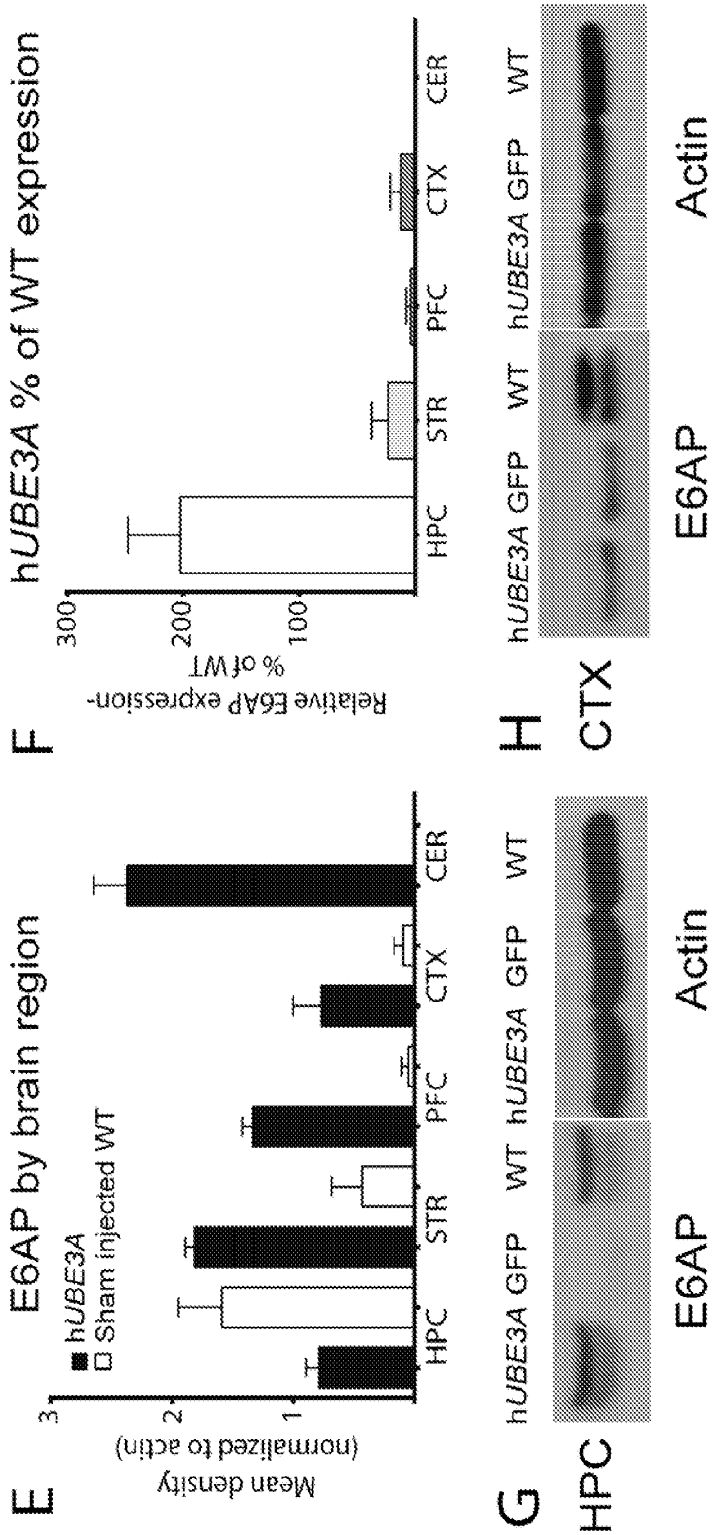


FIG. 8 (Concluded)

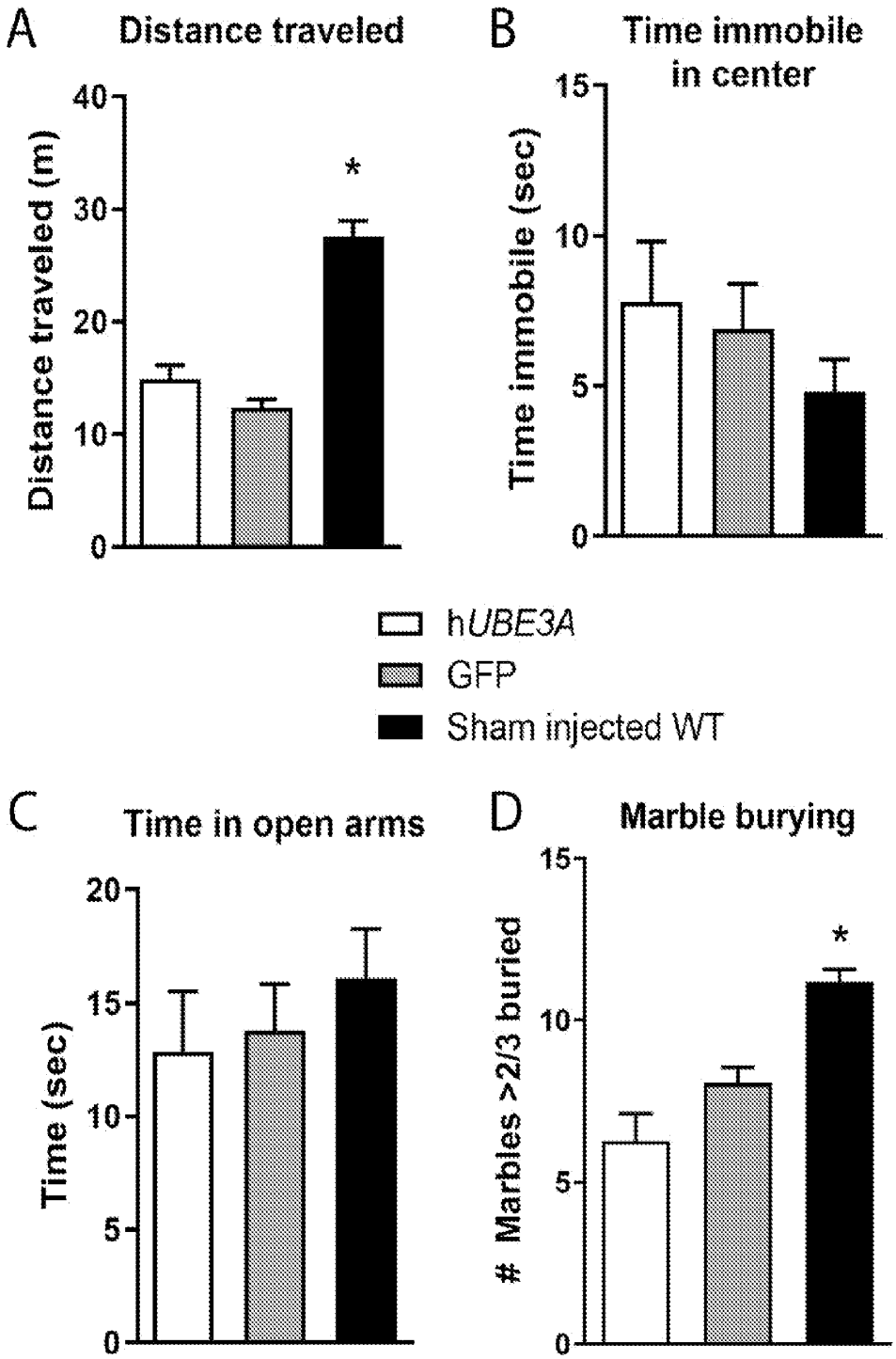

A
Distance traveled
Distance traveled (m)
40
30
20
10
0
*
B
Time immobile in center
Time immobile (sec)
15
10
5
0
hUBE3A
GFP
Sham injected WT
C
Time in open arms
Time (sec)
20
15
10
5
0
D
Marble burying
Marbles >2/3 buried
15
10
5
0
*

FIG. 9

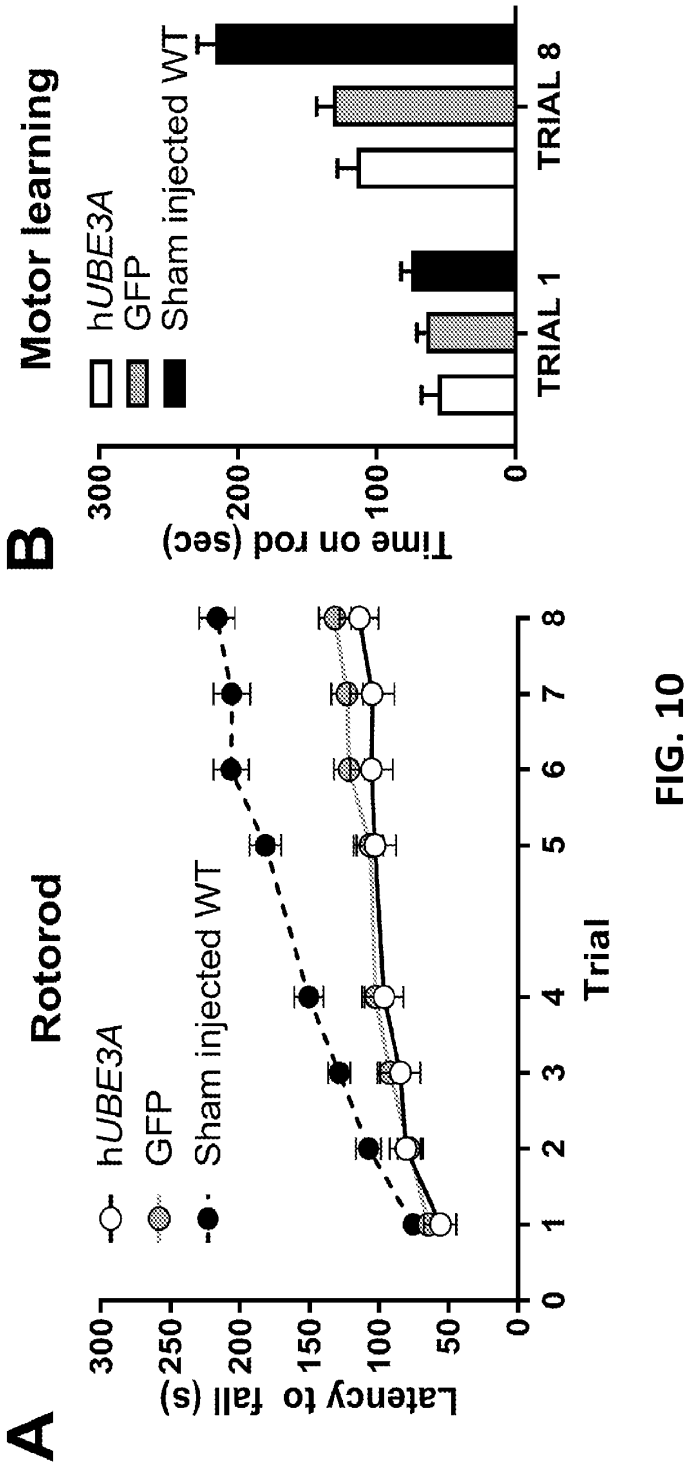

A
Rotorod
hUBE3A
GFP
Sham injected WT
Latency to fall (s)
300
250
200
150
100
50
0
0 1 2 3 4 5 6 7 8
Trial
B
Motor learning
hUBE3A
GFP
Sham injected WT
Time on rod (sec)
300
200
100
0
TRIAL 1
TRIAL 8

FIG. 10

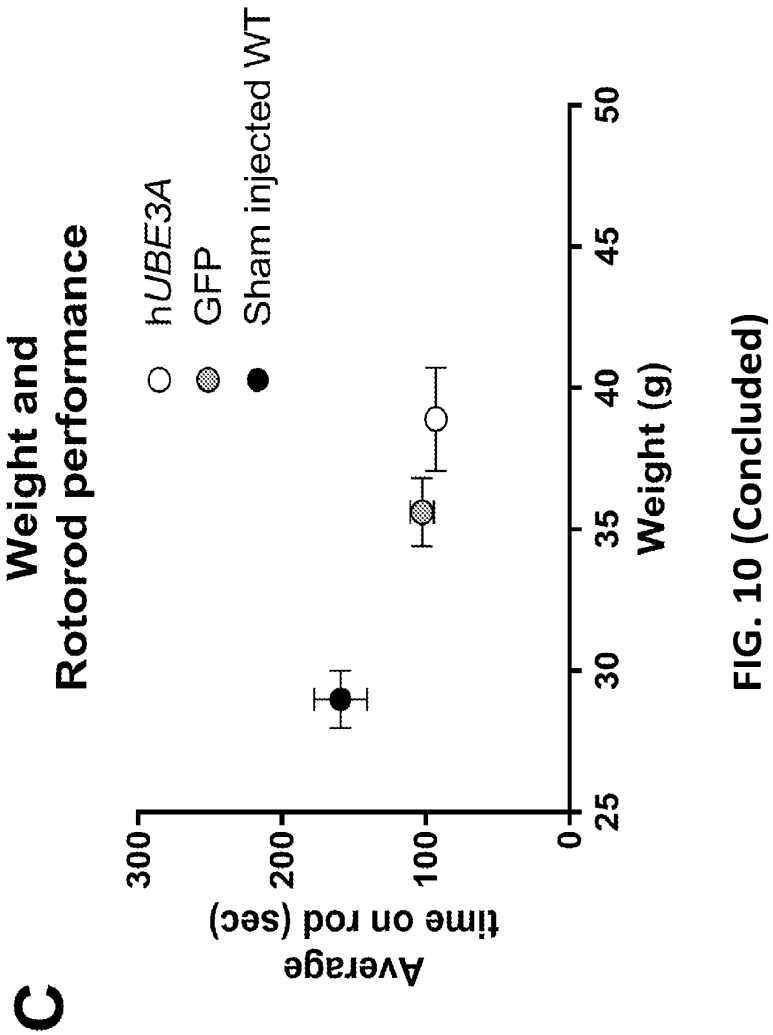


FIG. 10 (Concluded)

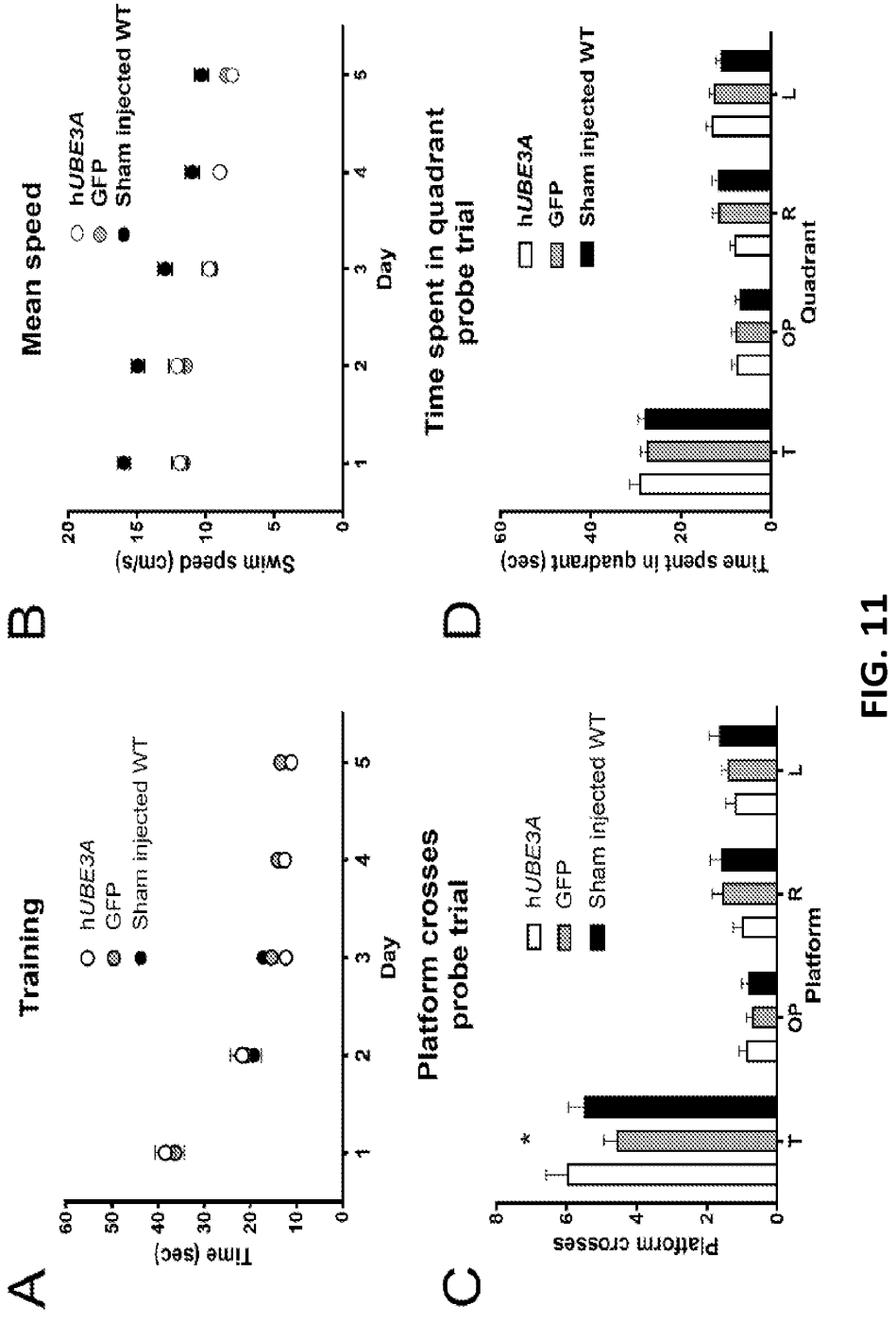

A
Training
hUBE3A
GFP
Sham injected WT
Time (sec)
Day
B
Mean speed
hUBE3A
GFP
Sham injected WT
Swim speed (cm/s)
Day
C
Platform crosses probe trial
hUBE3A
GFP
Sham injected WT
Platform crosses
Platform
T
OP
R
L
*
D
Time spent in quadrant probe trial
hUBE3A
GFP
Sham injected WT
Time spent in quadrant (sec)
Quadrant
T
OP
R
L

FIG. 11

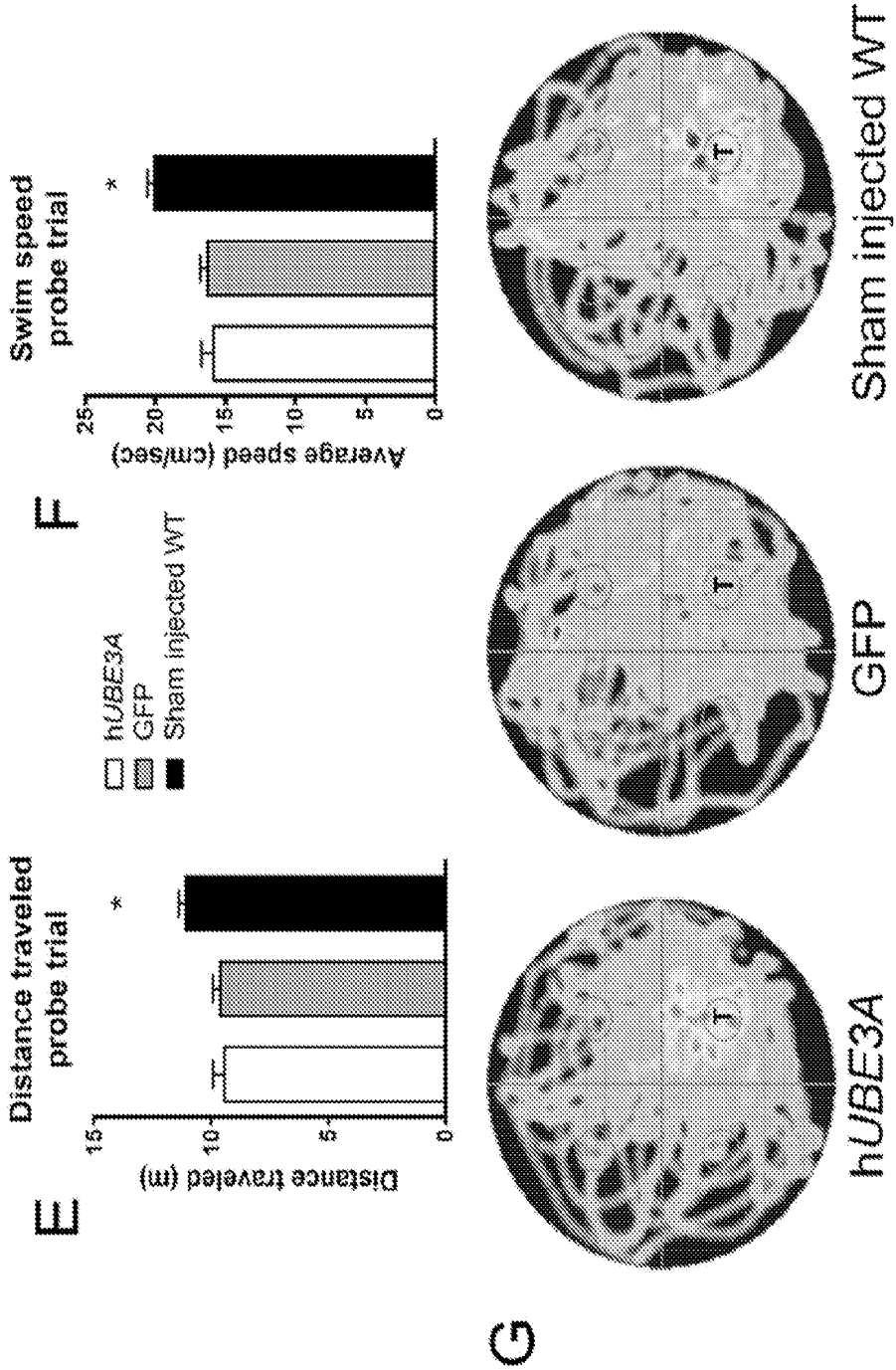


FIG. 11 (Concluded)

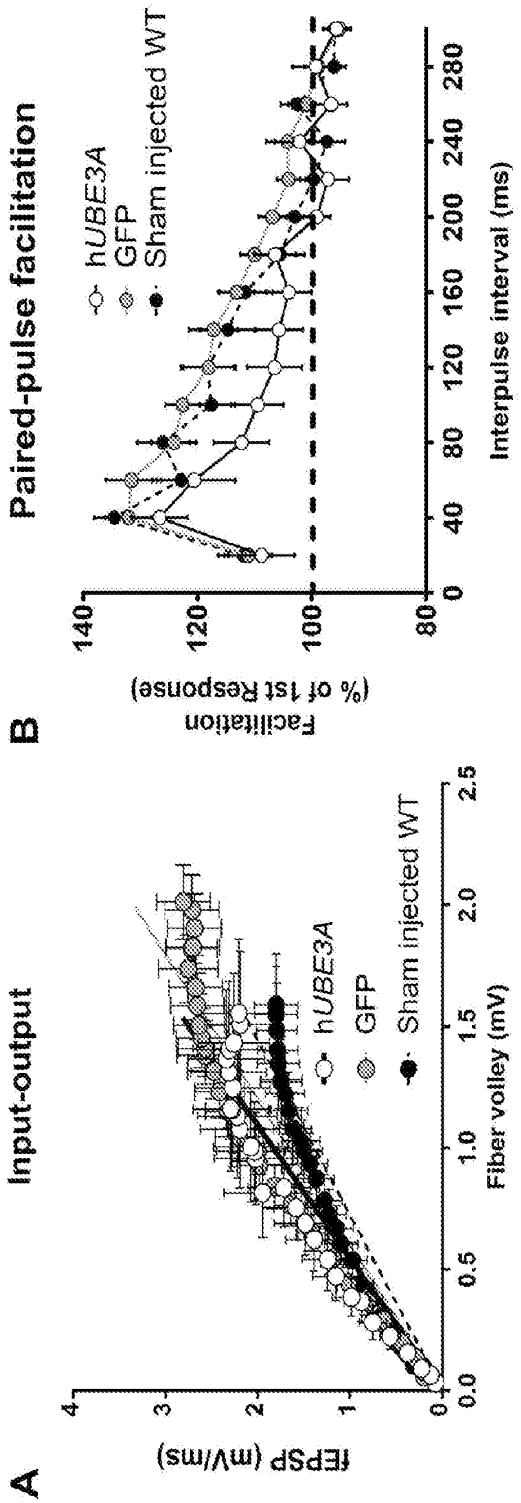

A
Input-output
fEPSP (mV/ms)
Fiber volley (mV)
hUBE3A
GFP
Sham injected WT
B
Paired-pulse facilitation
Facilitation
(% of 1st Response)
Interpulse interval (ms)
hUBE3A
GFP
Sham injected WT

FIG. 12

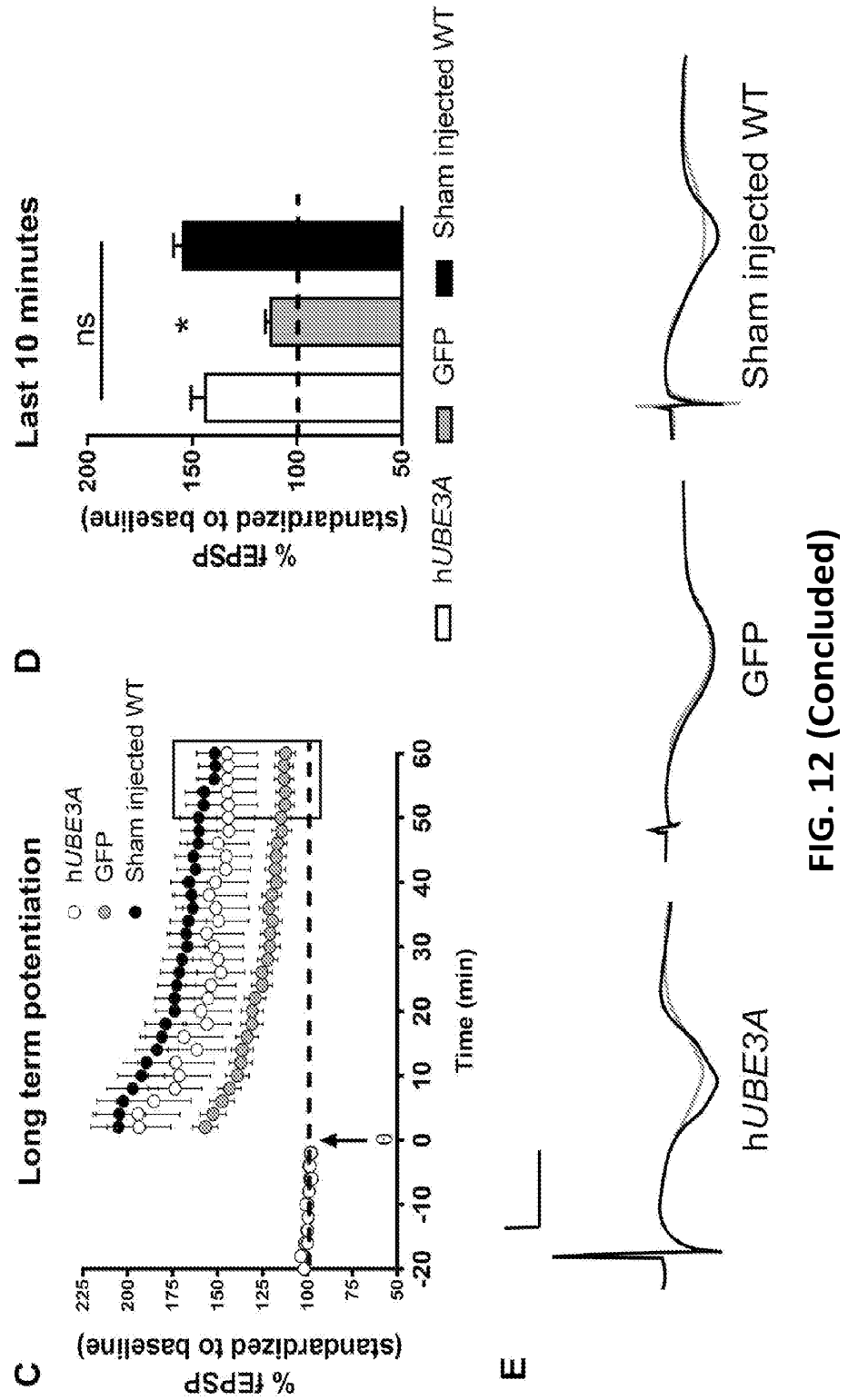


FIG. 12 (Concluded)