

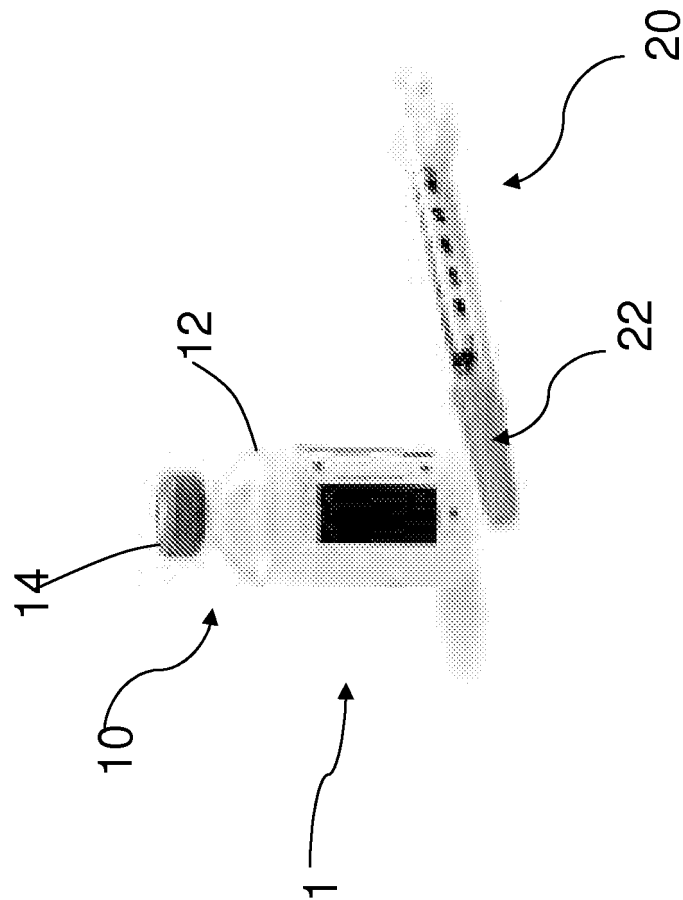


FIG. 1

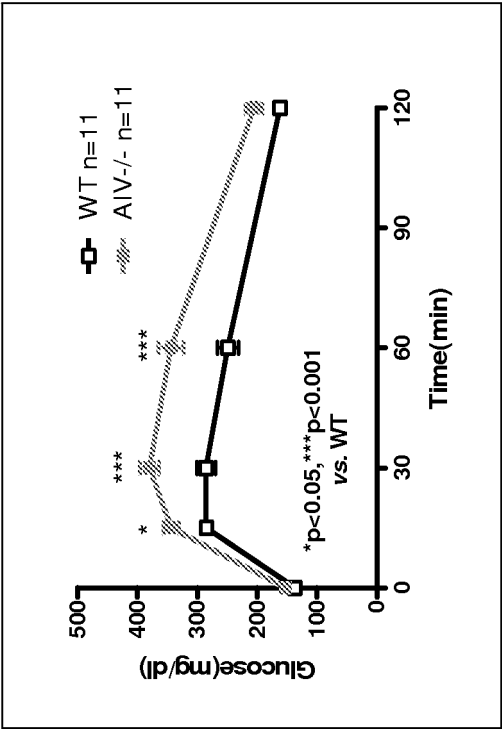


FIG. 2

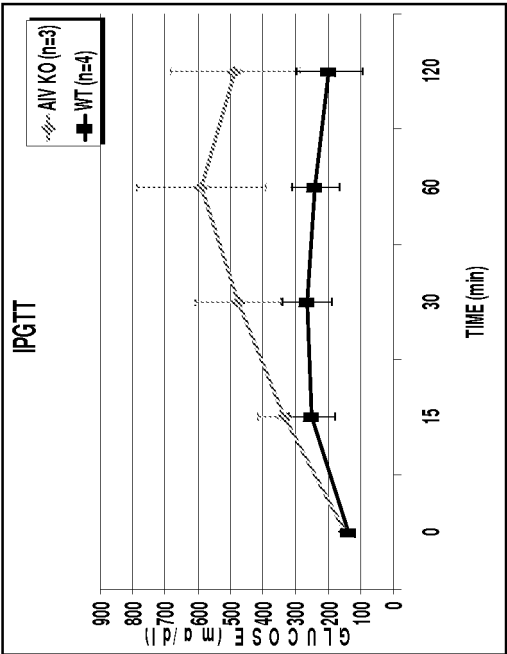


FIG. 3

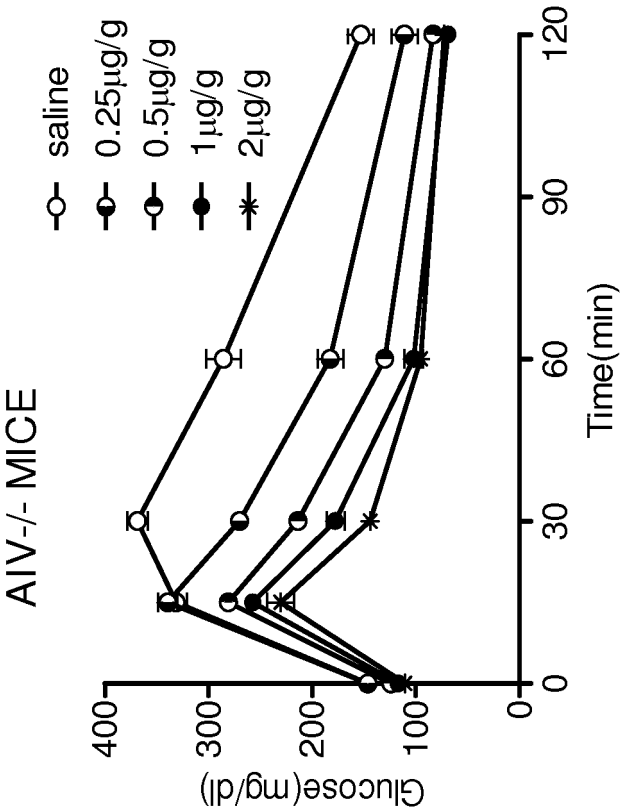


FIG. 4

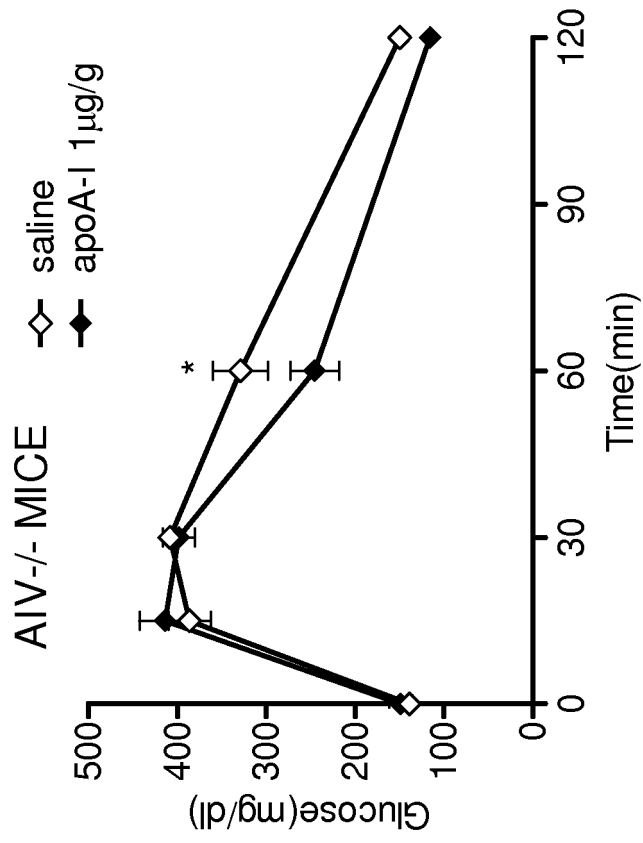


FIG. 5

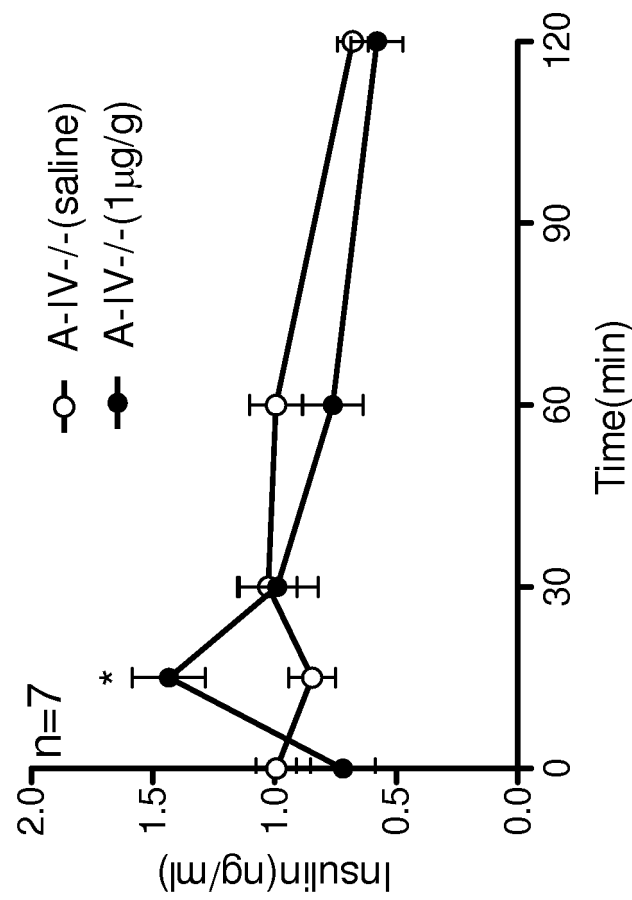


FIG. 6

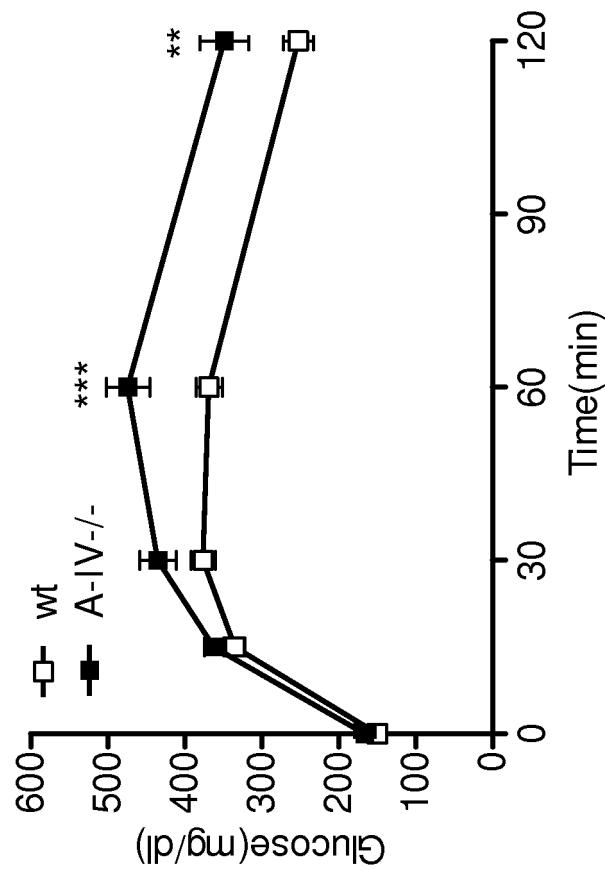


FIG. 7

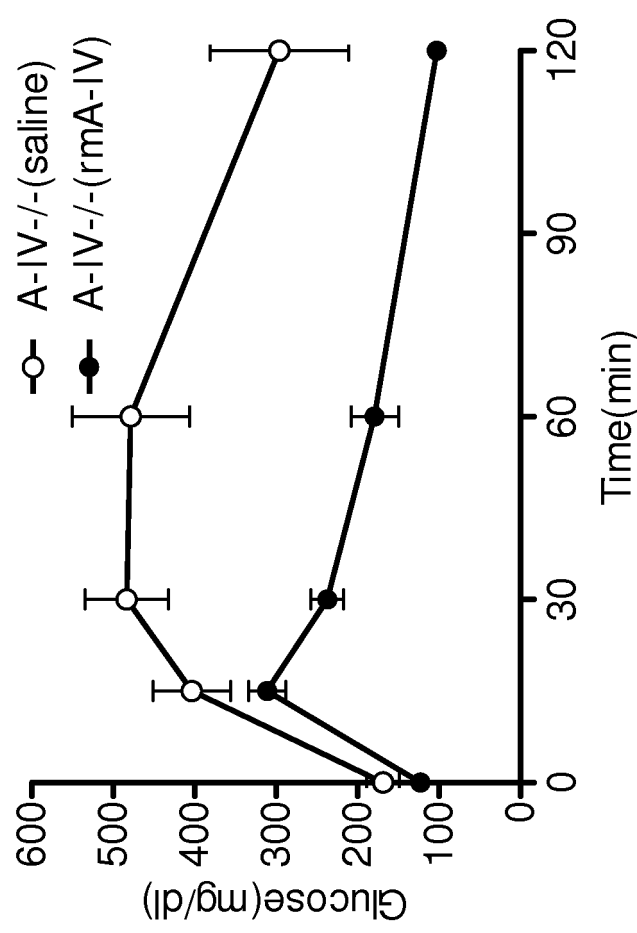


FIG. 8

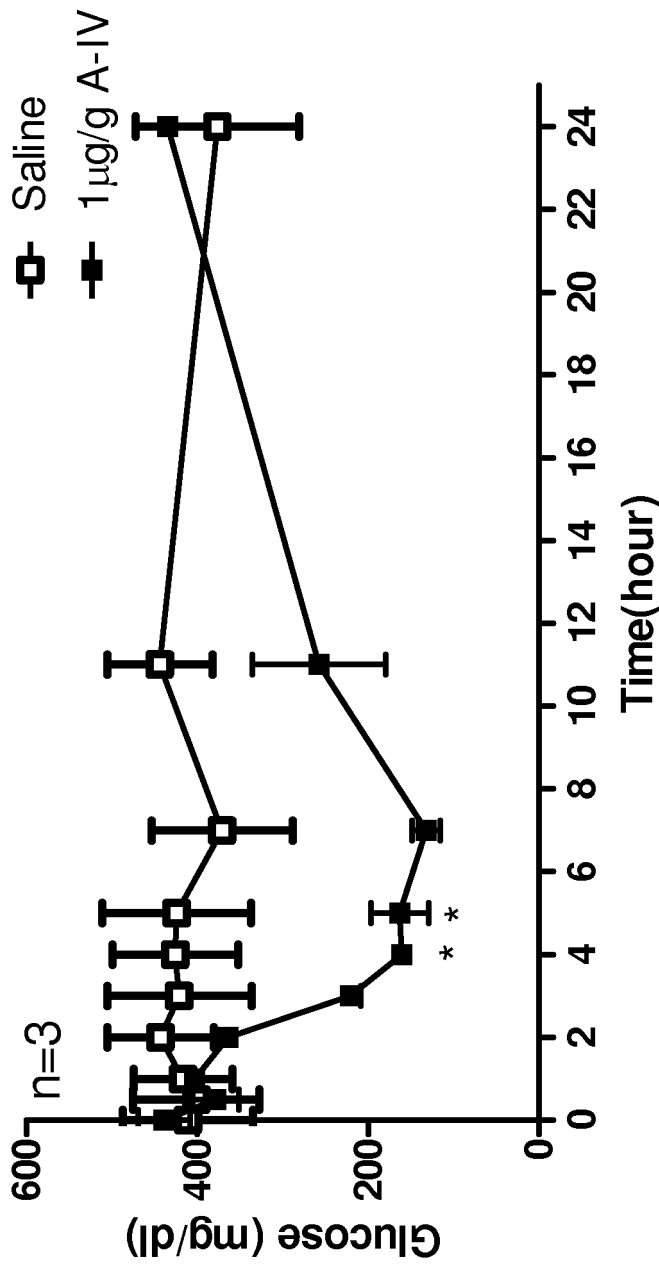


FIG. 9

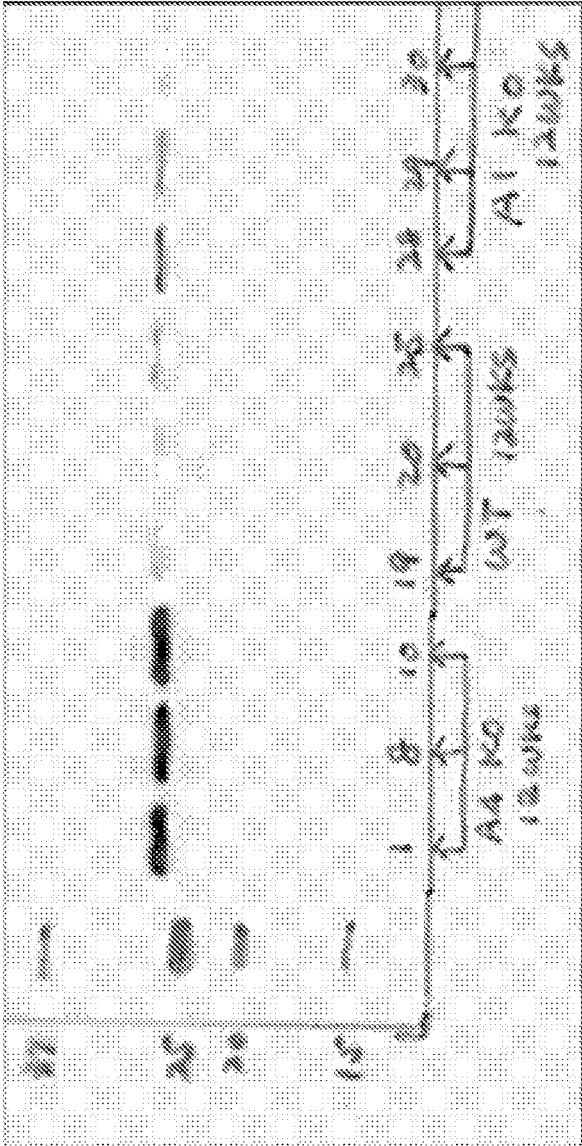


FIG. 10

IPGTT in female WT and AIV-KO mice

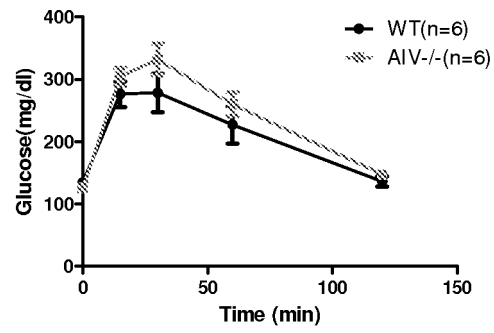


FIG. 11

IPGTT in WT mice
after i.p. injection of human A-IV or saline

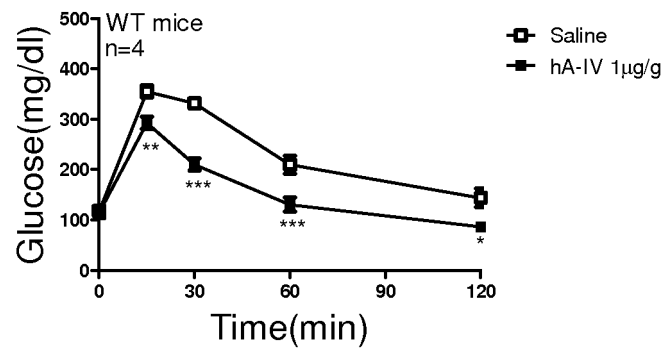


FIG. 12

WT female mice

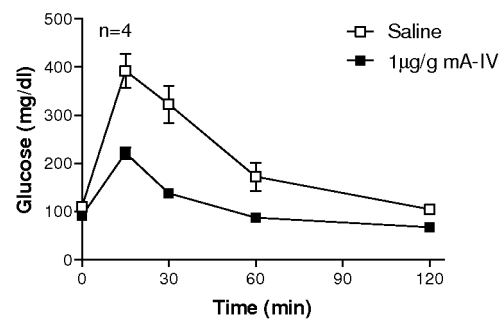
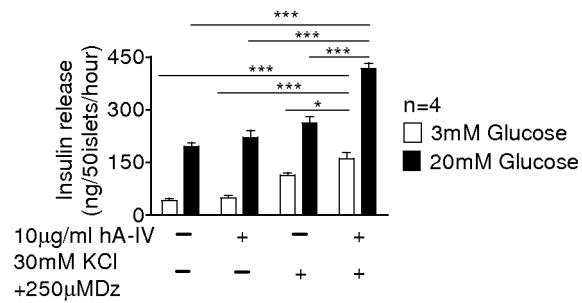


FIG. 13

human islets treated with human A-IV



When the human islets were depolarized by 30mM KCl plus 250µM Dz, 10µg/ml hA-IV showed a significantly stimulatory effect on insulin secretion.

FIG. 14

EVSADQVATVMWDYFSQLSNNAKEAVEHLQKSELTQQLNALFQDKLGEVNTY
AGDLQKKLVFPFATELHERLAKDSEKLKEEIGKELEELRARLLPHANEVSQKIGD
NLRELQQRLEPYADQLRTQVNTQAEQLRRQLTPYAQRMERVLRENADSLQAS
LRPHADELKAKIDQNVEELKGRLTPYADEFKVKIDQTVEELRRSLAPYAQDTQE
KLNHQLEGLTFQMKKNAEELKARISASAEELRQRLAPLAEDVRGNLRGNTEGL
QKSLAELGGHLDQQVEEFRRRVEPYGENFNKALVQQMEQLRQKLGPAGDV
EGHLSFLEKDLRDKVNSFFSTFKEKESQDKTSLPELEQQQEQQQEQQQEQQV
QMLAPLES

SEQ ID NO. 1

FIG. 15

EVTSDQVANVVWDYFTQLSNNAKEAVEQFQKTDVQQLST
LFASTYADGVHNKLVPFVVQLSGHLAQETERVKEEIKKEL
EDLRDRKTQTFGENMQKLQEHLKPYAVDLQDQINTQTQE
MKLQLTPYIQRMQTTIKENVVDNLHTSMMPLATNLKDKFN
RNMEELKGHLTPRANELKATIDQNLEDLRRSLAPLTVGVQ
EKLNHQMEGLAFQMKKNAEELQTKVSAKIDQLQKNLAPL
VEDVQSKVKGNTTEGLQKSLEDLNRQLEQQVEEFRRTVEP
MGEMFNKALVQQLEQFRQQQLGPNSGEVESHLSEKSLRE
KVNSFMSTLEKKGSPDQPQALPLPEQAQEAQEAQEAQEQVQ
PKPLES

SEQ ID NO. 2

FIG. 16

GEVSADQVATVMWDYFSQLSNNAKEAVEHLQKSELTTQQLNALFQDKL
GEVNTYAGDLQKKLVFATELHERLAKDSEKLKEEIGKELEELRARLLPHANEV
SQKIGDNLRELQQRLEPYADQLRTQVNTQAEQLRRQLTPYAQRMERVLRENA
DSLQASLRPHADELKAKIDQNVEELKGRLTPYADEFKVKIDQTVEELRRSLAPY
AQDTQEKLNHQLEGLTFQMKKNAEELKARISASAEELRQRLAPLAEDVRGNLR
GNTEGLQKSLAELGGHLDQQVEEFRRRVEPYGENFNKALVQQMEQLRQKLG
PHAGDVEGHLSFLEKDLRDKVNSFFSTFKEKESQDKTSLPELEQQQEQQQE
QQQEQVQMLAPLES

SEQ ID NO. 3

FIG. 17

X₁EV SADQVATVMWDYFSQLSNNAKEAVEHLQKSELTQQLNALFQDKL
GEVNTYAGDLQKKLV PFATELHERLAKDSEKLKEEIGKELEELRARLLPHANEV
SQKIGDNLRELQQRLEPYADQLRTQVNTQAEQLRRQLTPYAQRMERVLRENA
DSLQASLRPHADX₂LKAKIDQNVEELKGRLTPYADEFKVKIDQTVEELRRSLAP
YAQDTQEKLNHQLEGLTFQMKKNAEELKARISASAEELRQRLAPLAEDVRGNL
RGNTEGLQKSLAELGGHLDQQVEEFRRRVEPYGENFNKALVQQMEQLRQKL
GPHAGDVEGHLSFLEKDLRDKVNSFFSTFKEKESQDKX₃LSLPELEQQQEQX₃
QEQQQEQVQMLAPLES

X₁ is G, A, V or absent

X₂ is E or K

X₃ is T or S

X₄ is Q or H

SEQ ID NO. 4

FIG. 18

GTCAGTGCTGACCAGGTGGCCACAGTGATGTGGGACTACTTCAGCC
AGCTGAGCAACAATGCCAAGGAGGCCGTGGAACATCTCCAGAAATCTGAA
CTCAGCCAGCAACTCAATGCCCTCTTCCAGGACAACTTGGAGAAGTGAAC
ACTTACGCAGGTGACCTGCAGAAGAAGCTGGTGCCCTTTGCCACCGAGCT
GCATGAACGCCTGGCCAAGGACTCGGAGAACTGAAGGAGGAGATTGGGA
AGGAGCTGGAGGAGCTGAGGGCCCCGGCTGCTGCCCCATGCCAATGAGGT
GAGCCAGAAGATCGGGGACAACCTGCGAGAGCTTCAGCAGCGCCTGGAG
CCCTACGCGGACCAGCTGCGCACCCAGGTCAACACGCAGGCCGAGCAGC
TGCGGCGCCAGCTGACCCCTACGCACAGCGCATGGAGAGAGTGCTGCG
GGAGAACGCCGACAGCCTGCAGGCCTCGCTGAGGCCCCACGCCGACGAG
CTCAAGGCCAAGATCGACCAGAACGTGGAGGAGCTCAAGGGACGCCTTAC
GCCCTACGCTGACGAATTCAAAGTCAAGATTGACCAGACCGTGGAGGAGC
TGCGCCGCAGCCTGGCTCCCTATGCTCAGGACACGCAGGAGAAGCTCAAC
CACCAGCTTGAGGGCCTGACCTTCCAGATGAAGAAGAACGCCGAGGAGCT
CAAGGCCAGGATCTCGGCCAGTGCCGAGGAGCTGCGGCAGAGGCTGGCG
CCCTTGGCCGAGGACGTGCGTGGCAACCTGAGGGGCAACACCGAGGGGC
TGCAGAAGTCACTGGCAGAGCTGGGTGGGCACCTGGACCAGCAGGTGGA
GGAGTTCCGACGCCGGGTGGAGCCCTACGGGGAAAACCTTCAACAAAGCCC
TGGTGCAGCAGATGGAACAGCTCAGGCAGAACTGGGCCCCCATGCGGG
GGACGTGGAAGGCCACCTGAGCTTCTTGAGAAAGGACCTGAGGGACAAG
GTCAACTCCTTCTTCAGCACCTTCAAGGAGAAAGAGAGCCAGGACAAGACT
CTCTCCCTCCCTGAGCTCGAGCAACAGCAGGAACAGCAGCAGGAGCAGCA
GCAGGAGCAGGTGCAGATGCTGGCCCCTTTGGAGAGC

SEQ ID NO. 5

FIG. 19