

Figure 1

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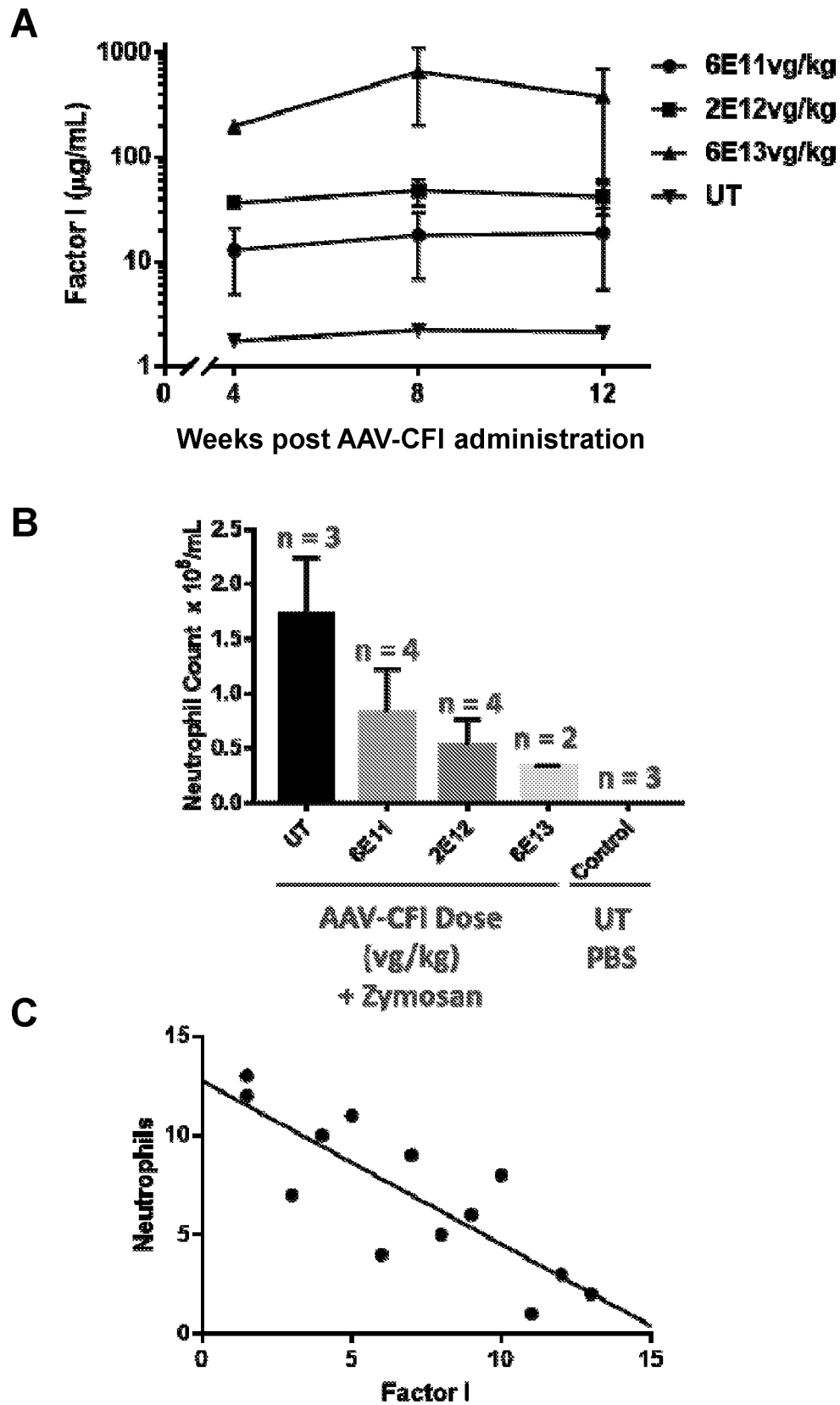


Figure 2

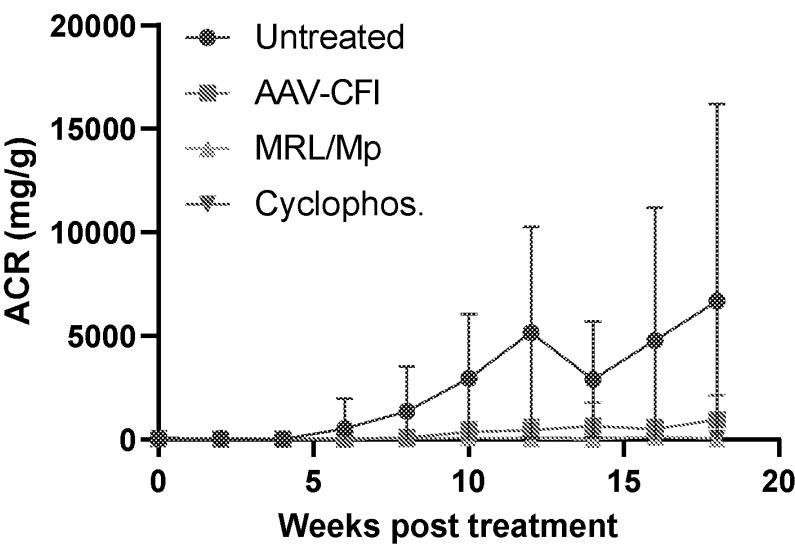


Figure 3

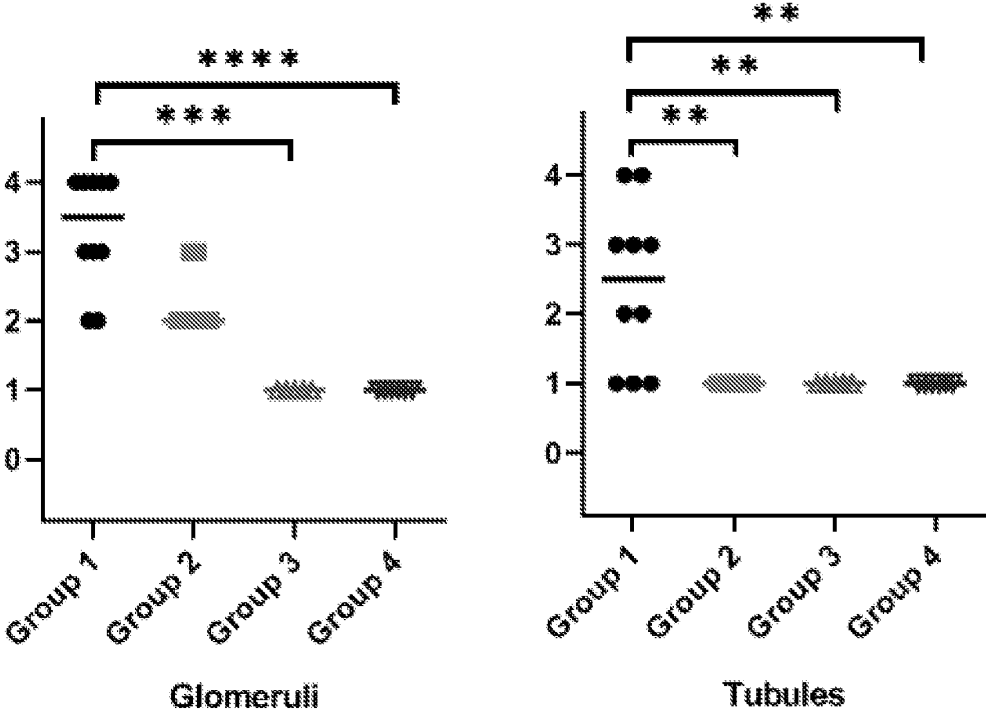


Figure 4

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SEQ ID NO: 1

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Figure 4 (cont)

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Figure 4 (cont)

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Figure 4 (cont)

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SEQ ID NO: 7

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Figure 4 (cont)

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SEQ ID NO: 9

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Figure 4 (cont)

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SEQ ID NO: 10

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GGTTTCCACTGCAAAAGTGGGGTTTGTATTCTCTCAaTACCAaTGCAATGGGGAGGTGGACTGC
ATTACTGGAGAGGATGAGGTGGGGTGTGCTGGCTTTGCTTcGTGaCCCAaGAGGAGACAGAGAT
CCTGACAGCTGATATGGATGCTGAAAGGAGAAGAATTAAGTCACTGCTGCCAAACTGTCTTGTGG
AGTTAAAAACAGAATGCACATCAGAAGAAAGAGAATTGTGGGAGGAAAAAGAGCCCAGCTTGAG
ATCTCCCTTGGAaGTGGCCATTAAGGATGCCAGTGGTATCACATGTGGAGGcATCTATATTGGAGG
GTGCTGGATTCTCACAGCTGCACACTGTCTGAGAGCCAGTAAAACCCATAGATATCAGATCTGGACA
ACAGTGGTTGATTGGATTATCCTGATCTCAAGAGAATTGTGATTGAGTATGTGGACAGAATTATTT
TTCATGAAAACATAATGCAGGAACCTATCAGAATGATATTGCCCTCATTGAGATGAAGAAGGATGG
GAACAAAAAGGATTGTGAGCTGCCAGAACATCCCAGCTTGTGTGCCTTGGTCTCCATACCTCTT
TCAGCCAAATGATACTTGCAATTGTCAGTGGATGGGGTAGAGAGAAAGATAATGAGAGAGTCTTCTC
CCTCCAGTGGGGAGAGGTTAAGCTCATCAGTAATTGCTCCAAGTTTTATGGAACAGGTTCTATGAA
AAAGAGATGGAATGTGCAGGAACATATGATGGTAGTATTGATGCTTGCAAAGGAGATAGTGGTGGGA
CCCCTGGTCTGTATGGATGCCAACAAATGTGACTTATGTGTGGGGGGTGGTGGAGCTGGGGAGAGAA
TTGTGGGAAGCCTGAGTTTCCaGGAGTCTACACCAAGGTGGCTAATTACTTTGACTGGATCAGTTA
CCATGTGGGTAGGCCCTTCATTAGCCAGTACAATGTCTGA

SEQ ID NO: 11

AAGGTTACCTATACATCCCAGGAAGACCTGGTGGAGAAAAAGTGTCTTGCCAAGAAGTACACCCAC
CTCAGTTGTGATAAGGTCTTTTGCCAGCCATGGCAGAGATGTATTGAAGGcACTTGTGTGTGCAAG
CTGCCATACCAGTGTCCCAAAATGGGACAGCAGTCTGTGCAACTAATAGAAGATCCTTCCCTACATA
CTGCCAGCAGAAGAGTCTTGAGTGCCTGCACCCAGGCACAAAGTTTCTGAATAATGGCACATGCAC
AGCTGAAGGCAAATTCAGTGTCTCCCTGAAACATGGAAACACAGATAGTGAAGGAATTGTGGAAGT
TAAGCTGGTGGACCAGGATAAAACCATGTTTCAATTTGTAAATCTTCATGGAGTATGAGAGAAGCTAAT
GTGGCATGTCTGGACCTTGATTTCaAaGgAGCAGATACCCAGAGAAGGTTTAAGCTGAGTGAT
CTCTCCATTAATCTACTGAgTGTCTgCATGTgCATTGtAGaGgGaCTgGAGACATCaCTGGCAGAATG
TACTTTTACCAAAAGGAGAACCATGGGTTATCAGGACTTTGCAGATGTGGTCTGTTACACCCAGAAG
GCTGACTCCCCCATGGATGACTTCTTTCAaTGTGTGAATGGGAAATACATCTCCAGATGAAGGCCT
GTGATGGTATCAATGACTGTGGAGACCAGTCTGATGAGCTCTGCTGcAAGGCCTGTCAGGGGAAG
GGATTTCACTGCAAAAGTGGGGTTTGCATCCCCAGTCAGTACCAGTGCAATGGGGAAGTGGACTG
CATTACAGGgGAAGATGAGGTTGGTTGTGCTGGGTTTGTAGTGTGaCCCAGGAGGAAACAGAGA

Figure 4 (cont)

TCCTGACAGCTGATATGGATGCAGAAAGAAGAAGATTAAGAGCCTCCTGCCTAAGCTCAGTTGTG
GAGTCAAAAATAGGATGCATATTAGGAGAAAGAGGATTGTGGGAGGGAAAgaGCCCAGCTTGGAG
ACCTGCCATGGCAGGTTGCCATCAAGGATGCCTCAGGGATCACATGTGGAGGGATCTATATTGGTG
GATGTTGGATTCTGACTGCTGCCCATTCCTgAGgGCtcaAAGACCCACAGaTATCAGATCTGGACC
ACTGTGGTGGACTGGATTCATCCTGACCTGAAGAGAATTGTGATTGAATATGTGGACAGGATTATCT
TTCATGAGAACTATAATGCTGGAACCTATCAGAATGATATTGCACTGATTGAGATGAAGAAGGATGG
GAATAAAAAGGACTGTGAACCTCCAAGAAGCATTCTGCATGTGTGCCTTGGTCTCCTTACCTCTTC
CAaCCCAATGACACTTGATTGTcagtGGATGGGGTAGAGAAAAAGACAATGAGAGGGTTTTTCAGTC
TGCAGTGGGGGGAGGTCAAGCTCATCAGCAACTGCTCCAAATTCTATGGAAACAGGTTCTATGAAA
AAGAAATGGAGTGTGCTGGGACTTATGATGGTAGTATTGATGCCTGTAAAGGGGATTCTGGAGGGC
CACTTGTCTGTATGGATGCTAACAATGTGACCTATGTCTGGGGAGTGGTGTCTATGGGGAGAAAATT
GTGGCAAACCTGAGTTTCTTGAGTGTATACAAAGGTGGCTAACTATTTTGATTGGATCAGTTATCA
TGTGGTAGACCCTTCATCAGTCAGTACAATGTCTAG

SEQ ID NO: 12

AAGGTgACcTACACCAGCCAGGAGGACCTGGTGGAAAAGAAATGTCTTGCTAAGAAATATACCCACC
TGTCCTGTGACAAAGTCTTCTGTCAGCCTTGGCAGAGATGTATTGAAGGGACATGTGTCTGTAAGC
TGCCTTACCAGTGTCTAAGAATGGGACTGCAGTCTGTGCCACTAATAGAAGATCATTCCCAACATA
CTGCCAGCAGAAGAGTCTGGAGTGTCTGCATCCTGGCACAAAGTTTCTCAACAATGGGACATGTAC
AGCTGAAGGAAAATTCTCTGTGAGCCTGAAACATGGcAATACAGATAGTGAGGGAAATTGTTGAGGT
TAAGCTGGTGGATCAGGACAAAACAATGTTTATCTGCAAAAGCAGCTGGTCCATGAGAGAGGCTAA
TGTGGCCTGTCTTGACCTTGGCTTTCAaCAaGGaGCAGATACCCAGAGAAGATTTAAACTGTCAGAT
CTGAGCATCAATTCAACAGAgTgTCTGCATGTGCATtTgTAgAGGaCTgGAGACCAGCCTGGCTGAAT
GTACCTTCACAAAGAGAAGAACAATGGGaTACCAGGACTTTGCTGATGTGGTTTGTACACCCAGA
AGGCAGACAGCCCCATGGATGACTTCTTTCAGTGTGTGAATGGAAAGTATATTAGCCAGATGAAGG
CATGTGATGGTATCAATGATTGTGGgGACCAGAGTGTGAGCTCTGTTGTAAGGCTTGTCAaGGCA
AAGGCTTCCACTGcAAGTCAGGGGTGTGCATCCCCTCCCAaTACCAGTGCAATGGAGAGGTGGATT
GCATCACAGGGGAGGAtGAAGTGGGTTGTGCTGGGTTTGCAAGTGTGaCCCAGGAGGAAACAGA
AATCCTGACTGCTGATATGGATGCTGAGAGGAGAAGAATCAAAAGCCTCCTGCCTAAACTGTCTTGT
GGTGTTAAGAATAGAATGCACATTAGAAGAAAGAGAATTGTGGGGGGAAAGAGAGCACAGCTGGG
TGATCTGCCCTGGCAaGTGGCAATTAAGGATGCCTCAGGcATCACCTGTGGAGGCATTTACATTGG
GGGTTGCTGGATTCTGACAGCAGCCCACTGTCTCAGAGCCAGCAAACTCACAGaTATCAGATTTG
GACAACAGTTGTGGATTGGATTACCCTGATCTGAAGAGAATTGTCATTGAGTATGTGGACAGAAT
TATTTTCCATGAGAACTACAATGCTGGcACATACCAGAATGACATTGCCCTCATTGAAATGAAGAAGG
ATGGAAATAAAAAGGACTGTGAACCTCCAAGATCAATTCCTGCCTGTGTGCCATGGAGTCCTTACCT
CTTCCAaCCAAATGATACCTGCATTGTcAGTGGCTGGGGGAGAGAGAAGGATAATGAAAGAGTTTTTC
TCCCTGCAGTGGGGAGAGGTGAAGCTCATTAGTAAGTGTCTAAGTTTTATGGGAACAGATTTTATG
AGAAGGAGATGGAATGTGCAGGAACCTTATGATGGTAGCATTGATGCATGCAAGGAGACAGTGGAG
GTCCACTTGTCTGCATGGATGCTAACAATGTGACTTATGTCTGGGGAGTGGTCTCCTGGGGTGAAA
ACTGTGGAAAGCCTGAGTTCCAGGAGTGTATACAAAAGTGGCCAACCTACTTTGACTGGATTTCATA
CCATGTGGGGAGACCTTTTATCAGCCAGTACAATGTCTGA

SEQ ID NO: 13

AAGGTGACcTACACCTCTCAGGAAGACCTGGTGGAGAAGAAGTGTCTTGCCAAGAAATATACCCAT
CTGTCTATGTGATAAAGTGTCTGTGAGCCTTGGCAGAGATGTATTGAGGGAACATGTGTGTGCAAG
CTGCCCTACCAGTGTCCAAGAATGGGACTGCTGTTTGTGCCACTAACAGAAGATCTTTTCTACAT
ACTGTGAGCAGAAGAGTCTGGAGTGCCTCCACCCTGGCACAAAATTCCTCAATAATGGCACATGTAC
AGCTGAGGGAAAGTTTTCTGTTAGCCTCAAGCATGGCAATACTGATTCAGAGGGTATTGTTGAAGT
CAAACCTGGTGGATCAGGATAAAACCATGTTTCAATTTGTAAGAGTAGCTGGTCCATGAGGGAGGCTAAT

Figure 4 (cont)

GTGGCATGCCTGGACCTGGGCTTTCAaCaAGgGCTGACACTCAGAGAAGGTTTAAGCTGAGTGA
CCTGAGCATTAACTCAACTGAGTGtCTGCATGTgCatTgTAGaGGGCTGGAGACTAGCCTTGACAGAG
TGCACATTCACTAAGAGAAGAACAATGGGaTACCAGGATTTTGAGATGTGGTGTGCTACACTCAG
AAAGCTGACTCTCCCATGGATGACTTCTTCCAaTGtGTGAATGGGAAATATTTTCACAGATGAAGG
CCTGTGATGGAATTAATGATTGTGGTGTGATCAGAGTGATGAGCTCTGTTGTAAGGCTTGCCAGGGGA
AGGGTTTTCACTGTAAAAGTGGGGTTTGTATCCCCTCTCAaTACCAGTGCAATGGGGAAGTTGATT
GCATTACAGGAGAGGATGAGGTGGGATGTGCAGGCTTTGCCAGTGTGaCACAGGAAGAGACAGAG
ATCCTGACAGCTGATATGGATGCAGAAAGAAGAATCAAGTCCCTGCTCCCCAACTGTCTCTGT
GGGGTCAAGAATAGAATGCACATCAGAAGGAAGAGAATTGTGGGAGGcAAAAGGGCACAGCTGGG
GGACCTCCCATGGCAGGTGGCAATTAAGGATGCCAGTGGTATCACATGTGGAGGGATTTACATTGG
AGGCTGCTGGATTCTCACAGCAGCCCACTGCCTCAGAGCATCTAAACTCACAGaTACCAGATTTGG
ACCACTGTGGTGGACTGGATTACCCTGACCTGAAGAGAATTGTGATTGAATATGTGGATAGAATCA
TTTTCCATGAAAATTACAATGCTGGCACTTATCAGAATGACATTGCACTCATTGAGATGAAGAAAGAT
GGGAATAAAAAGGACTGTGAAGTGGCCAGAAGCATTCCaGCTTGTGTGCCATGGAGTCCATATCTG
TTTCAGCCAAATGATACATGCATaGTGTCTGGTTGGGGAAGAGAGAAGGACAATGAAAGGGTTTTT
AGCCTCCAGTGGGGGGAGGTCAAGCTGATTAGCAACTGCAGTAAATTCTATGGCAACAGATTTTAT
GAGAAGGAGATGGAATGTGCAGGcACTTATGATGGCTCAATTGATGCCTGCAAGGGAGATTCTGGT
GGACCCCTGGTGTGCATGGATGCCAATAATGTCACCTATGTCTGGGGTGTGGTTAGCTGGGGAGA
GAACTGTGGGAAGCCTGAGTTTCCAGGAGTGATACAAAAGTGGCAAATTACTTTGACTGGATCTC
CTATCATGTGGGGAGACCCTTTATCTCTCAGTACAATGTTTGA

SEQ ID NO: 14

AAGGTgACcTATACCTCTCAGGAGGACCTGGTTGAGAAAAAGTGCCTGGCTAAAAAGTACACCCACC
TCTCTTGTGATAAGGTGTTCTGCCAGCCTTGGCAGAGATGCATTGAAGGCACATGTGTTTGTAAAC
TGCCTTACCAGTGTCCCAAAAATGGGACTGCTGTGTGTGCCACAAATAGAAGGAGCTTTCCAACCT
ACTGTCAGCAGAAGAGCCTTGAATGCCTCCATCCTGGGACAAAATTCCTGAACAATGGaACCTGTAC
AGCTGAAGGCAAATTTAGTGTTAGCCTGAAACATGGGAATACAGATTCTGAGGGGAATTGTGGAGGT
CAAAGTGGTGGACCAGGATAAAACCATGTTTATCTGCAAGAGTAGCTGGTCCATGAGAGAGGCCAA
TGTGGCATGCCTGGATCTTGGGTTTCAaCaAGGAGCTGACACCCAGAGAAGATTCAAAGTCACTGA
CCTGAGTATTAACCAACAGAATGtCTGCATGTgCatTGTAGAGGaCTGGAACTAGCCTTGACAGAG
TGCACTTTTACCAAGAGAAGAACCATGGGATATCAGGATTTTGCTGATGTGGTGTGCTACACCCAGA
AAGCAGACAGTCCCATGGATGACTTCTTCCAGTGTGTGAATGGCAAGTATATTTCCAGATGAAAGC
ATGTGAtGGCATCAATGATTGTGGAGACCAGAGTGATGAAGTGTGCTGTAAGGCTTGCCAGGGAAA
GGGTTTTCACTGCAAAAGTGGAGTTTGCATCCCCAGCCAGTACCAGTGCAATGGAGAAGTGGATT
GCATTACAGGAGAGGATGAAGTGGGATGTGCTGGCTTTGCTTCTGTTaCCCAaGAAGAGACAGAGA
TTCTGACAGCTGACATGGATGCAGAGAGGAGAAGAATTAAGTCCCTGCTGCCTAACTGTCTGTG
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ACAACAGTTGTGGATTGGATTATCCTGATCTCAAGAGAATTGTTATTGAGTATGTGGATAGGATCA
TTTTCCATGAAAATTACAATGCAGGCACATACCAAAATGACATTGCACTCATTGAGATGAAGAAGGAT
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TTCCAACCCAATGACACCTGCATTGTcAgTGGCTGGGGTAGAGAAAAAGATAATGAGAGAGTCTTCA
GCCTGCAGTGGGGGGAGGTGAAGCTGATTAGCAATTGTAGcAAGTTTTATGGGAACAGGTTCTATG
AGAAGGAGATGGAGTGTGCTGGCACCTATGATGGCTCTATTGATGCTTGAAGGGGGACAGTGGG
GGACCACTGTTTTGTATGGATGCAACAATGTGACCTATGTTTGGGGAGTGGTTAGCTGGGGAGA
AAATTGTGGAAAACCTGAGTTTCTGGTGTCTATACAAAAGTGGCTAATTATTTTATTGATTGGATCAGT
TATCATGTTGGGAGACCCTTTATTAGTCAAGTACAATGTCTAG

Figure 4 (cont)

SEQ ID NO: 15

AAGGTgACcTACACTAGCCAGGAGGATCTGGTGGAGAAAAAGTGCCTTGCAAAAAAGTACACTCACC
TCAGCTGTGACAAGGTCTTCTGTCAGCCTTGGCAGAGATGCATTGAGGGGACATGTGTGTGCAAA
CTCCCATACCAGTGTCTAAGAATGGTACAGCTGTCTGTGCAACAAACAGGAGATCCTTTCCACCT
ATTGTCAGCAGAAGTCCCTGGAGTGTCTGCACCTGGTACAAAGTTTCTGAATAATGGCACATGCA
CTGCTGAGGGAAAGTTCAAGTGTGTCCCTGAAACATGGAACACTGATTGAGAGGGTATTGTGGAG
GTGAAACTTGTGGATCAGGACAAGACCATGTTTCATCTGcAAGTCCAGTTGGAGCATGAGAGAGGCT
AATGTGGCCTGTCTGGACCTGGGTTTTAGCAaGGAGCTGACACTCAGAGAAGGTTCAAGCTGTC
AGATCTCAGTATCAACTCCACAGAATGTCTGCATGTGCATTGCAGAGGGCTGGAGACTAGCCTTGC
TGAATGTACTTTTACAAAGAGAAGAACTATGGGaTACCAGGATTTTGCAGATGTGGTCTGTTTACT
CAGAAGGCTGATTCACCCATGGATGACTTCTCCAGTGTGTGAATGGCAAGTACATTTCAcAaATGA
AAGCATGTGATGGTATCAATGATTGTGGAGACCAGAGTGATGAACTCTGTTGCAAGGCATGCCAGG
GCAAGGGATTCCACTGCAAGAGTGGTGTCTGTATTCCCAGTCAGTATCAGTGCAATGGGGAGGTG
GACTGCATCACTGGGGAAGATGAAGTGGGCTGTGCTGGTTTTGCTAGTGTGaCACAGGAGGAAAC
TGAAATTCTCACAGCAGATATGGATGCTGAGAGAAGGAGAATCAAGTCCCTCCTCCCTAAACTGAGT
TGTGGAGTGAAAAACAGAATGCATATTAGAAGAAAAAGAATTGTGGGAGGCAAGAGAGCTCAGCTT
GGgGACCTCCCATGGCAaGTGGCTATTAAGGATGCAAGTGGGATTACATGTGGAGGGATCTATATTG
GGGGGTGCTGGATTCTGACAGCAGCCCACTGTCTGAGAGCCTCTAAAACCCATAGaTATCAGATCT
GGACAACAGTGGTGGATTGGATTCACCCAGACCTCAAGAGGATTGTGATTGAGTATGTGGATAGAA
TTATTTTTCATGAGAACTACAATGCTGGaACCTATCAGAATGATATTGCTCTGATTGAAATGAAAAAG
GATGGGAACAAAAAGGACTGTGAAGTCCAAGATCAATCCCTGCATGTGTGCCATGGAGTCCCTAT
CTCTTTCAGCCCAATGATACATGCATTGTTAGTGGATGGGGGAGGGAGAAAGACAATGAGAGAGTG
TTCAGTCTCCAGTGGGGTGAAGTGAAGCTCATTCTAATTGTAGCAAGTTTTATGGGAATAGATTCT
ATGAAAAAGAAATGGAGTGTGCAGGAAGTATGATGGTTCCATTGATGCCTGCAAGGGAGATAGTG
GTGGGCCCTGGTGTGCATGGATGCTAATAATGTGACCTATGTCTGGGGAGTGGTTTCATGGGGA
GAGAATTGTGGAAGCCTGAGTTCCCTGGAGTGACACCAAGGTGGCCAATTACTTTGATTGGATC
AGCTATCATGTGGGAAGACCATTATTTCCCAGTACAATGTCTAA

SEQ ID NO: 16

AAGGTGACcTATACAAGCCAGGAAGATCTTGTGGAGAAAAAGTGCCTTGCTAAGAAGTACACTCAC
CTCAGCTGTGACAAAGTCTTTTGCCAGCCTTGGCAGAGATGTATTGAGGGAAGTTGTGTCTGTAAG
CTCCCATATCAGTGTCCCAAGAATGGAACAGCTGTGTGTGCTACTAACAGAAGGAGCTTTCCACCT
ACTGCCAGCAGAAGAGCCTTGAATGTCTCCACCCAGGGACCAAGTTTCTGAACAATGGCACATGTA
CAGCTGAGGGGAAATTAGTGTcAGTCTCAACATGGGAATACTGATAGTGAGGGCATTGTTGAGG
TGAAACTTGTGGACCAGGATAAGACCATGTTTATCTGcAAGTCAAGCTGGTCAATGAGAGAAGCTAA
TGTGGCTTGTCTGGACCTTGGGTTTCaCaAGGAGCTGACACTCAGAGAAGATTTAAGCTGAGTG
ATCTGAGTATCAACAGCACTGAaTGtctgCATGTgCATTGcAGaGGgctgGAgACTAGCcttGCTGAGTG
CACTTTTACCAAGAGAAGAACAATGGGaTACCAGGATTTTGTGATGTGGTCTGTTTACTCAGAAG
GCAGATTACCAATGGATGACTTCTTTCAGTGTGTGAATGGaAAATACATTTCCAGATGAAGGCTT
GTGATGGTATCAATGACTGTGGgGACCAGAGTGATGAGCTCTGTTGTAAGGCATGTCAGGGCAAAG
GATTTCACTGcAAGTCTGGGTCTGTATCCCAGCCAGTATCAGTGAATGGAGAGGTTGATTGTAT
CACAGGGGAGGATGAAGTGGGTTGTGCTGGCTTTGCATCAGTGaCACAGGAAGAGACAGAAATTC
TGACAGCAGATATGGATGCTGAAAGAAGGAGAATTAAAAGCCTCCTGCCAAACTGAGCTGTGGTG
TCAAGAATAGAATGCACATCAGAAGGAAGAGAATTGTTGGTGGAAGAGGGCCAGCTTGGGGAC
CTGCCATGGCAGGTTGCAATCAAAGATGCAAGTGGCATTACCTGTGGAGGaATTTACATTGGaGGG
TGTTGGATTCTGACAGCAGCTCATTGTCTaAGAGCCTCCAAAACCCACAGATACCAGATCTGGACCA
CTGTGGTGGATTGGATTACCCCTGACCTGAAAAGAATTGTATTGAGTATGTGGACAGGATTATTTT
CCATGAGAATTATAATGCTGGCACCTACCAGAATGACATTGCCCTGATTGAGATGAAGAAAGATGGA

Figure 4 (cont)

AATAAGAAGGACTGTGAGCTCCCAAGATCAATTCCTGCTTGTGTGCCTTGGTCTCCATACCTGTTTC
AGCCCAATGATACTTGTATTGTTTCTGGATGGGGCAGGGAAAAAGACAATGAGAGAGTGTTTCAGCC
TGCAGTGGGGGGAGGTGAAGCTGATCTCAAAGTGCAGCAAGTTCTATGGaAATAGATTTTATGAGA
AGGAAATGGAGTGTGCAGGCACTTATGATGGATCAATTGATGCCTGCAAGGGTGACAGTGGTGGC
CCACTTGTGTGCATGGATGCTAACAATGTGACCTATGTTTGGGGTGTGGTGTGCATGGGGGGAAAAAC
TGTGGCAAACCTGAGTTTCCTGGTGTTCACCTAAGGTTGCAAACCTACTTTGACTGGATCAGCTATC
ATGTGGGCAGACCTTTTATTTCCAGTATAATGTCTAA

SEQ ID NO: 17

AAGGTgACcTATACCAGCCAGGAGGACCTTGTTGAGAAGAAATGCCTGGCTAAGAAATACACCCACC
TGTCCTGTGACAAGGTGTTCTGTCAGCCTTGGCAGAGGTGCATTGAAGGgACCTGTGTGTGTA
CTCCCTACCAGTGCCCTAAGAATGGCACTGCAGTGTGTGCTACAAACAGAAGATCATTCCCAACCT
ATTGCCAGCAGAAATCACTGGAATGCCTGCATCCTGGTACAAAATTCCTGAACAATGGGACTTG
TGCTGAGGGGAAATTCAGTGTGTCCCTGAAACATGGGAACACAGATTCTGAGGGTATTGTTGAGG
TGAAGCTGGTGGATCAGGATAAGACTATGTTTATCTGCAAGTCAAGCTGGTCCATGAGGGAAGCCA
ATGTGGCATGCCTGGATCTGGGTTTTCAaCaAGGAGCTGATACCCAGAGAAGATTTAAGCTGAGTG
ACCTCAGCATTAACTCTACTGAGTGTCTGCATGTGCACTGTAGaGGGCTTGAAACAAGCCTGGCAG
AGTGCACCTTCACCAAGAGAAGGACAATGGGaTACCAGGACTTTGCTGATGTGGTCTGTACACCC
AGAAGGCTGATTCCCCCATGGATGATTTCTTTCAaTGTTGAATGGGAAGTACATCAGCCAGATGAA
AGCATGTGATGGGATCAATGACTGTGGAGACCAGAGTGATGAGCTGTGCTGCAAAGCTTGCCAGG
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AAATTCTCACAGCTGATATGGATGCAGAGAGAAGGAGGATCAAGTCCCTCCTGCCTAAACTGAGTT
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GTGGTTGCTGGATTCTCACTGCTGCACACTGTCTGAGAGCCAGCAAAACCCACAGATATCAGATTT
GGACTACAGTGGTTGACTGGATTCACCCTGACCTGAAGAGAATTGTTATTGAGTATGTGGATAGAAT
CATCTTCCATGAGAATTACAATGCTGGGACTTATCAGAATGATATTGCCCTCATTGAAATGAAGAAGG
ATGGGAACAAAAAGGATTGTGAGCTGCCCAGAAGCATTCCAGCCTGTGTGCCATGGAGCCCCTATC
TGTTTCAGCCAAATGACACTTGATTGTTTctGGTTGGGGCAGGGAAAAAGACAATGAAAGAGTCT
TTAGCCTCCAGTGGGGAGAAGTTAAGCTGATTTCAAATTGCAGCAAATTCATGGGAACAGGTTCTA
TGAGAAGGAGATGGAGTGTGCTGGgACATATGATGGTTCAATTGATGCTTGCAAAGGAGATAGTGG
TGGGCCACTGGTCTGCATGGATGCCAATAATGTGACATATGTCTGGGGGGTGGTTTCCTGGGGAG
AGAATTGTGGGAAGCCAGAGTTTCCTGGTGTCTATACAAAAGTGGCTAACTATTTTACTGGATCA
GCTATCATGTGGGAGACCTTTTCATCAGTCAGTATAATGTGTAG

SEQ ID NO: 18

AAgGTGACcTACACCTCTCAGGAGGATCTGGTGGAGAAAAAGTGCCTGGCAAAAAAGTATACTCAC
CTCAGTTGTGACAAGGTCTTCTGCCAGCCATGGCAGAGATGTATTGAGGGAACCTGTGTGTGCAA
ACTCCCTTATCAGTGTCCCAAGAATGGGACTGCAGTCTGTGCAACCAACAGAAGAAGCTTTCCAC
ATACTGTGAGCAGAAATCCCTTGAGTGCCTGCACCCTGGAACCAAATTCCTGAATAATGGAACCTGC
ACAGCAGAGGGGAAATTCAGTGTGAGCCTGAAACATGGCAACACTGATAGTGAGGGGATTGTTGA
AGTGAAGCTGGTGGATCAGGATAAGACTATGTTTATCTGCAAAAGTTCATGGAGCATGAGAGAAGC
AAATGTGGCATGCCTTGATCTGGGTTTCCAaCaAGGAGCTGACACTCAGAGAAGATTTAAACTCAG
TGATCTGTCAATCAACAGCACAGAGTGCCTGCATGTGCACTGTAGAGGACTTGAGACATCACTTGC
AGAATGCACATTTACCAAAAGAAGAACCATGGGaTACCAGGATTTTGCAGATGTGGTGTGCTATACT
CAGAAAGCTGATAGCCCCATGGATGACTTCTTCCAGTGTGTCAATGGGAAGTATATCAGCCAGATGA
AGGCCTGTGATGGAATCAATGACTGTGGAGATCAGAGTGATGAACCTCTGTTGTAAGGCATGTCAGG

Figure 4 (cont)

GGAAGGGTTTCCATTGcAAGAGTGGAGTCTGCATTCCCTTCACaAaTACCAGTGCAATGGAGAGGTGG
ATTGTATTACTGGGGAGGATGAAGTGGGTTGTGCAGGATTTGCCAGTGTGaCTCAGGAGGAAACT
GAGATTCTGACAGCTGACATGGATGCTGAGAGAAGAAGGATCAAGAGCCTGCTCCCAAAGCTGTCA
TGTGGGGTCAAAAATAGAATGCACATCAGAAGGAAGAGAATTGTGGGAGGGAAAAGAGCTCAGCT
GGGAGACCTCCCTTGGCAaGTGGCAATCAAGGATGCTAGTGGTATCACATGTGGAGGAATCTACAT
TGGGGGGTGTGGATTCTGACTGCAGCCCATTGCCTGAGGGCATCCAAAACCCACAGATATCAGAT
CTGGACAACAGTTGTGGACTGGATTACCCTGACCTCAAAAGAATTGTCATTGAGTATGTGGACAG
AATCATTTTCCATGAGAATTACAATGCTGGCACTTACCAGAATGACATTGCCCTGATTGAAATGAAGA
AGGATGGAAACAAGAAGGATTGTGAACCTCCCAGGTCAATCCCAGCCTGTGTGCCCTGGAGCCCC
TACCTGTTCCAGCCAAATGATACATGTATTGTcAGTGGATGGGGGAGAGAGAAGGACAATGAGAGA
GTGTTTTCACTGCAGTGGGGGGAAGTGAAGCTGATCAGCAATTGCTCCAAGTTCTATGGAAACAG
GTTTTATGAGAAGGAGATGGAGTGTGCTGGGACTTATGATGGAAGTATTGATGCTTGTAAGGGGA
TTCAGGAGGTCTCTTGTCTGCATGGATGCTAACAAATGTGACATATGTGTGGGGAGTaGTcAGTTG
GGGAGAAAACGTGTGGAACCAGAAATTCCTGGGGTGTATACTAAAGTGGCAAATTATTTGACTG
GATCAGCTATCATGTGGGTAGACCCTTCATTAGTCAGTATAATGTGTGA

SEQ ID NO: 19

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TGTCTTGTGACAAAGTCTTCTGTCAGCCCTGGCAGAGATGCATTGAGGGAACATGTGTCTGCAAG
CTCCCTTATCAGTGTCCCAAAAATGGCACAGCAGTTTGTGCCACAAATAGAAGGTCTTTTCTACAT
ACTGCCAGCAGAAGAGCCTTGAATGTCTCCACCCAGGCACAAAGTTTCTGAATAATGGgACTTGCA
CAGCAGAAGGCAAATTTAGTGTGTCCCTGAAACATGGAAACACTGATAGTGAAGGTCATTGTGGAGG
TTAAGCTTGTGGATCAGGATAAAACAATGTTTCATCTGCAAGAGCTCATGGTCCATGAGAGAGGCTAA
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TCCTGACAGCTGACATGGATGCTGAAAGGagaAGGATCAAAAGCCTGCTGCCCAAGCTCTCATGTG
GGGTGAAAAACAGGATGCATATTAGAAGGAAGAGGATTGTGGGAGGgAAAAGAGCCCAGCTGGGG
GACCTGCCATGGCAGGTTGCCATTAAAGATGCTTCAGGgATCACATGTGGGGGCATCTATATTGGAG
GCTGTTGGATTCTCACAGCAGCACACTGCCTGAGAGCTTCAAAGACTCACAGATATCAGATTTGGA
CAACAGTGGTGGATTGGATTACCCTGATCTCAAAGAATTGTCATTGAATATGTTGACAGAATCAT
CTTTCATGAAAACATAATGCTGGAACCTATCAGAATGATATTGCTCTGATTGAAATGAAGAAAGATG
GAAACAAAAAGGACTGTGAACTGCCCAGAAGCATCCCTGCTTgtGTTCCATGGTCCCTTACCTGTT
TCAGCCTAATGACACCTGCATTGTtAGTGGCTGGGGGAGAGAGAAGGACAATGAGAGAGTGTGTTT
CCCTGCAGTGGGGAGAGGTGAAACTCATCTCTAACTGTTCAAATTCTATGGGAATAGATTTTATGA
GAAGGAGATGGAATGTGCTGGGACCTATGATGGGTCAATTGATGCTTGTAAAGGTGACAGTGGAG
GACCCCTGGTGTGCATGGATGCCAACAAATGTGACATATGTCTGGGGGGTGGTTAGCTGGGGAGAA
AATTGTGGGAAGCCTGAGTTCCTGGGGTGTACACCAAGGTTGCAAACCTATTTTGATTGGATTCT
TATCATGTGGGTAGACCATTATCAGTCAGTATAATGTGTAG

SEQ ID NO: 20

AaGTgACcTATACTTCTCAaGAGGATCTGGTGGAGAAAAAATGCCTGGCTAAAAAATATACTCACCT
GTCCTGTGATAAAGTCTTCTGCCAGCCATGGCAGAGATGCATTGAGGGAACCTGTGTGTGCAAACT
GCCATATCAGTGCCCAAAAAATGGAACCTGCTGTGTGTGCTACTAACAGGAGAAGCTTCCCAACTTAT
TGCCAGCAGAAAAGTCTGGAATGCCTTCATCCAGGAACCTAAATTTCTGAATAATGGAACCTTGCAGT

Figure 4 (cont)

CTGAAGGAAAATTTAGTGTGTCCCTGAAACATGGAATACTGATTGAGAGGGAATTGTGGAAGTGA
AACTTGTGGATCAGGATAAACTATGTTTCAATTTGCAAAAGCAGCTGGAGCATGAGGGAAGCTAATGT
GGCTTGCCTTGATCTTGGATTTCAaCaAGGAGCTGATACTCAGAGAAGGTTTAACTGTCTGATCTG
TCTATTAATCCACTGAATGCCTGCATGTGCATTGCAGAGGACTGGAGACTAGTCTGGCTGAATGCA
CTTTTACTAAAAGAAGAACTATGGGATATCAGGATTTTGCTGATGTGGTGTGCTATACTCAGAAAGC
TGATTCTCCAATGGATGATTTCTTTCAaTGTTGTGAATGGAAAATATATTTCTCAGATGAAAGCTTGtG
ATGGAATCAATGATTGTGGAGATCAGAGTGATGAACTGTGCTGCAAAGCTTGCCAGGGAAGGAT
TtCATTGCAAATCTGGAGTGTGCATTCCAAGCCAGTATCAGTGCAATGGAGAGGTGGATTGCATTAC
TGGAGAAGATGAAGTGGGATGTGCTGGATTTGCTTCTGTGaCTCAaGAAGAACTGAAATTCTGAC
TGCTGATATGGATGCTGAAAGAAGAAGAAATTAATCACTGCTGCCTAACTGTCTTGTGGAGTGAAG
AACAGAATGCACATTAGAAGGAAAAGAATTGTGGGAGGAAAAAGAGCTCAGCTGGGAGATCTGCCA
TGGCAGGTGGCTATTAAAGATGCTAGTGAATCACTTGTGGAGGAATTTATATTGGAGGATGCTGG
ATTCTGACTGCTGCTCATTGCCTGAGAGCTAGTAAACTCATAGATATCAGATTTGGACTACTGTGG
TGGATTGGATTCACCCAGATCTTAAAGAATTGTGATTGAATATGTGGATAGAATTATTTTCCATGAA
AACTATAATGCTGGAACCTATCAGAATGATATTGCTCTGATTGAAATGAAAAAGATGGAAACAAAAA
AGATTGTGAGCTGCCTAGATCCATCCCTGCTTGTGTCCCATGGTCTCCTTATCTGTTCCAaCCTAAT
GATACTTGCAATTGTGTCTGGATGGGGAAGAGAAAAAGATAATGAAAGAGTCTTTTCACTTCAaTGG
GGAGAAGTGAACTGATTAGCAACTGCTCTAAATTTTATGGAAATAGATTCTATGAAAAAGAAATGG
AATGTGCTGGAACCTTATGATGGATCCATTGATGCTTGCAAAGGAGATTCTGGAGGACCACTGGTCT
GCATGGATGCTAACAATGTGACTTATGTCTGGGGAGTGGTcAGTTGGGGAGAAAAGTGTGGAAAAC
CAGAGTTCCCAGGAGTGATACTAAAGTGGCTAATTATTTGATTGGATTAGCTATCATGTGGGAAG
GCCTTTTATTTCTCAGTATAATGTGTAA

SEQ ID NO: 21

ATGAAGCTGCTGCACGTGTTCTGCTGTTTCTGTGCTTCCACCTGCGCTTTTGTAAAGTGACCTAT
ACATCTCAGGAGGATCTGGTGGAGAAGAAGTGTCTGGCCAAGAAGTACACACACCTGAGCTGCGA
CAAGGTGTTCTGTGAGCCATGGCAGCGGTGCATCGAGGGAACCTGCGTGTGCAAGCTGCCTTATC
AGTGCCCAAGAACGGCACCGCCGTGTGCGCCACAAATCGGAGATCTTTTCCAACATACTGCCAGC
AGAAGAGCCTGGAGTGTCTGCACCCCGGCACCAAGTTTCTGAACAATGGCACCTGCACAGCCGAG
GGCAAGTTCTCTGTGAGCCTGAAGCACGGCAACACAGATTCCGAGGGCATCGTGGAGGTGAAGCT
GGTGGACCAGGATAAGACCATGTTTCTGTGTAAGAGCTCCTGGTCTATGAGAGAGGCCAACGTGGC
CTGCCTGGATCTGGGCTTTTCAAGAGGGCGCCGACACACAGAGGCGCTTCAAGCTGTCCGACCTGT
CTATCAATAGCACCGAGTGCCTGCACGTGCACTGTAGGGGCTGGAGACAAGCCTGGCCGAGTGC
ACCTTTACAAAGCGGAGAACCATGGGCTATCAGGACTTCGCCGACGTGGTGTGCTACACCCAGAAG
GCCGATTCTCCAATGGACGATTTCTTTCAAGTGCCTGAACGGCAAGTACATCAGCCAGATGAAGGCC
TGCGACGGCATCAATGACTGTGGCGATCAGTCCGACGAGCTGTGCTGTAAGGCCTGTGAGGGCAA
GGGCTTTCACTGCAAGAGCGGCGTGTGCATCCCCTCCAGTATCAGTGCAACGGCGAGGTGGATT
GTATCACCGGAGAGGACGAAGTGGGATGCGCAGGCTTCGCTCCGTGACCCAGGAGGAGACCGA
GATCCTGACAGCCGACATGGATGCCGAGAGGCGCCGATCAAGTCTCTGCTGCCTAAGCTGAGCT
GTGGCGTGAAGAATAGAATGCACATCAGAAGGAAGCGCATCGTGGGAGGCAAGAGGGCACAGCTG
GGCGATCTGCCATGGCAGGTGGCCATCAAGGACGCAAGCGGAATCACCTGCGGAGGCATCTATATC
GGAGGATGTTGGATCCTGACCGCAGCACACTGCCTGAGAGCATCCAAGACACACAGGTACCAGATC
TGGACCACAGTGGTGGATTGGATCCACCCTGACCTGAAGAGAATCGTGATCGAGTATGTGGATAGG
ATCATCTTCCACGAGAATAACAATGCCGGCACATATCAGAACGACATCGCCCTGATCGAGATGAAGA
AGGATGGCAATAAGAAGGACTGTGAGCTGCCACGCTCCATCCCTGCATGCGTGCCCTGGTCTCCTT
ACCTGTTTTCAGCCAAACGATACCTGCATCGTGAGCGGATGGGGAAGGGAGAAGGACAATGAGCGG
GTGTTCTCCCTGCAAGTGGGGCGAGGTGAAGCTGATCTCCAAGTGTCTAAGTTTTACGGCAATCGG
TTCTATGAGAAGGAGATGGAGTGCGCCGGCACCTACGATGGCAGCATCGACGCTGTAAGGGCGAT

Figure 4 (cont)

TCCGGAGGACCACTGGTGTGCATGGACGCAAACAATGTGACATACGTGTGGGGAGTGGTGAGCTG
GGGAGAGAACTGCGGCAAGCCAGAGTTTCCCGGCGTCTACACCAAGGTGGCCAATTATTTTGA
GGATCTCCTACCACGTGGGCAGGCCTTTCATCTCTCAGTACAACGTGTGA

SEQ ID NO: 22

ATGAAGCTGCTGCATGTGTTTCTGCTGTTCTCTGCTTCCACCTGAGGTTCTGCAAAGTGACCTAC
ACCAGCCAAGAGGACCTGGTGGAAAAGAAGTGCCTGGCCAAGAAGTACACCCACCTGAGCTGCGA
CAAGGTGTTCTGCCAGCCTTGGCAGAGATGCATCGAGGGCACCTGTGTGTGCAAGCTGCCCTATC
AGTGCCCCAAGAATGGCACAGCCGTGTGCGCCACCAACAGAAGAAGCTTCCCTACCTACTGCCAGC
AGAAAAGCCTGGAATGTCTGCACCCCGGCACCAAGTTTCTGAACAACGGCACCTGTACCGCCGAG
GGCAAGTTTAGCGTGTCCCTGAAGCACGGCAACACCGACTCTGAGGGCATCGTGGAAGTGAAGCT
GGTGGACCAGGACAAGACCATGTTTCATCTGCAAGAGCAGCTGGTCCATGCGCGAGGCCAATGTGG
CTTGTCTGGATCTGGGATTCCAGCAGGGCGCCGACACACAGAGAAGATTCAAGCTGAGCGACCTG
AGCATCAACAGCACCGAGTGCCTGCATGTGCACTGTAGAGGCCTGGAAACAAGCCTGGCCGAGTG
CACCTTCACCAAGAGAAGGACCATGGGCTACCAGGACTTCGCCGACGTCGTGTGCTACACCCAGAA
AGCCGACTCTCCCATGGACGATTTCTTCCAGTGCCTGAACGGCAAGTACATCAGCCAGATGAAGGC
CTGCGACGGCATCAACGATTGCGGCGATCAGAGCGACGAGCTGTGCTGCAAAGCCTGTCAAGGCA
AGGGCTTCCACTGCAAGTCCGGCGTGTGTATCCCTAGCCAGTACCAGTGCAATGGCGAGGTGGAC
TGTATCACCGGCGAGGATGAAGTGGGCTGTGCCGATTGTCAGCGTGACCCAAGAGGAAACCGA
GATCCTGACCGCCGATATGGACGCCGAGCGGCGGAGAATCAAAAGCCTGCTGCCTAAGCTGTCCTG
CGGCGTGAAGAACCGGATGCACATCCGGCGCAAGAGAATCGTCGGAGGCAAAAGAGCACAGCTGG
GCGATCTGCCTTGGCAAGTGGCCATCAAGGATGCCAGCGGCATCACATGTGGCGGCATCTACATCG
GCGGCTGCTGGATTCTGACAGCCGCTCATTGTCTGCGGGCCAGCAAGACCCACCGGTATCAGATCT
GGACCACCGTGGTGGACTGGATTACCCCGACCTGAAGCGGATCGTGATCGAGTACGTGGACCGG
ATCATCTTCCACGAGAACTACAACGCCGGCACCTACCAGAACGATATCGCCCTGATCGAGATGAAGA
AGGACGGGAACAAGAAGGACTGCGAGCTGCCTAGATCTATCCCCGCTGTGTTCTTGGAGCCCCT
ACCTGTTCCAGCCTAACGATACCTGCATCGTGTCCGGCTGGGGCAGAGAGAAGGATAACGAGAGG
GTGTTACAGCTGCAGTGGGGCGAAGTGAAGTGCAGCAACTGCAGCAAGTTCTACGGCAACCG
GTTCTACGAGAAAGAAATGGAATGCGCCGGCACATACGACGGCTCCATCGATGCCTGTAAAGGCGA
TTCTGGCGGCCCTCTCGTGTGCATGGATGCCAACAATGTGACCTACGTGTGGGGCGTCGTGTCT
GGGGAGAGAATTGTGGCAAGCCTGAGTTCCCGGCGTCTACACCAAGGTGGCCAATACTTCGAC
TGGATCAGCTACCACGTGGGCAGACCCTTATCAGCCAGTACAACGTGTGA

SEQ ID NO: 23

ATGAAGCTGCTGCATGTGTTCTGCTGTTTCTGTGCTTCCACCTGAGATTTTGTAAAGTGACCTATA
CATCTCAGGAGGATCTGGTGGAGAAGAAGTGTCTGGCCAAGAAGTACACACACCTGAGTTGTGAC
AAGGTGTTCTGTCAGCCATGGCAGAGATGCATTGAGGGAACCTGTGTGTGCAAGCTGCCTTATCA
GTGCCCAAAGAATGGCACTGCTGTGTGTGCCACAAATAGGAGATCTTTTCCAACATACTGCCAGCA
GAAGAGCCTGGAGTGTCTGCACCCTGGCACCAAGTTTCTGAACAATGGCACCTGCACAGCTGAGG
GCAAGTTCTCTGTGAGCCTGAAGCATGGCAACACAGATAGTGAGGGCATTGTGGAGGTGAAGCTG
GTGGACCAGGATAAGACCATGTTTCATCTGTAAGAGCTCCTGGTCTATGAGAGAGGCCAATGTGGCC
TGCCTGGATCTGGGCTTTCAaCAAGGAGCTGACACACAGAGGAGATTCAAGCTGAGTGACCTGTC
TATCAATAGCACAGAGTGCCTGCATGTGCACTGTAGaGGCCTGGAGACAAGCCTGGCTGAGTGAC
CTTTACAAAGAGAAGGACCATGGGCTATCAGGACTTTGCTGATGTGGTATGCTACACCCAGAAGGC
TGATTCTCCAATGGATGATTTCTTTCAaTGTGTGAATGGCAAGTACATCAGCCAGATGAAGGCCTGT
GATGGCATCAATGACTGTGGAGATCAGAGTGATGAGCTGTGtTGcAAGGCCTGTCAGGGCAAGGG
CTTTCACTGCAAGAGTGGAGTGTGCATCCCCTCCCAaTATCAGTGCAATGGAGAGGTGGATTGTAT
CACAGGAGAGGATGAAGTGGGATGTGCAGGCTTTGCCTCAGTGACCCAGGAGGAGACAGAGATCC

Figure 4 (cont)

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TGACAGCTGACATGGATGCTGAGAGGAGAAGGATCAAGTCTCTGCTGCCTAAGCTGAGCTGTGGA
GTGAAGAATAGAATGCACATCAGAAGGAAGAGAATTGTGGGAGGCAAGAGGGCACAGCTGGGAGA
TCTGCCATGGCAGGTGGCCATCAAGGATGCAAGTGAATCACCTGTGGAGGCATCTATATTGGAGG
ATGTTGGATCCTGACAGCAGCACACTGCCTGAGAGCATCCAAGACACACAGaTACCAGATCTGGAC
CACAGTGGTTGATTGGATCCACCCTGACCTGAAGAGAATTGTGATTGAGTATGTGGATAGGATCATC
TTCCATGAGAACTACAATGCTGGCACATATCAGAATGACATTGCCCTGATTGAGATGAAGAAGGATG
GCAATAAGAAGGACTGTGAGCTGCCAAGATCCATCCCTGCATGTGTGCCCTGGTCTCCTTACCTGT
TTCAGCCAAATGATACCTGCATtGTatccGGATGGGGAAGGGAGAAGGACAATGAGAGAGTGTTCTC
CCTGCAGTGGGGAGAGGTGAAGCTGATCTCCAAGTGTCTAAGTTTTATGGCAATAGATTCTATGA
GAAGGAGATGGAGTGTGCAGGCACCTATGATGGCAGCATTGATGCCTGTAAGGGAGATAGTGGAG
GACCACTGGTGTGCATGGATGCAAACAATGTGACATATGTGTGGGGAGTGGTGAGCTGGGGAGAG
AACTGTGGCAAGCCAGAGTTTCCTGGAGTCTACACCAAGGTGGCCAATTATTTTACTGGATCTCC
TACCATGTGGGCAGGCCTTTTCATCTCTCAGTACAATGTGTGA

SEQ ID NO: 24

ATGAAGCTGCTGCATGTGTTTCTGCTGTTCTCTGCTTCCACCTGAGGTTCTGCAAgGTGACCTAC
ACCAGCCAAGAGGACCTGGTGGAAAAGAAGTGCCTGGCCAAGAAGTACACCCACCTGAGCTGTGA
CAAGGTGTTCTGCCAGCCTTGGCAGAGATGCATTGAGGGCACCTGTGTGTGCAAGCTGCCCTATC
AGTGCCCCAAGAATGGCACAGCTGTGTGTGCCACCAACAGAAGGAGCTTCCCTACCTACTGCCAGC
AGAAAAGCCTGGAATGTCTGCACCCTGGCACCAAGTTTCTGAACAATGGCACCTGTACAGCTGAGG
GCAAGTTTGTGTGTCCCTGAAGCATGGCAACACAGACTCTGAGGGCATTGTGGAAGTGAAGCTG
GTGGACCAGGACAAGACCATGTTTCATCTGCAAGAGTAGCTGGTCCATGAGAGAGGCCAATGTGGC
TTGTCTGGATCTGGGATTCCAACAGGGAGCTGACACACAGAGAAGATTCAAGCTGAGTGACCTGA
GCATCAACAGCACAGAGTGCCTGCATGTGCACTGTAGAGGCCTGGAAACAAGCCTGGCTGAGTGC
ACCTTACCAAGAGAAGGACCATGGGCTACCAGGACTTTGCTGATGTGGTGTGCTACACCCAGAAA
GCTGACTCTCCCATGGATGATTCTTTCAATGTGTGAATGGCAAGTACATCAGCCAGATGAAGGCCT
GTGATGGCATCAATGATTGTGGAGATCAGAGTGATGAGCTGTGCTGCAAAGCCTGTCAAGGCAAG
GGCTTCCACTGCAAGAGTGGAGTGTGTATCCCTAGCCAGTACCAGTGCAATGGAGAGGTGGACTG
TATCACAGGAGAGGATGAAGTGGGCTGTGCTGGATTTGCCAGTGTGACCCAAGAGGAAACAGAGA
TCCTGACAGCTGATATGGATGCTGAGAGAAGGAGAATCAAAAAGCCTGCTTCCCTAAGCTGTCTGTG
GAGTGAAGAACAGAATGCACATCAGAAGGAAGAGAATTGTGGGAGGCAAAAGAGCACAGCTGGGA
GATCTGCCTTGGCAAGTGGCCATCAAGGATGCCAGTGGCATCACATGTGGAGGCATCTACATTGGA
GGCTGCTGGATTCTGACAGCTGCTCATTGTCTGAGAGCCAGCAAGACCCACAGATATCAGATCTGG
ACCACAGTGGTAGACTGGATTCAACCTGACCTGAAGAGAATTGTGATTGAGTATGTGGACAGAATC
ATCTTCCATGAGAACTACAATGCTGGCACCTACCAGAATGATATTGCCCTGATTGAGATGAAGAAGG
ATGGAACAAGAAAGACTGTGAGCTGCCTAGATCTATCCCTGCCTGTGTTCTTGGAGCCCCTACC
TGTTCCAGCCTAATGATACCTGCATAGTTTCTGGATGGGGCAGAGAGAAGGATAATGAGAGGGTGT
TCAGCCTGCAGTGGGGAGAAGTGAAGTATCAGCAACTGCAGCAAGTTCTATGGCAACAGATTCT
ATGAGAAAGAAATGGAATGTGCTGGCACATATGATGGCTCCATTGATGCCTGTAAAGGAGATTCTGG
AGGCCCTCTTGTGTGCATGGATGCCAACAATGTGACCTATGTGTGGGGAGTGGTATCTGGGGAG
AGAATTGTGGCAAGCCTGAGTTCCCTGGAGTCTACACCAAGGTGGCCAAGTACTTTGACTGGATCA
GCTACCATGTGGGCAGACCCTTTATCAGCCAGTACAATGTGTGA

SEQ ID NO: 25

ATGAAGCTGCTGCATGTGTTCTGCTGTTCTGTGCTTCCACCTGAGATTCTGCAAGGTGACCTAC
ACCAGCCAGGAGGACCTGGTGGAGAAGAAGTGCCTGGCCAAGAAGTACACCCACCTGAGCTGTGA
CAAGGTGTTCTGCCAGCCCTGGCAGAGATGCATTGAGGGCACCTGTGTGTGCAAGCTGCCCTACC
AGTGCCCCAAGAATGGCACAGCTGTGTGTGCCACCAACAGAAGGAGCTTCCCCACCTACTGCCAGC
AGAAGAGCCTGGAGTGCCTGCACCCTGGCACCAAGTTCTGAAACAATGGCACCTGCACAGCTGAG
GGCAAGTTCAGTGTGAGCCTGAAGCATGGCAACACAGACAGTGAAGGCATTGTGGAGGTGAAGC

Figure 4 (cont)

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TGGTGGACCAGGACAAGACCATGTTTCATCTGCAAGAGCAGTTGGAGCATGAGAGAGGCCAATGTG
GCCTGCCTGGACCTGGGCTTCCAGCAAGGAGCTGACACCCAGAGAAGGTTCAAGCTGAGTGACCT
GAGCATCAACAGCACAGAGTGCCTGCATGTGCACTGCAGAGGCCTGGAGACCAGCCTGGCTGAGT
GCACCTTCACCAAGAGAAGGACCATGGGCTACCAGGACTTTGCTGATGTGGTTTGCTACACCCAGA
AGGCTGACAGCCCCATGGATGACTTCTTCCAGTGTGTGAATGGCAAGTACATCAGCCAGATGAAGG
CCTGTGATGGCATCAATGACTGTGGAGACCAGAGTGATGAGCTGTGCTGCAAGGCCTGCCAGGGC
AAGGGCTTCCACTGCAAGAGTGGAGTGTGCATCCCCAGCCAGTACCAGTGCAATGGAGAGGTGGA
CTGCATCACAGGAGAGGATGAGGTGGGCTGTGCTGGCTTTGCCAGTGTGaCCCAGGAGGAGACA
GAGATCCTGACAGCTGACATGGATGCTGAGAGAAGGAGAATCAAGAGCCTGCTGCCAAGCTGAG
CTGTGGAGTGAAGAACAGAATGCACATCAGAAGGAAGAGAATTGTGGGAGGCAAGAGAGCCCAGC
TGGGAGACCTGCCCTGGCAGGTGGCCATCAAGGATGCCAGTGGCATCACCTGTGGAGGAATCTAC
ATTGGAGGCTGCTGGATtCTGACAGCTGCCCACTGCCTGAGAGCCAGCAAGACCCACAGATACCAG
ATCTGGACCACAGTGGTTGACTGGATtCACCTGACCTGAAGAGAATTGTGATTGAGTATGTGGAC
AGAATCATTTTCCATGAGAACTACAATGCTGGCACCTACCAGAATGACATTGCCCTGATTGAGATGA
AGAAGGATGGCAACAAGAAAGACTGTGAGCTGCCCAGAAGCATCCCTGCCTGTGTGCCCTGGAGC
CCCTACCTGTTCCAGCCCAATGACACCTGTATTGTCACTGGATGGGGCAGAGAGAAGGACAATGAG
AGAGTGTTCAGCTGCAGTGGGGAGAGGTGAAGCTGATCAGCAACTGCAGCAAGTTCTATGGCAA
CAGATTCTATGAGAAGGAGATGGAGTGTGCTGGCACCTATGATGGCAGCATTGATGCCTGCAAGGG
AGACAGTGGAGGCCCCCTGGTGTGCATGGATGCCAACAATGTGACCTATGTGTGGGGAGTGGTTA
GCTGGGGAGAGAAGTGTGGCAAGCCTGAGTTCCTGGAGTGTACACCAAGGTGGCCAACCTACTTT
GACTGGATCAGCTACCATGTGGGCAGACCCTTCATCAGCCAGTACAATGTGTAA

SEQ ID NO: 26

ATGAAGCTGCTGCATGTGTTCTGCTGTTCTGTGTTTCCATCTGAGGTTCTGTAAGGTGACcTATA
CATCACAGGAGGACCTGGTGGAGAAGAAGTGTCTGGCCAAGAAGTATACACATCTGTCATGTGACA
AGGTGTTCTGTCAGCCTTGGCAGAGGTGATTGAGGGAACATGTGTGTGTAAGCTGCCTTATCAGT
GTCCTAAGAATGGAACAGCTGTGTGTGCCACAAATAGGAGGTCAATCCCTACATATTGTCAGCAGAA
GTCACTGGAGTGTCTGCATCCTGGAACAAAGTTCTGAATAATGGAACATGTACAGCTGAGGGAAA
GTTCTCAGTGTCACTGAAGCATGGAATACAGACTCAGAGGGAATTGTGGAGGTGAAGCTGGTGG
ACCAGGACAAGACAATGTTTCATCTGcAAGTCATCATGGTCAATGAGGGAGGCCAATGTGGCCTGTC
TGGACCTGGGATTCCAGCAGGGAGCTGACACACAGAGGAGGTTCAAGCTGTCAGACCTGTCAATC
AATTCAACAGAGTGTCTGCATGTGCATTGTAGaGGACTGGAGACATCACTGGCTGAGTGTACATTC
ACAAAGAGGAGAACAATGGGATATCAGGACTTTGCTGATGTGGTTTGTATACACAGAAGGCTGAC
TCACCTATGGATGACTTCTTTCaTGTGTGAATGGAAAGTATATCTCACAGATGAAGGCCTGTGATG
GAATCAATGACTGTGGAGACCAGTCAGATGAGCTGTGTTGcAAGGCCTGTCAGGGAAAGGGATTC
CATTGcAAGTCAGGAGTGTGTATCCCTTCACaATCAGTGTAAATGGAGAGGTGGACTGTATCACAG
GAGAGGATGAGGTGGGATGTGCAGGATTTGCCTCAGTGaCCCAGGAGGAGACAGAGATCCTGACA
GCTGACATGGATGCTGAGAGAAGGAGAATCAAGTCACTGCTGCCTAAGCTGTCATGTGGAGTGAA
GAATAGGATGCATATCAGGAGGAAGAGGATTGTGGGAGGAAAGAGGGCCCAGCTGGGAGACCTGC
CTTGGCAaGTGGCCATCAAGGATGCCTCAGGAATCACATGTGGAGGAATCTATATTGGAGGATGTT
GGATCCTGACAGCTGCCATTGTCTGAGGGCCTCAAAGACACATAGATATCAGATCTGGACAACAGT
GGTGGACTGGATCCATCCTGACCTGAAGAGGATTGTGATTGAGTATGTGGACAGGATCATCTTCCA
TGAGAATTATAATGCTGGAACATATCAGAATGACATTGCCCTGATTGAGATGAAGAAGGATGGAAATA
AGAAGGACTGTGAGCTGCCTAGGTCAATCCCTGCCTGTGTGCCTTGGTCCCTTATCTGTTCCAaC
CTAATGACACATGTATTGTGTcGGATGGGGAAGGGAGAAGGACAATGAGAGGGTGTTCCTCACTGC
AGTGGGGAGAGGTGAAGCTGATCTCAAATTGTTCAAAGTTCTATGGAAATAGGTTCTATGAGAAGG
AGATGGAGTGTGCTGGAACATATGATGGATCAATTGATGCCTGTAAGGGAGACTCAGGAGGACCTC
TaGTaTGATGGATGCCAATAATGTGACATATGTGTGGGGAGTGGTGTGATGGGGAGAGAATTGTG
GAAAGCCTGAGTTCCTGGAGTGTATACAAAGGTGGCCAATTATTTGACTGGATCTCATATCATGT
GGGAAGGCCTTTCATCTCACAGTATAATGTGTAA

Figure 4 (cont)

SEQ ID NO: 27

ATGAAGCTGCTGCATGTGTTCTGCTGTTTCTGTGCTTCCACCTGAGGTTTTGCAAGGTGACcTAT
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AAGGTGTTCTGCCAGCCCTGGCAGAGGTGCATTGAGGGCACCTGTGTGTGTAAGCTGCCCTATCA
GTGCCCCAAGAATGGCACTGCTGTGTGTGCTACTAACAGGAGGAGCTTCCCCACCTACTGTCAGCA
GAAGAGCCTGGAGTGTCTGCATCCTGGGACCAAGTTTCTGAATAATGGAACCTGCACAGCTGAGG
GAAAGTTTAGTGTGAGCCTGAAGCATGGAATACAGATAGTGAGGGAATTGTGGAGGTGAAGCTG
GTGGACCAGGATAAGACCATGTTTCATCTGCAAGAGCAGCTGGAGCATGAGGGAGGCCAATGTGGC
CTGCCTGGACCTGGGGTTTCAGCAaGGTGCTGATACTCAGAGGAGGTTTAAGCTGTCTGATCTGT
CTATCAATAGCACTGAGTGTCTGCATGTGCATTGtAGaGGACTGGAGACCAGCCTGGCTGAGTGTA
CTTTTACTAAGAGGAGGACTATGGGaTACCAGATTTTGTCTGATGTGGTGTGTTATACCCAGAAGGC
TGATTCTCCCATGGATGACTTCTTTCAGTGTGTGAATGGGAAGTACATCTCTCAGATGAAGGCCTG
TGATGGTATCAATGATTGTGGAGACCAGAGTGATGAGCTGTGTTGTAAGGCTTGCCaAGGCAAGGG
CTTtCATTGCAAGAGTGGAGTGTGCATCCCCAGCCAGTATCAGTGCAATGGAGAGGTGGACTGCAT
CACAGGGGAGGATGAGGTGGGCTGTGCTGGCTTTGCTTCTGTGaCTCaAGAGGAGACAGAGATCC
TGACTGCTGACATGGATGCTGAGAGGAGGAGGATCAAGAGCCTGCTGCCTAAGCTGTCTTGTGGA
GTGAAGAACAGGATGCACATCAGGAGGAAGAGGATTGTGGGAGGAAAGAGGGCTCAGCTGGGAG
ACCTGCCCTGGCAGGTGGCTATCAAGGATGCCAGTGGAATCACCTGTGGGGGAATCTATATTGGTG
GCTGTTGGATCCTGACTGCTGCTCATTGTCTGAGGGCCAGCAAGACTCATAgATACCAGATCTGGA
CCACAGTGGTGGACTGGATCCACCCTGACCTGAAGAGGATTGTGATTGAGTATGTGGATAGGATCA
TCTTCCATGAGAACTACAATGCTGGCACTTACCAGAATGACATTGCTCTGATTGAGATGAAGAAGGA
TGGAACAAGAAGGATTGTGAGCTGCCTAGGAGCATCCCTGCCTGTGTGCCCTGGTCTCCTTACCT
GTTCCaCCTAATGATACCTGCATTGTGTCTGGCTGGGGAAGGGAGAAGGATAATGAGAGGGTGTT
TAGCCTGCAGTGGGGTGAGGTGAAGCTGATCAGCAACTGCTCTAAGTTTTATGGAATAGGTTCTA
TGAGAAGGAGATGGAGTGTGCTGGaACCTATGATGGTAGCATTGATGCCTGcAAGGGGGACTCTG
GAGGCCCTGGTtTGATGGATGCCAACATGTGACTTATGTGTGGGGTGTGGTGAGCTGGGGG
GAGAAGTGTGGAAGCCTGAGTTCCTGGaGTGTACCAAGGTGGCCAATTATTTTACTGGATC
AGCTACCATGTGGGAAGGCCTTTTATCTCTCAGTACAATGTGTAA

SEQ ID NO: 28

ATGAAGCTGCTGCATGTTTTTCTGCTGTTTCTGTGCTTTCCACCTGAGATTTTGCAAGGTGACCTATA
CAAGCCAGGAGGATCTGGTGGAGAAGAAGTGCCTGGCAAAGAAGTATACCCACCTGAGCTGTGATA
AGGTGTTTTGCCAGCCCTGGCAGAGATGCATTGAGGGCACCTGTGTTTGTAAGCTGCCCTATCAGT
GCCCCAAGAATGGCACAGCAGTGTGTGCAACCAATAGAAGGAGCTTTCCACATACTGTCAGCAGA
AGAGCCTGGAATGTCTGCATCCTGGGACAAAGTTTCTGAATAATGGAACATGCACAGCTGAAGGAA
AGTTTAGTGTTAGCCTGAAGCATGGAATACAGATAGTGAGGGAATAGTTGAAGTGAAGCTGGTGG
ACCAGGATAAGACAATGTTTATATGCAAGAGTAGCTGGAGCATGAGAGAAGCCAATGTGGCCTGCCT
GGACCTGGGGTTTCAGCAAGGAGCTGATACCCAGAGAAGGTTTAAGCTGAGTGATCTGAGCATAAA
TAGCACAGAATGTCTGCATGTGCATTGCAGAGGACTGGAGACCAGCCTGGCTGAATGTACCTTTAC
CAAGAGAAGGACCATGGGCTACCAGGATTTTGTCTGATGTGGTTTGTTATACACAGAAGGCAGATAG
CCCCATGGATGACTTTTTTCAaTGTTGTGAATGGGAAGTACATTAGCCAGATGAAGGCCTGTGATGG
CATCAATGATTGTGGAGACCAGAGTGATGAAGTGTGTTGTAAGGCATGCCAGGGCAAGGGCTTTCA
TTGCAAGAGTGGAGTTTGCATTCCCAGCCAGTATCAGTGCAATGGAGAGGTGGACTGCATTACAGG
GGAAGATGAAGTTGGCTGTGCAGGCTTTGCAAGTGTGaCTCAGGAAGAAACAGAAATTCTGACAG
CTGACATGGATGCAGAAAGAAGAATAAAGAGCCTGCTGCCTAAGCTGAGCTGTGGAGTTAAGA
ATAGAATGCACATTAGAAGGAAGAGAATTGTGGGAGGAAAGAGAGCACAGCTGGGAGACCTGCCC
TGGCAGGTGGCAATTAAGGATGCCAGTGGAATCACCTGTGGGGGAATTTATATTGGAGGCTGTTGG
ATTCTGACAGCTGCACATTGTCTGAGAGCCAGCAAGACCCATagaTACCAGATATGGACAACAGTGG
TGGACTGGATACACCCTGACCTGAAGAGAATAGTGATTGAATATGTGGATAGAATTATTTTTCATGAA

Figure 4 (cont)

AATTACAATGCAGGCACCTACCAGAATGACATTGCTCTGATTGAAATGAAGAAGGATGGAAATAAGA
AGGATTGTGAGCTGCCTAGAAAGCATCCCTGCCTGTGTGCCCTGGAGCCCTTACCTGTTTCAGCCTA
ATGATACATGCATTGTTAGTGGCTGGGGAAGAGAAAAGGATAATGAAAGAGTGTTTAGCCTGCAGT
GGGGAGAAGTTAAGCTGATAAGCAATTGCAGCAAGTTTTAtGGAAATAGATTTTATGAAAAGGAAAT
GGAATGTGCAGGCACATATGATGGCAGCATTGATGCCTGcAAGGGGGACAGTGGAGGCCCCCTaGT
aTGTATGGATGCCAATAATGTGACCTATGTGTGGGGAGTTGTGAGCTGGGGGGAAAATTGTGGAAA
GCCTGAGTTTCTGGAGTTTACACCAAGGTGGCCAATTATTTTGACTGGATTAGCTACCATGTGGG
AAGACCTTTTATTAGCCAGTACAATGTGTAA

SEQ ID NO: 29

ATGAAGCTGCTGCATGTGTTCTCTGCTGTTCTGTGTTTCCACCTGAGGTTCTGTAAGGTGACcTAT
ACATCTCAGGAGGATCTGGTGGAGAAGAAGTGCTGGCCAAGAAGTATACACACCTCTCCTGTGAT
AAGGTGTTCTGTGAGCCATGGCAGAGGTGATTGAGGGAACCTGTGTGTGTAAGCTGCCTTATCAG
TGTCCAAAGAATGGAACAGCTGTGTGTGCCACAAACAGGAGGAGCTTCCCAACATACTGTGAGCAG
AAGTCACTGGAATGTCTGCATCCAGGAACAAAGTTCTGAATAATGGAACATGTACAGCTGAAGGA
AAGTTCTCAGTGTCCCTGAAGCATGGAATACAGATTAGAGGGAATTGTGGAAGTGAAGCTGGT
GGACCAGGATAAGACAATGTTTCTGTGTAAGAGCAGCTGGAGCATGAGGGAAGCCAATGTGGCCTG
TCTGGACCTGGGATTCCAGCAGGGAGCTGATACACAGAGGAGTTCAAGCTGTCTGATCTCTCTAT
CAATTCCACAGAATGTCTGCATGTGCATTGcAGAGGtCTGGAGACCTCACTGGCTGAATGTACATTC
ACAAAGAGGAGGACAATGGGATACCAGGATTTTCTGTATGTGGTGTGTTATACACAGAAGGCTGAT
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GAATCAATGATTGTGGAGACCAGTCAGATGAAGTGTGcTGcAAGGCCTGTCAGGGAAAGGGATTCC
ATTGcAAGTCAGGAGTGTGTATCCCAAGCCAGTATCAGTGAATGGAGAGGTGGACTGTATCACAG
GAGAAGATGAAGTGGGATGTGCaGGATTTGCCTCTGTGaCTCAGGAAGAAACAGAAATCTGACAG
CTGACATGGATGCTGAAAGGAGGAGGATCAAGTCACTGCTGCCTAAGCTGTCTTGTGGAGTGAAG
AACAGGATGCACATCAGGAGGAAGAGGATTGTGGGAGGAAAGAGGGCCCAGCTGGGAGACCTCC
CATGGCAGGTGGCCATCAAGGATGCCTCAGGAATCACCTGTGGAGGAATCTATATTGGAGGATGTT
GGATCTGACAGCTGCCCATTGTCTaAGaGCCTCAAAGACACATAGaTACCAGATCTGGACAACAGT
GGTGGACTGGATCCACCCTGACCTGAAGAGGATTGTGATTGAATATGTGGATAGGATCATCTTCCAT
GAAACTACAATGCTGGAACATACCAGAATGACATTGCTCTGATaGAAATGAAGAAGGATGGAAACA
AGAAGGATTGTGAGCTGCCTAGGTCCATCCCTGCCTGTGTGCCCTGGTCTCCTTACCTGTTCCAaC
CTAATGATACATGATTGTGTCTGGATGGGGAAGGGAAAAGGATAATGAAAGGGTGTCTCACTGC
AGTGGGGAGAAGTGAAGCTGATCAGCAACTGTTCTAAGTTCTATGGAAATAGGTTCTATGAAAAGG
AATGGAATGTGCTGGAACATATGATGGATCCATTGATGCCTGTAAGGGAGACTCTGGAGGACCCC
TGGTtGTATGGATGCCAACAATGTGACATATGTGTGGGGAGTGGTGTATGGGGAGAAAAGTGTG
GAAAGCCAGAGTTCCAGGAGGTGACACCAAGGTGGCCAATTATTTTGACTGGATCAGCTACCATG
TGGGAAGGCCTTTCTCTCAGTACAATGTGTAA

SEQ ID NO: 30

ATGAAACTGCTGCATGTGTTTCTCCTGTTCTGTGCTTTTCatCTgAGgTTcTgTAAGGTgACcTATACA
TCCCAaGAGGATCTTGTGGAAAAGAAATGTCTGGCCAAAAAGTACACCCATCTGTCTTGTGACAAG
GTCTTCTGCCAGCCTTGGCAGAGATGTATTGAAGGAACCTTGCTGTCTGTAACTGCCCTACCAGTGC
CCTAAGAATGGAACAGCTGTCTGTGCTACTAATAGAAGGTCATTCCCAACTTACTGCCAGCAGAAGT
CTCTGGAGTGTCTCCACCCTGGAACATAATTCCTGAACAATGGCACATGTACAGCTGAAGGCAAGT
TCTCTGTCTCCCTCAAACATGGAACACAGACTCAGAAGGGATTGTGGAAGTCAAGCTGGTGGATC
AGGATAAGACCATGTTTATTTGcAAGTCATCCTGGTCTATGAGAGAAGCAAATGTGGCCTGCCTGGA
TCTGGGCTTTTCaCaAGGAGCAGACACTCAGAGGAGATTCAAGCTCTCTGACCTGTCTATTAATAGC
ACTGAGTGTCTgCATGTgCatGTgAGaGGaCTGGAGACCTCACTTGCTGAATGTACATTCACTAAAAG
AAGGACTATGGGaTACCAGGACTTTGCTGATGTGGTGTGCTATACCCAGAAGGCAGACTCCCCCAT

Figure 4 (cont)

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GGATGACTTTTTCCaATGTGTTAATGGGAAATATATTAGTCAGATGAAGGCTTGTGATGGAATTAATG
ACTGTGGAGATCAGAGTGATGAGCTCTGTTGCAAAGCCTGTCAGGGAAAGGGTTTTCCACTGCAAA
AGTGGGGTTTTGTATTCCTTCTCAaTACCAaTGCAATGGGGAGGTGGACTGCATTACTGGAGAGGAT
GAGGTGGGGTGTGCTGGCTTTGCTTcGTGaCCCAaGAGGAGACAGAGATCCTGACAGCTGATAT
GGATGCTGAAAGGAGAAGAATTAAGTCACTGCTGCCAAACTGTCTTGTGGAGTTAAAAACAGAAT
GCACATCAGAAGAAAGAGAATTGTGGGAGGAAAAAGAGCCCAGCTTGGAGATCTCCCTTGGCaAG
TGGCCATTAAGGATGCCAGTGGTATCACATGTGGAGGcATCTATATTGGAGGGTGTCTGGATTCTCAC
AGCTGCACACTGTCTGAGAGCCAGTAAAACCCATAGATATCAGATCTGGACAACAGTGGTTGATTGG
ATTCATCCTGATCTCAAGAGAATTGTGATTGAGTATGTGGACAGAATTATTTTTCATGAAAACTACAA
TGCAGGAACCTATCAGAATGATATTGCCCTCATTGAGATGAAGAAGGATGGGAACAAAAAGGATTGT
GAGCTGCCCAGAAGCATCCCAGCTTGTGTGCCCTTGGTCTCCATACCTCTTTTCAGCCAAATGATACTT
GCATTGTCAGTGGATGGGGTAGAGAGAAAAGATAATGAGAGAGTCTTCTCCCTCCAGTGGGGAGAG
GTTAAGCTCATCAGTAATTGCTCCAAGTTTTATGGAAACAGGTTCTATGAAAAAGAGATGGAATGTG
CAGGAACATATGATGGTAGTATTGATGCTTGCAAAGGAGATAGTGGTGGACCCCTGGTCTGTATGGA
TGCCAACAATGTGACTTATGTGTGGGGGGTGGTGAGCTGGGGAGAGAATTGTGGGAAGCCTGAG
TTTCCaGGAGTCTACACCAAGGTGGCTAATTACTTTGACTGGATCAGTTACCATGTGGGTAGGCCCT
TCATTAGCCAGTACAATGTCTGA

SEQ ID NO: 31

ATGAAGCTGCTGCATGTGTTCCCTCTGTTTCTCTGTTTCCATCTGAGATTCTGCAAGGTTACCTATA
CATCCCAGGAAGACCTGGTGGAGAAAAAGTGTCTTGCCAAGAAGTACACCCACCTCAGTTGTGATA
AGGTCTTTTGGCAGCCATGGCAGAGATGTATTGAAGGcACTTGTGTGTGCAAGCTGCCATACCAGT
GTCCCAAAAATGGGACAGCAGTCTGTGCAACTAATAGAAGATCCTTCCCTACATACTGCCAGCAGAA
GAGTCTTGAGTGCCTGCACCCAGGCACAAAGTTTCTGAATAATGGCACATGCACAGCTGAAGGCAA
ATTCAGTGTCTCCCTGAAACATGGAAACACAGATAGTGAGGGAATTGTGGAAGTTAAGCTGGTGGA
CCAGGATAAAACCATGTTCAATTGTAAATCTTCATGGAGTATGAGAGAAGCTAATGTGGCATGTCTG
GACCTTGGATTTCaCaAGGaGCAGATACCCAGAGAAGGTTTAAGCTGAGTGATCTCTCCATTAACCT
CTACTGAgTGTCTgCATGTgCATTGtAGaGGaCTgGAGACATCaCTGGCAGAATGTACTTTTACCAAA
AGGAGAACCATGGGTTATCAGGACTTTGCAGATGTGGTCTGTTACACCCAGAAGGCTGACTCCCCC
ATGGATGACTTCTTTCAaTGTGTGAATGGGAAATACATCTCCAGATGAAGGCCTGTGATGGTATCA
ATGACTGTGGAGACCAGTCTGATGAGCTCTGCTGcAAGGCCTGTCAGGGGAAGGGATTTCACTGC
AAAAGTGGGGTTTTGCATCCCCAGTCAGTACCAGTGAATGGGGAAGTGGACTGCATTACAGGgGAA
GATGAGGTTGGTTGTGCTGGGTTTTGCTAGTGTGaCCCAGGAGGAAACAGAGATCCTGACAGCTGA
TATGGATGCAGAAAGAAGAAGAAATTAAGAGCCTCCTGCCTAAGCTCAGTTGTGGAGTCAAAAATAG
GATGCATATTAGGAGAAAGAGGATTGTGGGAGGGAAAagaGCCAGCTTGGAGACCTGCCATGGCA
GGTTGCCATCAAGGATGCCTCAGGGATCACATGTGGAGGGATCTATATTGGTGGATGTTGGATTCT
GACTGCTGCCCATTGCTGAGgGCctcaAAGACCCACAGaTATCAGATCTGGACCACTGTGGTGGAC
TGGATTCACTGACCTGAAGAGAATTGTGATTGAATATGTGGACAGGATTATCTTTCATGAGAACT
ATAATGCTGGAACCTTATCAGAATGATATTGCACTGATTGAGATGAAGAAGGATGGGAATAAAAAGGA
CTGTGAACCTCCAAGAAGCATTCTGTCATGTGTGCTTGGTCTCCTTACCTCTTCCAaCCCAATGAC
ACTTGATTGTcagtGGATGGGGTAGAGAAAAAGACAATGAGAGGGTTTTCACTCTGCAGTGGGGG
GAGGTCAAGCTCATCAGCAACTGCTCCAAATTCTATGGAAACAGGTTCTATGAAAAAGAAATGGAGT
GTGCTGGGACTTATGATGGTAGTATTGATGCCTGTAAAGGGGATTCTGGAGGGCCACTTGTCTGTA
TGGATGCTAACAATGTGACCTATGTCTGGGGAGTGGTGTcATGGGGAGAAAATTGTGGCAAACCTG
AGTTTCCTGGAGTGTATACAAAGGTGGCTAACTATTTTGATTGGATCAGTTATCATGTTGGTAGACC
CTTCATCAGTCAGTACAATGTCTAG

SEQ ID NO: 32

ATGAAGCTGCTCCATGTCTTCCTGCTGTTCCCTGTGCTTCCACCTGAGATTTTGAAGGTgACcTACA
CCAGCCAGGAGGACCTGGTGGAAAAAGAAATGTCTTGCTAAGAAATATACCCACCTGTCTGTGACA

Figure 4 (cont)

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AAGTCTTCTGTCAGCCTTGGCAGAGATGTATTGAAGGGACATGTGTCTGTAAGCTGCCTTACCAGT
GTCCTAAGAATGGGACTGCAGTCTGTGCCACTAATAGAAGATCATTCCCAACATACTGCCAGCAGAA
GAGTCTGGAGTGTCTGCATCCTGGCACAAAGTTTCTCAACAATGGGACATGTACAGCTGAAGGAAA
ATTCTCTGTGAGCCTGAAACATGGcAATACAGATAGTGAGGGAATTGTTGAGGTTAAGCTGGTGGa
TCAGGACAAAAAATGTTTATCTGCAAAAGCAGCTGGTCCATGAGAGAGGCTAATGTGGCCTGTCT
TGACCTTGCTTTCAaCaAGGaGCAGATACCCAGAGAAGATTTAAACTGTCAGATCTGAGCATCAAT
TCAACAGAgTGTCTGCATGTGCAtTGTaGaGGaCTgGAGACCAGCCTGGCTGAATGTACCTTCACAA
AGAGAAGAACAATGGGaTACCAGGACTTTGCTGATGTGGTTTGTTACACCCAGAAGGCAGACAGCC
CCATGGATGACTTCTTTTCAGTGTGTGAATGGAAAGTATATTAGCCAGATGAAGGCATGTGATGGTAT
CAATGATTGTGGgGACCAGAGTGATGAGCTCTGTTGTAAGGCTTGTCaAGGCAAAGGCTTCCACTG
cAAGTCAGGGGTGTGCATCCCCCTCCCAaTACCAGTGCAATGGAGAGGTGGATTGCATCACAGGGGA
GGAtGAAGTGGGTTGTGCTGGGTTTGCAAGTGTGaCCCAGGAGGAAACAGAAATCCTGACTGCTG
ATATGGATGCTGAGAGGAGAAGAATCAAAAGCCTCCTGCCTAAACTGTCTTGTGGTGTAAAGAATAG
AATGCACATTAGAAGAAAGAGAATTGTGGGGGGAAAGAGAGCACAGCTGGGTGATCTGCCCTGGC
AaGTGGCAATTAAGGATGCCTCAGGcATCACCTGTGGAGGCATTTACATTGGGGGTGCTGGATTc
TGACAGCAGCCCACTGTCTCAGAGCCAGCAAACTCACAGaTATCAGATTTGGACAACAGTTGTGG
ATTGGATTACCCCTGATCTGAAGAGAATTGTCATTGAGTATGTGGACAGAATTATTTTCCATGAGAA
CTACAATGCTGGcACATACCAGAATGACATTGCCCTCATTGAAATGAAGAAGGATGGAAATAAAAAG
GACTGTGAACCTCCAAGATCAATTCTGCCTGTGTGCCATGGAGTCCTTACCTCTTCCAaCCAAATG
ATACCTGCATTGTcAGTGGCTGGGGGAGAGAGAAGGATAATGAAAGAGTTTTCTCCCTGCAGTGGG
GAGAGGTGAAGCTCATTAGTAACTGTTCTAAGTTTTATGGGAACAGATTTTATGAGAAGGAGATGGA
ATGTGCAGGAACCTATGATGGTAGCATTGATGCATGCAAGGAGACAGTGGAGGTCCACTTGTCTG
CATGGATGCTAACAATGTGACTTATGTCTGGGGAGTGGTCTCCTGGGGTGGAACTGTGGAAAGCC
TGAGTTCCAGGAGTGATACAAAAGTGGCCAACCTACTTTGACTGGATTTCATACCATGTGGGGAG
ACCTTTTATCAGCCAGTACAATGTCTGA

SEQ ID NO: 33

ATGAAACTGCTGCATGTGTTTCTGCTCTTTCTCTGcTTCCACctgAGaTTtTGCAAGGTGACcTACAC
CTCTCAGGAAGACCTGGTGGAGAAGAAGTGTCTTGCCAAGAAATATACCCATCTGTCATGTGATAAA
GTGTTCTGTCAGCCTTGGCAGAGATGTATTGAGGGAACATGTGTGTGCAAGCTGCCCTACCAGTGT
CCAAAGAATGGGACTGCTGTTTGTGCCACTAACAGAAGATCTTTTCTACATACTGTCAGCAGAAGA
GTCTGGAGTGCCTCCACCCTGGCACAAAATTCTCAATAATGGCACATGTACAGCTGAGGGAAAGT
TTTCTGTTAGCCTCAAGCATGGCAATACTGATTGAGAGGTATTGTTGAAGTCAAACCTGGTGGATCA
GGATAAAACCATGTTTCATTTGTAAGAGTAGCTGGTCCATGAGGGAGGCTAATGTGGCATGCCTGGA
CCTGGGCTTTCAaCaAGGgGCTGACACTCAGAGAAGGTTTAAGCTGAGTGACCTGAGCATTAATTC
AACTGAGTGTCTGCATGTgCAtTGTaGaGGGCTGGAGACTAGCCTTGcAGAGTGCACATTCACTAAG
AGAAGAACAATGGGaTACCAGGATTTTGCAGATGTGGTGTGCTACACTCAGAAAGCTGACTCTCCC
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ACTGGATTACCCCTGACCTGAAGAGAATTGTGATTGAATATGTGGATAGAATCATTTTCCATGAAAAT
TACAATGCTGGCACTTATCAGAATGACATTGCACTCATTGAGATGAAGAAAGATGGGAATAAAAAGG
ACTGTGAACCTGCCAGAAGCATTCCaGCTTGTGTGCCATGGAGTCCATATCTGTTTCAGCCAAATGA
TACATGCATaGTGTCTGGTTGGGGAAGAGAGAAGGACAATGAAAGGGTTTTTAGCCTCCAGTGGG

Figure 4 (cont)

GGGAGGTCAAGCTGATTAGCAACTGCAGTAAATTCTATGGCAACAGATTTTATGAGAAGGAGATGG
AATGTGCAGGcACTTATGATGGCTCAATTGATGCCTGCAAGGGAGATTCTGGTGGACCCCTGGTGT
GCATGGATGCCAATAATGTCACCTATGTCTGGGGTGTGGTTAGCTGGGGAGAGAACTGTGGGAAG
CCTGAGTTTCCAGGAGTGATACAAAAGTGGCAAATTACTTTGACTGGATCTCCTATCATGTGGGGA
GACCCTTTATCTCTCAGTACAATGTTTGA

SEQ ID NO: 34

ATGAAACTGCTCCATGTTTTCTCCTCTTTCTCTGcTTCCAcCTgAGATTtTGCAAGGTgACcTATACC
TCTCAGGAGGACCTGGTTGAGAAAAAGTGCCTGGCTAAAAAGTACACCCACCTCTCTTGTGATAAG
GTGTTCTGCCAGCCTTGGCAGAGATGCATTGAAGGCACATGTGTTTGAAACTGCCTTACCAGTGT
CCCAAAAATGGGACTGCTGTGTGTGCCACAAATAGAAGGAGCTTTCCAACCTACTGTCAGCAGAAG
AGCCTTGAATGCCTCCATCCTGGGACAAAATTCCTGAACAATGGaACCTGTACAGCTGAAGGCAAAT
TTAGTGTTAGCCTGAAACATGGGAATACAGATTCTGAGGGAATTGTGGAGGTCAAACCTGGTGGACC
AGGATAAAACCATGTTTATCTGCAAGAGTAGCTGGTCCATGAGAGAGGGCCAATGTGGCATGCCTGG
ATCTTGGGTTTTCaCaAGGAGCTGACACCCAGAGAAGATTCAAACCTCAGTGACCTGAGTATTAACCT
AACAGAATGtCTGCATGTgCatGTAGAGGaCTGGAACTAGCCTTGACAGAGTGCACCTTTTACCAAG
AGAAGAACCATGGGATATCAGGATTTTGTCTGATGTGGTGTGCTACACCCAGAAAGCAGACAGTCCC
ATGGATGACTTCTTCCAGTGTGTGAATGGCAAGTATATTTCCAGATGAAAGCATGTGAtGGCATCA
ATGATTGTGGAGACCAGAGTGATGAACGTGTCTGTAAAGGCTTGCCAGGGAAAGGGTTTTCCACTGC
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GATGAAGTGGGATGTGCTGGCTTTGCTTCTGTTaCCCaGAAGAGACAGAGATTCTGACAGCTGAC
ATGGATGCAGAGAGGAGAAGAATTAAGTCCCTGCTGCCTAAACTGTCCTGTGGTGTCAAGAATAGA
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aGTGGCTATTAAGGATGCCAGTGGGATCACATGTGGAGGAATTTACATTGGAGGGTGTGGATTCT
CACAGCTGCCCCACTGCCTGAGGGCCAGCAAAACCCACAGATACCAGATCTGGACAACAGTTGTGGA
TTGGATTATCCTGATCTCAAGAGAATTGTTATTGAGTATGTGGATAGGATCATTTTCCATGAAAATT
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TTGTGAGCTCCCCAGGAGCATTCTGCTTGTGTCCCCTGGTCCCCTTACCTCTTCCAACCCAATGA
CACCTGCATTGTcAgTGGCTGGGGTAGAGAAAAAGATAATGAGAGAGTCTTCAGCCTGCAGTGGGG
GGAGGTGAAGCTGATTAGCAATTGTAGcAAGTTTTATGGGAACAGGTTCTATGAGAAGGAGATGGA
GTGTGCTGGCACCTATGATGGCTCTATTGATGCTTGTAAAGGGGACAGTGGGGGACCACTGGTTT
GTATGGATGCAACAATGTGACCTATGTTTGGGGAGTGGTTAGCTGGGGAGAAAATTGTGGAAAAC
CTGAGTTTCTGGTGTCTATACAAAAGTGGCTAATTATTTTATTGGATCAGTTATCATGTTGGGAG
ACCCTTTATTAGTCAGTACAATGTCTAG

SEQ ID NO: 35

ATGAAACTCCTGCATGTGTTTCTGCTGTTCTCTGTTTTTACCTGAGGTTTTGTAAgGTgACcTACA
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GTCCTAAGAATGGTACAGCTGTCTGTGCAACAAACAGGAGATCCTTTCCACCTATTGTGTCAGCAGAA
GTCCCTGGAGTGTCTGCACCTGGTACAAAGTTTCTGAATAATGGCACATGCACTGCTGAGGGAAA
GTTCACTGTGTCCCTGAAACATGGAACACTGATTGAGAGGGTATTGTGGAGGTGAAACTTGTGG
ATCAGGACAAGACCATGTTTCATCTGcAAGTCCAGTTGGAGCATGAGAGAGGGCTAATGTGGCCTGTC
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ACTCCACAGAATGTCTGCATGTGCATTGACAGAGGGCTGGAGACTAGCCTTGCTGAATGTACTTTTA
CAAAGAGAAGAACTATGGGaTACCAGGATTTTGCAGATGTGGTCTGTTATACTCAGAAGGCTGATTC
ACCCATGGATGACTTCTTCCAGTGTGTGAATGGCAAGTACATTTCAcAaATGAAAGCATGTGATGGT
ATCAATGATTGTGGAGACCAGAGTGATGAACCTCTGTTGCAAGGCATGCCAGGGCAAGGGATTCCAC

Figure 4 (cont)

TGCAAGAGTGGTGTCTGTATTCCCAGTCAGTATCAGTGCAATGGGGAGGTGGACTGCATCACTGG
GGAAGATGAAGTGGGCTGTGCTGGTTTTGCTAGTGTGaCACAGGAGGAACTGAAATTCTCACAG
CAGATATGGATGCTGAGAGAAGGAGAATCAAGTCCCTCCTCCCTAACTGAGTTGTGGAGTGAAAA
ACAGAATGCATATTAGAAGAAAAAGAATTGTGGGAGGCAAGAGAGCTCAGCTTGGgGACCTCCCAT
GGCaAGTGGCTATTAAGGATGCAAGTGGGATTACATGTGGAGGGATCTATATTGGGGGGTGTGGA
TTCTGACAGCAGCCCACTGTCTGAGAGCCTCTAAACCCATAGaTATCAGATCTGGACAACAGTGGT
GGATTGGATTCACCCAGACCTCAAGAGGATTGTGATTGAGTATGTGGATAGAATTATTTTTCATGAG
AACTACAATGCTGGaACCTATCAGAATGATATTGCTCTGATTGAAATGAAAAAGGATGGGAACAAAA
GGACTGTGAAGTGGCAAGATCAATCCCTGCATGTGTGCCATGGAGTCCCTATCTCTTTCAGCCCAAT
GATACATGCATTGTTAGTGGATGGGGGAGGGAGAAAGACAATGAGAGAGTGTTCAGTCTCCAGTG
GGGTGAAGTGAAGCTCATTTCTAATTGTAGCAAGTTTTATGGGAATAGATTCTATGAAAAAGAAATG
GAGTGTGCAGGAACCTTATGATGGTTCCATTGATGCCTGCAAGGGAGATAGTGGTGGGCCCCCTGGT
GTGCATGGATGCTAATAATGTGACCTATGTCTGGGGAGTGGTTTCATGGGGAGAGAATTGTGGAAA
GCCTGAGTTCCTGGAGTGTACCAAGGTGGCCAATTACTTTGATTGGATCAGCTATCATGTGGG
AAGACCATTATTTCCCAGTACAATGTCTAA

SEQ ID NO: 36

ATGAAGCTCCTGCATGTGTTTCTGCTCTTCCTCTGCTTTCACCTGAGATTCTGTAAGGTGACcTATA
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AAGTCTTTTCCAGCCTTGGCAGAGATGTATTGAGGGAACCTGTGTCTGTAAGCTCCCATATCAGT
GTCCCAAGAATGGAACAGCTGTGTGTGCTACTAACAGAAGGAGCTTTCACCTACTGCCAGCAGA
AGAGCCTTGAATGTCTCCACCCAGGGACCAAGTTTCTGAACAATGGCACATGTACAGCTGAGGGGA
AATTCAGTGTcAGTCTCAACATGGGAATACTGATAGTGAGGGCATTGTTGAGGTGAAACTTGTGG
ACCAGGATAAGACCATGTTTATCTGcAAGTCAAGCTGGTCAATGAGAGAAGCTAATGTGGCTTGTCT
GGACCTTGGGTTTCAaCaAGGAGCTGACACTCAGAGAAGATTTAAGCTGAGTGATCTGAGTATCAA
CAGCACTGAaTGtctgCATGTgCATTGcAGaGGgctgAgAGCcttGCTGAGTGCATTTTACCAAG
AGAAGAACAATGGGaTACCAGGATTTTGCTGATGTGGTCTGTTATACTCAGAAGGCAGATTCACCAA
TGGATGACTTCTTTTCACTGTGTGAATGGaAAATACATTTCCAGATGAAGGCTTGTGATGGTATCAA
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GTCTGGGGTCTGTATCCCAGCCAGTATCAGTGTAATGGAGAGGTTGATTGTATCACAGGGGAGGA
TGAAGTGGGTTGTGCTGGCTTTGCATCAGTGaCACAGGAAGAGACAGAAATTCTGACAGCAGATAT
GGATGCTGAAAGAAGGAGAATTAAAAGCCTCCTGCCAAACTGAGCTGTGGTGTCAAGAATAGAAT
GCACATCAGAAGGAAGAGAATTGTTGGTGGAAAGAGGGCCCAGCTTGGGGACCTGCCATGGCAG
GTTGCAATCAAAGATGCAAGTGGCATTACCTGTGGAGGaATTTACATTGGaGGGTGTTGGATTCTG
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AATGCTGGCACCTACCAGAATGACATTGCCCTGATTGAGATGAAGAAAGATGGAAATAAGAAGGACT
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TTGTATTGTTTCTGGATGGGGCAGGGAAAAAGACAATGAGAGAGTGTTCAGCCTGCAGTGGGGGG
AGGTGAAGCTGATCTCAAAGTGCAGCAAGTTCTATGGaAATAGATTTTATGAGAAGGAAATGGAGTG
TGCAGGCACTTATGATGGATCAATTGATGCCTGCAAGGGTGACAGTGGTGGCCCACTTGTGTGCAT
GGATGCTAACAATGTGACCTATGTTTGGGGTGTGGTGTGTCATGGGGGAAACTGTGGCAAACCTG
AGTTTCCTGGTGTTTACTAAGGTTGCAAACCTACTTTGACTGGATCAGCTATCATGTGGGCAGACC
TTTTATTTCCCAGTATAATGTCTAA

SEQ ID NO: 37

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CAGCCAGGAGGACCTTGTTGAGAAGAAATGCCTGGCTAAGAAATACACCCACCTGTCCTGTGACAA
GGTGTCTGTGACCTTGGCAGAGGTGCATTGAAGGgACCTGTGTGTGTAAACTCCCTACCAGT

Figure 4 (cont)

GCCCTAAGAATGGCACTGCAGTGTGTGCTACAAACAGAAGATCATTCCCAACCTATTGCCAGCAGAA
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ATTCAGTGTGTCCCTGAAACATGGGAACACAGATTCTGAGGGTATTGTTGAGGTGAAGCTGGTGG
ATCAGGATAAGACTATGTTTATCTGCAAGTCAAGCTGGTCCATGAGGGAAGCCAATGTGGCATGCCT
GGATCTGGGTTTTCAaCaGGAGCTGATACCCAGAGAAGATTAAAGCTGAGTGACCTCAGCATTAAAC
TCTACTGAGTGTCTGCATGTGCACTGTAGaGGGCTTGAAACAAGCCTGGCAGAGTGACCTTCACC
AAGAGAAGGACAATGGGaTACCAGGACTTTGCTGATGTGGTCTGCTACACCAGAAGGCTGATTCC
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TCAATGACTGTGGAGACCAGAGTGATGAGCTGTGCTGCAAAGCTTGCCAGGGgAAAGGCTTTTCAT
TGCAAGAGTGGGGTCTGTATTCCCTCCCAaTACCAGTGCAATGGGGAGGTGGATTGCATCACAGGA
GAAGATGAAGTGGGCTGTGCTGGATTTGCCTCAGTGaCtCAGGAAGAGACAGAAATTCTCACAGCT
GATATGGATGCAGAGAGAAGGAGGATCAAGTCCCTCCTGCCTAACTGAGTTGTGGAGTGAAGAAC
AGGATGCATATTAGAAGGAAGAGAATTGTGGGGGGTAAAGAGCCAGCTTGGgGACCTGCCTTG
GCAaGTGGCTATCAAAGATGCCAGTGGTATTACCTGTGGTGGGATCTATTGGTGGTTGCTGGATT
CTCACTGCTGCACACTGTCTGAGAGCCAGCAAAACCCACAGATATCAGATTTGGACTACAGTGGTT
GACTGGATTACCCCTGACCTGAAGAGAATTGTTATTGAGTATGTGGATAGAATCATCTTCCATGAGA
ATTACAATGCTGGGACTTATCAGAATGATATTGCCCTCATTGAAATGAAGAAGGATGGGAACAAAA
GGATTGTGAGCTGCCCAGAAGCATTCCAGCCTGTGTGCCATGGAGCCCCTATCTGTTTCAGCCAAA
TGACACTTGATTGTTTctGGTTGGGGCAGGGAAGACAATGAAAGAGTCTTTAGCCTCCAGTG
GGGAGAAGTTAAGCTGATTTCAAATTGCAGCAAATTCTATGGGAACAGGTTCTATGAGAAGGAGAT
GGAGTGTGCTGGgACATATGATGGTTCAATTGATGCTTGCAAAGGAGATAGTGGTGGGCCACTGGT
CTGCATGGATGCCAATAATGTGACATATGTCTGGGGGGTGGTTTCCTGGGGAGAGAATTGTGGGAA
GCCAGAGTTTCCTGGTGTCTATACAAAAGTGGCTAACTATTTTACTGGATCAGCTATCATGTGGGG
AGACCTTTTCATCAGTCAGTATAATGTGTAG

SEQ ID NO: 38

ATGAAGCTGCTGCATGTGTTTCTGCTCTTTCTGTGCTTcCAcCTgAGaTTtTGcAAGGTGACcTACAC
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GGTCTTCTGCCAGCCATGGCAGAGATGTATTGAGGGAACCTGTGTGTGCAAACCTCCCTTATCAGTG
TCCCAAGAATGGGACTGCAGTCTGTGCAACCAACAGAAGAAGCTTTCCACATACTGTCAGCAGAA
ATCCCTTGAGTGCCTGCACCCTGGAACCAAATTCCTGAATAATGGAACCTGCACAGCAGAGGGGAA
ATTCAGTGTGAGCCTGAAACATGGCAACACTGATAGTGAAGGGATTGTTGAAGTGAAGCTGGTGG
ATCAGGATAAGACTATGTTTATCTGCAAAAGTTCATGGAGCATGAGAGAAGCAAATGTGGCATGCCT
TGATCTGGGTTTTCAaCaGGAGCTGACACTCAGAGAAGATTAAACTCAGTGATCTGTCAATCAAC
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AAAAGAAGAACCATGGGaTACCAGGATTTTGCAGATGTGGTGTGCTATACTCAGAAAGCTGATAGCC
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GGATGAAGTGGGTTGTGCAAGGATTTGCCAGTGTGaCTCAGGAGGAAACTGAGATTCTGACAGCTG
ACATGGATGCTGAGAGAAGAAGGATCAAGAGCCTGCTCCCAAGCTGTCATGTGGGGTCAAAAATA
GAATGCACATCAGAAGGAAGAGAATTGTGGGAGGGAAGAGCTCAGCTGGGAGACCTCCCTTG
CAaGTGGCAATCAAGGATGCTAGTGGTATCACATGTGGAGGAATCTACATTGGGGGGTGTGGATT
CTGACTGCAGCCCATTGCCTGAGGGCATCCAAACCCACAGATATCAGATCTGGACAACAGTTGTG
GACTGGATTACCCCTGACCTCAAAAGAATTGTCATTGAGTATGTGGACAGAATCATTTTCCATGAGA
ATTACAATGCTGGCACTTACCAGAATGACATTGCCCTGATTGAAATGAAGAAGGATGGAAACAAGAA
GGATTGTGAACTCCCCAGGTCAATCCCAGCCTGTGTGCCCTGGAGCCCCTACCTGTTCCAGCCAAA
TGATACATGTATTGTcAGTGGATGGGGGAGAGAGAAGGACAATGAGAGAGTGTTCCTACTGCAGTG

Figure 4 (cont)

GGGGGAAGTGAAGCTGATCAGCAATTGCTCCAAGTTCTATGGAAACAGGTTTTATGAGAAGGAGAT
GGAGTGTGCTGGGACTTATGATGGAAGTATTGATGCTTGTAAGGGGATTGAGGAGGTCCTTGT
CTGCATGGATGCTAACAATGTGACATATGTGTGGGGAGTaGTcAGTTGGGGAGAAAAGTGTGGAAA
ACCAGAATTTCTGGGGTGTATACTAAAGTGGCAAATTATTTGACTGGATCAGCTATCATGTGGGT
AGACCCTTCATTAGTCAGTATAATGTGTGA

SEQ ID NO: 39

ATGAAGCTCCTGCATGTCTTTCTGCTGTTTCTGCTTCCATCTGAGATTTGCAAGGTgACcTACA
CCTCTCAGGAAGACCTTGTTGAAAAGAAGTGTCTGGCCAAAAAGTATACTCATCTGTCTTGTGACA
AAGTCTTCTGTGAGCCCTGGCAGAGATGCATTGAGGGAACATGTGTCTGCAAGCTCCCTTATCAGT
GTCCCAAAAATGGCACAGCAGTTTGTGCCACAAATAGAAGGTCTTTTCTACATACTGCCAGCAGAA
GAGCCTTGAATGTCTCCACCCAGGCACAAAGTTTCTGAATAATGGgACTTGCACAGCAGAAAGGCAA
ATTTAGTGTGTCCCTGAAACATGGAAACACTGATAGTGAGGGCATTGTGGAGGTTAAGCTTGTGGA
TCAGGATAAAACAATGTTTCATCTGCAAGAGCTCATGGTCCATGAGAGAGGCTAATGTGGCTTGTCT
GGACCTGGGTTTTCAaCaAGGAGCTGATACTCAGAGAAGGTTTAAGCTCAGTGACCTGAGCATCAA
CAGTACAGAgTgCTGCATGTgCatTGTAGAGGaCTGGAACTTCTCTGGCTGAGTGACCTTTACA
AAGAGAAGAACAATGGGATACCAGGATTTTGTCTGATGTGGTCTGCTACACCAGAAAGCTGACTCC
CCCATGGATGATTTCTTTCAaTGTGTTAATGGGAAATACATTAGCCAGATGAAGGCTTGTGATGGTAT
CAATGACTGTGGAGACCAGTCTGATGAACTGTGCTGTAAAGCCTGTCAaGGgAAAGGATTCCACTG
cAAGAGTGGAGTGTGCATTCCATCCAGTACCAGTGAATGGAGAAGTTGATTGCATTACAGGGGA
AGATGAAGTGGGTTGTGCAGGGTTTGCTTCAGTaaCTCAGGAGGAGACAGAAATCCTGACAGCTG
ACATGGATGCTGAAAGGagaAGGATCAAAAGCCTGCTGCCCAAGCTCTCATGTGGGGTGAAAAACA
GGATGCATATTAGAAGGAAGAGGATTGTGGGAGGgAAAAGAGCCCAGCTGGGGGACCTGCCATGG
CAGGTTGCCATTAAAGATGCTTCAGGgATCACATGTGGGGGCATCTATATTGGAGGCTGTTGGATTCT
TCACAGCAGCACACTGCCTGAGAGCTTCAAAGACTCACAGATATCAGATTGGACAACAGTGGTGG
ATTGGATTACCCCTGATCTCAAAAGAATTGTCAATTGAATATGTTGACAGAATCATCTTTCATGAAAAC
TACAATGCTGGAACCTATCAGAATGATATTGCTCTGATTGAAATGAAGAAAGATGGAAACAAAAAGG
ACTGTGAACTGCCAGAAGCATCCCTGCTTGtGTTCCATGGTCCCTTACCTGTTTCAGCCTAATGA
CACCTGCATTGTtAGTGGCTGGGGGAGAGAGAAGGACAATGAGAGAGTGTTCCTGCAGTGGG
GAGAGGTGAACTCATCTCTAACTGTTCAAAATTCTATGGGAATAGATTTTATGAGAAGGAGATGGA
ATGTGCTGGGACCTATGATGGGTCAATTGATGCTTGTAAGGGTGACAGTGGAGGACCCCTGGTGT
GCATGGATGCCAACATGTGACATATGTCTGGGGGGTGGTTAGCTGGGGAGAAAATTGTGGGAAG
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GACCATTATCAGTCAGTATAATGTGTAG

SEQ ID NO: 40

ATGAAACTTCTTCATGTGTTCCCTGCTGTTTCTGTGCTTCCACCTGAGGTTTTGCAAgGTgACcTATA
CTTCTCAaGAGGATCTGGTGGAGAAAAAATGCCTGGCTAAAAAATATACTCACCTGTCCTGTGATAA
AGTCTTCTGCCAGCCATGGCAGAGATGCATTGAGGGAACCTGTGTGTGCAAACTGCCATATCAGTG
CCCAAAAAATGGAAGTCTGTGTGTGCTACTAACAGGAGAAGCTTCCCAACTATTGCCAGCAGAA
AAGTCTGGAATGCCTTCATCCAGGAATAAATTTCTGAATAATGGAACCTGCACTGCTGAAGGAAAA
TTTAGTGTGTCCCTGAAACATGGAAATACTGATTGAGAGGGAATTGTGGAAGTGAAGTGTGGAT
CAGGATAAACTATGTTTCAATTTGCAAAAGCAGCTGGAGCATGAGGGAAGCTAATGTGGCTTGCCTT
GATCTTGGATTTCAaCaAGGAGCTGATACTCAGAGAAGGTTTAAACTGTCTGATCTGTCTATTAATTC
CACTGAATGCCTGCATGTGCATTGCAGAGGACTGGAGACTAGTCTGGCTGAATGCACTTTTACTAA
AAGAAGAAGTATGGGATATCAGGATTTTGTCTGATGTGGTGTGCTATACTCAGAAAGCTGATTCTCCA
ATGGATGATTTCTTTCAaTGTGTGAATGGAAAAATATTTCTCAGATGAAAGCTTGtGATGGAATCAA
TGATTGTGGAGATCAGAGTGTGAACTGTGCTGCAAAGCTTGCCAGGGAAAAAGGATTtCATTGCAA

Figure 4 (cont)

ATCTGGAGTGTGCATTCCAAGCCAGTATCAGTGCAATGGAGAGGTGGATTGCATTACTGGAGAAGA
TGAAGTGGGATGTGCTGGATTGCTTCTGTGaCTCaGAAGAACTGAAATTCTGACTGCTGATAT
GGATGCTGAAAGAAGAAGAATTAAATCACTGCTGCCTAACTGTCTGTGGAGTGAAAAACAGAAT
GCACATTAGAAGGAAAAGAATTGTGGGAGGAAAAAGAGCTCAGCTGGGAGATCTGCCATGGCAGG
TGGCTATTAAAGATGCTAGTGGGAATCACTTGTGGAGGAATTTATATTGGAGGATGCTGGATTCTGAC
TGCTGCTCATTGCCTGAGAGCTAGTAAAACTCATAGATATCAGATTTGGACTACTGTGGTGGATTGG
ATTCACCCAGATCTTAAAAGAATTGTGATTGAATATGTGGATAGAATTATTTTCCATGAAAATAAT
GCTGGAACCTATCAGAATGATATTGCTCTGATTGAAATGAAAAAGATGGAAACAAAAAGATTGTG
AGCTGCCTAGATCCATCCCTGCTTGTGTCCCATGGTCTCCTTATCTGTTCCAaCCTAATGATACTTGC
ATTGTGTCTGGATGGGGAAGAGAAAAAGATAATGAAAGAGTCTTTTCACTTCaTGGGGAGAAGTG
AACTGATTAGCAACTGCTCTAAATTTTATGGAAATAGATTCTATGAAAAGAAATGGAATGTGCTGG
AATTATGATGGATCCATTGATGCTTGCAAAGGAGATTCTGGAGGACCACTGGTCTGCATGGATGC
TAACAATGTGACTTATGTCTGGGGAGTGGTcAGTTGGGGAGAAAACGTGGAAAACCAGAGTTCCC
AGGAGTGATACTAAAGTGGCTAATTATTTTATTGGATTAGCTATCATGTGGGAAGGCCTTTTATTT
CTCAGTATAATGTGTAA

SEQ ID NO: 41

ATGAAGCTTCTTCATGTTTTCTGTTATTTCTGTGCTTCACTTAAGGTTTTGCAAGGTCACCTTATAC
ATCTCAAGAGGATCTGGTGGAGAAAAAGTGCTTAGCAAAAAATATACTCACCTCTCCTGCGATAAA
GTCTTCTGCCAGCCATGGCAGAGATGCATTGAGGGCACCTGTGTTTGTAACCTACCGTATCAGTGC
CCAAAGAATGGCACTGCAGTGTGTGCAACTAACAGGAGAAGCTTCCCAACATACTGTCAACAAAAG
AGTTTGGAATGTCTTCATCCAGGGACAAAGTTTTTAAATAACGGAACATGCACAGCCGAAGGAAAG
TTTAGTGTTCCTTGAAGCATGGAATACAGATTAGAGGGAATAGTTGAAGTAAACTTGTGGACC
AAGATAAGACAATGTTTCATATGCAAAAGCAGCTGGAGCATGAGGGAAGCCAACGTGGCCTGCCTTG
ACCTTGGGTTTCAACAAGGTGCTGATACTCAAAGAAGGTTTAAAGTTGTCTGATCTCTCTATAAATTC
CACTGAATGTCTACATGTGCATTGCCGAGGATTAGAGACCAGTTTGGCTGAATGTACTTTTACTAAG
AGAAGAATATGGGTTACCAGGATTTTCGCTGATGTGGTTTGTATACACAGAAAGCAGATTCTCCAA
TGGATGACTTCTTTCAGTGTGTGAATGGGAAATACATTTCTCAGATGAAAGCCTGTGATGGTATCAA
TGATTGTGGAGACCAAGTGATGAACGTGTGTTGTAAAGCATGCCAAGGCAAAGGCTTCCATTGCAA
ATCGGGTGTTCATTCCAAGCCAGTATCAATGCAATGGTGAGGTGGACTGCATTACAGGGGAAGA
TGAAGTTGGCTGTGCAGGCTTTCATCTGTGACTCAAGAAGAAACAGAAATTTTGAAGTGTGACAT
GGATGCAGAAAGAAGACGGATAAAATCATTATTACCTAACTATCTTGTGGAGTTAAAAACAGAATGC
ACATTCAAGGAAACGAATTGTGGGAGGAAAGCGAGCACAACCTGGGAGACCTCCCATGGCAGGTG
GCAATTAAGGATGCCAGTGAATCACCTGTGGGGGAATTTATATTGGTGGCTGTTGGATTCTGACT
GCTGCACATTGTCTCAGAGCCAGTAAACTCATCGTTACCAAATATGGACAACAGTAGTAGACTGGA
TACACCCCGACCTTAAACGTATAGTAATTGAATACGTGGATAGAATTATTTTCCATGAAAATAAATG
CAGGCACCTTACCAAAATGACATCGCTTTGATTGAAATGAAAAAGACGGAAACAAAAAGATTGTGA
GCTGCCTCGTTCATCCCTGCCTGTGTCCCCTGGTCTCCTTACCTATTCCAACCTAATGATACATGCA
TCGTTTCTGGCTGGGGACGAGAAAAAGATAACGAAAGAGTCTTTTCACTTCAGTGGGGTGAAGTT
AACTAATAAGCAACTGCTCTAAGTTTTACGGAATCGTTTCTATGAAAAAGAAATGGAATGTGCAG
GTACATATGATGGTTCCATCGATGCCTGTAAAGGGGACTCTGGAGGCCCTTAGTCTGTATGGATGC
CAACAATGTGACTTATGTCTGGGGTGTGTGAGTTGGGGGAAAACGTGGAAAACCAGAGTTCC
CAGGTGTTTACACCAAGTGGCCAATTATTTTGAAGTGGATTAGCTACCATGTAGGAAGGCCTTTTAT
TTCTCAGTACAATGTATAA

SEQ ID NO: 42

AAGGTCACCTTATACATCTCAAGAGGATCTGGTGGAGAAAAAGTGCTTAGCAAAAAATATACTCACC
TCTCCTGCGATAAAGTCTTCTGCCAGCCATGGCAGAGATGCATTGAGGGCACCTGTGTTTGTAAC
TACCGTATCAGTGCCCAAGAATGGCACTGCAGTGTGTGCAACTAACAGGAGAAGCTTCCCAACATA

Figure 4 (cont)

CTGTCAACAAAAGAGTTTGAATGTCTTCATCCAGGGACAAAGTTTTTAAATAACGGAACATGCACA
GCCGAAGGAAAGTTTAGTGTTTCCTTGAAGCATGGAAATACAGATTCAGAGGGAATAGTTGAAGTA
AAACTTGTGGACCAAGATAAGACAATGTTTCATATGCAAAAGCAGCTGGAGCATGAGGGAAGCCAAC
GTGGCCTGCCTTGACCTTGGGTTTCAACAAGGTGCTGATACTCAAAGAAGGTTTAAAGTTGTCTGAT
CTCTCTATAAATTCCACTGAATGTCTACATGTGCATTGCCGAGGATTAGAGACCAGTTTGGCTGAAT
GTACTTTTACTAAGAGAAGAACTATGGGTTACCAGGATTTTCGCTGATGTGGTTTGTATACACAGAA
AGCAGATTCTCCAATGGATGACTTCTTTCAGTGTGTGAATGGGAAATACATTTCTCAGATGAAAGCC
TGTGATGGTATCAATGATTGTGGAGACCAAAAGTGTGAAGTGTGTTGTAAAGCATGCCAAGGCAAA
GGCTTCCATTGCAAATCGGGTGTTCATTCCAAGCCAGTATCAATGCAATGGTGAGGTGGACTGC
ATTACAGGGGAAGATGAAGTTGGCTGTGCAGGCTTTCATCTGTGACTCAAGAAGAAACAGAAATT
TTGACTGCTGACATGGATGCAGAAAGAAGACGGATAAAATCATTATTACCTAAACTATCTTGTGGAGT
TAAAAACAGAATGCACATTCGAAGGAAACGAATTGTGGGAGGAAAGCGAGCACAACCTGGGAGACC
TCCCATGGCAGGTGGCAATTAAGGATGCCAGTGGAAATCACCTGTGGGGGAATTTATATTGGTGGCT
GTTGGATTCTGACTGCTGCACATTGTCTCAGAGCCAGTAAAACTCATCGTTACCAAATATGGACAAC
AGTAGTAGACTGGATACACCCCGACCTTAAACGTATAGTAATTGAATACGTGGATAGAATTATTTTCCA
TGAAACTACAATGCAGGCACTTACCAAATGACATCGCTTTGATTGAAATGAAAAAGACGGAAAC
AAAAAAGATTGTGAGCTGCCTCGTTCCATCCCTGCCTGTGTCCCCTGGTCTCCTTACCTATTCCAAC
CTAATGATACATGCATCGTTTCTGGCTGGGGACGAGAAAAAGATAACGAAAGAGTCTTTTCACTTCA
GTGGGGTGAAGTTAACTAATAAGCAACTGCTCTAAGTTTTACGGAAATCGTTTCTATGAAAAAGAA
ATGGAATGTGCAGGTACATATGATGGTTCCATCGATGCCTGTAAAGGGGACTCTGGAGGCCCTTA
GTCTGTATGGATGCCAACAATGTGACTTATGTCTGGGGTGTGTGAGTTGGGGGGAAAACTGTGG
AAAACCAGAGTTCCAGGTGTTTACACCAAAGTGGCCAATTATTTTACTGGATTAGCTACCATGTA
GGAAGGCCTTTTATTTCTCAGTACAATGTATAA

SEQ ID NO: 43

MKLLHVLLFLCFHLRFCKVITYTSQEDLVEKKCLAKKYTHLSCDKVFCQPWQRCIEGTCVCKLPYQCPKN
GTAVCATNRRSFPTYCQKSLECLHPGTKFLNNGTCTAEGKFSVSLKHGNTDSEGIVEVKLVDQDKTMFI
CKSSWSMREANVACLDLGFQQGADTQRRFKLSDLINSTECLHVHCRGLETSLAECTFTKRRTMGYQDF
ADVVCYTQKADSPMDDFFQCVNGKYISQMKACDGINDCGDQSDDELCKACQKGFHCKSGVCIPSQYQ
CNGEVDCTGEDEVGCAGFASVTQEETEILTADMDAERRRIKSLPKLSCGVKNRMHIRRKRIVGGKRAQL
GDLPWQVAIKDASGITCGGIYIGGCWILTAHCLRASKTHRYQIWTTVVDWIHPDLKRIVIEYVDRIIFHEN
YNAGTYQNDIALIEMKKDGNKKDCELPSPACVPWSPYLFQPNDCIVSGWGREKDNERNVFSLQWGEV
KLISNCSKFYGNRFYEKEMEACAGTYDGSIDACKGDSGGPLVCMANNTYVWGVVSWGENCGKPEFPG
VYTKVANYFDWISYHVG RPFISQYNV

SEQ ID NO: 44

KVITYTSQEDLVEKKCLAKKYTHLSCDKVFCQPWQRCIEGTCVCKLPYQCPKNGTAVCATNRRSFPTYCQ
QKSLECLHPGTKFLNNGTCTAEGKFSVSLKHGNTDSEGIVEVKLVDQDKTMFICKSSWSMREANVACLDL
GFQQGADTQRRFKLSDLINSTECLHVHCRGLETSLAECTFTKRRTMGYQDFADVVCYTQKADSPMDDF
FQCVNGKYISQMKACDGINDCGDQSDDELCKACQKGFHCKSGVCIPSQYQCNGEVDCTGEDEVGCA
GFASVTQEETEILTADMDAERRRIKSLPKLSCGVKNRMHIRRKRIVGGKRAQLGDLPWQVAIKDASGITC
GGIYIGGCWILTAHCLRASKTHRYQIWTTVVDWIHPDLKRIVIEYVDRIIFHENYNAGTYQNDIALIEMKK
DGNKKDCELPSPACVPWSPYLFQPNDCIVSGWGREKDNERNVFSLQWGEVKLISNCSKFYGNRFYEKE
MECAGTYDGSIDACKGDSGGPLVCMANNTYVWGVVSWGENCGKPEFPGVYTKVANYFDWISYHVG
RPFISQYNV

SEQ ID NO: 45

ATGAAGCTTCTTCATGTTTTCTGTTATTTCTGTGCTTCCACTTAAGGTTTTGC

Figure 4 (cont)

SEQ ID NO: 46

MKLLHVFLFLCFHLRFC

SEQ ID NO: 47

gggcgactcagatcccagccagtggacttagcccctgtttgctcctccgataactggggtgaccttggttaattaccagca
gcctccccgttcccctctggatccactgcttaatacggacgaggacagggccctgtcctcagcttcaggcaccaccac
tgacctgggacagtgaat

SEQ ID NO: 48

ggatcttgctaccagtgggaacagccactaaggattctgcagtgcagagcagagggccagctaagtgggtactctccagagact
gtctgactcacgccacccccctccaccttggacacaggacgctgtggttctgagccaggtacaatgactccttcggtaagtgc
agtggaaagctgtactgcccaggcaaagcgtccgggcagcgtaggcgggcgactcagatcccagccagtggacttagcccc
tgttgctcctccgataactggggtgaccttggttaattaccagcagcctccccgttggccctctggatccactgcttaaa
tacggacgaggacagggccctgtcctcagcttcaggcaccaccactgacctgggacagtgaatgatccccctgatctgcg
gcc

SEQ ID NO: 49

ccctaaaatgggcaaacattgcaagcagcaaacagcaaacacacagccctccctgctgaccttggagctggggcaga
ggtcagacacctctctgggcccatgccacctccaac

SEQ ID NO: 50

Tggctcagaggcacacaggagtttctgggctcacctgccccctccaaccctcagttcccatcctccagcagctgtttgtgt
gctgcctctgaagtccacactgaacaaactcagcctactcatgtccctaaaatgggcaaacattgcaagcagcaaacagca
aacacacagccctccctgctgaccttggagctggggcagaggtcagagacctctctggggccatgccacctccaacat
ccactcgacccttggaaatttcggtggagaggagcagaggttgcctggcgtggttaggtagtgtgagaggg

SEQ ID NO: 51

ccctaaaatgggcaaacattgcaagcagcaaacagcaaacacacagccctccctgctgaccttggagctggggcaga
ggtcagacacctctctggggccatgccacctccaactggacacaggacgctgtggttctgagccagggggcgactcagatcc
cagccagtggacttagcccctgttgcctcctccgataactggggtgaccttggttaattaccagcagcctccccgttggc
cctctggatccactgcttaatacggacgaggacagggccctgtcctcagcttcaggcaccaccactgacctgggacagtg
aat

SEQ ID NO: 52

aggctcagaggcacacaggagtttctgggctcacctgccccctccaaccctcagttcccatcctccagcagctgtttgtgt
gctgcctctgaagtccacactgaacaaactcagcctactcatgtccctaaaatgggcaaacattgcaagcagcaaacagca
aacacacagccctccctgctgaccttggagctggggcagaggtcagagacctctctggggccatgccacctccaacat
ccactcgacccttggaaatttcggtggagaggagcagaggttgcctggcgtggttaggtagtgtgagaggggtacccgggg
atcttgctaccagtgggaacagccactaaggattctgcagtgcagagcagagggccagctaagtgggtactctccagagactgtc
tgactcacgccacccccctccaccttggacacaggacgctgtggttctgagccaggtacaatgactccttcggtaagtgcagt
ggaagctgtactgcccaggcaaagcgtccgggcagcgtaggcgggcgactcagatcccagccagtggacttagcccctgt
ttgctcctccgataactggggtgaccttggttaattaccagcagcctccccgttggccctctggatccactgcttaata
cggacgaggacagggccctgtcctcagcttcaggcaccaccactgacctgggacagtgaatgatccccctgatctgcggc
c

SEQ ID NO: 53

ttggccactccctctctgcgcgctcgtcgtcactgagggcgggcgaccaaaggctcgccgacgcccgggcttggccgggc
ggcctcagtgcagcgagcgagcgcgagagggagtgggccaactccatcactaggggttcct

Figure 4 (cont)

SEQ ID NO: 54

AGGAACCCCTAGTGATGGAGTTGGCCACTCCCTCTCTGCGCGCTCGCTCGCTCACTGAGGCCGGG
CGACCAAAGGTCGCCCCGACGCCCCGGGCTTTGCCCCGGGCGGCCTCAGTGAGCGAGCGAGCGCGCA
GAGAGGGAGTGGCCAA

SEQ ID NO: 55

Ctgtgccttctagttgccagccatctgtgtttgccccctccccctgccttccttgaccctggaaggtgccactcccactgtcct
ttcctaataaaatgaggaaattgcatcgattgtctgagtaggtgtcattctattctggggggtgggggtggggcaggacagcaa
gggggaggattgggaagacaatagcaggcatgctgggga

SEQ ID NO: 56

MAADGYLPDWLEDNLSEGIREWALKPGVPPKANQQHQDNRRGLVLPGYKYLPGPNGLDKGEPVNE
ADAAALEHDKAYDQQLKAGDNPYLKYNHADA EFQERLQEDTSFGGNLGRAVFQAKKRILEPLGLVEEAA
KTAPGKKRPVDQSPQEPDSSSGVGKSGKQPARKRLNFGQTGDSESVDPQPLGEPPAAPTSLGSNTMAS
GGGAPMADNNEGADGVGNSSGNWHCDSQWLGD RVITTSTRTWALPTYNNHLYKQISSQSGASNDNHY
FGYSTPWGYFDFNRFHCHFS PRDWQRLINNNWGF RPKKLSFKLFNIQVKEVTQNDGTTTIANNLTSTVQ
VFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLT LNNGSQAVGRSSFYCLEYFPSQMLRTGNNFQ
FSYTFEDVPFHSSYAHQS LDRLMNPLIDQYLYLNRTQGTTSGTTNQSRLLSQAGPQMSMLQARNWLP
GPCYRQQRLSKTANDNNNSNFPWTAASKYHLNGRDSL VNPGPAMASHKDDEEKFFPMHGNLIFGKEGTT
ASNAELDNVMITDEEEIRTTNPVATEQYGT VANNLQSSNTAPTTRTVNDQGALPGMVWQDRDVYLQGP I
WAKIPHTDGHFHPSPLMGGFGLKHPPPQIMIKNTPVPANPPTTFSPAKFASFITQYSTGQVSVEIEWELQK
ENSKRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPIGTRYLTRNL

SEQ ID NO: 57

MAADGYLPDWLEDNLSEGIREWALKPGAPKPKANQQKQDDGRGLVLPGYKYLPGFNGLDKGEPVNA
ADAAALEHDKAYDQQLQAGDNPYLRYNHADA EFQERLQEDTSFGGNLGRAVFQAKKRILEPLGLVEEGA
KTAPGKKRPVDQSPQEPDSSSGVGKSGKQPARKRLNFGQTGDSESVDPQPLGEPPAAPTSLGSNTMAS
GGGAPMADNNEGADGVGNSSGNWHCDSQWLGD RVITTSTRTWALPTYNNHLYKQISSQSGASNDNHY
FGYSTPWGYFDFNRFHCHFS PRDWQRLINNNWGF RPKKLSFKLFNIQVKEVTQNDGTTTIANNLTSTVQ
VFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLT LNNGSQAVGRSSFYCLEYFPSQMLRTGNNFQ
FSYTFEDVPFHSSYAHQS LDRLMNPLIDQYLYLNRTQGTTSGTTNQSRLLSQAGPQMSMLQARNWLP
GPCYRQQRLSKTANDNNNSNFPWTAASKYHLNGRDSL VNPGPAMASHKDDEEKFFPMHGNLIFGKEGTT
ASNAELDNVMITDEEEIRTTNPVATEQYGT VANNLQSSNTAPTTRTVNDQGALPGMVWQDRDVYLQGP I
WAKIPHTDGHFHPSPLMGGFGLKHPPPQIMIKNTPVPANPPTTFSPAKFASFITQYSTGQVSVEIEWELQK
ENSKRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPIGTRYLTRNL

SEQ ID NO: 58

MAADGYLPDWLEDNLSEGIREWALQPGAPKPKANQQHQDNARGLVLPGYKYLPGPNGLDKGEPVNA
ADAAALEHDKAYDQQLKAGDNPYLKYNHADA EFQERLKEDTSFGGNLGRAVFQAKKRILEPLGLVEEAA
KTAPGKKRPVDQSPQEPDSSSGVGKSGKQPARKRLNFGQTGDSESVDPQPLGEPPAAPTSLGSNTMAS
GGGAPMADNNEGADGVGNSSGNWHCDSQWLGD RVITTSTRTWALPTYNNHLYKQISSQSGASNDNHY
FGYSTPWGYFDFNRFHCHFS PRDWQRLINNNWGF RPKKLSFKLFNIQVKEVTQNDGTTTIANNLTSTVQ
VFTDSEYQLPYVLGSAHQGCLPPFPADVFMVPQYGYLT LNNGSQAVGRSSFYCLEYFPSQMLRTGNNFQ
FSYTFEDVPFHSSYAHQS LDRLMNPLIDQYLYLNRTQGTTSGTTNQSRLLSQAGPQMSMLQARNWLP
GPCYRQQRLSKTANDNNNSNFPWTAASKYHLNGRDSL VNPGPAMASHKDDEEKFFPMHGNLIFGKEGTT
ASNAELDNVMITDEEEIRTTNPVATEQYGT VANNLQSSNTAPTTRTVNDQGALPGMVWQDRDVYLQGP I
WAKIPHTDGHFHPSPLMGGFGLKHPPPQIMIKNTPVPANPPTTFSPAKFASFITQYSTGQVSVEIEWELQK
ENSKRWNPEIQYTSNYNKS VNVDFTVDTNGVYSEPRPIGTRYLTRPL

Figure 4 (cont)

SEQ ID NO: 59

MSFVDHPPDWLEEVGEGLEFLGLEAGPPKPKPNQQHQDQARGLVLPGYNYLPGNGLDRGEPVNRA
DEVAREHDISYNEQLEAGDNPYLKYNHADAQEFQEKLADDTSGGNLKGAVFQAKKRVLEPFGLVEEGAKT
APTGKRIDDHFPKRKKARTEEDSKPSTSSDAEAGPSGSQQLQIPAPASSLGADTMSAGGGGGLGDNNQ
GADGVGNASGDWHCDSTWMGDRVVTKSTRTWVLPSSYNNHQQYREIKSGSVDGSNANAYFGYSTPWGYF
DFNRFHSHWSPRDWQRLINNYWGFRPRSLRVKIFNIQVKEVTVQDSTTTIANNLTSTVQVFTDDDYQLPY
VVGNGTEGCLPAFPQVFTLPQYGYATLNNDNTENPTERSFFCLEYFPSKMLRTGNNFEFTYNFEEVPF
HSSFAPSQNLFLKLANPLVDQYLYRFVSTNNTGGVQFNKNLAGRYANTYKNWFGPMGRTQGWNLGSGV
NRASVSFAATTNRMELEGASYQVPPQPNGMTNNLQGSNTYALENTMIFNSQPANPGTTATYLEGNMLITS
ESETQPVNRVAYNVGGQMATNNQSSTTAPATGTYNLQEIIVPGSVWMERDVYLQGPWAKIPETGAHFHP
SPAMGGFGLKHPPPMMLIKNTPVPGNITSFSDVPVSSFITQYSTGQVTVEWELKKENSKRWNPEIQYT
NNYNDDPQFVDFAPDSTGEYRTTRPIGTRYLRPL

SEQ ID NO: 60

gtaaatataaaatttttaagtgtataatgtgttaaactactgattctaattgtttctctcttttag

SEQ ID NO: 61

gacattgattattgactagttattaatagtaatacaattacggggcattagttcatagcccatatatggagttccgcgttacata
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cgccaataggagctttccattgacgtcaatgggtggagtatttacggtaaactgccactggcagtagacatcaagtgtatcata
tgccaagtacgccccctattgacgtcaatgacggtaaatggcccgctggcattatgccagtagacacattatgggactttc
ctacttggcagtagacatctacgtattagtcacgtattaccatggctgaggtgagccccacgttctgcttctctctcccatctc
ccccccctccccaccccccaattttgtatttttttttttaattttttgtgcagcgatggggcgggggggggggggcgcg
gcgccaggcgggcgggcgggcgaggcgggcgggcgaggcgagaggtgcggcggcagccaatcagagcgggcg
gctccgaaagtttctttatggcgaggcgggcgggcgggcgccctataaaaagcgaagcgcgggcgggcg

SEQ ID NO: 62

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ttaatgcctttgtatcatgctattgcttcccgtatggctttcattttctcctccttgataaatcctggttgctgctctttatgagg
agttgtggccggtgtcaggcaacgtggcggtggtgtgactgtgtttgctgacgcaacccccactgggtggggcattgccacca
cctgtcagctcctttccgggactttcgctttccccctccctattgccacggcggaactcatcgccgctgcttggccgctgctg
gacaggggctcggtgttgggactgacaattccgtggtgtgtcggggaaatcatcgtcctttccttggtgctgctg
cctgtgttgcacctggattctgcgggacgtccttctgctacgtcccttcggccctcaatccagcggaacttcttcccgcg
gcctgctgcgggctctgcggccttctccgctcttcgcttgccttcagacgagtcggatctcctttgggcccctccccgc

SEQ ID NO: 63

aatcaacctctggattacaaaattttgtgaaagattgactggatttcttaactatgttgctccttttacgctatgtggatacgtgct
tttaatgcctttgtatcatgctattgcttcccgtatggctttcattttctcctccttgataaatcctggttagttcttgccacggc
ggaactcatcgccgctgcttggccgctgctggacaggggctcggtgttgggactgacaattccgtggt

SEQ ID NO: 64

aatcaacctctggattacaaaattttgtgaaagattgactggatttcttaactatgttgctccttttacgctatgtggatacgtgct
tttaatgcctttgtatcatgctattgcttcccgtatggctttcattttctcctccttgataaatcctggttgctgctctttatgag
gagttgtggccggtgtcaggcaacgtggcggtggtgtgactgtgtttgctgacgcaacccccactgggtggggcattgccacc
acctgtcagctcctttccgggactttcgctttccccctccctattgccacggcggaactcatcgccgctgcttggccgctgct
ggacaggggctcggtgttgggactgacaattccgtggtgtgtcggggaaatcatcgtcctttccttggtgctgcgctgctg
tgccacctggattctgcgggacgtccttctgctacgtcccttcggccctcaatccagcggaacttcttcccgcggcctgct
gccggctctgcggccttctccgcttctgccttcgccctcagacgagtcggatctcctttgggcccctccccgc

Figure 4 (cont)

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SEQ ID NO: 65

cccagccagtggaacttagccccctgtttgctcctccgataactggggtgaccttggttaatatccaccagcagcctccccctcagcttca
ggcaccaccactgacctgggacagtgaatc

SEQ ID NO: 66

CCCAGCCAGTGGACTTAGCCCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTAAATATTCACCAGC
AGCCTCCCCCTCAGCTTCAGGCACCACCACTGACCTGGGACAGTGAATC

SEQ ID NO: 67

AGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTGCCCCCTTCCAACCCCTCAGTTCCCATCCTCCA
GCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAACTTCAGCCTACTCATGTCCCTAAAATGG
GCAAACATTGCAAGCAGCAAACAGCAAACACACAGCCCTCCCTGCCTGCTGACCTTGAGCTGGGGCAG
AGGTCAGAGACCTCTCTGGGCCCATGCCACCTCCAACATCCACTCGACCCCTTGGAATTCGGTGGAGA
GGAGCAGAGGTTGTCCTGGCGTGTTTAGGTAGTGTGAGAGGGGTACCCGGGGATCTTGCTACCAGTG
GAACAGCCACTAAGGATTCTGCAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCT
GACTCACGCCACCCCTCCACCTTGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTT
CGGTAAGTGCAGTGGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAG
ATCCAGCCAGTGGACTTAGCCCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTAAATATTCACCAG
CAGCCTCCCCGTTGCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCCTCAGC
TTCAGGCACCACCACTGACCTGGGACAGTGAATGATCCCCCTGATCTGCGGCC

SEQ ID NO: 68

GGTTAATTTTTAAAAAGCAGTCAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCTCTG
GTTAATAATCTCAGGAGCACAAACATTCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTATCCTCTG
GGCCTCTCGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTGCAGTGAGAGCAGAGG
GCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCTCCACCTTGACACAGGACGC
TGTGGTTTCTGAGCCAGGTACAATGACTCCTTTTCGGTAAGTGCAGTGGAAGCTGTACACTGCCCAGGCA
AAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCAGCCAGTGGACTTAGCCCCCTGTTTGCTCCTCC
GATAACTGGGGTGACCTTGTTAATATTCACCAGCAGCCTCCCCGTTGCCCTCTGGATCCACTGCTTAA
ATACGGACGAGGACAGGGCCCTGTCTCCTCAGCTTCAGGCACCACCACTGACCTGGGACAGTGAATGAT
CCCCCTGATCTGCGGCCG

SEQ ID NO: 69

CAGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTGCCCCCTTCCAACCCCTCAGTTCCCATCCTCC
AGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAACTTCAGCCTACTCATGTCCCTAAAATG
GGCAAACATTGCAAGCAGCAAACAGCAAACACACAGCCCTCCCTGCCTGCTGACCTTGAGCTGGGGCA
GAGGTCAGAGACCTCTCTGGGCCCATGCCACCTCCAACATCCACTCGACCCCTTGGAATTCGGTGGAG
AGGAGCAGAGGTTGTCCTGGCGTGTTTAGGTAGTGTGAGAGGGGGTTAATTTTTAAAAAGCAGTCAA
AAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCTCTGGTTAATAATCTCAGGAGCACAAACA
TTCCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTATCCTCTGGGCCTCTCTACCCGGGGATCTTGC
TACCAGTGGAACAGCCACTAAGGATTCTGCAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGA
GACTGTCTGACTCACGCCACCCCTCCACCTTGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAAT
GACTCCTTTTCGGTAAGTGCAGTGGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGG
GCGACTCAGATCCCAGCCAGTGGACTTAGCCCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGTTAA
TATTCACCAGCAGCCTCCCCGTTGCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCTG
TCTCCTCAGCTTCAGGCACCACCACTGACCTGGGACAGTGAATGATCCCCCTGATCTGCGGCCG

SEQ ID NO: 70

GGTTAATTTTTAAAAAGCAGTCAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCTCTG
GTTAATAATCTCAGGAGCACAAACATTCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTA

Figure 4 (cont)

TCCTCTGGGCCTCTCCAGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTGCCCCCTTCCAA
CCCCTCAGTTCCCATCCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAACTT
CAGCCTACTCATGTCCCTAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACACAGCCCTCCC
TGCCTGCTGACCTTGGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGCCACCTCCAACA
TCCACTCGACCCCTTGGAATTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTGGTTTAGGTAGT
GTGAGAGGGGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTGCAGTGAGAGC
AGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCTCCACCTTGGAC
ACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTCGGTAAGTGCAGTGGAAGCTGTA
CACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCAGCCAGTGGACTTAG
CCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTTAATATTACCAGCAGCCTCCCCGTTGC
CCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCCTCAGCTTCAGGCACCAC
CACTGACCTGGGACAGTGAATGATCCCCCTGATCTGCGGCCG

SEQ ID NO: 71

TGCCTCCCCGTGTTCTGCTCTTTGTCCCTCTGTCTACTTAGACTAATATTTGCCTTGGGTACTGC
AAACAGGAAATGGGGGAGGGACAGGAGTTAATTTTTTAAAAAGCAGTCAAAAGTCCAAGTGGCCC
TTGCGAGCATTTACTCTCTCTGTTTGTCTGTTAATAATCTCAGGAGCACAAACATTCTGGAGGC
AGGAGAAGAAATCAACATCCTGGACTTATCCTCTGGGCCTCTCGTACCCGGGGATCTTGCTACCAGT
GGAACAGCCACTAAGGATTCTGCAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGAC
TGTCTGACTCACGCCACCCCTCCACCTTGGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAAT
GACTCCTTTCGGTAAGTGCAGTGGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGG
CGGGCGACTCAGATCCCAGCCAGTGGACTTAGCCCCGTGTTGCTCCTCCGATAACTGGGGTGACCT
TGTTAATATTACCAGCAGCCTCCCCGTTGCCCTCTGGATCC

SEQ ID NO: 72

CACAATTTTATAGACTTCTCATCATGTTTTTTTTTCCAATATTTGCCCTCCCCTTTCTACCTTGACC
TAGTAGGGAGGTGTTTATTCAACACCTCTGATTGGCTCATAAACAACCAGTCCTTAAAATCATGCCA
GGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTGCCCCCTTCCAACCCCTCAGTTCCCATCCT
CCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAACTTCAGCCTACTCATGTCCCT
AAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACACAGCCCTCCCTGCCTGCTGACCTTGA
GCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGCCACCTCCAACATCCACTCGACCCCTTGG
AATTCGGTGGAGAGGAGCAGAGGTTGCTCTGGCGTGGTTTAGGTAGTGTGAGAGGGGGTTAATT
TTAAAAAGCAGTCAAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGTCTGTGTTAA
TAATCTCAGGAGCACAAACATTCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTATCCTCTGG
GCCTCTCGGGATTCAAATTCTGCTTAGCTAACCAATGTTGTGAGTTAATGCTTGTCTACTTGGGCA
GAAGTACCTTGCAAAATTATCTAGGTAGCATGTGATAGAACCAGGATTCAAACCCAGGTGTGTCTGA
CCTCAAAGTGTGGGGACTTTCCACTCTACTGCTGCTAATTTTTTTCTAAAAATAATACTTCCGGGTG
CAGAGTTTAATCTTCTTTGTCCAAGGTACTGTGGTAAGCACCTTATGTACATTGTCTAAGTTAATCCC
CACAACATTTTGAGAAATCCCCATTTGAGATAGGAGAACTGAGGCTCACAATATTTAGTGACTGG
CCCAAGGTCACAGTTGTTAAATGGAGGAGCTGGTATTGAAAACCAGGTACGTGTGGCTCTAAGACC
AGTGTAAAGTTGTGTTTTGTTTTCTTGCTTCTTCTTACTTGCCCTTCATTTCTAGCTTACACTG
GCATGATTCATCTCAGTGGGCAATATCCTTACCTTGAATGGTGGTTTCTTTGTTTGTCTGCAAGA
GGAGCACCTCCTTGGTCTAACTGTGGATACAAATAATTAACAGGTGTCAGATGTCAGTACCCGGGGA
TCTTGCTACCAGTGGAACAGCCACTAAGGATTCTGCAGTGAGAGCAGAGGGCCAGCTAAGTGGTAC
TCTCCAGAGACTGTCTGACTCACGCCACCCCTCCACCTTGGACACAGGACGCTGTGGTTTCTGA
GCCAGGTACAATGACTCCTTTCGGTAAGTGCAGTGGAAGCTGTACACTGCCCAGGCAAAGCGTCCG
GGCAGCGTAGGCGGGCGACTCAGATCCCAGCCAGTGGACTTAGCCCCGTGTTTGTCTCCTCCGATAAC
TGGGGTGACCTTGGTTAATATTACCAGCAGCCTCCCCGTTGCCCTCTGGATCCACTGCTTAAAT
ACGGACGAGGACAGGGCCCTGTCTCCTCAGCTTCAGGCACCACCCTGACCTGGGACAGTGAATG
ATCCCCCTGATCTGCGGCCG

Figure 4 (cont)

SEQ ID NO: 73

GGAGGGGTGTTAATTAAGCTTGATATGGGATTCAAATCTGCTTAGCTAACCCAATGTTGTGAGT
TAATGCTTGTCTACTTGGGCAGAAGTACCTTGCAAATTATCTAGGTAGCATGTGATAGAACCAGGAT
TCAAACCCAGGTGTGTCTGACCTCAAAGTGTGGGGACTTTCCACTCTACTGCTGCTAATTTTTTTC
TAAAAATAACTTCCGGGTGCAGAGTTTAATCTTCTTTGTCCAAGGTACTGTGGTAAGCACCTTATG
TACATTGTCTAAGTTAATCCCCACAACATTTTGAGAAATCCCCATTTTGAGATAGGAGAACTGAGGCT
CACAATATTTCACTGACTGGCCCAAGGTCACAGTTGTTAAATGGAGGAGCTGGTATTGAAAACCAG
GTACGTGTGGCTCTAAGACCAGTGTAAAGTTGTGTTTTGTTTTTCTTGCTTCCTTCTTTACTTGC
CTTCATTTCTAGCTTACACTGGCATGATTCATCTCAGTGGGCAATATCCTTACCTTGAATGGTGGTTT
CTTTGTTTTGTTCTGCAAGAGGAGCACCTCCTTGGTCTAACTGTGGATACAAATAATTAACAGGTGT
CAGATGTCATGCCTCCCCGTGTTCTGCTCTTTGTCCCTCTGCTCTACTTAGACTAATATTTGCCTTG
GGTACTGCAACAGGAAATGGGGGAGGGACAGGACCCAGCCAGTGGACTTAGCCCCCTGTTTGCTC
CTCCGATAACTGGGGTGACCTTGTTAATATTACCAGCAGCCTCCCCCGTTAATTTTTTAAAGC
AGTCAAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCTCTGGTTAATAATCTCAGG
AGCACAACATTCCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTATCCTCTGGGCCTCTCGT
ACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTGCAGTGAGAGCAGAGGGCCAGC
TAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCTCCACCTTGGACACAGGACGCTG
TGTTTTCTGAGCCAGGTACAATGACTCCTTTCGGTAAGTGCAGTGGAAGCTGTACACTGCCCAGGC
AAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCAGCCAGTGGACTTAGCCCCCTGTTTGCT
CCTCCGATAACTGGGGTGACCTTGTTAATATTACCAGCAGCCTCCCCCGTTGCCCTCTGGATCC
ACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCCTCAGCTTCAGGCACCACCACTGACCTGGG
ACAGTGAATGATCCCCCTGATCTGCGGCCG

SEQ ID NO: 74

GGGATTCAAATCTGCTTAGCTAACCCAATGTTGTGAGTTAATGCTTGTCTACTTGGGCAGAAGTAC
CTTGCAAATTATCTAGGTAGCATGTGATAGAACCAGGATTCAAACCCAGGTGTGTCTGACCTCAAA
GTGTGGGGACTTTCCACTCTACTGCTGCTAATTTTTTCTAAAAATAACTTCCGGGTGCAGAGTT
TAATCTTCTTTGTCCAAGGTACTGTGGTAAGCACCTTATGTACATTGTCTAAGTTAATCCCCACAACA
TTTTGAGAAATCCCCATTTTGAGATAGGAGAACTGAGGCTCACAATATTTCACTGACTGGCCCAAGG
TCACAGTTGTTAAATGGAGGAGCTGGTATTGAAAACCAGGTACGTGTGGCTCTAAGACCAGTGTA
TAGTTGTGTTTTGTTTTCTTGCTTCCTTCTTACTTGCCCTTATTTCTAGCTTACACTGGCATGAT
TCATCTCAGTGGGCAATATCCTTACCTTGAATGGTGGTTTCTTTGTTTGTTCCTGCAAGAGGAGCA
CCTCCTTGGTCTAACTGTGGATACAAATAATTAACAGGTGTCAGATGTCACAGGCTCAGAGGCACAC
AGGAGTTTCTGGGCTCACCTGCCCCCTTCCAACCCCTCAGTTCCCATCCTCCAGCAGCTGTTTGT
GTGCTGCCTCTGAAGTCCACACTGAACAACTTCAGCCTACTCATGTCCCTAAAATGGGCAAACATT
GCAAGCAGCAAACAGCAAACACACAGCCCTCCCTGCCTGCTGACCTTGGAGCTGGGGCAGAGGTC
AGAGACCTCTCTGGGCCCATGCCACCTCCAACATCCACTCGACCCCTTGAATTTTCGGTGGAGAGG
AGCAGAGGTTGTCTTGGCGTGGTTTAGGTAGTGTGAGAGGGGGTTAATTTTTTAAAGCAGTCAA
AAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCTCTGGTTAATAATCTCAGGAGCACA
AACATTCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTATCCTCTGGGCCTCTCGTACCCGG
GGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTGCAGTGAGAGCAGAGGGCCAGCTAAGTG
GTACTCTCCAGAGACTGTCTGACTCACGCCACCCCTCCACCTTGGACACAGGACGCTGTGGTTT
CTGAGCCAGGTACAATGACTCCTTTCGGTAAGTGCAGTGGAAGCTGTACACTGCCCAGGCAAAGCG
TCCGGGCAGCGTAGGCGGGCGACTCAGATCCCAGCCAGTGGACTTAGCCCCCTGTTTGCTCCTCCG
ATAACTGGGGTGACCTTGTTAATATTACCAGCAGCCTCCCCCGTTGCCCTCTGGATCCACTGCT
TAAATACGGACGAGGACAGGGCCCTGTCTCCTCAGCTTCAGGCACCACCACTGACCTGGGACAGT
GAATGATCCCCCTGATCTGCGGCCG

Figure 4 (cont)

SEQ ID NO: 75

GGTTAATTTTTAAAAAGCAGTCAAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCT
CTGGTTAATAATCTCAGGAGCACAAACATTCCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTA
TCCTCTGGGCCTCTCCAGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTGCCCTTCCAA
CCCCTCAGTTCCCATCCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAACTT
CAGCCTACTCATGTCCCTAAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACACAGCCCTCCC
TGCCTGCTGACCTTGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGCCACCTCCAACA
TCCACTCGACCCCTTGGAATTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTGGTTTAGGTAGT
GTGAGAGGGGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTGCAGTGAGAGC
AGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCTCCACCTTGAC
ACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTCGGTAAGTGCAGTGGAAGCTGTA
CACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCAGCCAGTGGACTTAG
CCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGTTAATATTACCAGCAGCCTCCCCGTTGC
CCCTCTGGATCCACTGCTTAAATACGGATATAAACGAGGACAGGGCCCTGTCTCCTCAGCTTCAGGC
ACCACCACTGACCTGGGACAGTGAATGATCCCCCTGATCTGCGGCC

SEQ ID NO: 76

GGTTAATTTTTAAAAAGCAGTCAAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCT
CTGGTTAATAATCTCAGGAGCACAAACATTCCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTA
TCCTCTGGGCCTCTCTTATTGATATTCAGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTG
CCCCCTTCCAACCCCTCAGTTCCCATCCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACAC
TGAACAACTTCAGCCTACTCATGTCCCTAAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACAC
ACAGCCCTCCCTGCCTGCTGACCTTGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGC
CACCTCCAACATCCACTCGACCCCTTGGAATTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTG
GTTTAGGTAGTGTGAGAGGGTGGCCCTTGCGTACCCGGGGATCTTGCTACCAGTGGAACAGCCAC
TAAGGATTCTGCAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCAC
GCCACCCCTCCACCTTGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTCGG
TAAGTGCAGTGGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAG
ATCCCATATAAAGCCAGTGGACTTAGCCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGTTAA
TATTCACCAGCAGCCTCCCCCTATTGATTGTTGCCCTCTGGATCCACTGCTTAAATACGGACGAGG
ACAGGGCCCTGTCTCCTCAGCTTCAGGCACCACTGACCTGGGACAGTGAATGATCCCCCTGAT
CTGCGGCC

SEQ ID NO: 77

GGTTAATTTTTAAAAAGCAGTCAAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCT
CTGGTTAATAATCTCAGGAGCACAAACATTCCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTA
TCCTCTGGGCCTCTCTTATTGATATTCAGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTG
CCCCCTTCCAACCCCTCAGTTCCCATCCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACAC
TGAACAACTTCAGCCTACTCATGTCCCTAAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACAC
ACAGCCCTCCCTGCCTGCTGACCTTGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGC
CACCTCCAACATCCACTCGACCCCTTGGAATTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTG
GTTTAGGTAGTGTGAGAGGGGTTAATAATCTGGCCCTTGCGTACCCGGGGATCTTGCTACCAGTGG
AACAGCCACTAAGGATTCTGCAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGT
CTGACTCACGCCACCCCTCCACCTTGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGAC
TCCTTTCGGTAAGTGCAGTGGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGG
GCGACTCAGATCCCATATAAAGCCAGTGGACTTAGCCCCTGTTTGCTCCTCCGATAACTGGGGTGAC
CTTGTTAATATTACCAGCAGCCTCCCCCTATTGATTGTTGCCCTCTGGATCCACTGCTTAAATAC
GGACGAGGACAGGGCCCTGTCTCCTCAGCTTCAGGCACCACTGACCTGGGACAGTGAATGAT
CCCCCTGATCTGCGGCC

Figure 4 (cont)

SEQ ID NO: 78

GGTTAATTTTTAAAAAGCAGTCAAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCT
CTGGTTAATAATCTCAGGAGCACAAACATTCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTA
TCCTCTGGGCCTCTCCAGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTGCCCTTCCAA
CCCCTCAGTTCCCATCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAACTT
CAGCCTACTCATGTCCCTAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACACAGCCCTCCC
TGCCTGCTGACCTTGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCATGCCACCTCCAACA
TCCACTCGACCCCTTGAATTTCCGTGGAGAGGAGCAGAGGTTGTCCTGGCGTGGTTTAGGTAGT
GTGAGAGGGCTGTTTGCTCGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTG
CAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCT
CCACCTTGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTCGGTAAGTGCAGT
GGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCATATAA
AGCCAGTGGACTTAGCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTTAATATTCACCAGC
AGCCTCCCCCGTTGCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCCTC
AGCTTCAGGCACCACCACTGACCTGGGACAGTGAATGATCCCCCTGATCTGCGGCC

SEQ ID NO: 79

GGTTAATTTTTAAAAAGCAGTCAAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCT
CTGGTTAATAATCTCAGGAGCACAAACATTCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTA
TCCTCTGGGCCTCTCTTATTGATATTCCAGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTG
CCCCCTTCCAACCCCTCAGTTCCCATCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACAC
TGAACAACTTCAGCCTACTCATGTCCCTAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACAC
ACAGCCCTCCCTGCCTGCTGACCTTGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCATGC
CACCTCCAACATCCACTCGACCCCTTGAATTTCCGTGGAGAGGAGCAGAGGTTGTCCTGGCGTG
GTTTAGGTAGTGTGAGAGGGGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTG
CAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCT
CCACCTTGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTCGGTAAGTGCAGT
GGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCATATAA
AGCCAGTGGACTTAGCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTTAATATTCACCAGC
AGCCTCCCCCGTTGCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCCTC
AGCTTCAGGCACCACCACTGACCTGGGACAGTGAATGATCCCCCTGATCTGCGGCC

SEQ ID NO: 80

GGTTAATTTTTAAAAAGCAGTCAAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCT
CTGGTTAATAATCTCAGGAGCACAAACATTCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTA
TCCTCTGGGCCTCTCTTATTGATATTCCAGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTG
CCCCCTTCCAACCCCTCAGTTCCCATCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACAC
TGAACAACTTCAGCCTACTCATGTCCCTAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACAC
ACAGCCCTCCCTGCCTGCTGACCTTGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCATGC
CACCTCCAACATCCACTCGACCCCTTGAATTTCCGTGGAGAGGAGCAGAGGTTGTCCTGGCGTG
GTTTAGGTAGTGTGAGAGGGGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTG
CAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCT
CCACCTTGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTCGGTAAGTGCAGT
GGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCAGCCA
GTGGACTTAGCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTTAATATTCACCAGCAGCCT
CCCCCGTTGCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCCTCAGCTT
CAGGCACCACCACTGACCTGGGACAGTGAATGATCCCCCTGATCTGCGGCC

Figure 4 (cont)

SEQ ID NO: 81

GGTTAATTTTTAAAAAGCAGTCAAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCT
CTGGTTAATAATCTCAGGAGCACAAACATTCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTA
TCCTCTGGGCCTCTCTGGCCCTTGCCAGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTGC
CCCCTTCCAACCCCTCAGTTCCCATCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACT
GAACAACTTCAGCCTACTCATGTCCCTAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACA
CAGCCCTCCCTGCCTGCTGACCTTGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGCC
ACCTCCAACATCCACTCGACCCCTTGGAATTTTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTGG
TTTAGGTAGTGTGAGAGGGGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTGC
AGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCTC
CACCTTGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTCGGTAAGTGCAGT
GGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCAGCCA
GTGGACTTAGCCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTTAATATTACCAGCAGCCT
CCCCCGTTGCCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCCTCAGCTT
CAGGCACCACCACTGACCTGGGACAGTGAATGATCCCCCTGATCTGCGGCC

SEQ ID NO: 82

GGTTAATTTTTAAAAAGCAGTCAAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCT
CTGGTTAATAATCTCAGGAGCACAAACATTCTGGAGGCAGGAGAAGAAATCAACATCCTGGACTTA
TCCTCTGGGCCTCTCCAGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTGCCCCCTTCCAA
CCCCTCAGTTCCCATCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAACTT
CAGCCTACTCATGTCCCTAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACACAGCCCTCCC
TGCCTGCTGACCTTGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGCCACCTCCAACA
TCCACTCGACCCCTTGGAATTTTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTGGTTTAGGTAGT
GTGAGAGGGTTATTGATATTCGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCT
GCAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCC
TCCACCTTGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTCGGTAAGTGCAG
TGGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCAGCC
AGTGGACTTAGCCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTTAATATTACCAGCAGCC
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SEQ ID NO: 83

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CCCCTCAGTTCCCATCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAACTT
CAGCCTACTCATGTCCCTAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACACAGCCCTCCC
TGCCTGCTGACCTTGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGCCACCTCCAACA
TCCACTCGACCCCTTGGAATTTTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTGGTTTAGGTAGT
GTGAGAGGGTGGCCCTTGCGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTG
CAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCT
CCACCTTGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTCGGTAAGTGCAGT
GGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCAGCCA
GTGGACTTAGCCCCTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTTAATATTACCAGCAGCCT
CCCCCGTTGCCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCCTCAGCTT
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Figure 4 (cont)

SEQ ID NO: 84

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TCCTCTGGGCCTCTCCAGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTGCCCCCTTCCAA
CCCCCTCAGTTCCCATCCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAACTT
CAGCCTACTCATGTCCCTAAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACATGGCCCTTGC
CAGCCCTCCCTGCCTGCTGACCTTGGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGCC
ACCTCCAACATCCACTCGACCCCTTGAATTTTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTGG
TTTAGGTAGTGTGAGAGGGGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTGC
AGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCTC
CACCTTGGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTTCGGTAAGTGCAGT
GGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCAGCCA
GTGGACTTAGCCCCGTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTTAATATTACCAGCAGCCT
CCCCCGTTGCCCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCCTCAGCTT
CAGGCACCACCCTGACCTGGGACAGTGAATGATCCCCCTGATCTGCGGCC

SEQ ID NO: 85

GGTTAATTTTTAAAAAGCAGTCAAAAGTCCAAGTGGCCCTTGCGAGCATTTACTCTCTCTGTTTGCT
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CCCCCTCAGTTCCCATCCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAACTT
CAGCCTACTCATGTCCCTAAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACACAGCCCTCCC
TGCCTGCTGACCTTGGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGCCACCTCCAACA
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ACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTTCGGTAAGTGCAGTGGAAGCTGTA
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CCCCGTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTTAATATTACCAGCAGCCTCCCCCTATATA
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SEQ ID NO: 86

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TGAACAACTTCAGCCTACTCATGTCCCTAAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACAC
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CACCTCCAACATCCACTCGACCCCTTGAATTTTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTG
GTTTAGGTAGTGTGAGAGGGTGGCCCTTTCGCTACCCGGGGATCTTGCTACCAGTGGAACAGCCAC
TAAGGATTCTGCAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCAC
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TAAGTGCAGTGGAAGCTGTACACTGCCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAG
ATCCCAGCCAGTGGAAGCTTAGCCCCGTGTTTGCTCCTCCGATAACTGGGGTGACCTTGGTTAATATTCA
CCAGCAGCCTCCCCCGTTGCCCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCCTCA
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Figure 4 (cont)

SEQ ID NO: 87

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GAACAACTTCAGCCTACTCATGTCCCTAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACA
CAGCCCTCCCTGCCTGCTGACCTTGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGCC
ACCTCCAACATCCACTCGACCCCTTGGAATTTTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTGG
TTTAGGTAGTGTGAGAGGGTTATTGATATTCGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACT
AAGGATTCTGCAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCAC
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TCCTCAGCTTCAGGCACCACCACTGACCTGGGACAGTGAATGATCCCCCTGATCTGCGGCC

SEQ ID NO: 88

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CCCCTCAGTTCCCATCCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAACTT
CAGCCTACTCATGTCCCTAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACACAGCCCTCCC
TGCCTGCTGACCTTGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGCCACCTCCAACA
TCCACTCGACCCCTTGGAATTTTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTGGTTTAGGTAGT
GTGAGAGGGGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTGCAGTGAGAGC
AGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCTCCACCTTGAC
ACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTCGGTAAGTGCAGTGGAAGCTGTA
CACTGCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCATATAAAGCCAGTGG
ACTTAGCCCTGTTTGTCTCTCCGATAACTGGGGTGACCTTGTTAATATTCACCAGCAGCCTCCCC
CTTATTGATATTCGTTGCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCC
TCAGCTTCAGGCACCACCACTGACCTGGGACAGTGAATGATCCCCCTGATCTGCGGCC

SEQ ID NO: 89

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ATCCTGGACTTATCCTCTGGGCCTCTCCAGGCTCAGAGGCACACAGGAGTTTCTGGGCTCACCTG
CCCCCTTCCAACCCCTCAGTTCCCATCCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACAC
TGAACAACTTCAGCCTACTCATGTCCCTAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACAC
ACAGCCCTCCCTGCCTGCTGACCTTGAGCTGGGGCAGAGGTCAGAGACCTCTCTGGGCCCATGC
CACCTCCAACATCCACTCGACCCCTTGGAATTTTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTG
GTTTAGGTAGTGTGAGAGGGGTACCCGGGGATCTTGCTACCAGTGGAACAGCCACTAAGGATTCTG
CAGTGAGAGCAGAGGGCCAGCTAAGTGGTACTCTCCAGAGACTGTCTGACTCACGCCACCCCT
CCACCTTGACACAGGACGCTGTGGTTTCTGAGCCAGGTACAATGACTCCTTTCGGTAAGTGCAGT
GGAAGCTGTACACTGCCAGGCAAAGCGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCAGCCA
GTGGACTTAGCCCTGTTTGTCTCTCCGATAACTGGGGTGACCTTGTTAATATTCACCAGCAGCCT
CCCCGTTGCCCTCTGGATCCACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCCTCAGCTT
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Figure 4 (cont)

SEQ ID NO: 90

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TTCCAACCCCTCAGTTCCTATCCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAA
ACTTCAGCCTACTCATGTCCCTAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACACAGCCCTC
CCTGCCTGCTGACCTTGGAGCTGGGGCAGAGGTGAGAGACCTCTCTGGGCCCATGCCACCTCCAACA
TCCACTCGACCCCTTGGAATTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTGTTTAGGTAGTGT
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GCTCCTCCGATAACTGGGGTGACCTTGGTTAATATTACCAGCAGCCTCCCCGTTGCCCTCTGGAT
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SEQ ID NO: 91

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CAGTTCCCATCCTCCAGCAGCTGTTTGTGTGCTGCCTCTGAAGTCCACACTGAACAACTTCAGCCTA
CTCATGTCCCTAAAATGGGCAAACATTGCAAGCAGCAAACAGCAAACACACAGCCCTCCCTGCCTGCT
GACCTTGGAGCTGGGGCAGAGGTGAGAGACCTCTCTGGGCCCATGCCACCTCCAACATCCACTCGAC
CCCTTGAATTTTCGGTGGAGAGGAGCAGAGGTTGTCCTGGCGTGTTTAGGTAGTGTGAGAGGGGT
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CGTCCGGGCAGCGTAGGCGGGCGACTCAGATCCCAGCCAGTGGAAGTTAGCCCTGTTTGCTCCTCCG
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CACTGCTTAAATACGGACGAGGACAGGGCCCTGTCTCCTCAGCTTCAGGCACCACCACTGACCTGGG
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SEQ ID NO: 92

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GGGGCAGAGGTGAGAGACCTCTCTGGGCCCATGCCACCTCCAACATCCACTCGACCCCTTGAATTC
GGTGGAGAGGAGCAGAGGTTGTCCTGGCGTGTTTAGGTAGTGTGAGAGGG

SEQ ID NO: 93

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SEQ ID NO: 94

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GTTTCTGAGCCAGGTACAATGACTCCTTTTCGGTAAGTGCAGTGGAAGCTGTACACTGCCAGGCAA
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GATAACTGGGGTGACCTTGGTTAATATTACCAGCAGCCTCCCCGTTGCCCTCTGGATCCACTGCT
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Figure 4 (cont)

40/50

SEQ ID NO: 95

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TCCCC

SEQ ID NO: 96

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AGCAGCCTCCCCC

SEQ ID NO: 97

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TCCTCTGGGCCTCTC

SEQ ID NO: 98

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GGTTAATAATCTCAGGAGCACAAACA

SEQ ID NO: 99

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TAGTAGGGAGGTGTTTATTCAACACCTCTGATTGGCTCATAACAACCAGTCCTTAAAATCATGC

SEQ ID NO: 100

AATTTTTATAGA

SEQ ID NO: 101

GTAGGGAGGTGTTTATTCAACACCTCTGATTGGCTCATAACAACCAGTCCT

SEQ ID NO: 102

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GTGTGGGGACTTTCCACTCTACTGCTGCTAATTTTTTTCTAAAAATAATACTTCCGGGTGCAGAGTT
TAATCTTCTTTGTCCAAGGTACTGTGGTAAGCACCTTATGTACATTGTCTAAGTTAATCCCCACAACA
TTTTGAGAAATCCCCATTTTGAGATAGGAGAACTGAGGCTCACAATATTTAGTGAAGTGGCCCAAGG
TCACAGTTGTTAAATGGAGGAGCTGGTATTGAAAACCAGGTACGTGTGGCTCTAAGACCAGTGTA
TAGTTGTGTTTTGTTTTCTTGCTTCCTTCTTTACTTGCCTTCATTTCTAGCTTACACTGGCATGAT
TCATCTCAGTGGGCAATATCCTTACCTTGAATGGTGGTTTCTTTGTTTGTTCTGCAAGAGGAGCA
CCTCCTTGGTCTAACTGTGGATACAATAATTAACAGGTGTCAGATGTCA

SEQ ID NO: 103

CTTGCAAAATTATCTAGGTAGCATGTGATAGAACCAGGATTCAAACCCAGGTGTGTCTGACCTCAAA
GTGTGGGGACTTTCCACTCTACTGCTGCTAATTTTTTTCTAAAAAT

SEQ ID NO: 104

TGCCTCCCCGTGTTCTGCTCTTTGTCCCTCTGTCTACTTAGACTAATATTTGCCTTGGGTACTGC
AAACAGGAAATGGGGGAGGGACAGGA

SEQ ID NO: 105

TGTTCTGCTCTTTGTCCCTCTGTCTACTTAGACTAATATTTGCCTTGGGTACTGCAACAGGAAA
TGGGGGAGGG

Figure 5

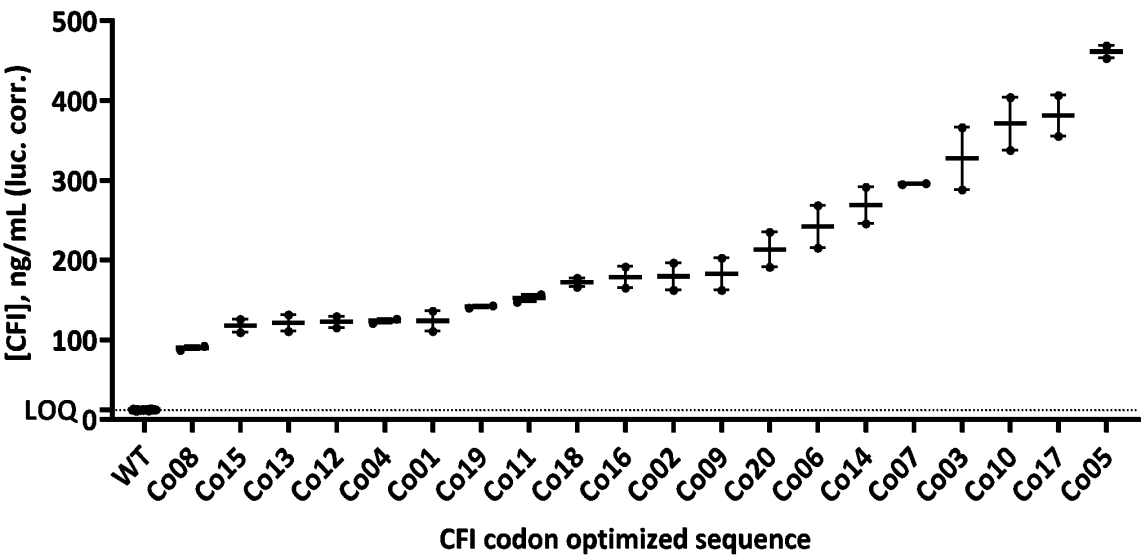


Figure 6

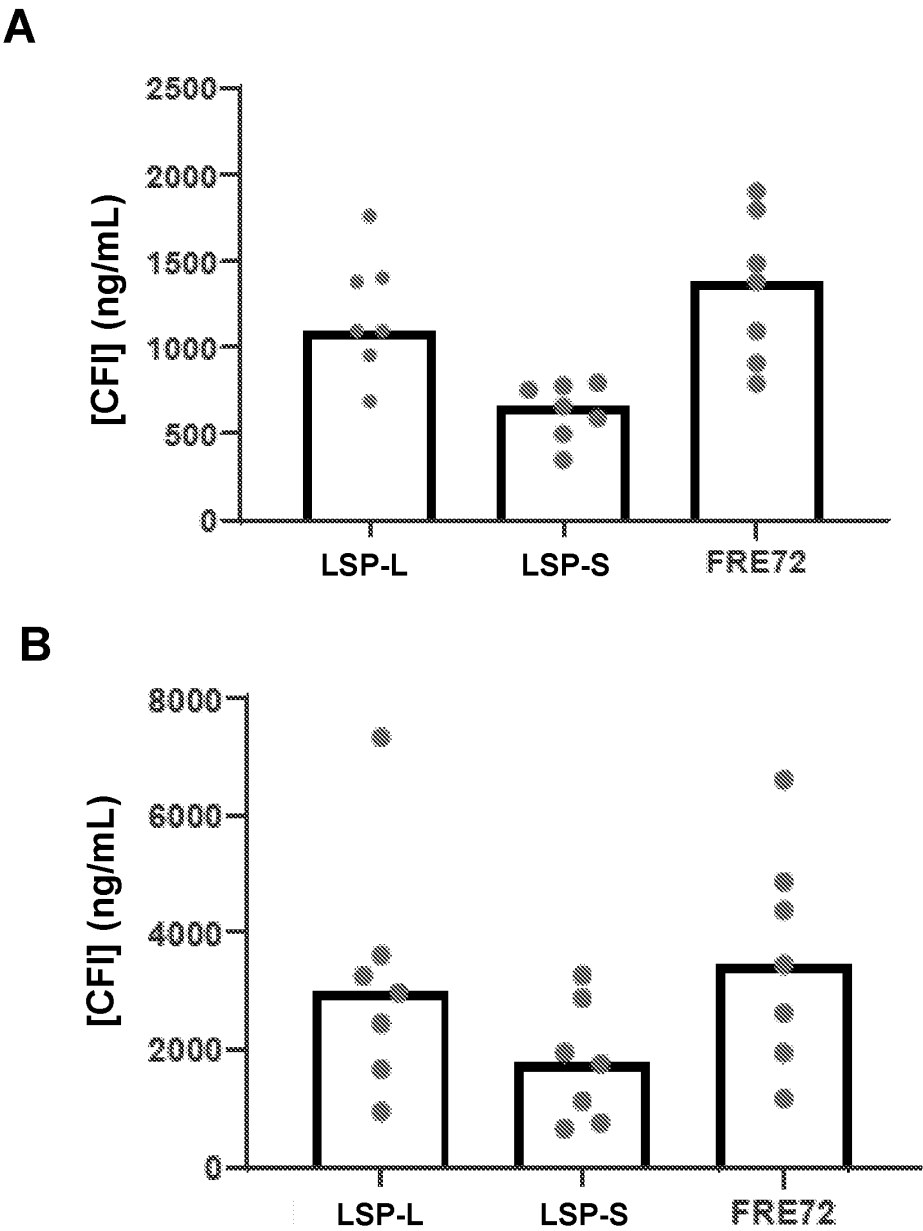


Figure 7

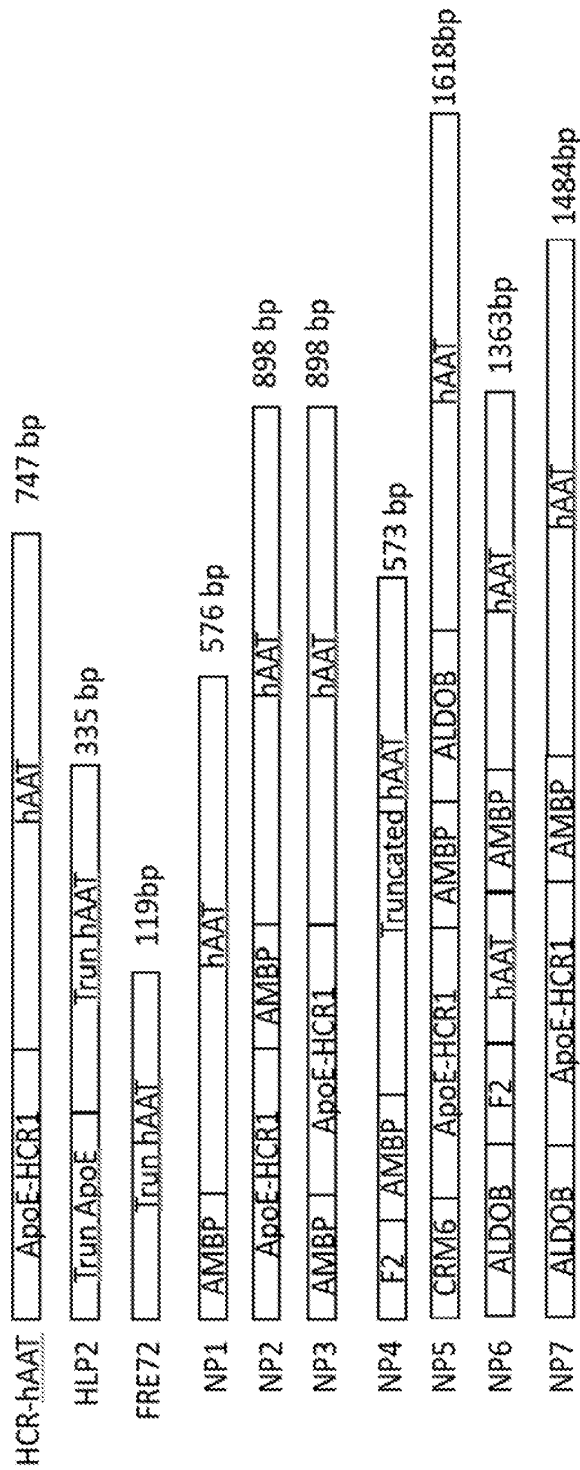


Figure 8A

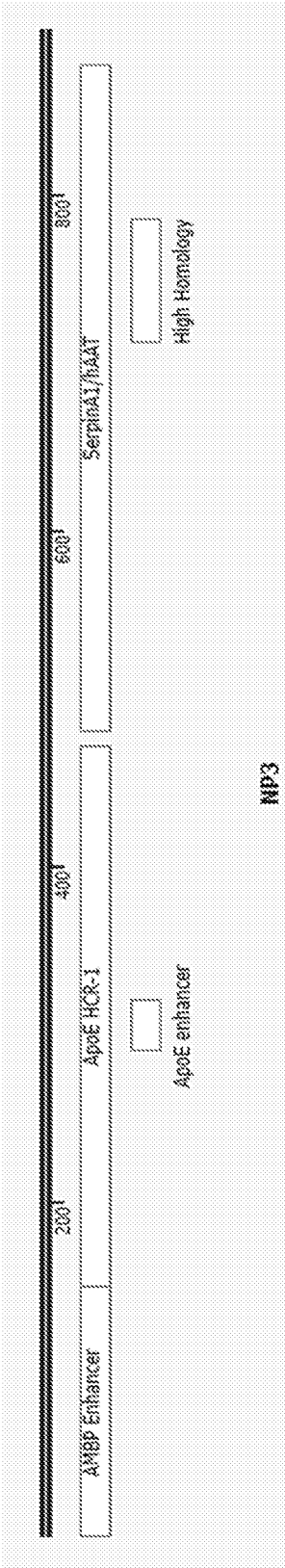


Figure 8B

Name	Size	Modification compared to NP3
NP3	898	N/A
NP8	903	TATA box added at -37 from TSS-2
NP9	933	HNf6 added between AMBP-ApoE, HNF4a added between ApoE and hAAT, TATA added before hAAT High Homology region, HNF6 added after hAAT High Homology region
NP10	943	HNf6 added between AMBP-ApoE, HNF1 and HNF4a added between ApoE-hAAT, TATA added before hAAT High Homology region, HNF6 added after hAAT High Homology region
NP11	913	HNf3 added between ApoE and hAAT and TATA box added before hAAT High Homology region
NP12	915	TATA box added before hAAT High Homology region & HNF6 added between AMBP-ApoE
NP13	909	HNf6 added between AMBP-ApoE
NP14	907	HNf4 added between AMBP-ApoE
NP15	909	HNf6 added between ApoE-hAAT
NP16	907	HNf4 added between ApoE-hAAT
NP17	907	HNf4 added after ApoE enhancer
NP18	913	TATA box & HNF6 added after hAAT High Homology region
NP19	919	HNf6 added between AMBP-ApoE and HNF4 added between ApoE-hAAT
NP20	919	HNf4 added between AMBP-ApoE and HNF6 added between ApoE-hAAT
NP21	915	TATA box added before hAAT High Homology region and HNF6 added after hAAT High Homology region
NP22	909	HNf6 added before AMBP
NP23	907	HNf4 added before AMBP
NP24	907	HNf6 added after hAAT High Homology region

Figure 9

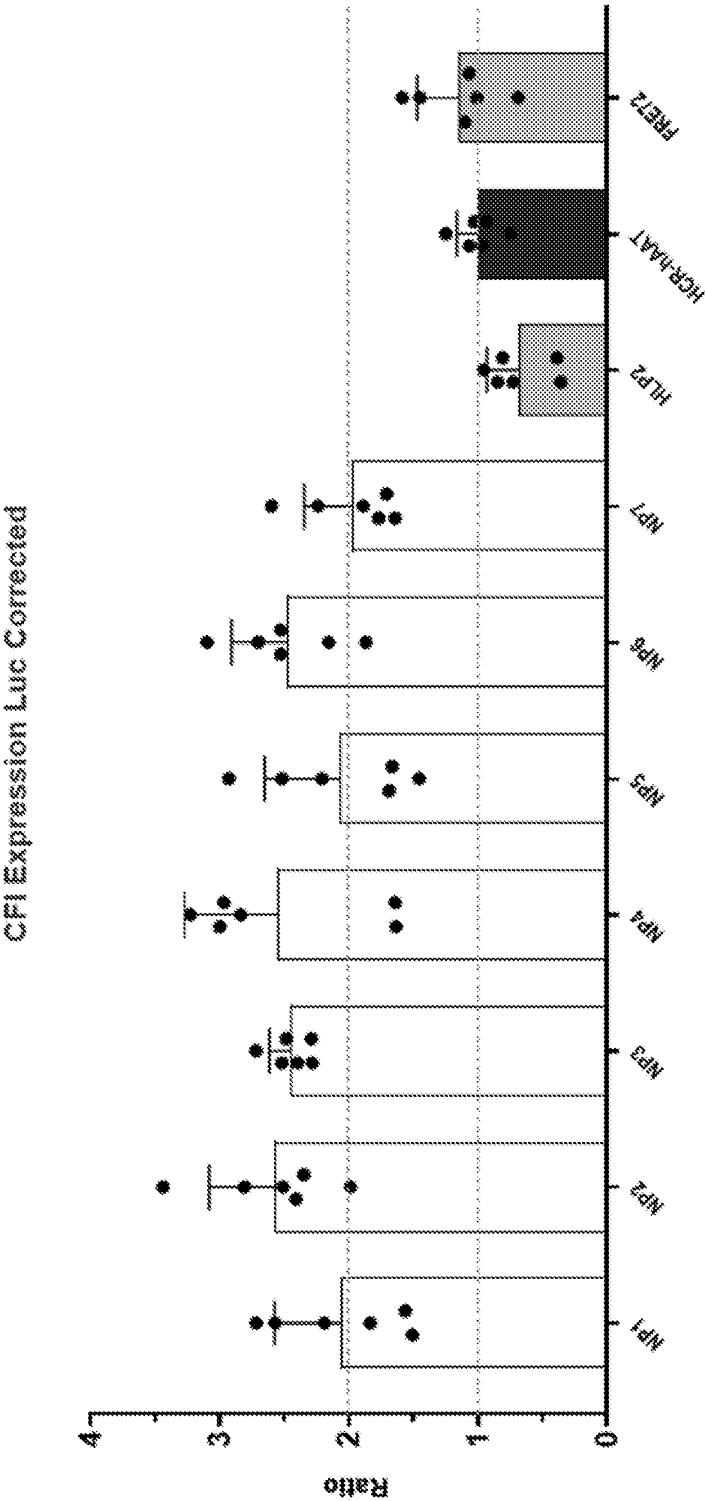


Figure 10

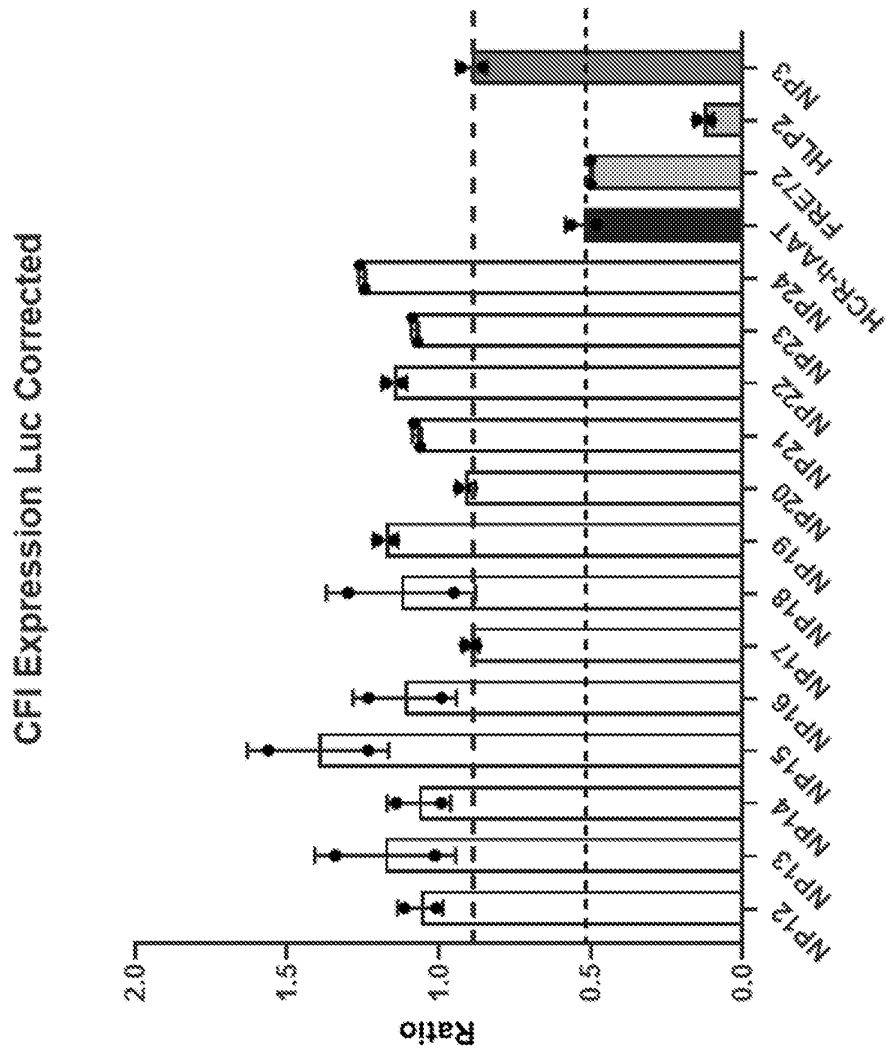


Figure 11

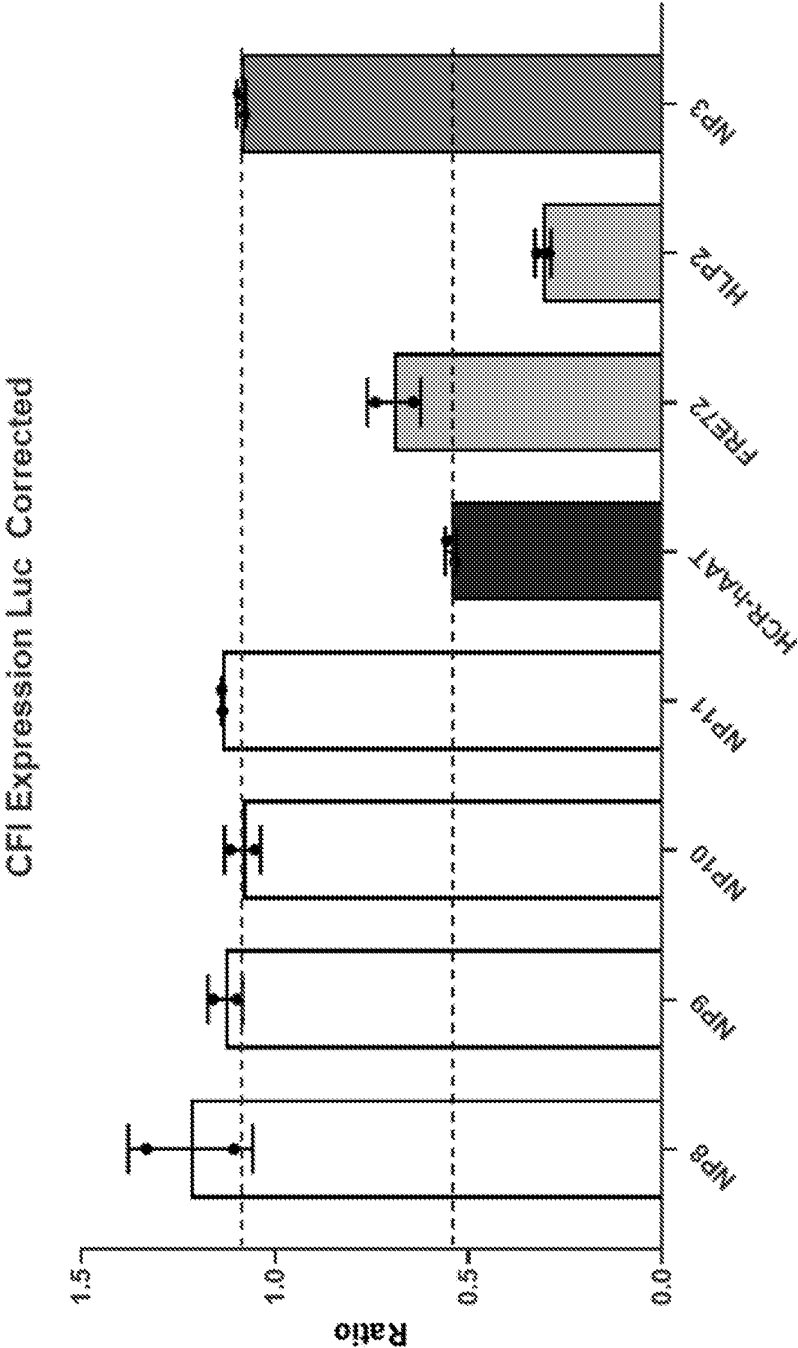


Figure 12

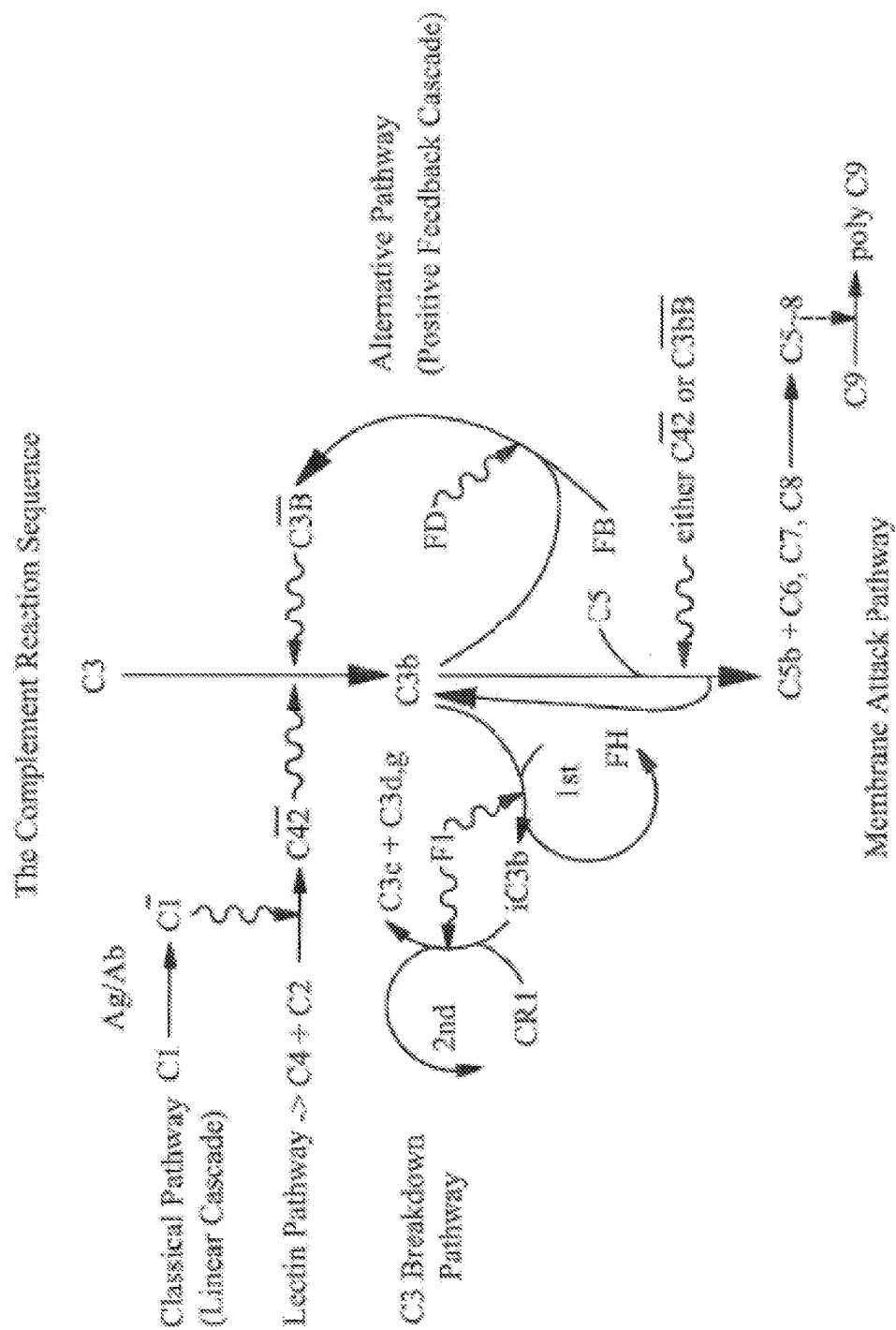


Figure 13

