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SEQUENCE LISTING

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auccggggga gcaacaacuc cuucuucagc cgccugaacu ggcucacgca ccugaaguuc 540

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cggccccgcg uccggaacau ccccagccgc aucuccaucu acuggaccau cgugaagccg 780

ggggacaucc ugcugaucaa cagcaccggc aaccucaucg ccccgcgggg guacuucaag 840

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ccgaugggcc ucccaacggg cccuccuccc cuccuugcac cgagauuaau aaaaaaaaaa 1800

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaugcauc 1860

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gacgggaucg acugcacccu gaucgacgcc cuccugggcg acccccacug cgacgucuuc 300

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gagugcauca cccccaacgg cuccaucccc aacgacaagc cguuccagaa cgucaacaag 960

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ccgaugggcc ucccaacggg cccuccuccc cuccuugcac cgagauuaau aaaaaaaaaa 1800

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaugcauc 1860

cccccccccc cccccccccc cccccccccc aaaggcucuu uucagagcca ccagaauu 1918

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<213> Artificial sequnece

<220>
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gagcgcaacg ugaccgugac ccacgccaag gacauccucg agaagaccca caacggcaag 180

cugugcaagc ugaacgggau cccgccgcuc gagcugggcg acugcuccau cgccgggugg 240

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cgguggacgc agcacaccac caccggcggg ucccgcgccu gcgccgucag cggcaacccc 480

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cugcagugcc ggaucugcau cugaggacua guuauaagac ugacuagccc gaugggccuc 1740

ccaacgggcc cuccuccccu ccuugcaccg agauuaauaa aaaaaaaaaa aaaaaaaaaa 1800

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaugcauccc cccccccccc 1860

cccccccccc ccccccccaa aggcucuuuu cagagccacc agaauu 1906

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<211> 1909
<212> RNA
<213> Artificial sequnece

<220>

<223> GC optimized HA mRNA

<400> 11

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acccugaccg agcggggcgu ggaggugguc aacgccaccg agacggugga gcgcaccaac 180

aucccccaaga ucugcuccaa ggggaagcgg accguggacc ucggccagug cgggcugcug 240

ggcaccauca cgggccagcc gcagugcgac caguuccucg aguucagcgc cgaccugauc 300

aucgagcgcc gggacgggaa cgacgucugc uaccccggca aguucgugaa cggggaggcc 360

cugcgccaga uccuccggaa guccggcggg aucaacaagg agaccauggg cuucaccuac 420

agcggcaucc gcaccaacgg gacgaccucc gcgugccggc gcagcggcuc cagcuucuac 480

gccgagauga aguggcugcu guccgacacc gacaacgccg ccuuccccca gaugaccaag 540

agcuacaaga acacgcggcg cgagcccgcg cucaucgugu gggggaucca ccacuccggc 600

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acgaucacca gcucccuccc guuccagaac aucaacagcc gcgcgguggg caagugcccc 960

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aacaacacgu acgaccacuc caaguaccgg gaggaggcca ugcagaaccg cauccagauc 1560

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cucccaacgg gcccuccucc ccuccuugca ccgagauuaa uaaaaaaaaa aaaaaaaaaa 1800

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaugcau cccccccccc 1860

cccccccccc cccccccccc caaaggcucu uuucagagcc accagaauu 1909

<210> 12
<211> 1918
<212> RNA
<213> Artificial sequnece

<220>
<223> GC optimized HA mRNA

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aucguggaga ccuccuccag cgacaacggc acgugcuacc ccggcgacuu caucgacuac 360

gaggagcucc gcgagcagcu guccagcgug uccagcuucg agcgguucga gaucuucccc 420

aagaccucca gcuggccgaa ccacgacucc aacaaggggg ucaccgccgc cugcccccac 480

gccggcgcga agagcuucua caagaaccug aucuggcucg ugaagaaggg gaacuccuac 540

cccaagcuga gcaaguccua caucaacgac aagggcaagg aggugcuggu ccucuggggg 600

auccaccacc ccagcaccag cgccgaccag caguccccugu accagaacgc cgacgccuac 660

guguucgugg gcagcucccg cuacagcaag aaguucaagc cggagaucgc cauccggccc 720

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ccgaugggcc ucccaacggg cccuccuccc cuccuugcac cgagauuaau aaaaaaaaaa 1800

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaugcauc 1860

ccccccccccc ccccccccccc ccccccccccc aaaggcucuu uucagagcca ccagaauu 1918

<210> 13
<211> 1975

<212> RNA
<213> Artificial sequnece

<220>
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caggggggagg ugaacgugac cggcgucauc ccgcugacga ccacccccac caagagccac 180

uucgccaacc ugaaggggac ggagacccgc ggcaagcucu gccccaagug ccugaacugc 240

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gggagcugcc ccaacaucac gaacggcaac ggcuucuucg ccaccauggc cugggccguc 540

cccaagaacg acaagaacaa gaccgcgacc aacccgcuca cgaucgaggu gcccuacauc 600

ugcaccgagg gggaggacca gaucaccgug uggggcuucc acuccgacaa cgagacccag 660

auggccaagc uguacgggga cagcaagccc cagaaguuca cguccagcgc caacggcguc 720

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ucccagaucg agcucgccgu gcugcugagc aacgagggga ucaucaacuc cgaggacgag 1440

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gccgccucca gccuggcggu cacgcucaug aucgccaucu ucguggugua caugucucc 1740

cgggacaacg ugagcugcuc caucugccug ugaggacuag uuauaagacu gacuagcccg 1800

augggccucc caacgggccc uccucccccuc cuugcaccga gauuaauaaa aaaaaaaaaa 1860

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa augcaucccc 1920

ccccccccccc ccccccccccc ccccccccaaa ggcucuuuuc agagccacca gaauu 1975

<210> 14
<211> 1918
<212> RNA
<213> Artificial sequnece

<220>
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gugcucgaga agaacgucac ggugacccac uccgugaacc ugcuggagga caagcacaac 180

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aucguggaga cccccagcuc cgacaacggc acgugcuacc ccggcgacuu caucgacuac 360

gaggagcucc gcgagcagcu gagcuccgug agcuccuucg agcgguucga gaucuucccc 420

aagaccagcu ccuggcccaa ccacgacagc gacaaggggg ucaccgccgc cugcccgcac 480

gccggcgcga aguccuucua caagaaccug aucuggcucg ugaagaaggg gaacagcuac 540

cccaagcugu ccaagagcua caucaacgac aagggcaagg aggugcuggu ccucuggggg 600

auccaccacc ccagcaccuc cgccgaccag cagagccugu accagaacgc cgacgccuac 660

guguucgugg gcuccagccg cuacuccaag acguucaagc ccgagaucgc cauccggccg 720

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ccgaugggcc ucccaacggg cccuccuccc cuccuugcac cgagauuaau aaaaaaaaaa 1800

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaugcauc 1860

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<220>
<223> GC optimized HA construct

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