

SEQUENCE LISTING

<110> Agency for Science, Technology and Research
 <120> A RIBOZYME COMPRISING A TARGET-BINDING DOMAIN
 <130> 9869SG5876
 <150> SG 10201903323U
 <151> 2019-04-12
 <160> 102
 <170> PatentIn version 3.5
 <210> 1
 <211> 23
 <212> RNA
 <213> Artificial Sequence
 <220>
 <223> Sequence of exemplary target RNA dme-bantam-5p
 <400> 1
 ccgguuuucg auuugguuug acu 23
 <210> 2
 <211> 181
 <212> RNA
 <213> Artificial Sequence
 <220>
 <223> Resulting S1 strand for dme-ban-5p ribozyme (S1_Tban5p_Cban3pR)
 <400> 2
 gggaagucac accaaguaua uuaguauauu accugguuuu cgaucgaaag aucgacgagg 60
 ugaaaaccuc gugacagucc uuagucgaaa guuuuacuag agucaguccu gauugugcuc 120
 gaaagagcac agaccugaaa aggucuuucg ugguauauua cucucugaaa ucgaaaaccg 180
 g 181
 <210> 3
 <211> 109
 <212> RNA
 <213> Artificial Sequence
 <220>
 <223> Resulting S2 strand for dme-ban-5p ribozyme (S2_Tban5p_Cban3pR)
 <400> 3

gggaagucua accaaguaau auaagaaaca cacgaaucag agaagacgag cgucccacgg 60
 gcgcagaaga gaagucaacc agagaaacau aaauaacauc gaaaaccgg 109

<210> 4
 <211> 22
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Sequence of exemplary target RNA hsa-let-7f-5p

<400> 4
 ugagguagua gauuguauag uu 22

<210> 5
 <211> 180
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Resulting S1 strand for hsa-let-7f-5p ribozyme
 (S1_Tlet7f_Cban3pR)

<400> 5
 gggaacuau acaauguaau uuaguauuu accugguuuu cgaucgaaag aucgacgagg 60
 ugaaaaccuc gugacagucc uuagucgaaa guuuuacuag agucaguccu gauugugcuc 120
 gaaagagcac agaccugaaa aggucuuucg ugguauauua cucucugaac uacuaccuca 180

<210> 6
 <211> 108
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Resulting S2 strand for hsa-let-7f-5p ribozyme
 (S2_Tlet7f_Cban3pR)

<400> 6
 gggaacuau acaauguaau auaagaaaca cacgaaucag agaagacgag cgucccacgg 60
 gcgcagaaga gaagucaacc agagaaacau aaauaaccua cuaccuca 108

<210> 7
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> T7 promoter sequence

<400> 7
 gtataatacg actcactata ggga 24

<210> 8
 <211> 156
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S1 sequence with an exemplary cleavage product, and (n)a and (n)b represent sequences complementary to the target RNA molecule.

<220>
 <221> misc_feature
 <222> (1)..(1)
 <223> (n)a represents the first sequence complementary to the target RNA molecule.

<220>
 <221> misc_feature
 <222> (63)..(91)
 <223> Exemplary cleavage product SEQ ID NO. 25

<220>
 <221> misc_feature
 <222> (156)..(156)
 <223> (n)b represents the second sequence complementary to the target RNA molecule.

<400> 8
 nguauauuag uauauuaccu gguuuucgau cgaaagaucg acgaggugaa aaccucguga 60
 caguccuuag ucgaaaguuu uacuagaguc aguccugauu gugcucgaaa gagcacagac 120
 cugaaaaggu cuuucguggu auauuacucu cugaan 156

<210> 9
 <211> 84
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S2 sequence. (n)a and (n)b represent sequences complementary to the target RNA molecule.

<220>
 <221> misc_feature

<222> (1)..(1)
 <223> (n)a represents the first sequence complementary to the target RNA molecule.

<220>
 <221> misc_feature
 <222> (84)..(84)
 <223> (n)b represents the second sequence complementary to the target RNA molecule.

<400> 9
 nguauauaua gaaacacacg aaucagagaa gacgagcguc ccacgggcg cagaagagaag 60
 ucaaccagag aaacauaaua uacn 84

<210> 10
 <211> 98
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Core S1 DNA template

<400> 10
 ctggttttcg atcgaaagat cgacgaggtg aaaacctcgt gacagtcctt agtcgaaagt 60
 tttagtagag tcagtcctga ttgtgctcga aagagcac 98

<210> 11
 <211> 54
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Core S2 DNA template

<400> 11
 agaaacacac gaatcagaga agacgagcgt cccacgggcg cagaagagaa gtca 54

<210> 12
 <211> 12
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Reverse complement of 5' paired sequence of dme-ban-5p

<400> 12
 aucgaaaacc gg 12

<210> 13
 <211> 11
 <212> RNA
 <213> Artificial Sequence

<220>

<223> Reverse complement of 3' paired sequence of dme-ban-5p

<400> 13

agucaaacca a

11

<210> 14
 <211> 73
 <212> DNA
 <213> Artificial Sequence

<220>

<223> S1 forward primer for dme-ban-5p

<220>

<221> promoter

<222> (1)..(24)

<223> T7 promoter sequence

<400> 14

gtataatacg actcactata gggaagtcaa accaagtata ttagtatatt acctgggtttt

60

cgatcgaaag atc

73

<210> 15
 <211> 71
 <212> DNA
 <213> Artificial Sequence

<220>

<223> S1 reverse primer for dme-ban-5p

<400> 15

ccggttttcg atttcagaga gtaatatacc acgaaagacc ttttcaggtc tgtgctcttt

60

cgagcacaat c

71

<210> 16
 <211> 64
 <212> DNA
 <213> Artificial Sequence

<220>

<223> S2 forward primer for dme-ban-5p

<220>
 <221> promoter
 <222> (1)..(24)
 <223> T7 promoter sequence

<400> 16
 gtataatacg actcactata gggaagtcaa accaagtaat ataagaaaca cacgaatcag 60
 agaa 64

<210> 17
 <211> 48
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> S2 reverse primer for dme-ban-5p

<400> 17
 ccggttttcg atgtatatta tgtttctctg gttgacttct cttctgcg 48

<210> 18
 <211> 11
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Reverse complement of 5' paired sequence of hsa-let-7f-5p

<400> 18
 cuacuaccuc a 11

<210> 19
 <211> 11
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Reverse complement of 3' paired sequence of hsa-let-7f-5p

<400> 19
 aacuaauacaa u 11

<210> 20
 <211> 73
 <212> DNA
 <213> Artificial Sequence

<220>

<223> S1 forward primer for hsa-let-7f-5p

<220>

<221> promoter

<222> (1)..(24)

<223> T7 promoter sequence

<400> 20

gtataatacg actcactata gggaaactat acaatgtata ttagtatatt acctggtttt 60

cgatcgaaag atc 73

<210> 21

<211> 70

<212> DNA

<213> Artificial Sequence

<220>

<223> S1 reverse primer for hsa-let-7f-5p

<400> 21

tgaggtagta gttcagagag taatatacca cgaaagacct tttcaggtct gtgctctttc 60

gagcacaatc 70

<210> 22

<211> 64

<212> DNA

<213> Artificial Sequence

<220>

<223> S2 forward primer for hsa-let-7f-5p

<220>

<221> promoter

<222> (1)..(24)

<223> T7 promoter sequence

<400> 22

gtataatacg actcactata gggaaactat acaatgtaat ataagaaaca cacgaatcag 60

agaa 64

<210> 23

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> S2 reverse primer for hsa-let-7f-5p

<400> 23

tgaggtagta ggtatattat gtttctctgg ttgacttctc ttctgcg

47

<210> 24

<211> 22

<212> RNA

<213> Artificial Sequence

<220>

<223> hsa-miR-122-5p, a control RNA molecule with a dissimilar sequence to a target RNA molecule to test sequence specificity of the ribozymes

<400> 24

uggaguguga caaugguguu ug

22

<210> 25

<211> 29

<212> RNA

<213> Artificial Sequence

<220>

<223> Exemplary cleavage product of SEQ ID NO. 8.

<400> 25

guccuuaguc gaaaguuuuu cuagaguca

29

<210> 26

<211> 134

<212> RNA

<213> Artificial Sequence

<220>

<223> An exemplary S1 sequence with toeholds. (n)x represents a releasable RNA segment, and (n)a and (n)b represent sequences complementary to the first and second target RNA molecules.

<220>

<221> misc_feature

<222> (1)..(1)

<223> (n)a represents the first sequence complementary to the target RNA molecule.

<220>

<221> misc_feature

<222> (67)..(67)

<223> (n)x represents a releasable RNA segment.

<220>
 <221> misc_feature
 <222> (134)..(134)
 <223> (n)b represents the second sequence complementary to the target RNA molecule.

<400> 26
 nguauauuag uauauuaccu gguuuucgau cgaaagaucg acgaggugaa aaccucguga 60
 caguccncag uccugauugu gcucgaaaga gcacagaccu gaaaaggucu uucgugguau 120
 auuacucucu gaan 134

<210> 27
 <211> 65
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Portion of SEQ ID NO.: 26 between (n)a (the first sequence complementary to the target RNA molecule and (n)x (the releasable RNA segment).

<400> 27
 guauuuagu auauuaccug guuuucgauc gaaagaucga cgaggugaaa accucgugac 60
 agucc 65

<210> 28
 <211> 66
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Portion of SEQ ID NO.: 26 between (n)x (the cleavage product) and (n)b (the second sequence complementary to the target RNA molecule).

<400> 28
 caguccugau ugugcucgaa agagcacaga ccugaaaagg ucuuucgugg uauauuacuc 60
 ucugaa 66

<210> 29
 <211> 62
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> An exemplary S2 sequence (with toeholds). (n)x represents a region partially complementary to the releasable RNA segment on

S1, and (n)a and (n)b represent sequences complementary to the second and first target RNA molecules.

<220>

<221> misc_feature

<222> (1)..(1)

<223> (n)a represents the first sequence complementary to the target RNA molecule.

<220>

<221> misc_feature

<222> (32)..(32)

<223> (n)x represents a region partially complementary to the releasable RNA segment on S1.

<220>

<221> misc_feature

<222> (62)..(62)

<223> (n)b represents the second sequence complementary to the target RNA molecule.

<400> 29

nguaauauaa gaaacacacg aaucagagaa gngagaaguc aaccagagaa acauaaauaa 60

cn

62

<210> 30

<211> 30

<212> RNA

<213> Artificial Sequence

<220>

<223> Portion of SEQ ID NO.: 29 between (n)a (the sequence complementary to the second target RNA molecule and (n)x (the region partially complementary to the releasable RNA segment).

<400> 30

guaauauaag aaacacacga aucagagaag 30

<210> 31

<211> 29

<212> RNA

<213> Artificial Sequence

<220>

<223> Portion of SEQ ID NO.: 29 between (n)x (the region partially complementary to the releasable RNA segment) and (n)b (the sequence complementary to the second target RNA molecule).

<400> 31

gagaagucaa ccagagaaac auaauauac 29

<210> 32
 <211> 154
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> An exemplary sequence of the region of S1 between motifs [A] and [A'], in the direction of [A] to [A'].

<400> 32
 guauuuuagu auuuuaccug guuuucgauc gaaagaucga cgaggugaaa accucgugac 60
 aguccuuagu cgaaaguuuu acuagaguca guccugauug ugcucgaaag agcacagacc 120
 ugaaaagguc uuucguggua uauuacucuc ugaa 154

<210> 33
 <211> 82
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> An exemplary sequence of the region of S2 between motifs [a'] and [a], in the direction of [a'] to [a].

<400> 33
 guaauuaag aaacacacga aucagagaag acgagcgucc cacgggcgca gaagagaagu 60
 caaccagaga aacauaaauu ac 82

<210> 34
 <211> 107
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> An exemplary sequence of the region of S1 between motifs [B] and [B'], in the direction of [B] to [B'].

<220>
 <221> misc_feature
 <222> (1)..(9)
 <223> Catalytic domain

<400> 34
 guauuuuacc ugguuuucga ucgaaagauc gacgagguga aaaccucgug acaguccuua 60
 gucgaaaguu uuacuagagu caguccugau ugugcucgaa agagcac 107

<210> 35
 <211> 66
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> An exemplary sequence of the region of S2 between motifs [b'] and [b], in the direction of [b'] to [b].

<220>
 <221> misc_feature
 <222> (55)..(66)
 <223> Catalytic domain

<400> 35
 agaaacacac gaucagaga agacgagcgu cccacgggcg cagaagagaa gucaaccaga 60
 gaaaca 66

<210> 36
 <211> 49
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> S1 forward primer for dme-ban-5p without the T7 promoter sequence

<400> 36
 agtcaaacca agtatattag tatattacct gggttttcgat cgaaagatc 49

<210> 37
 <211> 40
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> S2 forward primer for dme-ban-5p without T7 promoter sequence

<400> 37
 agtcaaacca agtaatatataa gaaacacacg aatcagagaa 40

<210> 38
 <211> 49
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> S1 forward primer for hsa-let-7f-5p without T7 promoter sequence

<400> 38
aactatacaa tgtatattag tatattacct ggttttcgat cgaaagatc 49

<210> 39
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> S2 forward primer for hsa-let-7f-5p without T7 promoter sequence

<400> 39
aactatacaa tgtaatatataa gaaacacacg aatcagagaa 40

<210> 40
<211> 40
<212> RNA
<213> Artificial Sequence

<220>
<223> Target RNA T7_Orf1ab_ 20

<220>
<221> promoter
<222> (1)..(24)
<223> T7 promoter sequence

<400> 40
guauauuacg acucacuaua gggacagauc uaauggcugc 40

<210> 41
<211> 174
<212> RNA
<213> Artificial Sequence

<220>
<223> S1_Orf1ab _20

<400> 41
gcagccauua guauauuagu auauuaccug guuuucgauc gaaagaucga cgaggugaaa 60

accucgugac aguccuuagu cgaaaguuuu acuagaguca guccugauug ugcucgaaag 120

agcacagacc ugaaaagguc uuucguggua uauuacucuc ugaagaucug uccc 174

<210> 42
<211> 102
<212> RNA
<213> Artificial Sequence

<220>

<223> S2_Orf1ab_20

<400> 42

gcagccauua guaaauaaag aaacacacga aucagagaag acgagcgucc cacgggcgca 60

gaagagaagu caaccagaga aacauaaauu acgaucuguc cc 102

<210> 43

<211> 60

<212> RNA

<213> Artificial Sequence

<220>

<223> Target RNA T7_Orf1ab_ 40

<220>

<221> promoter

<222> (1)..(24)

<223> T7 promoter sequence

<400> 43

guauaaucg acucacuaua gggaguagac aaucucaguc uuacuauuaa gaaaccuaau 60

<210> 44

<211> 194

<212> RNA

<213> Artificial Sequence

<220>

<223> S1_Orf1ab _40

<400> 44

auuagguuuc uuaauaguaa guauuuagu auuuaccug guuuucgauc gaaagaucga 60

cgaggugaaa accucgugac aguccuuagu cgaaaguuuu acuagaguca guccugauug 120

ugcucgaaag agcacagacc ugaaaagguc uuucguggua uauuacucuc ugaagacuag 180

aaugucuac uccc 194

<210> 45

<211> 122

<212> RNA

<213> Artificial Sequence

<220>

<223> S2_Orf1ab_40

<400> 45
 auuagguuuc uuaauaguaa gaaauuaag aaacacacga aucagagaag acgagcgucc 60
 cacgggcgca gaagagaagu caaccagaga aacauauau acgacuagaa uugucuacuc 120
 cc 122

<210> 46
 <211> 80
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> T7_Egene_60

<220>
 <221> promoter
 <222> (1)..(24)
 <223> T7 promoter sequence

<400> 46
 guauaaucg acucacuaua gggacugcgc uucgauugug ugcguacugc ugcaauauug 60
 uuaacgugag ucuuguaaaa 80

<210> 47
 <211> 214
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S1_E_gene_60

<400> 47
 uuuuacaaga cucacguuaa caauauugca guauuuagu auuuaccug guuuucgauc 60
 gaaagaucga cgaggugaaa accucgugac aguccuuagu cgaaaguuuu acuagaguca 120
 guccugauug ugcucgaaag agcacagacc ugaaaagguc uuucguggua uauuacucuc 180
 ugaagcagua cgcacacaau cgaagcgag uccc 214

<210> 48
 <211> 142
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S2_Egene_60

<400> 48
 uuuuacaaga cucacguuaa caauauugca gaaauauaag aaacacacga aucagagaag 60
 acgagcgucc cacgggcgca gaagagaagu caaccagaga aacauaaauau acgcaguacg 120
 cacacaaucg aagcgcaguc cc 142

<210> 49
 <211> 16
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Target RNA T7_Orf1ab_ 20 without T7 promoter sequence

<400> 49
 cagaucuaau ggcugc 16

<210> 50
 <211> 36
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Target RNA T7_Orf1ab_ 40 without T7 promoter sequence

<400> 50
 guagacaauu cuagucuuac uauuaagaaa ccuaau 36

<210> 51
 <211> 56
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> T7_Egene_60 without T7 promoter sequence

<400> 51
 cugcgcuucg auugugugcg uacugcugca auauuguuaa cgugagucuu guaaaa 56

<210> 52
 <211> 72
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> S1 forward primer for S1_Orf1ab_gene_20_F

<220>

<221> promoter
 <222> (1)..(24)
 <223> T7 promoter sequence

<400> 52
 gtataatacg actcactata gggagcagcc attagtatat tagtatatta cctggttttc 60
 gatcgaaaga tc 72

<210> 53
 <211> 69
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> S1 reverse primer S1_Orf1ab_gene_20_R

<400> 53
 gggacagatc ttccagagagt aatataccac gaaagacctt ttcaggtctg tgctctttcg 60
 agcacaatc 69

<210> 54
 <211> 63
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> S2 forward primer S2_Orf1ab_gene_20_F

<220>
 <221> promoter
 <222> (1)..(24)
 <223> T7 promoter sequence

<400> 54
 gtataatacg actcactata gggagcagcc attagtaata taagaaacac acgaatcaga 60
 gaa 63

<210> 55
 <211> 46
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> S2 reverse primer S2_Orf1ab_gene_20_R

<400> 55
 gggacagatc gtatattatg tttctctggg tgacttctct tctgcg 46

<210> 56
 <211> 82
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> S1 forward primer S1_Orf1ab_gene_40_F

<220>
 <221> promoter
 <222> (1)..(24)
 <223> T7 promoter sequence

<400> 56
 gtataatacg actcactata gggaattagg tttcttaata gtaagtatat tagtatatta 60
 cctggttttc gatcgaaaga tc 82

<210> 57
 <211> 79
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> S1 reverse primer S1_Orf1ab_gene_40_R

<400> 57
 gggagtagac aattctagtc ttcagagagt aatataccac gaaagacctt ttcaggtctg 60
 tgctctttcg agcacaatc 79

<210> 58
 <211> 73
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> S2 forward primer S2_Orf1ab_gene_40_F

<220>
 <221> promoter
 <222> (1)..(24)
 <223> T7 promoter sequence

<400> 58
 gtataatacg actcactata gggaattagg tttcttaata gtaagtaata taagaaacac 60
 acgaatcaga gaa 73

<210> 59
 <211> 56
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> S2 reverse primer S2_Orf1ab_gene_40_R

 <400> 59
 gggagtagac aattctagtc gtatattatg tttctctggg tgacttctct tctgcg 56

 <210> 60
 <211> 92
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> S1 forward primer S1_E_gene_60_F

 <220>
 <221> promoter
 <222> (1)..(24)
 <223> T7 promoter sequence

 <400> 60
 gtataatacg actcactata gggattttac aagactcacg ttaacaatat tgcagtatat 60
 tagtatatta cctggttttc gatcgaaaga tc 92

 <210> 61
 <211> 89
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> S1 reverse primer S1_E_gene_60_R

 <400> 61
 gggactgcgc ttcgattgtg tgcgtactgc ttcagagagt aatataccac gaaagacctt 60
 ttcaggtctg tgctctttcg agcacaatc 89

 <210> 62
 <211> 83
 <212> DNA
 <213> Artificial Sequence

 <220>

<223> S2 forward primer S2_E_gene_60_F

<220>

<221> promoter

<222> (1)..(24)

<223> T7 promoter sequence

<400> 62

gtataatacg actcactata gggattttac aagactcacg ttaacaatat tgcagtaata 60

taagaaacac acgaatcaga gaa 83

<210> 63

<211> 66

<212> DNA

<213> Artificial Sequence

<220>

<223> S2 reverse primer S2_E_gene_60_R

<400> 63

gggactgcgc ttcgattgtg tgcgtactgc gtatattatg tttctctggt tgactttctt 60

tctgcg 66

<210> 64

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> S1 forward primer for S1_Orf1ab_gene_20_F without T7 promoter sequence

<400> 64

gcagccatta gtatattagt atattacctg gttttcgatc gaaagatc 48

<210> 65

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> S2 forward primer S2_Orf1ab_gene_20_F without T7 promoter sequence

<400> 65

gcagccatta gtaatataag aaacacacga atcagagaa 39

<210> 66
 <211> 58
 <212> DNA
 <213> Artificial Sequence

<220>

<223> S1 forward primer S1_Orf1ab_gene_40_F without T7 promoter sequence

<400> 66
 attaggtttc ttaatagtaa gtatattagt atattacctg gttttcgatc gaaagatc 58

<210> 67
 <211> 49
 <212> DNA
 <213> Artificial Sequence

<220>

<223> S2 forward primer S2_Orf1ab_gene_40_F without T7 promoter sequence

<400> 67
 attaggtttc ttaatagtaa gtaatataag aaacacacga atcagagaa 49

<210> 68
 <211> 68
 <212> DNA
 <213> Artificial Sequence

<220>

<223> S1 forward primer S1_E_gene_60_F without T7 promoter sequence

<400> 68
 ttttacaaga ctcacgttaa caatattgca gtatattagt atattacctg gttttcgatc 60
 gaaagatc 68

<210> 69
 <211> 59
 <212> DNA
 <213> Artificial Sequence

<220>

<223> S2 forward primer S2_E_gene_60_F without T7 promoter sequence

<400> 69
 ttttacaaga ctcacgttaa caatattgca gtaatataag aaacacacga atcagagaa 59

<210> 70
 <211> 181

<212> RNA
 <213> Artificial Sequence

<220>
 <223> S1 strand of dme-ban-5p without toehold

<400> 70
 gggaagucac accaagggaa gugguauauu accugguuuu cgaucgaaag aucgacgagg 60
 ugaaaaccuc gugacagucc uuagucgaaa guuuuacuag agucaguccu gauugugcuc 120
 gaaagagcac agaccugaaa aggucuuucg ugguauauua ccugguccca ucgaaaaccg 180
 g 181

<210> 71
 <211> 109
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S2 strand of dme-ban-5p without toehold

<400> 71
 gggaagucac accaagggac cagagaaaca cacgaucag agaagacgag cgucccacgg 60
 gcgcagaaga gaagucacac agagaaacac acuucccauc gaaaaccgg 109

<210> 72
 <211> 180
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S1 strand of hsa-let-7f-5p without toehold

<400> 72
 gggaacucac acaaugggaa gugguauauu accugguuuu cgaucgaaag aucgacgagg 60
 ugaaaaccuc gugacagucc uuagucgaaa guuuuacuag agucaguccu gauugugcuc 120
 gaaagagcac agaccugaaa aggucuuucg ugguauauua ccuggucccc uacuaccuca 180

<210> 73
 <211> 108
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S2 strand of hsa-let-7f-5p without toehold

<400> 73
 gggaacuau acaaugggac cagagaaaca cacgaucag agaagacgag cgucccacgg 60
 gcgcagaaga gaagucaacc agagaaacac acuuccccua cuaccuca 108

<210> 74
 <211> 174
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S1 strand of Orf1ab_gene_20nt without toehold

<400> 74
 gcagccauua gggaaguggu auauuaccug guuuucgauc gaaagaucga cgaggugaaa 60
 accucgugac aguccuuagu cgaaaguuuu acuagaguca guccugauug ugcucgaaag 120
 agcacagacc ugaaaagguc uuucguggua uauuaccugg ucccgaucug uccc 174

<210> 75
 <211> 102
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S2 strand of Orf1ab_gene_20nt without toehold

<400> 75
 gcagccauua gggaccagag aaacacacga aucagagaag acgagcgucc cacgggcgca 60
 gaagagaagu caaccagaga aacacacuuc ccgaucuguc cc 102

<210> 76
 <211> 194
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S1strand of Orf1ab_gene_40nt without toehold

<400> 76
 auuagguuuc uuaauaguaa gggaaguggu auauuaccug guuuucgauc gaaagaucga 60
 cgaggugaaa accucgugac aguccuuagu cgaaaguuuu acuagaguca guccugauug 120
 ugcucgaaag agcacagacc ugaaaagguc uuucguggua uauuaccugg ucccgaacuag 180
 aauugucuac uccc 194

<210> 77
 <211> 122
 <212> RNA
 <213> Artificial Sequence

<220>

<223> S2 strand of Orf1ab_gene_40nt without toehold

<400> 77
 auuagguuuc uuaauaguaa gggaccagag aaacacacga aucagagaag acgagcgucc 60
 cacgggcgca gaagagaagu caaccagaga aacacacuuc ccgacuagaa uugucuacuc 120
 cc 122

<210> 78
 <211> 214
 <212> RNA
 <213> Artificial Sequence

<220>

<223> S1 strand of E_gene_60nt without toehold

<400> 78
 uuuuacaaga cucacguuaa caauauugca gggaguggu auauuaccug guuuucgauc 60
 gaaagaucga cgaggugaaa accucgugac aguccuuagu cgaaaguuuu acuagaguca 120
 guccugauug ugcucgaaag agcacagacc ugaaaagguc uuucguggua uauuaccugg 180
 ucccgcagua cgcacacaau cgaagcgcag uccc 214

<210> 79
 <211> 142
 <212> RNA
 <213> Artificial Sequence

<220>

<223> S2 strand of E_gene_60nt without toehold

<400> 79
 uuuuacaaga cucacguuaa caauauugca gggaccagag aaacacacga aucagagaag 60
 acgagcgucc cacgggcgca gaagagaagu caaccagaga aacacacuuc ccgcaguacg 120
 cacacaaucg aagcgcaguc cc 142

<210> 80
 <211> 134
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> An exemplary S1 sequence without toeholds. (n)x represents a region partially complementary to the releasable RNA segment on S1, and (n)a and (n)b represent sequences complementary to the target miRNA.

<220>
 <221> misc_feature
 <222> (1)..(1)
 <223> (n)a represents the first sequence complementary to the target RNA molecule.

<220>
 <221> misc_feature
 <222> (67)..(67)
 <223> (n)x represents a region partially complementary to the releasable RNA segment on S1.

<220>
 <221> misc_feature
 <222> (134)..(134)
 <223> (n)b represents the second sequence complementary to the target RNA molecule.

<400> 80
 ngggaagugg uauuuuaccu gguuuucgau cgaaagaucg acgaggugaa aaccucguga 60
 caguccncag uccugauugu gcucgaaaga gcacagaccu gaaaaggucu uucgugguau 120
 auuaccuggu cccn 134

<210> 81
 <211> 65
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Portion of SEQ ID NO.: 80 between (n)a (the first sequence complementary to the target RNA molecule and (n)x (the releasable RNA segment).

<400> 81
 gggaaguggu auauuaccug guuuucgauc gaaagaucga cgaggugaaa accucgugac 60
 agucc 65

<210> 82
 <211> 66
 <212> RNA
 <213> Artificial Sequence

<220>

<223> Portion of SEQ ID NO.: 80 between (n)x (the cleavage product) and (n)b (the second sequence complementary to the target RNA molecule).

<400> 82

caguccugau ugugcucgaa agagcacaga ccugaaaagg ucuuucgugg uauauuaccu 60

gguccc

66

<210> 83

<211> 62

<212> RNA

<213> Artificial Sequence

<220>

<223> An exemplary S2 sequence (without toeholds). (n)x represents a region partially complementary to the releasable RNA segment on S1, and (n)a and (n)b represent sequences complementary to the second and first target RNA molecules.

<220>

<221> misc_feature

<222> (1)..(1)

<223> (n)a represents the first sequence complementary to the target RNA molecule.

<220>

<221> misc_feature

<222> (32)..(32)

<223> (n)x represents a region partially complementary to the releasable RNA segment on S1.

<220>

<221> misc_feature

<222> (62)..(62)

<223> (n)b represents the second sequence complementary to the target RNA molecule.

<400> 83

ngggaccaga gaaacacacg aaucagagaa gngagaaguc aaccagagaa acacacuucc 60

cn

62

<210> 84

<211> 30

<212> RNA

<213> Artificial Sequence

<220>

<223> Portion of SEQ ID NO.: 83 between (n)a (the sequence complementary to the second target RNA molecule and (n)x (the region partially complementary to the releasable RNA segment).

<400> 84

gggaccagag aaacacacga aucagagaag

30

<210> 85

<211> 29

<212> RNA

<213> Artificial Sequence

<220>

<223> Portion of SEQ ID NO.: 83 between (n)x (the region partially complementary to the releasable RNA segment) and (n)b (the sequence complementary to the second target RNA molecule).

<400> 85

gagaagucac ccagagaaac acacuuccc

29

<210> 86

<211> 237

<212> RNA

<213> Artificial Sequence

<220>

<223> Tban5p_Cban3pR_singledesign1_full_length

<220>

<221> misc_feature

<222> (5)..(15)

<223> sequence complementary to target RNA

<220>

<221> misc_feature

<222> (81)..(103)

<223> Releasable RNA segment

<220>

<221> misc_feature

<222> (174)..(196)

<223> Sequence partially complementary to the releasable RNA segment

<220>

<221> misc_feature

<222> (226)..(237)

<223> Sequence complementary to target RNA

<400> 86

gggaagucac accaaguaua uuaguauauu accugguuuu cgaucgaaag aucgacgagg

60

ugaaaaccuc gugacagucc uuagucgaaa guuuuacuag agucaguccu gauugugauc 120
gaaagagcac agaccugaaa aggucuuucu gguuucgacc agaaucagag aagacgagcg 180
ucccacgggc gcagaagaga agucaaccag agaaacauaa uauacaucga aaaccgg 237

<210> 87
<211> 193
<212> RNA
<213> Artificial Sequence

<220>
<223> Tban5p_Cban3pR_singledesign2_full_length

<220>
<221> misc_feature
<222> (5)..(15)
<223> Sequence complementary to target RNA molecule

<220>
<221> misc_feature
<222> (81)..(103)
<223> Releasable RNA segment

<220>
<221> misc_feature
<222> (130)..(152)
<223> Sequence partially complementary to the releasable RNA segment

<220>
<221> misc_feature
<222> (182)..(193)
<223> Sequence complementary to target RNA molecule

<400> 87
gggaagucac accaaguaua uuaguauauu accugguuuu cgaucgaaag aucgacgagg 60
ugaaaaccuc gugacagucc uuagucgaaa guuuuacuag agucaguccu gauuuucgaa 120
ucagagaaga cgagcguccc acgggcgcag aagagaaguc aaccagagaa acauaauaua 180
caucgaaaac cgg 193

<210> 88
<211> 168
<212> RNA
<213> Artificial Sequence

<220>
<223> An exemplary sequence of a single strand ribozyme.

<220>
 <221> misc_feature
 <222> (1)..(1)
 <223> (n)a represent sequences complementary to the first region of
 the target RNA molecule

<220>
 <221> misc_feature
 <222> (67)..(67)
 <223> (n)x represents a releasable RNA segment

<220>
 <221> misc_feature
 <222> (138)..(138)
 <223> (n)y represents a sequence optionally complementary to the
 releasable RNA segment

<220>
 <221> misc_feature
 <222> (168)..(168)
 <223> (n)b represent sequences complementary to the second region of
 the target RNA molecule

<400> 88
 nguauauuag uauauuaccu gguuuucgau cgaaagaucg acgaggugaa aaccucguga 60
 caguccncag uccugauugu gaucgaaaga gcacagaccu gaaaaggucu uucugguuuc 120
 gaccagaauac agagaagnga gaagucaacc agagaaacau aaauuacn 168

<210> 89
 <211> 65
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Portion of SEQ ID NO.: 88 between (n)a and (n)x

<400> 89
 guauauuagu auauuaccug guuuucgauc gaaagaucga cgaggugaaa accucgugac 60
 agucc 65

<210> 90
 <211> 70
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Portion of SEQ ID NO.: 88 between (n)x and (n)y

<400> 90
 caguccugau ugugaucgaa agagcacaga ccugaaaagg ucuuucuggu uucgaccaga 60
 aucagagaag 70

<210> 91
 <211> 29
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Portion of SEQ ID NO.: 88 between (n)y and (n)b

<400> 91
 gagaagucaa ccagagaaac auaauauac 29

<210> 92
 <211> 183
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S1_Tban5p_Cban3pR_Dup

<400> 92
 gggaagucaa accaaguaua uuaguauauu accugguuuu cgaucgaaag aucgacgagg 60
 ugaaaaccuc gugacagucc uuagucgaaa guuuuacuag agucagucca gaaaucucucc 120
 ucacuucggu gagggagauu ucugagaaga caccagagaa acauaauaua caucgaaaac 180
 cgg 183

<210> 93
 <211> 95
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S2_Tban5p_Cban3pR_Dup

<400> 93
 gggaagucaa accaaguaua uuaguauauu accugguguc ccacgggcgc agaagagaag 60
 ucaaccagag aaacauaaua uaucugaaa accgg 95

<210> 94
 <211> 182
 <212> RNA
 <213> Artificial Sequence

<220>

<223> S1_Tlet7f_Cban3pR_Dup

<400> 94

gggaaacuau acaauguaua uuaguauauu accugguuuu cgaucgaaag aucgacgagg 60

ugaaaaccuc gugacagucc uuagucgaaa guuuuacuag agucagucca gaaaucuccc 120

ucacuucggu gagggagauu ucugagaaga caccagagaa acauaauaua ccuacuaccu 180

ca 182

<210> 95

<211> 94

<212> RNA

<213> Artificial Sequence

<220>

<223> S2_Tlet7f_Cban3pR_Dup

<400> 95

gggaaacuau acaauguaua uuaguauauu accugguguc ccacgggcgc agaagagaag 60

ucaaccagag aaacauaaua uaccuacuac cuca 94

<210> 96

<211> 180

<212> RNA

<213> Artificial Sequence

<220>

<223> S1_T_Orf1ab_20_Cban3pR_Dup

<400> 96

gggagcagcc auuaguauau uaguauauua ccugguuuuc gaucgaaaga ugcacgaggu 60

gaaaaccucg ugacaguccu uagucgaaag uuuuacuaga gucaguccag aaaucucccu 120

cacuucggug agggagauuu cugagaagac accagagaaa cauaauauac gaucuguccc 180

<210> 97

<211> 92

<212> RNA

<213> Artificial Sequence

<220>

<223> S2_T_Orf1ab_20_Cban3pR_Dup

<400> 97

gggagcagcc auuaguauau uaguauauua ccuggugucc cacgggcgca gaagagaagu 60

caaccagaga aacauauau acgaucuguc cc 92

<210> 98
 <211> 200
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S1_T_Orf1ab_40_Cban3pR_Dup

<400> 98
 gggaauuagg uuucuaaua guaaguauau uaguauaua ccugguuuuc gaucgaaaga 60
 ucgacgaggu gaaaaccucg ugacaguccu uagucgaaag uuuuacuaga gucaguccag 120
 aaaucucccu cacuucggug agggagauuu cugagaagac accagagaaa cauaauauac 180
 gacuagaauu gucuacuccc 200

<210> 99
 <211> 112
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S2_T_Orf1ab_40_Cban3pR_Dup

<400> 99
 gggaauuagg uuucuaaua guaaguauau uaguauaua ccuggugucc cacgggcgca 60
 gaagagaagu caaccagaga aacauauau acgacuagaa uugucuacuc cc 112

<210> 100
 <211> 220
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S1_T_Egene_60_Cban3pR_Dup

<400> 100
 gggaauuuuac aagacucacg uuaacaauau ugcaguauau uaguauaua ccugguuuuc 60
 gaucgaaaga ucgacgaggu gaaaaccucg ugacaguccu uagucgaaag uuuuacuaga 120
 gucaguccag aaaucucccu cacuucggug agggagauuu cugagaagac accagagaaa 180
 cauaauauac gcaguacgca cacaucgaa gcgcaguccc 220

<210> 101
 <211> 132
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> S2_T_Egene_60_Cban3pR_Dup

<400> 101
 gggauuuuac aagacucacg uuaacaauau ugcaguauau uaguauauua ccuggugucc 60
 cacgggcgca gaagagaagu caaccagaga aacauauau acgcaguacg cacacaaucg 120
 aagcgcaguc cc 132

<210> 102
 <211> 24
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> RNA T7 promoter sequence

<400> 102
 guauaaucg acucacuaua ggga 24