

SEQUENCE LISTING

<110> Beam Therapeutics Inc.

<120> SYNTHETIC GUIDE RNA, COMPOSITIONS, METHODS, AND USES THEREOF

<130> BEM-002WO

<140> PCT/US20/63084

<141> 2020-12-03

<150> 63/031,262

<151> 2020-05-28

<150> 62/943,158

<151> 2019-12-03

<160> 22

<170> PatentIn version 3.5

<210> 1

<211> 14

<212> RNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<400> 1

cgauacgaca gaac

14

<210> 2

<211> 5

<212> RNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<400> 2

cgccg

5

<210> 3

<211> 7

<212> RNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<400> 3

cggccgc

7

<210> 4

<211> 5

<212> RNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<400> 4

cgcgc

5

<210> 5

<211> 4

<212> RNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<400> 5

cgau

4

<210> 6

<211> 38

<212> RNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<220>

<221> misc_feature

<222> (1)..(3)

<223> nucleotide with 2'OMe modification

<220>

<221> misc_feature

<222> (1)..(3)

<223> nucleotide with a 3' phosphorothioate modification

<400> 6

aucgacaaga aagggacuga guuuuagagc uaucgugu

38

<210> 7
 <211> 82
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<220>
 <221> misc_feature
 <222> (79)..(81)
 <223> nucleotide with 2'OMe modification

<220>
 <221> misc_feature
 <222> (79)..(81)
 <223> nucleotide with a 3' phosphorothioate modification

<400> 7
 cuuggaaaca agacagcaua gcaaguuaaa auaaggcuag uccguuauca acuugaaaaa 60
 guggcaccga gucggugcuu uu 82

<210> 8
 <211> 47
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<220>
 <221> misc_feature
 <222> (1)..(3)
 <223> nucleotide with 2'OMe modification

<220>
 <221> misc_feature
 <222> (1)..(3)
 <223> nucleotide with a 3' phosphorothioate modification

<400> 8
 aucgacaaga aagggacuga guuuuagagc uaucgugucu ugcucga 47

<210> 9

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

<220>
 <223> Synthetic oligonucleotide

<220>
 <221> misc_feature
 <222> (73)..(75)
 <223> nucleotide with 2'OMe modification

<220>
 <221> misc_feature
 <222> (73)..(75)
 <223> nucleotide with a 3' phosphorothioate modification

<400> 9
 uacaagacag cauagcaagu uaaaauaagg cuaguccguu aucaacuuga aaaaguggca 60
 ccgagucggu gcuuuu 76

<210> 10
 <211> 31
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<220>
 <221> misc_feature
 <222> (1)..(3)
 <223> nucleotide with 2'OMe modification

<220>
 <221> misc_feature
 <222> (1)..(3)
 <223> nucleotide with a 3' phosphorothioate modification

<400> 10
 aucgacaaga aagggacuga gcccuagagc g 31

<210> 11
 <211> 71
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<220>
 <221> misc_feature
 <222> (68)..(70)
 <223> nucleotide with 2'OMe modification

<220>
 <221> misc_feature
 <222> (68)..(70)
 <223> nucleotide with a 3' phosphorothioate modification

<400> 11
 gcgaaagccg caaguuaggg uaaggcuagu ccguuaucaa cuugaaaaag ugggaccgag 60
 ucggugcuuu u 71

<210> 12
 <211> 32
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<220>
 <221> misc_feature
 <222> (1)..(3)
 <223> nucleotide with 2'OMe modification

<220>
 <221> misc_feature
 <222> (1)..(3)
 <223> nucleotide with a 3' phosphorothioate modification

<400> 12
 aucgacaaga aaggacuga gcccuaagagc cg 32

<210> 13
 <211> 74
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

```

<220>
<221> misc_feature
<222> (71)..(73)
<223> nucleotide with 2'OMe modification

<220>
<221> misc_feature
<222> (71)..(73)
<223> nucleotide with a 3' phosphorothioate modification

<400> 13
gcggaaacgc cggcaaguua ggguaaggcu aguccguuau caacuugaaa aagugggacc      60
gagucggugc uuuu                                                                74

<210> 14
<211> 32
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<220>
<221> misc_feature
<222> (1)..(3)
<223> nucleotide with 2'OMe modification

<220>
<221> misc_feature
<222> (1)..(3)
<223> nucleotide with a 3' phosphorothioate modification

<400> 14
aucgacaaga aagggacuga guuuuagagc cg      32

<210> 15
<211> 74
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<220>

```

```

<221> misc_feature
<222> (71)..(73)
<223> nucleotide with 2'OMe modification

<220>
<221> misc_feature
<222> (71)..(73)
<223> nucleotide with a 3' phosphorothioate modification

<400> 15
gcggaacgc cggcaaguua aaauaaggcu aguccguuau caacuugaaa aagugggacc      60

gagucggugc uuuu                                                              74

<210> 16
<211> 30
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<220>
<221> misc_feature
<222> (1)..(3)
<223> nucleotide with 2'OMe modification

<220>
<221> misc_feature
<222> (1)..(3)
<223> nucleotide with a 3' phosphorothioate modification

<400> 16
aucgacaaga aagggacuga guuuuagagc      30

<210> 17
<211> 72
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<220>
<221> misc_feature
<222> (69)..(71)
<223> nucleotide with 2'OMe modification

```

```

<220>
<221> misc_feature
<222> (69)..(71)
<223> nucleotide with a 3' phosphorothioate modification

<400> 17
gcggaaacgc gcaaguuaaa auaaggcuag uccguuauca acuugaaaaa gugggaccga      60

gucggugcuu uu                                                                72

<210> 18
<211> 30
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<220>
<221> misc_feature
<222> (1)..(3)
<223> nucleotide with 2'OMe modification

<220>
<221> misc_feature
<222> (1)..(3)
<223> nucleotide with a 3' phosphorothioate modification

<400> 18
aucgacaaga aagggacuga guuuuagagc      30

<210> 19
<211> 70
<212> RNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<220>
<221> misc_feature
<222> (67)..(69)
<223> nucleotide with 2'OMe modification

<220>
<221> misc_feature

```

<222> (67)..(69)
 <223> nucleotide with a 3' phosphorothioate modification

<400> 19
 uagaaauagc aaguuaaaau aaggcuaguc cguuaucaac uugaaaaagu gggaccgagu 60
 cggugcuuuu 70

<210> 20
 <211> 70
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<220>
 <221> misc_feature
 <222> (1)..(3)
 <223> nucleotide with 2'OMe modification

<220>
 <221> misc_feature
 <222> (29)..(30)
 <223> nucleotide with a 3' phosphorothioate modification

<400> 20
 uagaaauagc aaguuaaaau aaggcuaguc cguuaucaac uugaaaaagu gggaccgagu 60
 cggugcuuuu 70

<210> 21
 <211> 72
 <212> RNA
 <213> Artificial Sequence

<220>
 <223> Synthetic oligonucleotide

<220>
 <221> misc_feature
 <222> (1)..(12)
 <223> nucleotide with 2'OMe modification

<220>
 <221> misc_feature
 <222> (41)..(72)

<223> nucleotide with 2'OMe modification

<220>

<221> misc_feature

<222> (69)..(71)

<223> nucleotide with a 3' phosphorothioate modification

<400> 21

gcggaaacgc gcaaguuaaa auaaggcuag uccguuauca acuugaaaaa guggcaccga 60

gucggugcuu uu 72

<210> 22

<211> 32

<212> RNA

<213> Artificial Sequence

<220>

<223> Synthetic oligonucleotide

<220>

<221> misc_feature

<222> (1)..(3)

<223> nucleotide with 2'OMe modification

<220>

<221> misc_feature

<222> (1)..(3)

<223> nucleotide with a 3' phosphorothioate modification

<400> 22

gaacacaaag cauagacugc guuuuagagc cg 32