

SEQUENCE LISTING

<110> SANGAMO THERAPEUTICS, INC.

<120> CHIMERIC ANTIGEN RECEPTOR MEDIATED CELL TARGETING

<130> 8325-0165.40

<140> PCT/US2018/045759

<141> 2018-08-08

<150> 62/652,672

<151> 2018-04-04

<150> 62/613,258

<151> 2018-01-03

<150> 62/581,290

<151> 2017-11-03

<150> 62/542,511

<151> 2017-08-08

<160> 70

<170> PatentIn version 3.5

<210> 1

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 1

tcaagctggt cgagaaaagc tttgaaac
28

<210> 2

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 2

aacaggtaag acaggggtct agcctggg
28

<210> 3

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 3

gccacggagc gagacatctc ggcccga
28

<210> 4

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 4

gagtagcgcg agcacagcta aggccacg
28

<210> 5

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 5

accagatac aaacaatgga tagaaaac
28

<210> 6

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 6

tgcaaaaggt aggaaaagga ccaaccag
28

<210> 7

<211> 7

<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 7
Gln Ser Ser Asp Leu Ser Arg
1 5

<210> 8
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 8
Gln Ser Gly Asn Arg Thr Thr
1 5

<210> 9
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 9
Arg Ser Ala Asn Leu Ala Arg
1 5

<210> 10
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 10
Asp Arg Ser Ala Leu Ala Arg
1 5

<210> 11
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

peptide

<400> 11

Arg Ser Asp Val Leu Ser Glu
1 5

<210> 12

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 12

Lys His Ser Thr Arg Arg Val
1 5

<210> 13

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 13

Thr Met His Gln Arg Val Glu
1 5

<210> 14

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 14

Thr Ser Gly His Leu Ser Arg
1 5

<210> 15

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 15
Arg Ser Asp His Leu Thr Gln
1 5

<210> 16
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 16
Asp Ser Ala Asn Leu Ser Arg
1 5

<210> 17
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 17
Gln Ser Gly Ser Leu Thr Arg
1 5

<210> 18
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 18
Ala Lys Trp Asn Leu Asp Ala
1 5

<210> 19
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 19
Arg Ser Asp Val Leu Ser Ala

<210> 20
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 20
Gln Asn Ala Thr Arg Ile Asn
1 5

<210> 21
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 21
Gln Ser Gly Asp Leu Thr Arg
1 5

<210> 22
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 22
Thr Ser Gly Asn Leu Thr Arg
1 5

<210> 23
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 23
Gln Ser Asn Asp Leu Asn Ser
1 5

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

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 24
Arg Ser Asp Asp Leu Ser Lys
1 5

<210> 25
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 25
Asp Ser Ser Ala Arg Lys Lys
1 5

<210> 26
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 26
Asp Arg Ser Asn Leu Ser Arg
1 5

<210> 27
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 27
Gln Arg Thr His Leu Arg Asp
1 5

<210> 28

<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 28
Gln Ser Gly His Leu Ala Arg
1 5

<210> 29
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 29
Asp Ser Ser Asn Arg Glu Ala
1 5

<210> 30
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 30
Ala Gln Cys Cys Leu Phe His
1 5

<210> 31
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 31
Asp Gln Ser Asn Leu Arg Ala
1 5

<210> 32
<211> 7
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 32

Arg Ser Ala Asn Leu Thr Arg
1 5

<210> 33

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 33

Arg Ser Asp Asp Leu Thr Arg
1 5

<210> 34

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 34

Arg Ser Asp Asn Leu Ser Val
1 5

<210> 35

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 35

Arg Ser Asp Tyr Leu Ala Lys
1 5

<210> 36

<211> 7

<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 36
Gln Asn Ala Asn Arg Ile Thr
1 5

<210> 37
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 37
Ser Gly Thr Pro His Glu Val Gly Val Tyr Thr Leu
1 5 10

<210> 38
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 38
Ser Gly Ala Ile Arg Cys His Asp Glu Phe Trp Phe
1 5 10

<210> 39
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic oligonucleotide

<400> 39
aggattcgga acccaatcac tgacaggt
28

<210> 40
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

oligonucleotide

<400> 40
ctcctgaaag tggccgggtt taatctgc
28

<210> 41
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 41
Thr Ser Ser Asn Arg Lys Thr
1 5

<210> 42
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 42
Leu Gln Gln Thr Leu Ala Asp
1 5

<210> 43
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 43
Gln Ser Gly Asn Leu Ala Arg
1 5

<210> 44
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 44
Arg Arg Glu Asp Leu Ile Thr
1 5

<210> 45
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 45
Thr Ser Ser Asn Leu Ser Arg
1 5

<210> 46
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 46
Arg Ser Asp His Leu Ser Thr
1 5

<210> 47
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 47
Asp Arg Ser His Leu Ala Arg
1 5

<210> 48
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 48
Leu Lys Gln His Leu Asn Glu

<210> 49
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 49
His Asn Ser Ser Leu Lys Asp
1 5

<210> 50
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 50
ggaaggcccc agcaggcaag ggctgcat
28

<210> 51
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 51
gaggaggtgg cagagggtag cccagccc
28

<210> 52
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 52
Arg Ser Asp His Leu Ser Gln
1 5

<210> 53
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 53
Gln Asn Ala Thr Arg Thr Lys
1 5

<210> 54
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 54
Arg Ser Asp Asn Leu Ser Glu
1 5

<210> 55
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 55
Lys Arg Cys Asn Leu Arg Cys
1 5

<210> 56
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 56
Asp Arg Ser Thr Arg Thr Lys
1 5

<210> 57

<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 57
Arg Arg Asp Asn Leu His Ser
1 5

<210> 58
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 58
Gly His Thr Ser Leu Lys Arg
1 5

<210> 59
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 59
Arg Ser Asp Asn Leu Ala Arg
1 5

<210> 60
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 60
Gln Asn Val Ser Arg Pro Arg
1 5

<210> 61
<211> 7
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 61

Gln Ser Gly His Leu Ser Arg
1 5

<210> 62

<211> 100

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 62

aagcccataa ccgctgtggc ctcttggttt tacagatacg aacctaaact ttcaaaacct
60

gtcagtgatt gggttccgaa tcctcctcct gaaagtggcc
100

<210> 63

<211> 9

<212> PRT

<213> Unknown

<220>

<223> Description of Unknown:
'LAGLIDADG' family peptide motif sequence

<400> 63

Leu Ala Gly Leu Ile Asp Ala Asp Gly
1 5

<210> 64

<211> 592

<212> DNA

<213> Woodchuck hepatitis virus

<400> 64

aatcaacctc tggattacaa aatttgtgaa agattgactg gtattcttaa ctatgttgct
60

ccttttacgc tatgtggata cgctgcttta atgcctttgt atcatgctat tgcttcccgt
120

atggccttca ttttctcctc cttgtataaa tcctggttgc tgtctcttta tgaggagttg
180

tggcccgttg tcaggcaacg tggcgtggtg tgcactgtgt ttgctgacgc aacccccact
240

ggttggggca ttgccaccac ctgtcagctc ctttccggga ctttcgcttt cccctccct
300

attgccacgg cggaactcat cgccgcctgc cttgcccgct gctggacagg ggctcggctg
360

ttgggcactg acaattccgt ggtgttgctg gggaagctga cgtcctttcc atggctgctc
420

gcctgtgttg ccacctggat tctgcgcggg acgtccttct gctacgtccc ttcggccctc
480

aatccagcgg accttccttc ccgcggcctg ctgccggctc tgcggcctct tccgcgtctt
540

cgccttcgcc ctacagacgag tcggatctcc ctttgggccg cctccccgcc tg
592

<210> 65
<211> 424
<212> DNA
<213> Unknown

<220>
<223> Description of Unknown:
T cell receptor enhancer sequence

<400> 65
gatatcattg gtcaattgca gcagacatgt ctcttggtgt gtaaagcctc atagcatctt
60

cctgctggag tccacctggc agcccaaagc ctacagcaagt gctggggaca gagagataga
120

aaggctttgc tgtgggtcaa ctacagttgta ctttctcaag ctctttttgg ttatctgctc
180

tgtctatgta gttgcttcct ggaaaatggt taaagtcaaa cctcctctgt ttggggcagc
240

acaaaatggt gctaaggcgt tagaagacaa cataggagca gttaaaccac agccagtttt
300

tgctcgcttt cgaaagacca cagctattag acagaaaacc tcctgtactg gaagtggccc
360

tgaaacagca tctgtgctga cagacactgg gcttgctatg gttgctgctc atcatgctca
420

gctg
424

<210> 66

<211> 83
<212> DNA
<213> Unknown

<220>

<223> Description of Unknown:
T cell receptor alpha enhancer sequence

<400> 66
ctcccatttc catgacgtca tggttaaacc tcttttacct gctttaaccc tttgaagctc
60

tcccgcagaa gccacatcct ctg
83

<210> 67
<211> 50
<212> DNA
<213> Xenopus sp.

<400> 67
tgcttggttct ttttgcagaa gtcagaata aacgctcaac tttggcagat
50

<210> 68
<211> 5
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 68
Gly Gly Gly Gly Ser
1 5

<210> 69
<211> 20
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 69
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly
1 5 10 15

Gly Gly Gly Ser
20

<210> 70
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 70
Gln Leu Val Lys Ser
1 5