CD19: CD2zeta CAR (SEQ ID NO: 1)

ATGGCCTTACCAGTGACCGCCTTGCTCCTGCCGCTGGCCTTGCTGCTCCACGCCGCCAGGCCGGAACATCCAGAT
CACACAGACTACATCCTCCTGTCTGCCTCTCTGGCAGACAGAGTCACCATCAGTTGCAGGGCAAGTCAGGACAT
ATTAGTAAATATTTAAATTGGTATCAGCAGAAACCAGATGGAACTGTTAAACTCCTGATCTACCATACATCAAGAT
TACACTCAGGAGTCCCATCAAGGTTCAGTGGCAGTGGGTCTGGAACAGATTATTCTCTCACCATTAGCAACCTG
GAGCAAGAAGATATTGCCACTTACTTTTGCCAACAGGGTAATACGCTTCCGTACACGTTCGGAGGGGGCACCA
AGCTGGAAATCACAGGTTCCACCGGTGGCGGCTCCGGCGGTGGCGGCTCTGGTGGCGGTGGCTCTGAAGTT
CAGGTGCAGCTGCAGCAGTCTGGACCTGAGCTGGTGAAGCCTGGGGCCTCAGTGAAGATATCCTGCAAGGCT
TCTGGATACACATTCACTGACTACAACATGCACTGTGTCAAGCAGAGCCATGGAAAGAGCCTTGAGTGGATTGGA
GTAATTGATCCTAACAATGGTGATACTTCCTACAACCAGAAGTTCAAGGGCAAGGCCACATTGACTGTAGACAAA
TCCTCCAGCACAGCCTACATGGAGCTCCGCAGCCTGACATCTGAGGACTCTGCAGTCTATTACTGTGCAAGATCG
ACTATGGTAGTAGCCACTGGTACTTCGATGTCTGGGGCGCAGGGACCACGGTCACCGTCTCCTCAGGTGGAGGC
GGTTCAGGCGGAGGTGGCTCTGGCGGTGGCGGATCGGACATTGTGCTGACCCAATCTCCAGCTTCTTTGGCTGT
GTCTCTAGGGCAGAGGGCCACCATCTCCTGCAGAGCCAGTGAAAGTGTTGATAGTTATGGCAATAGTTTTATG
CACTGGTACCAGCAGAAACCAGGACAGCCACCCAAACTCCTCATCTATCTTGCATCCAACCTAGAATCTGGGGTC
CCTGCCAGGTTCAGTGGCAGTGGGTCTAGGACAGACTTCACCCTCACCATTGATCCTGTGGAGGCTGATGATGT
TGCAACCTATTACTGTCAGCAAAGTAATGAGGATCCGTACACGTTCGGAGGGGGGACCAAGCTGGAAATAAAA
CGGGCTGATGCTGCACCAACTGTATCCATCTTCCCACCATCCAGTGAGCAGTTAACATCTGGAGGTGCCTCAGTC
GTGTGCTTCTTGAACAACTTCTACCCCAAAGACATCAATGTCAAGTGGAAGATTGATGGCAGTGAACGACAAAAT
GGCGTCCTGAACAGTTGGACTGATCAGGACAGCAAAGACAGCACCTACAGCATGAGCAGCACCCTCACGTTGAC
CAAGGACGAGTATGAACGACATAACAGCTATACCTGTGAGGCCACTCACAAGACATCAACTTCACCCATTGTCAA
GAGCTTCAACAGGAATGAGTGTTAG

Figure 1

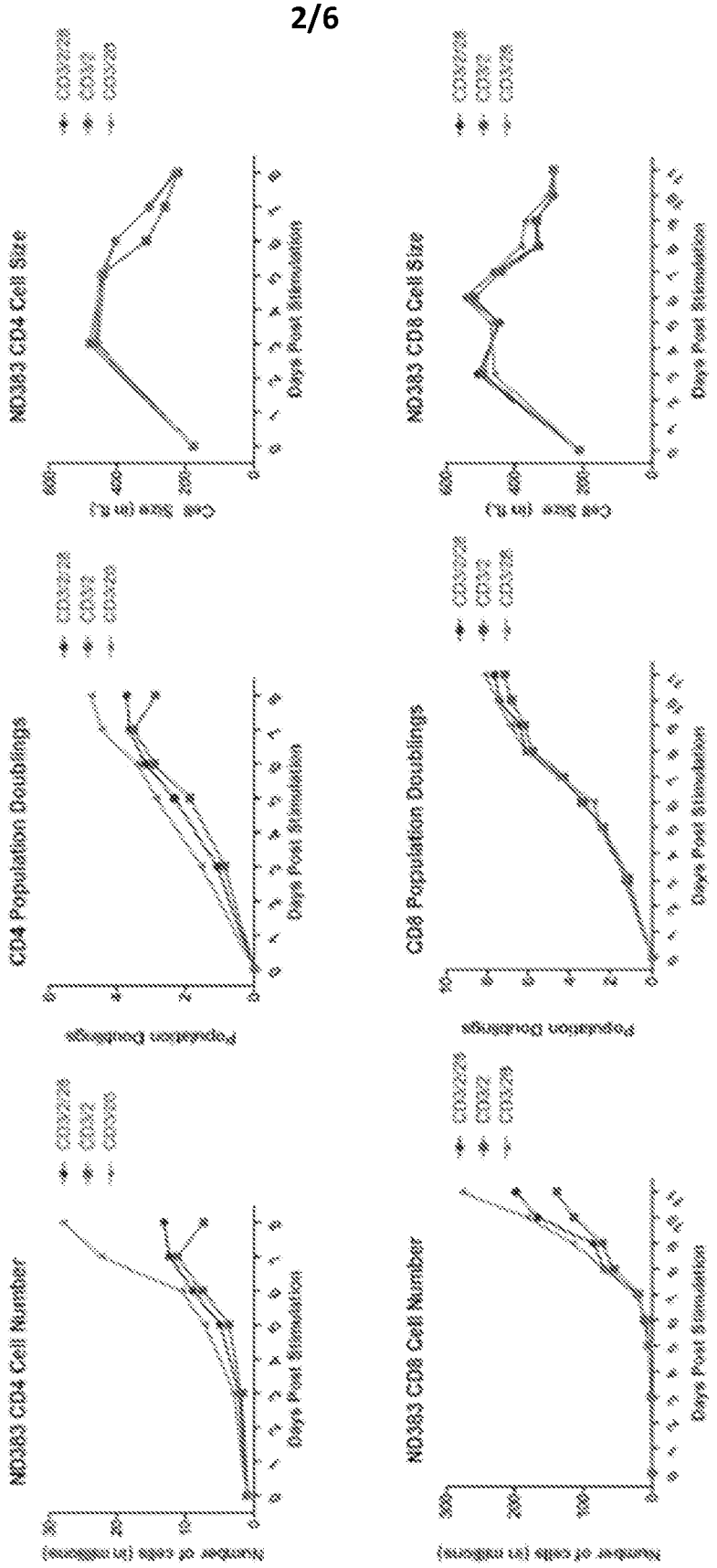

ND383 CD4 Cell Size
ND383 CD8 Cell Size
CD4 Population Doublings
CD8 Population Doublings
ND383 CD4 Cell Number
ND383 CD8 Cell Number
Days Post Stimulation
CD28/CD8
CD8+
CD4+

Figure 2

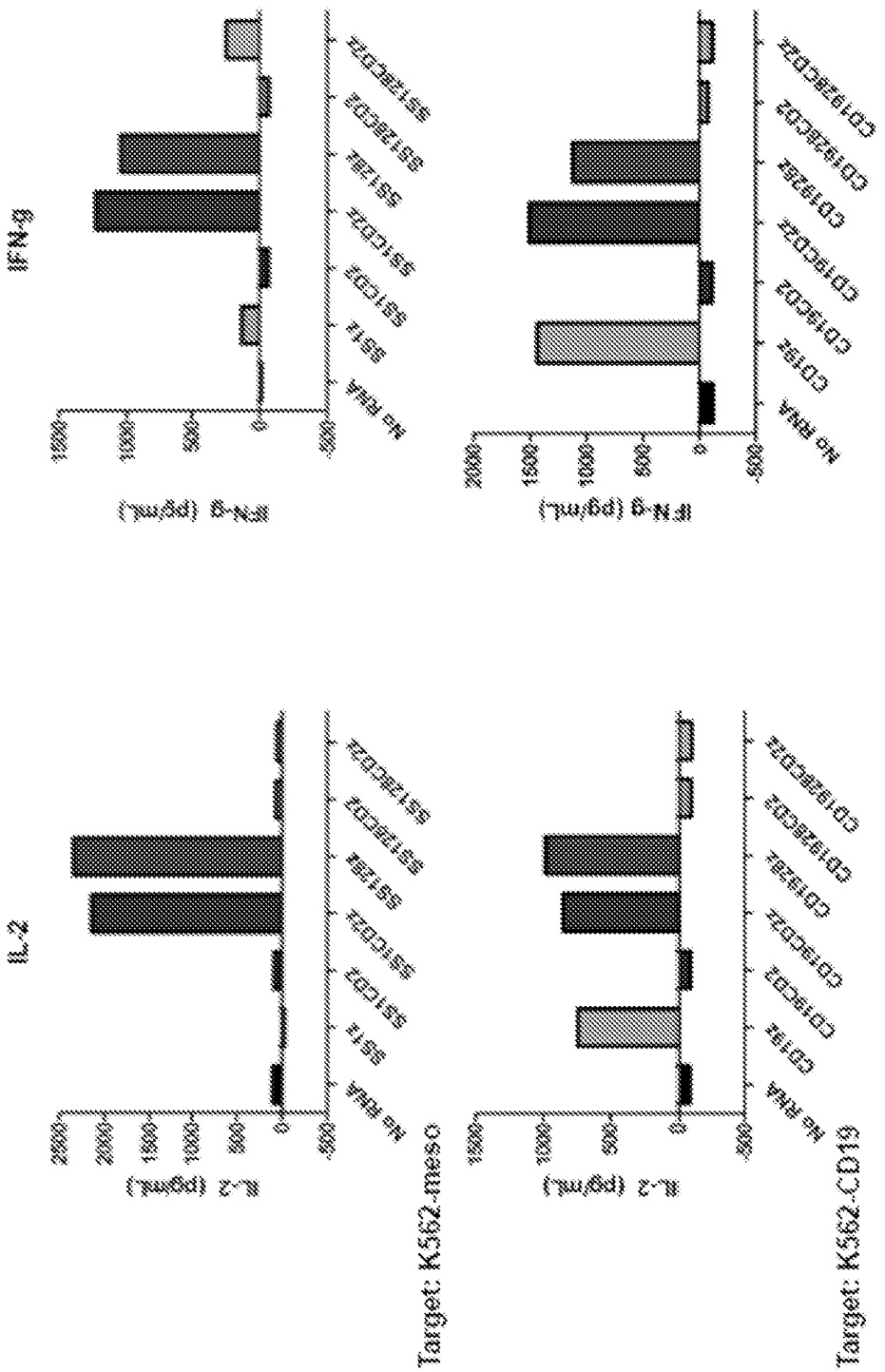

IFN-g
IFN-g (pg/mL)
IL-2
IL-2 (pg/mL)
Target: K562.meso
Target: K562.CD19
No RNA
SS1
SS1CD3z
SS1BBCD3z
CD19
CD19CD3z
CD19BBCD3z

Figure 3

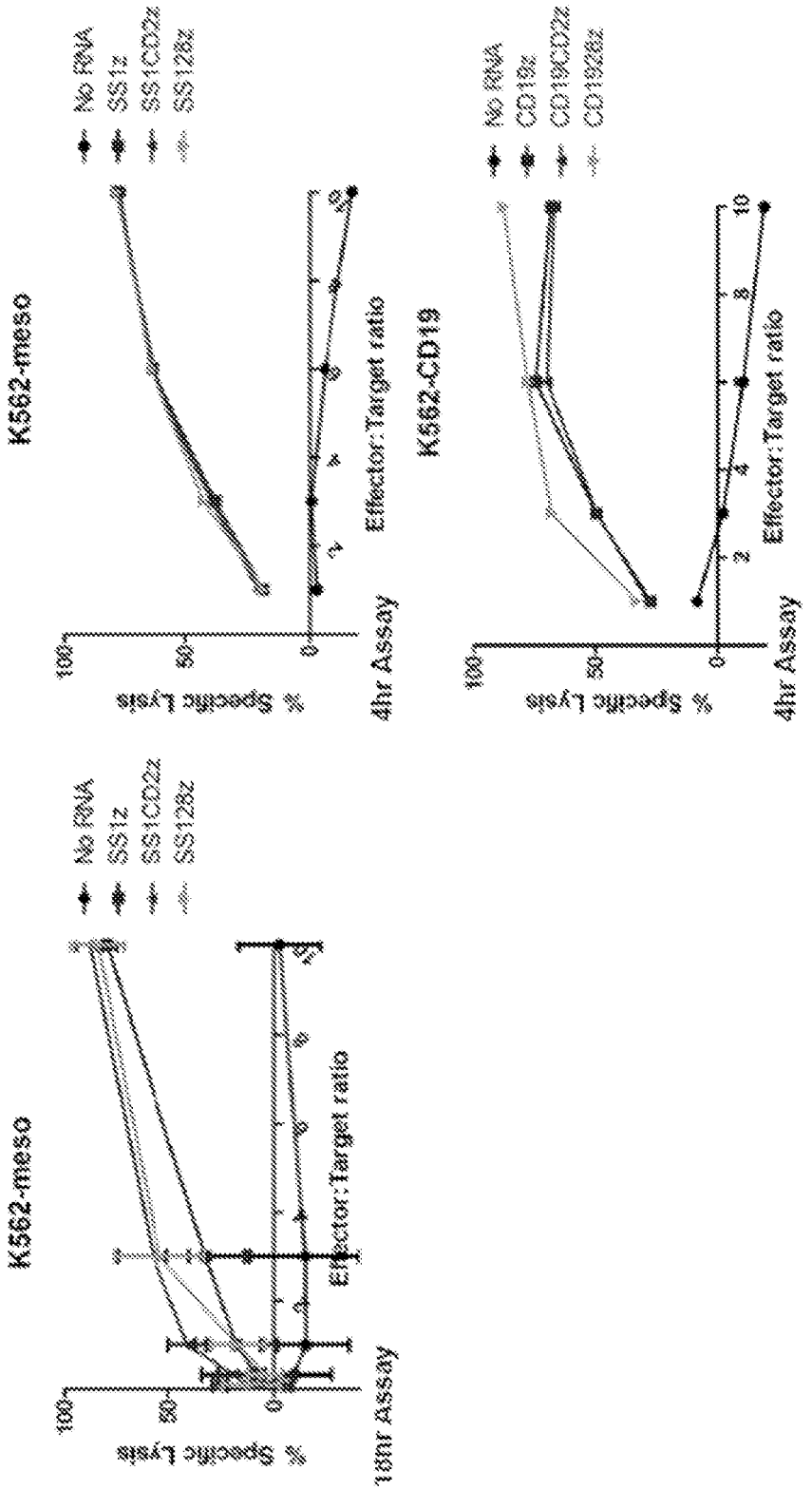

K562-meso
No RNA
SS1z
SS1CD2z
SS128z
% Specific Lysis
Effector:Target ratio
4hr Assay
K562-CD19
No RNA
CD19z
CD19CD2z
CD1928z
% Specific Lysis
Effector:Target ratio
4hr Assay
K562-meso
No RNA
SS1z
SS1CD2z
SS128z
% Specific Lysis
Effector:Target ratio
18hr Assay

Figure 4

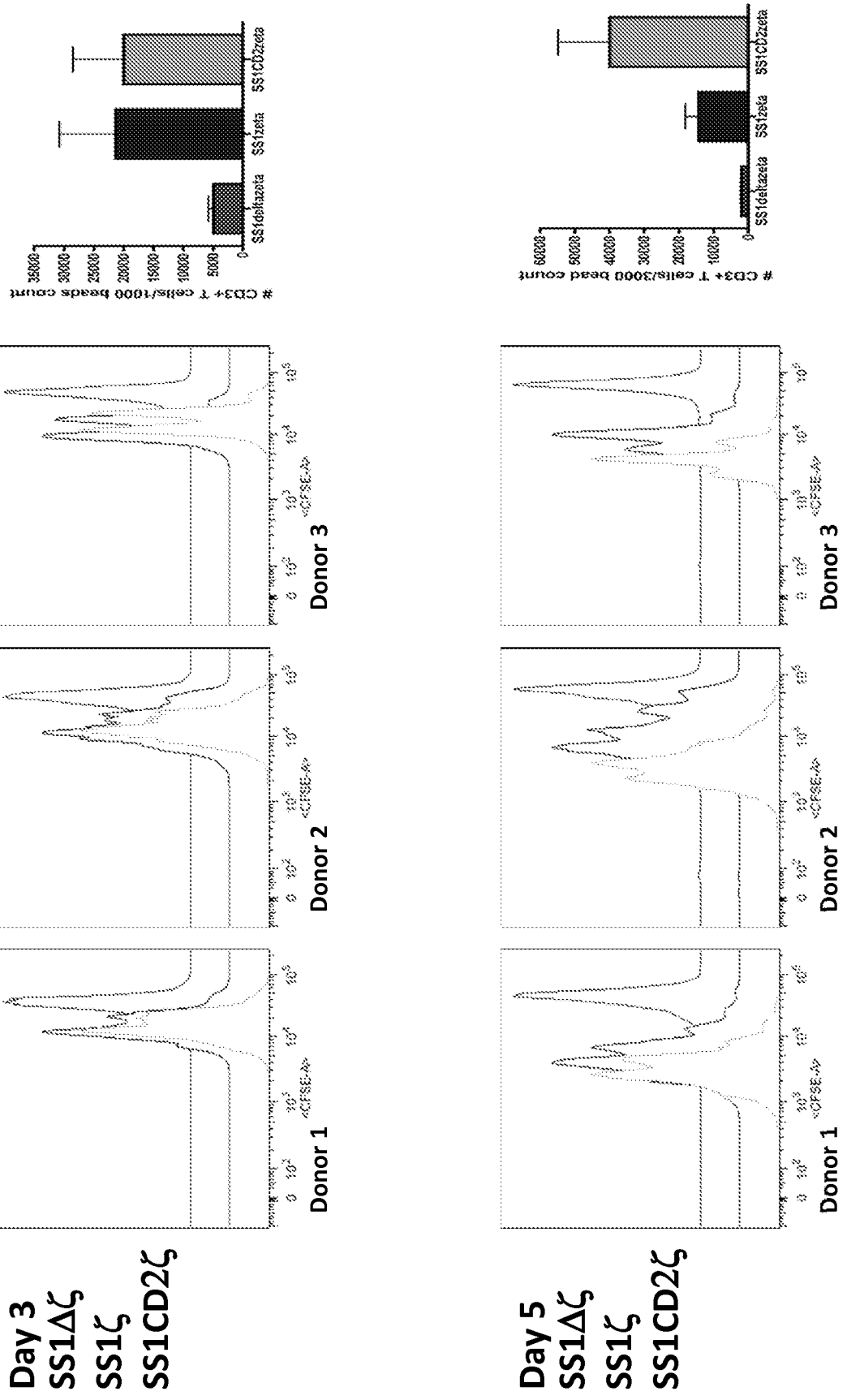

CD3+ T cells/1000 beads count
SS1delta zeta
SS1zeta
SS1CD2zeta
CD3+ T cells/3000 bead count
Day 3
SS1Δζ
SS1ζ
SS1CD2ζ
Donor 1
Donor 2
Donor 3
Day 5
SS1Δζ
SS1ζ
SS1CD2ζ
Donor 1
Donor 2
Donor 3

Figure 5

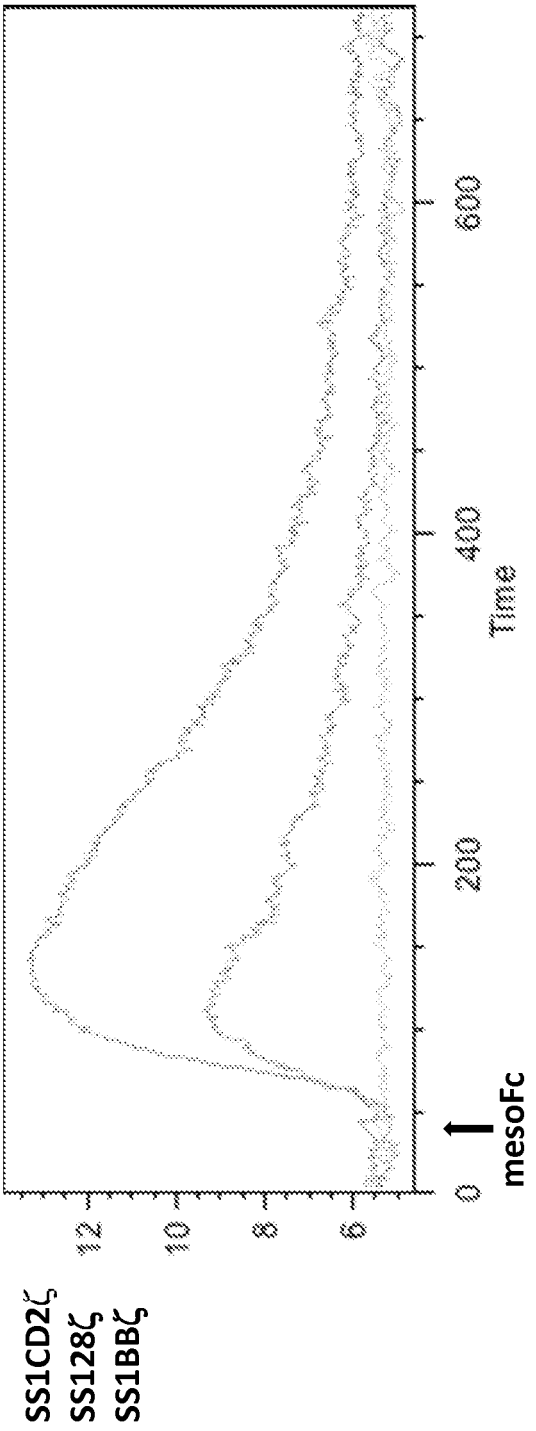

SS1CD2ζ
SS128ζ
SS1BBζ
12
10
8
6
0
200
400
600
Time
mesoFc
EP Ctrl
SS1ζ
SS1CD2ζ
SS128ζ
SS1BBζ
12
10
8
6
0
100
200
300
Time
mesoFc

Figure 6