SEQUENCE LISTING

<110> PACT PHARMA, INC.

<120> COMPOSITIONS AND METHODS FOR THE TREATMENT OF CANCER USING A CD8 ENGINEERED T CELL THERAPY

<130> 087520.0145

<140>
<141>

<150> 62/841,748
<151> 2019-05-01

<150> 62/841,753
<151> 2019-05-01

<160> 148

<170> PatentIn version 3.5

<210> 1
<211> 926
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Left Homology Arm_NeoTCR Product

<400> 1
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gcctccagca gctcctgctt tctgagggtg aaggatagac gctgtggctc tgcatgactc 120

actagcactc tatcacggcc atattctggc agggtcagtg gctccaacta acatttgttt 180

ggtactttac agtttattaa atagatgttt atatggagaa gctctcattt ctttctcaga 240

agagcctggc taggaaggtg gatgaggcac catattcatt ttgcaggtga aattcctgag 300

atgtaaggag ctgctgtgac ttgctcaagg ccttatatcg agtaaacggt agtgctgggg 360

cttagacgca ggtgttctga tttatagttc aaaacctcta tcaatgagag agcaatctcc 420

tggtaatgtg atagatttcc caacttaatg ccaacatacc ataaacctcc cattctgcta 480

atgcccagcc taagttgggg agaccactcc agattccaag atgtacagtt tgctttgctg 540

ggccttttc ccatgcctgc ctttactctg ccagagttat attgctgggg ttttgaagaa 600

gatcctatta aataaaagaa taagcagtat tattaagtag ccctgcattt caggtttcct 660

tgagtggcag gccaggcctg gccgtgaacg ttcactgaaa tcatggcctc ttggccaaga 720

ttgatagctt gtgcctgtcc ctgagtccca gtccatcacg agcagctggt ttctaagatg 780

ctatttcccg tataaagcat gagaccgtga cttgccagcc ccacagagcc ccgcccttgt 840

ccatcactgg catctggact ccagcctggg ttggggcaaa gagggaaatg agatcatgtc 900

ctaaccctga tcctcttgtc ccacag 926

<210> 2
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRAC CDS I_NeoTCR Product

<400> 2
atatccagaa ccctgaccct gccgtgtacc agctgagaga ctctaaatcc agtgacaagt 60

ctgtctgcct attc 74

<210> 3
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG Linker_NeoTCR Product

<400> 3
gaattcggct ccgga 15

<210> 4
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A 1_NeoTCR Product

<400> 4
gccactaact tctccctgtt gaaacaggct ggcgatgttg aagaaaaccc cggtcct 57

<210> 5
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
HGH Signal Sequence and Furin sequence_NeoTCR Product

<400> 5
atggccaccg gctctagaac aagcctgctg ctcgcttttg gcctgctctg cctcccatgg 60

ctccaagaag gatctgct 78

<210> 6
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Exemplary TRB_VDJ (TCR097)_NeoTCR Product

<400> 6
aatgctggtg tcactcagac cccaaaattc cgcatcctga agataggaca gagcatgaca 60

ctgcagtgta cccaggatat gaaccataac tacatgtact ggtatcgaca agacccaggc 120

atggggctga agctgattta ttattcagtt ggtgctggta tcactgataa aggagaagtc 180

ccgaatggct acaacgtctc cagatcaacc acagaggatt tcccgctcag gctggagttg 240

gctgctccct cccagacatc tgtgtacttc tgtgccagct ccctacaggt tccctacaat 300

gagcagttct tcgggccagg gacacggctc accgtgctag aggac 345

<210> 7
<211> 534
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRBC Constant Region_NeoTCR Product

<400> 7
ctgaaaaacg tgttccctcc aaaagtggcc gtgttcgagc cttctgaggc cgagatcagc 60

cacacacaga aagccacact cgtgtgtctg gctaccggct tctaccccga tcacgtggaa 120

ctgtcttggt gggtcaacgg caaagaggtg cacagcggcg tcagcacaga tccccagcct 180

ctgaaagaac agcccgctct gaacgacagc cgctactgcc tgtctagcag actgagagtg 240

tccgccacct tctggcagaa ccccagaaac cacttcagat gccaggtcca gttctacggc 300

ctgagcgaga acgatgagtg gacccaggac agagccaagc ctgtgacaca gatcgtgtct 360

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ctgtctgcca ccatcctgta tgagatcctg ctcggcaagg ccacactgta cgctgtgctg 480

gtgtctgctc tggtgctgat ggctatggtc tcccgggagc gcatccccga ggcc 534

<210> 8
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Furin cleavage site_NeoTCR Product

<400> 8
cgggccaagc gg 12

<210> 9
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG Linker_NeoTCR Product

<400> 9
ggcagcggc 9

<210> 10
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_NeoTCR Product

<400> 10
gccaccaact tcagcctgct gaagcaggcc ggcgacgtgg aggagaaccc cggccct 57

<210> 11
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
HGH SS_NeoTCR Product

<400> 11
atggccacag gcagcagaac atctctgctg ctggccttcg gactgctgtg tctgccttgg 60

ctgcaagagg gttccgcc 78

<210> 12
<211> 337
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Exemplary TRA-VDJ (TCR097)_NeoTCR Product

<400> 12
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ctgagctgca catatgacac cagtgagagt gattattatt tattctggta caagcagcct 120

cccagcaggc agatgattct cgttattcgc caagaagctt ataagcaaca gaatgcaaca 180

gagaatcgtt tctctgtgaa cttccagaaa gcagccaaat ccttcagtct caagatctca 240

gactcacagc tgggggatgc cgcgatgtat ttctgtgctt ttgggaactt caacaaattt 300

tactttggat ctgggaccaa actcaatgta aaaccaa 337

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

<220>
<223> Description of Artificial Sequence: Synthetic
TCR-alpha/constant_NeoTCR Product

<400> 13
atattcagaa ccccgatcct gctgtgtatc agctgcgcga cagcaagagc agcgacaaga 60

gcgtgtgttt gttc 74

<210> 14
<211> 200
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRAC CDS/Right HR arm_NeoTCR Product

<400> 14
accgattttg attctcaaac aaatgtgtca caaagtaagg attctgatgt gtatatcaca 60

gacaaaactg tgctagacat gaggtctatg gacttcaaga gcaacagtgc tgtggcctgg 120

agcaacaaat ctgactttgc atgtgcaaac gccttcaaca acagcattat tccagaagac 180

accttcttcc ccagcccagg 200

<210> 15
<211> 800
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Right HR arm_NeoTCR Product

<400> 15
taagggcagc tttggtgcct tcgcaggctg tttccttgct tcaggaatgg ccaggttctg 60

cccagagctc tggtcaatga tgtctaaaac tcctctgatt ggtggtctcg gccttatcca 120

ttgccaccaa aaccctcttt ttactaagaa acagtgagcc ttgttctggc agtccagaga 180

atgacacggg aaaaaagcag atgaagagaa ggtggcagga gagggcacgt ggcccagcct 240

cagtctctcc aactgagttc ctgcctgcct gcctttgctc agactgtttg ccccttactg 300

ctcttctagg cctcattcta agccccttct ccaagttgcc tctccttatt tctccctgtc 360

tgccaaaaaa tctttcccag ctcactaagt cagtctcacg cagtcactca ttaacccacc 420

aatcactgat tgtgccggca catgaatgca ccaggtgttg aagtggagga attaaaaagt 480

cagatgaggg gtgtgcccag aggaagcacc attctagttg ggggagccca tctgtcagct 540

gggaaaagtc caaataactt cagattggaa tgtgttttaa ctcagggttg agaaaacagc 600

taccttcagg acaaaagtca gggaagggct ctctgaagaa atgctacttg aagataccag 660

ccctaccaag ggcagggaga ggaccctata gaggcctggg acaggagctc aatgagaaag 720

gagaagagca gcaggcatga gttgaatgaa ggaggcaggg ccgggtcaca gggccttcta 780

ggccatgaga gggtagacag 800

<210> 16
<211> 6
<212> DNA
<213> Artificial Sequence

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

<400> 16
gctagc 6

<210> 17
<211> 620
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
pBR322_origin_NeoTCR Product

<400> 17
cgcgttgctg gcgtttttcc ataggctccg ccccccctgac gagcatcaca aaaatcgacg 60

ctcaagtcag aggtggcgaa acccgacagg actataaaga taccaggcgt ttcccccctgg 120

aagctccctc gtgcgctctc ctgttccgac cctgccgctt accggatacc tgtccgcctt 180

tctcccttcg ggaagcgtgg cgctttctca tagctcacgc tgtaggtatc tcagttcggt 240

gtaggtcgtt cgctccaagc tgggctgtgt gcacgaaccc cccgttcagc ccgaccgctg 300

cgccttatcc ggtaactatc gtcttgagtc caacccggta agacacgact tatcgccact 360

ggcagcagcc actggtaaca ggattagcag agcgaggtat gtaggcggtg ctacagagtt 420

cttgaagtgg tggcctaact acggctacac tagaagaaca gtatttggta tctgcgctct 480

gctgaagcca gttaccttcg gaaaaagagt tggtagctct tgatccggca aacaaaccac 540

cgctggtagc ggtggttttt ttgtttgcaa gcagcagatt acgcgcagaa aaaaaggatc 600

tcaagaagat cctttgatct 620

<210> 18
<211> 810

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Kanamycin resistance gene (KanR2) _NeoTCR Product

<400> 18
ttagaaaaac tcatcgagca tcaaatgaaa ctgcaattta ttcatatcag gattatcaat 60

accatatttt tgaaaaagcc gtttctgtaa tgaaggagaa aactcaccga ggcagttcca 120

taggatggca agatcctggt atcggtctgc gattccgact cgtccaacat caatacaacc 180

tattaatttc ccctcgtcaa aaataaggtt atcaagtgag aaatcaccat gagtgacgac 240

tgaatccggt gagaatggca aaagtttatg catttctttc cagacttgtt caacaggcca 300

gccattacgc tcgtcatcaa aatcactcgc atcaaccaaa ccgttattca ttcgtgattg 360

cgcctgagcc agacgaaata cgcgatcgct gttaaaagga caattacaaa caggaatcga 420

atgcaaccgg cgcaggaaca ctgccagcgc atcaacaata ttttcacctg aatcaggata 480

ttcttctaat acctggaatg ctgtttttcc ggggatcgca gtggtgagta accatgcatc 540

atcaggagta cggataaaat gcttgatggt cggaagaggc ataaattccg tcagccagtt 600

tagtctgacc atctcatctg taacatcatt ggcaacgcta cctttgccat gtttcagaaa 660

caactctggc gcatcgggct tcccatacaa gcgatagatt gtcgcacctg attgcccgac 720

attatcgcga gcccatttat acccatataa atcagcatcc atgttggaat ttaatcgcgg 780

cctcgacgtt tcccgttgaa tatggctcat 810

<210> 19
<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Kanamycin promoter _NeoTCR Product

<400> 19
aacacccctt gtattactgt ttatgtaagc agacagtttt attgttcatg atgatatatt 60

tttatcttgt gcaatgtaac atcagagatt ttgagacac 99

<210> 20

<211> 5137
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Complete NeoTCR Product construct with TCR97 insertion_NeoTCR
Product

<400> 20
ggtaccacat taaaaacaca aaatcctacg gaaatactga agaatgagtc tcagcactaa 60

ggaaaagcct ccagcagctc ctgctttctg agggtgaagg atagacgctg tggctctgca 120

tgactcacta gcactctatc acggccatat tctggcaggg tcagtggctc caactaacat 180

ttgtttggta ctttacagtt tattaaatag atgtttatat ggagaagctc tcatttcttt 240

ctcagaagag cctggctagg aaggtggatg aggcaccata ttcattttgc aggtgaaatt 300

cctgagatgt aaggagctgc tgtgacttgc tcaaggcctt atatcgagta aacggtagtg 360

ctggggctta gacgcaggtg ttctgattta tagttcaaaa cctctatcaa tgagagagca 420

atctcctggt aatgtgatag atttcccaac ttaatgccaa cataccataa acctcccatt 480

ctgctaatgc ccagcctaag ttggggagac cactccagat tccaagatgt acagtttgct 540

ttgctgggcc tttttcccat gcctgccttt actctgccag agttatattg ctggggtttt 600

gaagaagatc ctattaaata aaagaataag cagtattatt aagtagccct gcatttcagg 660

tttccttgag tggcaggcca ggcctggccg tgaacgttca ctgaaatcat ggcctcttgg 720

ccaagattga tagcttgtgc ctgtccctga gtcccagtcc atcacgagca gctggtttct 780

aagatgctat ttcccgtata aagcatgaga ccgtgacttg ccagccccac agagccccgc 840

ccttgtccat cactggcatc tggactccag cctgggttgg ggcaaagagg gaaatgagat 900

catgtcctaa ccctgatcct cttgtcccac agatatccag aaccctgacc ctgccgtgta 960

ccagctgaga gactctaaat ccagtgacaa gtctgtctgc ctattcgaat tcggctccgg 1020

agccactaac ttctccctgt tgaaacaggc tggcgatgtt gaagaaaacc ccggtcctat 1080

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gctgtctgcc accatcctgt atgagatcct gctcggcaag gccacactgt acgctgtgct 1980

ggtgtctgct ctggtgctga tggctatggt ctcccgggag cgcatccccg aggcccgggc 2040

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aatcgacgct caagtcagag gtggcgaaac ccgacaggac tataaagata ccaggcgttt 3720

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gaccgctgcg ccttatccgg taactatcgt cttgagtcca acccggtaag acacgactta 3960

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tgcgctctgc tgaagccagt taccttcgga aaaagagttg gtagctcttg atccggcaaa 4140

caaaccaccg ctggtagcgg tggtttttt gtttgcaagc agcagattac gcgcagaaaa 4200

aaaggatctc aagaagatcc tttgatcttt agaaaaactc atcgagcatc aaatgaaact 4260

gcaatttatt catatcagga ttatcaatac catatttttg aaaaagccgt ttctgtaatg 4320

aaggagaaaa ctcaccgagg cagttccata ggatggcaag atcctggtat cggtctgcga 4380

ttccgactcg tccaacatca atacaaccta ttaatttccc ctcgtcaaaa ataaggttat 4440

caagtgagaa atcaccatga gtgacgactg aatccggtga gaatggcaaa agtttatgca 4500

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caaccaaacc gttattcatt cgtgattgcg cctgagccag acgaaatacg cgatcgctgt 4620

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caacgctacc tttgccatgt ttcagaaaca actctggcgc atcgggcttc ccatacaagc 4920

gatagattgt cgcacctgat tgcccgacat tatcgcgagc ccatttatac ccatataaat 4980

cagcatccat gttggaattt aatcgcggcc tcgacgtttc ccgttgaata tggctcataa 5040

cacccttgt attactgttt atgtaagcag acagttttat tgttcatgat gatatatttt 5100

tatcttgtgc aatgtaacat cagagatttt gagacac 5137

<210> 21
<211> 5140
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Complete NeoTCR Product construct with TCR89 insertion_NeoTCR
Product

<400> 21
ggtaccacat taaaaacaca aaatcctacg gaaatactga agaatgagtc tcagcactaa 60

ggaaaagcct ccagcagctc ctgctttctg agggtgaagg atagacgctg tggctctgca 120

tgactcacta gcactctatc acggccatat tctggcaggg tcagtggctc caactaacat 180

ttgtttggta ctttacagtt tattaaatag atgtttatat ggagaagctc tcatttcttt 240

ctcagaagag cctggctagg aaggtggatg aggcaccata ttcattttgc aggtgaaatt 300

cctgagatgt aaggagctgc tgtgacttgc tcaaggcctt atatcgagta aacggtagtg 360

ctggggctta gacgcaggtg ttctgattta tagttcaaaa cctctatcaa tgagagagca 420

atctcctggt aatgtgatag atttcccaac ttaatgccaa cataccataa acctcccatt 480

ctgctaatgc ccagcctaag ttggggagac cactccagat tccaagatgt acagtttgct 540

ttgctgggcc tttttcccat gcctgccttt actctgccag agttatattg ctggggtttt 600

gaagaagatc ctattaaata aaagaataag cagtattatt aagtagccct gcatttcagg 660

tttccttgag tggcaggcca ggcctggccg tgaacgttca ctgaaatcat ggcctcttgg 720

ccaagattga tagcttgtgc ctgtccctga gtcccagtcc atcacgagca gctggtttct 780

aagatgctat ttcccgtata aagcatgaga ccgtgacttg ccagccccac agagccccgc 840

ccttgtccat cactggcatc tggactccag cctgggttgg ggcaaagagg gaaatgagat 900

catgtcctaa ccctgatcct cttgtcccac agatatccag aaccctgacc ctgccgtgta 960

ccagctgaga gactctaaat ccagtgacaa gtctgtctgc ctattcgaat tcggctccgg 1020

agccactaac ttctccctgt tgaaacaggc tggcgatgtt gaagaaaacc ccggtcctat 1080

ggccaccggc tctagaacaa gcctgctgct cgcttttggc ctgctctgcc tcccatggct 1140

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aggaaggcag gtgaccttga tgtgtcacca gacttggagc cacagctata tgttctggta 1260

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aaaaaaggat ctcaagaaga tcctttgatc tttagaaaaa ctcatcgagc atcaaatgaa 4260

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catcaacaat attttcacct gaatcaggat attcttctaa tacctggaat gctgtttttc 4740

cggggatcgc agtggtgagt aaccatgcat catcaggagt acggataaaa tgcttgatgg 4800

tcggaagagg cataaattcc gtcagccagt ttagtctgac catctcatct gtaacatcat 4860

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taacacccct tgtattactg tttatgtaag cagacagttt tattgttcat gatgatatat 5100

ttttatcttg tgcaatgtaa catcagagat tttgagacac 5140

<210> 22
<211> 926
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Left HR arm_CD8 Product 1

<400> 22
acattaaaaa cacaaaatcc tacggaaata ctgaagaatg agtctcagca ctaaggaaaa 60

gcctccagca gctcctgctt tctgagggtg aaggatagac gctgtggctc tgcatgactc 120

actagcactc tatcacggcc atattctggc agggtcagtg gctccaacta acatttgttt 180

ggtactttac agtttattaa atagatgttt atatggagaa gctctcattt ctttctcaga 240

agagcctggc taggaaggtg gatgaggcac catattcatt ttgcaggtga aattcctgag 300

atgtaaggag ctgctgtgac ttgctcaagg ccttatatcg agtaaacggt agtgctgggg 360

cttagacgca ggtgttctga tttatagttc aaaacctcta tcaatgagag agcaatctcc 420

tggtaatgtg atagatttcc caacttaatg ccaacatacc ataaacctcc cattctgcta 480

atgcccagcc taagttgggg agaccactcc agattccaag atgtacagtt tgctttgctg 540

ggccttttc ccatgcctgc ctttactctg ccagagttat attgctgggg ttttgaagaa 600

gatcctatta aataaaagaa taagcagtat tattaagtag ccctgcattt caggtttcct 660

tgagtggcag gccaggcctg gccgtgaacg ttcactgaaa tcatggcctc ttggccaaga 720

ttgatagctt gtgcctgtcc ctgagtccca gtccatcacg agcagctggt ttctaagatg 780

ctatttcccg tataaagcat gagaccgtga cttgccagcc ccacagagcc ccgcccttgt 840

ccatcactgg catctggact ccagcctggg ttggggcaaa gagggaaatg agatcatgtc 900

ctaaccctga tcctcttgtc ccacag 926

<210> 23
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRAC CDS_CD8 Product 1

<400> 23
atatccagaa ccctgaccct gccgtgtacc agctgagaga ctctaaatcc agtgacaagt 60

ctgtctgcct attc 74

<210> 24
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG Linker_CD8 Product 1

<400> 24
gaattcggct ccgga 15

<210> 25
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 1

<400> 25
gccactaact tcagcctgtt gaagcaggcc ggcgacgttg aggaaaaccc cggtcct 57

<210> 26
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A Signal peptide_CD8 Product 1

<400> 26
atggccttac cagtgaccgc cttgctcctg ccgctggcct tgctgctcca cgccgccagg 60

ccg 63

<210> 27
<211> 483
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A Extracellular domain_CD8 Product 1

<400> 27
agccagttcc gggtgtcgcc gctggatcgg acctggaacc tgggcgagac agtggagctg 60

aagtgccagg tgctgctgtc caacccgacg tcgggctgct cgtggctctt ccagccgcgc 120

ggcgccgccg ccagtcccac cttcctccta tacctctccc aaaacaagcc caaggcggcc 180

gaggggctgg acacccagcg gttctcgggc aagaggttgg gggacacctt cgtcctcacc 240

ctgagcgact tccgccgaga gaacgagggc tactatttct gctcggccct gagcaactcc 300

atcatgtact tcagccactt cgtgccggtc ttcctgccag cgaagcccac cacgacgcca 360

gcgccgcgac caccaacacc ggcgcccacc atcgcgtcgc agcccctgtc cctgcgccca 420

gaggcgtgcc ggccagcggc ggggggcgca gtgcacacga gggggctgga cttcgcctgt 480

gat 483

<210> 28
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A transmembrane domain_CD8 Product 1

<400> 28
atctacatct gggcgccctt ggccgggact tgtggggtcc ttctcctgtc actggttatc 60

acc 63

<210> 29
<211> 96
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A Intracellular domain_CD8 Product 1

<400> 29
ctttactgca accacaggaa ccgaagacgt gtttgcaaat gtccccggcc tgtggtcaaa 60

tcgggagaca agcccagcct ttcggcgaga tacgtc 96

<210> 30
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Furin cleavage site_CD8 Product 1

<400> 30
agggctaaac gg 12

<210> 31
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG Linker_CD8 Product 1

<400> 31
gaattcggct ccgga 15

<210> 32
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 1

<400> 32
gccactaact tctccctgtt gaaacaggct ggcgatgttg aagaaaaccc cggtcct 57

<210> 33
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
HGH/SS/2_CD8 Product 1

<400> 33
atggccaccg gctctagaac aagcctgctg ctcgcttttg gcctgctctg cctcccatgg 60

ctccaagaag gatctgct 78

<210> 34
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Exemplary TRB_VDJ (TCR097) _CD8 Product 1

<400> 34
aatgctggtg tcactcagac cccaaaattc cgcatcctga agataggaca gagcatgaca 60

ctgcagtgta cccaggatat gaaccataac tacatgtact ggtatcgaca agacccaggc 120

atggggctga agctgattta ttattcagtt ggtgctggta tcactgataa aggagaagtc 180

ccgaatggct acaacgtctc cagatcaacc acagaggatt tcccgctcag gctggagttg 240

gctgctccct cccagacatc tgtgtacttc tgtgccagct ccctacaggt tccctacaat 300

gagcagttct tcgggccagg gacacggctc accgtgctag aggac 345

<210> 35
<211> 534
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TCR-beta/constant_CD8 Product 1

<400> 35
ctgaaaaacg tgttccctcc aaaagtggcc gtgttcgagc cttctgaggc cgagatcagc 60

cacacacaga aagccacact cgtgtgtctg gctaccggct tctaccccga tcacgtggaa 120

ctgtcttggt gggtcaacgg caaagaggtg cacagcggcg tcagcacaga tccccagcct 180

ctgaaagaac agcccgctct gaacgacagc cgctactgcc tgtctagcag actgagagtg 240

tccgccacct tctggcagaa ccccagaaac cacttcagat gccaggtcca gttctacggc 300

ctgagcgaga acgatgagtg gacccaggac agagccaagc ctgtgacaca gatcgtgtct 360

gccgaagcct ggggcagagc cgattgtggc tttaccagcg agtcatacca gcagggcgtg 420

ctgtctgcca ccatcctgta tgagatcctg ctcggcaagg ccacactgta cgctgtgctg 480

gtgtctgctc tggtgctgat ggctatggtc tcccgggagc gcatccccga ggcc 534

<210> 36
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Furin cleavage site_CD8 Product 1

<400> 36
cgggccaagc gg 12

<210> 37
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG linker_CD8 Product 1

<400> 37
ggcagcggc 9

<210> 38
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 1

<400> 38
gccaccaact tcagcctgct gaagcaggcc ggcgacgtgg aggagaaccc cggccct 57

<210> 39
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
HGH/SS_CD8 Product 1

<400> 39
atggccacag gcagcagaac atctctgctg ctggccttcg gactgctgtg tctgccttgg 60

ctgcaagagg gttccgcc 78

<210> 40
<211> 337
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Exemplary TRA-VDJ (TCR097) _CD8 Product 1

<400> 40
gctcagacag tcactcagtc tcaaccagag atgtctgtgc aggaggcaga gaccgtgacc 60

ctgagctgca catatgacac cagtgagagt gattattatt tattctggta caagcagcct 120

cccagcaggc agatgattct cgttattcgc caagaagctt ataagcaaca gaatgcaaca 180

gagaatcgtt tctctgtgaa cttccagaaa gcagccaaat ccttcagtct caagatctca 240

gactcacagc tgggggatgc cgcgatgtat ttctgtgctt ttgggaactt caacaaattt 300

tactttggat ctgggaccaa actcaatgta aaaccaa 337

<210> 41
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TCR-alpha/constant_CD8 Product 1

<400> 41
atattcagaa ccccgatcct gctgtgtatc agctgcgcga cagcaagagc agcgacaaga 60

gcgtgtgttt gttc 74

<210> 42
<211> 200
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRAC CDS/right HR arm_CD8 Product 1

<400> 42
accgattttg attctcaaac aaatgtgtca caaagtaagg attctgatgt gtatatcaca 60

gacaaaactg tgctagacat gaggtctatg gacttcaaga gcaacagtgc tgtggcctgg 120

agcaacaaat ctgactttgc atgtgcaaac gccttcaaca acagcattat tccagaagac 180

accttcttcc ccagcccagg 200

<210> 43
<211> 800
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Right HR arm_CD8 Product 1

<400> 43
taagggcagc tttggtgcct tcgcaggctg tttccttgct tcaggaatgg ccaggttctg 60

cccagagctc tggtcaatga tgtctaaaac tcctctgatt ggtggtctcg gccttatcca 120

ttgccaccaa aaccctcttt ttactaagaa acagtgagcc ttgttctggc agtccagaga 180

atgacacggg aaaaaagcag atgaagagaa ggtggcagga gagggcacgt ggcccagcct 240

cagtctctcc aactgagttc ctgcctgcct gcctttgctc agactgtttg ccccttactg 300

ctcttctagg cctcattcta agccccttct ccaagttgcc tctccttatt tctccctgtc 360

tgccaaaaaa tctttcccag ctcactaagt cagtctcacg cagtcactca ttaacccacc 420

aatcactgat tgtgccggca catgaatgca ccaggtgttg aagtggagga attaaaaagt 480

cagatgaggg gtgtgcccag aggaagcacc attctagttg ggggagccca tctgtcagct 540

gggaaaagtc caaataactt cagattggaa tgtgttttaa ctcagggttg agaaaacagc 600

taccttcagg acaaaagtca gggaagggct ctctgaagaa atgctacttg aagataccag 660

ccctaccaag ggcagggaga ggaccctata gaggcctggg acaggagctc aatgagaaag 720

gagaagagca gcaggcatga gttgaatgaa ggaggcaggg ccgggtcaca gggccttcta 780

ggccatgaga gggtagacag 800

<210> 44
<211> 6
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Artificial Sequence_CD8 Product 1

<400> 44
gctagc 6

<210> 45

<211> 620
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
pBR322_origin_CD8 Product 1

<400> 45
cgcgttgctg gcgtttttcc ataggctccg ccccccctgac gagcatcaca aaaatcgacg 60

ctcaagtcag aggtggcgaa acccgacagg actataaaga taccaggcgt ttcccccctgg 120

aagctccctc gtgcgctctc ctgttccgac cctgccgctt accggatacc tgtccgcctt 180

tctcccttcg ggaagcgtgg cgctttctca tagctcacgc tgtaggtatc tcagttcggt 240

gtaggtcgtt cgctccaagc tgggctgtgt gcacgaaccc cccgttcagc ccgaccgctg 300

cgccttatcc ggtaactatc gtcttgagtc caacccggta agacacgact tatcgccact 360

ggcagcagcc actggtaaca ggattagcag agcgaggtat gtaggcggtg ctacagagtt 420

cttgaagtgg tggcctaact acggctacac tagaagaaca gtatttggta tctgcgctct 480

gctgaagcca gttaccttcg gaaaaagagt tggtagctct tgatccggca aacaaaccac 540

cgctggtagc ggtggttttt ttgtttgcaa gcagcagatt acgcgcagaa aaaaaggatc 600

tcaagaagat cctttgatct 620

<210> 46
<211> 810
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Kanamycin resistance (KanR2) _CD8 Product 1

<400> 46
ttagaaaaac tcatcgagca tcaaatgaaa ctgcaattta ttcatatcag gattatcaat 60

accatatttt tgaaaaagcc gtttctgtaa tgaaggagaa aactcaccga ggcagttcca 120

taggatggca agatcctggt atcggtctgc gattccgact cgtccaacat caatacaacc 180

tattaatttc ccctcgtcaa aaataaggtt atcaagtgag aaatcaccat gagtgacgac 240

tgaatccggt gagaatggca aaagtttatg catttctttc cagacttgtt caacaggcca 300

gccattacgc tcgtcatcaa aatcactcgc atcaaccaaa ccgttattca ttcgtgattg 360

cgcctgagcc agacgaaata cgcgatcgct gttaaaagga caattacaaa caggaatcga 420

atgcaaccgg cgcaggaaca ctgccagcgc atcaacaata ttttcacctg aatcaggata 480

ttcttctaat acctggaatg ctgtttttcc ggggatcgca gtggtgagta accatgcatc 540

atcaggagta cggataaaat gcttgatggt cggaagaggc ataaattccg tcagccagtt 600

tagtctgacc atctcatctg taacatcatt ggcaacgcta cctttgccat gtttcagaaa 660

caactctggc gcatcgggct tcccatacaa gcgatagatt gtcgcacctg attgcccgac 720

attatcgcga gcccatttat acccatataa atcagcatcc atgttggaat ttaatcgcgg 780

cctcgacgtt tcccgttgaa tatggctcat 810

<210> 47
<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Kanamycin promoter_CD8 Product 1

<400> 47
aacacccctt gtattactgt ttatgtaagc agacagtttt attgttcatg atgatatatt 60

tttatcttgt gcaatgtaac atcagagatt ttgagacac 99

<210> 48
<211> 5926
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Complete CD8 Product 1 construct with TCR97 insertion_CD8
Product 1

<400> 48
ggtaccacat taaaaacaca aaatcctacg gaaatactga agaatgagtc tcagcactaa 60

ggaaaagcct ccagcagctc ctgctttctg agggtgaagg atagacgctg tggctctgca 120

tgactcacta gcactctatc acggccatat tctggcaggg tcagtggctc caactaacat 180

ttgtttggta ctttacagtt tattaaatag atgtttatat ggagaagctc tcatttcttt 240

ctcagaagag cctggctagg aaggtggatg aggcaccata ttcattttgc aggtgaaatt 300

cctgagatgt aaggagctgc tgtgacttgc tcaaggcctt atatcgagta aacggtagtg 360

ctggggctta gacgcaggtg ttctgattta tagttcaaaa cctctatcaa tgagagagca 420

atctcctggt aatgtgatag atttcccaac ttaatgccaa cataccataa acctcccatt 480

ctgctaatgc ccagcctaag ttggggagac cactccagat tccaagatgt acagtttgct 540

ttgctgggcc tttttcccat gcctgccttt actctgccag agttatattg ctggggtttt 600

gaagaagatc ctattaaata aaagaataag cagtattatt aagtagccct gcatttcagg 660

tttccttgag tggcaggcca ggcctggccg tgaacgttca ctgaaatcat ggcctcttgg 720

ccaagattga tagcttgtgc ctgtccctga gtcccagtcc atcacgagca gctggtttct 780

aagatgctat ttcccgtata aagcatgaga ccgtgacttg ccagccccac agagccccgc 840

ccttgtccat cactggcatc tggactccag cctgggttgg ggcaaagagg gaaatgagat 900

catgtcctaa ccctgatcct cttgtcccac agatatccag aaccctgacc ctgccgtgta 960

ccagctgaga gactctaaat ccagtgacaa gtctgtctgc ctattcgaat tcggctccgg 1020

agccactaac ttcagcctgt tgaagcaggc cggcgacgtt gaggaaaacc ccggtcctat 1080

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ggtcaaatcg ggagacaagc ccagcctttc ggcgagatac gtcagggcta aacgggaatt 1800

cggctccgga gccactaact tctccctgtt gaaacaggct ggcgatgttg aagaaaaccc 1860

cggtcctatg gccaccggct ctagaacaag cctgctgctc gcttttggcc tgctctgcct 1920

cccatggctc caagaaggat ctgctaatgc tggtgtcact cagaccccaa aattccgcat 1980

cctgaagata ggacagagca tgacactgca gtgtacccag gatatgaacc ataactacat 2040

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ggatttcccg ctcaggctgg agttggctgc tccctcccag acatctgtgt acttctgtgc 2220

cagctcccta caggttccct acaatgagca gttcttcggg ccagggacac ggctcaccgt 2280

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tcacgtggaa ctgtcttggt gggtcaacgg caaagaggtg cacagcggcg tcagcacaga 2460

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gaaaaaagca gatgaagaga aggtggcagg agagggcacg tggcccagcc tcagtctctc 3840

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ttgtgccggc acatgaatgc accaggtgtt gaagtggagg aattaaaaag tcagatgagg 4080

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catcacaaaa atcgacgctc aagtcagagg tggcgaaacc cgacaggact ataaagatac 4500

caggcgtttc cccctggaag ctccctcgtg cgctctcctg ttccgaccct gccgcttacc 4560

ggatacctgt ccgcctttct cccttcggga agcgtggcgc tttctcatag ctcacgctgt 4620

aggtatctca gttcggtgta ggtcgttcgc tccaagctgg gctgtgtgca cgaacccccc 4680

gttcagcccg accgctgcgc cttatccggt aactatcgtc ttgagtccaa cccggtaaga 4740

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tccggcaaac aaaccaccgc tggtagcggt ggtttttttg tttgcaagca gcagattacg 4980

cgcagaaaaa aaggatctca agaagatcct ttgatcttta gaaaaactca tcgagcatca 5040

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cactcgcatc aaccaaaccg ttattcattc gtgattgcgc ctgagccaga cgaaatacgc 5400

gatcgctgtt aaaaggacaa ttacaaacag gaatcgaatg caaccggcgc aggaacactg 5460

ccagcgcatc aacaatattt tcacctgaat caggatattc ttctaatacc tggaatgctg 5520

tttttccggg gatcgcagtg gtgagtaacc atgcatcatc aggagtacgg ataaaatgct 5580

tgatggtcgg aagaggcata aattccgtca gccagtttag tctgaccatc tcatctgtaa 5640

catcattggc aacgctacct ttgccatgtt tcagaaacaa ctctggcgca tcgggcttcc 5700

catacaagcg atagattgtc gcacctgatt gcccgacatt atcgcgagcc catttatacc 5760

catataaatc agcatccatg ttggaattta atcgcggcct cgacgtttcc cgttgaatat 5820

ggctcataac acccttgta ttactgttta tgtaagcaga cagttttatt gttcatgatg 5880

atatattttt atcttgtgca atgtaacatc agagattttg agacac 5926

<210> 49
<211> 926
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Left HR Arm_CD8 Product 2

<400> 49
acattaaaaa cacaaaatcc tacggaaata ctgaagaatg agtctcagca ctaaggaaaa 60

gcctccagca gctcctgctt tctgagggtg aaggatagac gctgtggctc tgcatgactc 120

actagcactc tatcacggcc atattctggc agggtcagtg gctccaacta acatttgttt 180

ggtactttac agtttattaa atagatgttt atatggagaa gctctcattt ctttctcaga 240

agagcctggc taggaaggtg gatgaggcac catattcatt ttgcaggtga aattcctgag 300

atgtaaggag ctgctgtgac ttgctcaagg ccttatatcg agtaaacggt agtgctgggg 360

cttagacgca ggtgttctga tttatagttc aaaacctcta tcaatgagag agcaatctcc 420

tggtaatgtg atagatttcc caacttaatg ccaacatacc ataaacctcc cattctgcta 480

atgcccagcc taagttgggg agaccactcc agattccaag atgtacagtt tgctttgctg 540

ggccttttc ccatgcctgc ctttactctg ccagagttat attgctgggg ttttgaagaa 600

gatcctatta aataaaagaa taagcagtat tattaagtag ccctgcattt caggtttcct 660

tgagtggcag gccaggcctg gccgtgaacg ttcactgaaa tcatggcctc ttggccaaga 720

ttgatagctt gtgcctgtcc ctgagtccca gtccatcacg agcagctggt ttctaagatg 780

ctatttcccg tataaagcat gagaccgtga cttgccagcc ccacagagcc ccgcccttgt 840

ccatcactgg catctggact ccagcctggg ttggggcaaa gagggaaatg agatcatgtc 900

ctaaccctga tcctcttgtc ccacag 926

<210> 50
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRAC CDS_CD8 Product 2

<400> 50
atatccagaa ccctgaccct gccgtgtacc agctgagaga ctctaaatcc agtgacaagt 60

ctgtctgcct attc 74

<210> 51
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG Linker_CD8 Product 2

<400> 51
gaattcggct ccgga 15

<210> 52
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 2

<400> 52
gccactaact tcagcctgtt gaagcaggcc ggcgacgttg aggaaaaccc cggtcct 57

<210> 53
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A Signal Peptide_CD8 Product 2

<400> 53
atggccttac cagtgaccgc cttgctcctg ccgctggcct tgctgctcca cgccgccagg 60

ccg 63

<210> 54
<211> 483
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A Extracellular domain_CD8 Product 2

<400> 54
agccagttcc gggtgtcgcc gctggatcgg acctggaacc tgggcgagac agtggagctg 60

aagtgccagg tgctgctgtc caacccgacg tcgggctgct cgtggctctt ccagccgcgc 120

ggcgccgccg ccagtcccac cttcctccta tacctctccc aaaacaagcc caaggcggcc 180

gaggggctgg acacccagcg gttctcgggc aagaggttgg gggacacctt cgtcctcacc 240

ctgagcgact tccgccgaga gaacgagggc tactatttct gctcggccct gagcaactcc 300

atcatgtact tcagccactt cgtgccggtc ttcctgccag cgaagcccac cacgacgcca 360

gcgccgcgac caccaacacc ggcgcccacc atcgcgtcgc agcccctgtc cctgcgccca 420

gaggcgtgcc ggccagcggc ggggggcgca gtgcacacga gggggctgga cttcgcctgt 480

gat 483

<210> 55
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A Transmembrane domain_CD8 Product 2

<400> 55
atctacatct gggcgccctt ggccgggact tgtggggtcc ttctcctgtc actggttatc 60

acc 63

<210> 56
<211> 96
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A intracellular domain_CD8 Product 2

<400> 56
ctttactgca accacaggaa ccgaagacgt gtttgcaaat gtccccggcc tgtggtcaaa 60

tcgggagaca agcccagcct ttcggcgaga tacgtc 96

<210> 57
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Furin cleavage site_CD8 Product 2

<400> 57
agagcaaagc gg 12

<210> 58
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG Linker_CD8 Product 2

<400> 58

ggctccgga 9

<210> 59
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 2

<400> 59
gctaccaatt ttagcctcct gaagcaggct ggcgatgttg aggaaaaccc tggtccc 57

<210> 60
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8B Signal Peptide_CD8 Product 2

<400> 60
atgcggccgc ggctgtggct cctcttggcc gcgcagctga cagttctcca tggcaactca 60

gtc 63

<210> 61
<211> 447
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8B Extracellular domain_CD8 Product 2

<400> 61
ctccagcaga cccctgcata cataaaggtg caaaccaaca agatggtgat gctgtcctgc 60

gaggctaaaa tctccctcag taacatgcgc atctactggc tgagacagcg ccaggcaccg 120

agcagtgaca gtcaccacga gttcctggcc ctctgggatt ccgcaaaagg gactatccac 180

ggtgaagagg tggaacagga gaagatagct gtgtttcggg atgcaagccg gttcattctc 240

aatctcacaa gcgtgaagcc ggaagacagt ggcatctact tctgcatgat cgtcgggagc 300

cccgagctga ccttcgggaa gggaactcag ctgagtgtgg ttgatttcct tcccaccact 360

gcccagccca ccaagaagtc caccctcaag aagagagtgt gccggttacc caggccagag 420

acccagaagg gcccactttg tagcccc 447

<210> 62
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8B Transmembrane domain_CD8 Product 2

<400> 62
atcacccttg gcctgctggt ggctggcgtc ctggttctgc tggtttccct gggagtggcc 60

atc 63

<210> 63
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8B Intracellular domain_CD8 Product 2

<400> 63
cacctgtgct gccggcggag gagagcccgg cttcgtttca tgaaacaatt ttacaaa 57

<210> 64
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Furin cleavage site_CD8 Product 2

<400> 64
agggctaaac gg 12

<210> 65
<211> 15
<212> DNA
<213> Artificial Sequence

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

GSG Linker_CD8 Product 2

<400> 65
gaattcggct ccgga 15

<210> 66
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 2

<400> 66
gccactaact tctccctgtt gaaacaggct ggcgatgttg aagaaaaccc cggtcct 57

<210> 67
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
HGH/SS/2_CD8 Product 2

<400> 67
atggccaccg gctctagaac aagcctgctg ctcgcttttg gcctgctctg cctcccatgg 60

ctccaagaag gatctgct 78

<210> 68
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Exemplary TRB_VDJ (TCR097) _CD8 Product 2

<400> 68
aatgctggtg tcactcagac cccaaaattc cgcatcctga agataggaca gagcatgaca 60

ctgcagtgta cccaggatat gaaccataac tacatgtact ggtatcgaca agacccaggc 120

atggggctga agctgattta ttattcagtt ggtgctggta tcactgataa aggagaagtc 180

ccgaatggct acaacgtctc cagatcaacc acagaggatt tcccgctcag gctggagttg 240

gctgctccct cccagacatc tgtgtacttc tgtgccagct ccctacaggt tccctacaat 300

gagcagttct tcgggccagg gacacggctc accgtgctag aggac 345

<210> 69
<211> 534
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TCR-beta/constant_CD8 Product 2

<400> 69
ctgaaaaacg tgttccctcc aaaagtggcc gtgttcgagc cttctgaggc cgagatcagc 60

cacacacaga aagccacact cgtgtgtctg gctaccggct tctaccccga tcacgtggaa 120

ctgtcttggt gggtcaacgg caaagaggtg cacagcggcg tcagcacaga tccccagcct 180

ctgaaagaac agcccgctct gaacgacagc cgctactgcc tgtctagcag actgagagtg 240

tccgccacct tctggcagaa ccccagaaac cacttcagat gccaggtcca gttctacggc 300

ctgagcgaga acgatgagtg gacccaggac agagccaagc ctgtgacaca gatcgtgtct 360

gccgaagcct ggggcagagc cgattgtggc tttaccagcg agtcatacca gcagggcgtg 420

ctgtctgcca ccatcctgta tgagatcctg ctcggcaagg ccacactgta cgctgtgctg 480

gtgtctgctc tggtgctgat ggctatggtc tcccgggagc gcatccccga ggcc 534

<210> 70
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Furin cleavage site_CD8 Product 2

<400> 70
cgggccaagc gg 12

<210> 71
<211> 9
<212> DNA
<213> Artificial Sequence

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

GSG linker_CD8 Product 2

<400> 71
ggcagcggc 9

<210> 72
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 2

<400> 72
gccaccaact tcagcctgct gaagcaggcc ggcgacgtgg aggagaaccc cggccct 57

<210> 73
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
HGH/SS_CD8 Product 2

<400> 73
atggccacag gcagcagaac atctctgctg ctggccttcg gactgctgtg tctgccttgg 60

ctgcaagagg gttccgcc 78

<210> 74
<211> 337
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Exemplary TRA-VDJ (TCR097) _CD8 Product 2

<400> 74
gctcagacag tcactcagtc tcaaccagag atgtctgtgc aggaggcaga gaccgtgacc 60

ctgagctgca catatgacac cagtgagagt gattattatt tattctggta caagcagcct 120

cccagcaggc agatgattct cgttattcgc caagaagctt ataagcaaca gaatgcaaca 180

gagaatcgtt tctctgtgaa cttccagaaa gcagccaaat ccttcagtct caagatctca 240

gactcacagc tgggggatgc cgcgatgtat ttctgtgctt ttgggaactt caacaaattt 300

tactttggat ctgggaccaa actcaatgta aaaccaa 337

<210> 75
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TCR-alpha/constant_CD8 Product 2

<400> 75
atattcagaa ccccgatcct gctgtgtatc agctgcgcga cagcaagagc agcgacaaga 60

gcgtgtgttt gttc 74

<210> 76
<211> 200
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRAC CDS/right HR arm_CD8 Product 2

<400> 76
accgattttg attctcaaac aaatgtgtca caaagtaagg attctgatgt gtatatcaca 60

gacaaaactg tgctagacat gaggtctatg gacttcaaga gcaacagtgc tgtggcctgg 120

agcaacaaat ctgactttgc atgtgcaaac gccttcaaca acagcattat tccagaagac 180

accttcttcc ccagcccagg 200

<210> 77
<211> 800
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Right HR arm_CD8 Product 2

<400> 77
taagggcagc tttggtgcct tcgcaggctg tttccttgct tcaggaatgg ccaggttctg 60

cccagagctc tggtcaatga tgtctaaaac tcctctgatt ggtggtctcg gccttatcca 120

ttgccaccaa aaccctcttt ttactaagaa acagtgagcc ttgttctggc agtccagaga 180

atgacacggg aaaaaagcag atgaagagaa ggtggcagga gagggcacgt ggcccagcct 240

cagtctctcc aactgagttc ctgcctgcct gcctttgctc agactgtttg ccccttactg 300

ctcttctagg cctcattcta agccccttct ccaagttgcc tctccttatt tctccctgtc 360

tgccaaaaaa tctttcccag ctcactaagt cagtctcacg cagtcactca ttaacccacc 420

aatcactgat tgtgccggca catgaatgca ccaggtgttg aagtggagga attaaaaagt 480

cagatgaggg gtgtgcccag aggaagcacc attctagttg ggggagccca tctgtcagct 540

gggaaaagtc caaataactt cagattggaa tgtgttttaa ctcagggttg agaaaacagc 600

taccttcagg acaaaagtca gggaagggct ctctgaagaa atgctacttg aagataccag 660

ccctaccaag ggcagggaga ggaccctata gaggcctggg acaggagctc aatgagaaag 720

gagaagagca gcaggcatga gttgaatgaa ggaggcaggg ccgggtcaca gggccttcta 780

ggccatgaga gggtagacag 800

<210> 78
<211> 6
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Artificial Sequence_CD8 Product 2

<400> 78
gctagc 6

<210> 79
<211> 620
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
pBR322_origin_CD8 Product 2

<400> 79
cgcgttgctg gcgtttttcc ataggctccg ccccccctgac gagcatcaca aaaatcgacg 60

ctcaagtcag aggtggcgaa acccgacagg actataaaga taccaggcgt ttcccccctgg 120

aagctccctc gtgcgctctc ctgttccgac cctgccgctt accggatacc tgtccgcctt 180

tctcccttcg ggaagcgtgg cgctttctca tagctcacgc tgtaggtatc tcagttcggt 240

gtaggtcgtt cgctccaagc tgggctgtgt gcacgaaccc cccgttcagc ccgaccgctg 300

cgccttatcc ggtaactatc gtcttgagtc caacccggta agacacgact tatcgccact 360

ggcagcagcc actggtaaca ggattagcag agcgaggtat gtaggcggtg ctacagagtt 420

cttgaagtgg tggcctaact acggctacac tagaagaaca gtatttggta tctgcgctct 480

gctgaagcca gttaccttcg gaaaaagagt tggtagctct tgatccggca aacaaaccac 540

cgctggtagc ggtggttttt ttgtttgcaa gcagcagatt acgcgcagaa aaaaaggatc 600

tcaagaagat cctttgatct 620

<210> 80
<211> 810
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Kanamycin resistance (KanR2) _CD8 Product 2

<400> 80
ttagaaaaac tcatcgagca tcaaatgaaa ctgcaattta ttcatatcag gattatcaat 60

accatatttt tgaaaaagcc gtttctgtaa tgaaggagaa aactcaccga ggcagttcca 120

taggatggca agatcctggt atcggtctgc gattccgact cgtccaacat caatacaacc 180

tattaatttc ccctcgtcaa aaataaggtt atcaagtgag aaatcaccat gagtgacgac 240

tgaatccggt gagaatggca aaagtttatg catttctttc cagacttgtt caacaggcca 300

gccattacgc tcgtcatcaa aatcactcgc atcaaccaaa ccgttattca ttcgtgattg 360

cgcctgagcc agacgaaata cgcgatcgct gttaaaagga caattacaaa caggaatcga 420

atgcaaccgg cgcaggaaca ctgccagcgc atcaacaata ttttcacctg aatcaggata 480

ttcttctaat acctggaatg ctgtttttcc ggggatcgca gtggtgagta accatgcatc 540

atcaggagta cggataaaat gcttgatggt cggaagaggc ataaattccg tcagccagtt 600

tagtctgacc atctcatctg taacatcatt ggcaacgcta cctttgccat gtttcagaaa 660

caactctggc gcatcgggct tcccatacaa gcgatagatt gtcgcacctg attgcccgac 720

attatcgcga gcccatttat acccatataa atcagcatcc atgttggaat ttaatcgcgg 780

cctcgacgtt tcccgttgaa tatggctcat 810

<210> 81
<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Kanamycin promoter_CD8 Product 2

<400> 81
aacacccctt gtattactgt ttatgtaagc agacagtttt attgttcatg atgatatatt 60

tttatcttgt gcaatgtaac atcagagatt ttgagacac 99

<210> 82
<211> 6634
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Complete CD8 Product 2 construct with TCR97 insertion_CD8
Product 2

<400> 82
ggtaccacat taaaaacaca aaatcctacg gaaatactga agaatgagtc tcagcactaa 60

ggaaaagcct ccagcagctc ctgctttctg agggtgaagg atagacgctg tggctctgca 120

tgactcacta gcactctatc acggccatat tctggcaggg tcagtggctc caactaacat 180

ttgtttggta ctttacagtt tattaaatag atgtttatat ggagaagctc tcatttcttt 240

ctcagaagag cctggctagg aaggtggatg aggcaccata ttcattttgc aggtgaaatt 300

cctgagatgt aaggagctgc tgtgacttgc tcaaggcctt atatcgagta aacggtagtg 360

ctggggctta gacgcaggtg ttctgattta tagttcaaaa cctctatcaa tgagagagca 420

atctcctggt aatgtgatag atttcccaac ttaatgccaa cataccataa acctcccatt 480

ctgctaatgc ccagcctaag ttggggagac cactccagat tccaagatgt acagtttgct 540

ttgctgggcc tttttcccat gcctgccttt actctgccag agttatattg ctggggtttt 600

gaagaagatc ctattaaata aaagaataag cagtattatt aagtagccct gcatttcagg 660

tttccttgag tggcaggcca ggcctggccg tgaacgttca ctgaaatcat ggcctcttgg 720

ccaagattga tagcttgtgc ctgtccctga gtcccagtcc atcacgagca gctggtttct 780

aagatgctat ttcccgtata aagcatgaga ccgtgacttg ccagccccac agagccccgc 840

ccttgtccat cactggcatc tggactccag cctgggttgg ggcaaagagg gaaatgagat 900

catgtcctaa ccctgatcct cttgtcccac agatatccag aaccctgacc ctgccgtgta 960

ccagctgaga gactctaaat ccagtgacaa gtctgtctgc ctattcgaat tcggctccgg 1020

agccactaac ttcagcctgt tgaagcaggc cggcgacgtt gaggaaaacc ccggtcctat 1080

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agaggcgtgc cggccagcgg cgggggggcgc agtgcacacg agggggctgg acttcgcctg 1620

tgatatctac atctgggcgc ccttggccgg gacttgtggg gtccttctcc tgtcactggt 1680

tatcaccctt tactgcaacc acaggaaccg aagacgtgtt tgcaaatgtc cccggcctgt 1740

ggtcaaatcg ggagacaagc ccagcctttc ggcgagatac gtcagagcaa agcggggctc 1800

cggagctacc aattttagcc tcctgaagca ggctggcgat gttgaggaaa accctggtcc 1860

catgcggccg cggctgtggc tcctcttggc cgcgcagctg acagttctcc atggcaactc 1920

agtcctccag cagacccctg catacataaa ggtgcaaacc aacaagatgg tgatgctgtc 1980

ctgcgaggct aaaatctccc tcagtaacat gcgcatctac tggctgagac agcgccaggc 2040

accgagcagt gacagtcacc acgagttcct ggccctctgg gattccgcaa aagggactat 2100

ccacggtgaa gaggtggaac aggagaagat agctgtgttt cgggatgcaa gccggttcat 2160

tctcaatctc acaagcgtga agccggaaga cagtggcatc tacttctgca tgatcgtcgg 2220

gagccccgag ctgaccttcg ggaagggaac tcagctgagt gtggttgatt tccttcccac 2280

cactgcccag cccaccaaga agtccaccct caagaagaga gtgtgccggt tacccaggcc 2340

agagacccag aagggcccac tttgtagccc catcaccctt ggcctgctgg tggctggcgt 2400

cctggttctg ctggtttccc tgggagtggc catccacctg tgctgccggc ggaggagagc 2460

ccggcttcgt ttcatgaaac aattttacaa aagggctaaa cgggaattcg gctccggagc 2520

cactaacttc tccctgttga aacaggctgg cgatgttgaa gaaaaccccg gtcctatggc 2580

caccggctct agaacaagcc tgctgctcgc ttttggcctg ctctgcctcc catggctcca 2640

agaaggatct gctaatgctg gtgtcactca gaccccaaaa ttccgcatcc tgaagatagg 2700

acagagcatg acactgcagt gtacccagga tatgaaccat aactacatgt actggtatcg 2760

acaagaccca ggcatggggc tgaagctgat ttattattca gttggtgctg gtatcactga 2820

taaaggagaa gtcccgaatg gctacaacgt ctccagatca accacagagg atttcccgct 2880

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ggttccctac aatgagcagt tcttcgggcc agggacacgg ctcaccgtgc tagaggacct 3000

gaaaaacgtg ttccctccaa aagtggccgt gttcgagcct tctgaggccg agatcagcca 3060

cacacagaaa gccacactcg tgtgtctggc taccggcttc taccccgatc acgtggaact 3120

gtcttggtgg gtcaacggca aagaggtgca cagcggcgtc agcacagatc cccagcctct 3180

gaaagaacag cccgctctga acgacagccg ctactgcctg tctagcagac tgagagtgtc 3240

cgccaccttc tggcagaacc ccagaaacca cttcagatgc caggtccagt tctacggcct 3300

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gcggggcagc ggcgccacca acttcagcct gctgaagcag gccggcgacg tggaggagaa 3600

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agaagcttat aagcaacaga atgcaacaga gaatcgtttc tctgtgaact tccagaaagc 3900

agccaaatcc ttcagtctca agatctcaga ctcacagctg ggggatgccg cgatgtattt 3960

ctgtgctttt gggaacttca acaaatttta ctttggatct gggaccaaac tcaatgtaaa 4020

accaaatatt cagaaccccg atcctgctgt gtatcagctg cgcgacagca agagcagcga 4080

caagagcgtg tgtttgttca ccgattttga ttctcaaaca aatgtgtcac aaagtaagga 4140

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caacagtgct gtggcctgga gcaacaaatc tgactttgca tgtgcaaacg ccttcaacaa 4260

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cgcaggctgt ttccttgctt caggaatggc caggttctgc ccagagctct ggtcaatgat 4380

gtctaaaact cctctgattg gtggtctcgg ccttatccat tgccaccaaa accctctttt 4440

tactaagaaa cagtgagcct tgttctggca gtccagagaa tgacacggga aaaaagcaga 4500

tgaagagaag gtggcaggag agggcacgtg gcccagcctc agtctctcca actgagttcc 4560

tgcctgcctg cctttgctca gactgtttgc cccttactgc tcttctaggc ctcattctaa 4620

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accaccgctg gtagcggtgg ttttttttgtt tgcaagcagc agattacgcg cagaaaaaaa 5700

ggatctcaag aagatccttt gatctttaga aaaactcatc gagcatcaaa tgaaactgca 5760

atttattcat atcaggatta tcaataccat atttttgaaa aagccgtttc tgtaatgaag 5820

gagaaaactc accgaggcag ttccatagga tggcaagatc ctggtatcgg tctgcgattc 5880

cgactcgtcc aacatcaata caacctatta atttcccctc gtcaaaaata aggttatcaa 5940

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ctttccagac ttgttcaaca ggccagccat tacgctcgtc atcaaaatca ctcgcatcaa 6060

ccaaaccgtt attcattcgt gattgcgcct gagccagacg aaatacgcga tcgctgttaa 6120

aaggacaatt acaaacagga atcgaatgca accggcgcag gaacactgcc agcgcatcaa 6180

caatattttc acctgaatca ggatattctt ctaatacctg gaatgctgtt tttccgggga 6240

tcgcagtggt gagtaaccat gcatcatcag gagtacggat aaaatgcttg atggtcggaa 6300

gaggcataaa ttccgtcagc cagtttagtc tgaccatctc atctgtaaca tcattggcaa 6360

cgctaccttt gccatgtttc agaaacaact ctggcgcatc gggcttccca tacaagcgat 6420

agattgtcgc acctgattgc ccgacattat cgcgagccca tttataccca tataaatcag 6480

catccatgtt ggaatttaat cgcggcctcg acgtttcccg ttgaatatgg ctcataacac 6540

cccttgtatt actgtttatg taagcagaca gttttattgt tcatgatgat atatttttat 6600

cttgtgcaat gtaacatcag agattttgag acac 6634

<210> 83
<211> 926
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Left HR Arm_CD8 Product 3

<400> 83
acattaaaaa cacaaaatcc tacggaaata ctgaagaatg agtctcagca ctaaggaaaa 60

gcctccagca gctcctgctt tctgagggtg aaggatagac gctgtggctc tgcatgactc 120

actagcactc tatcacggcc atattctggc agggtcagtg gctccaacta acatttgttt 180

ggtactttac agtttattaa atagatgttt atatggagaa gctctcattt ctttctcaga 240

agagcctggc taggaaggtg gatgaggcac catattcatt ttgcaggtga aattcctgag 300

atgtaaggag ctgctgtgac ttgctcaagg ccttatatcg agtaaacggt agtgctgggg 360

cttagacgca ggtgttctga tttatagttc aaaacctcta tcaatgagag agcaatctcc 420

tggtaatgtg atagatttcc caacttaatg ccaacatacc ataaacctcc cattctgcta 480

atgcccagcc taagttgggg agaccactcc agattccaag atgtacagtt tgctttgctg 540

ggccttttc ccatgcctgc ctttactctg ccagagttat attgctgggg ttttgaagaa 600

gatcctatta aataaaagaa taagcagtat tattaagtag ccctgcattt caggtttcct 660

tgagtggcag gccaggcctg gccgtgaacg ttcactgaaa tcatggcctc ttggccaaga 720

ttgatagctt gtgcctgtcc ctgagtccca gtccatcacg agcagctggt ttctaagatg 780

ctatttcccg tataaagcat gagaccgtga cttgccagcc ccacagagcc ccgcccttgt 840

ccatcactgg catctggact ccagcctggg ttggggcaaa gagggaaatg agatcatgtc 900

ctaaccctga tcctcttgtc ccacag 926

<210> 84
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRAC (part of homology arm) _CD8 Product 3

<400> 84
atatccagaa ccctgaccct gccgtgtacc agctgagaga ctctaaatcc agtgacaagt 60

ctgtctgcct attc 74

<210> 85
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG Linker_CD8 Product 3

<400> 85
gaattcggct ccgga 15

<210> 86
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 3

<400> 86
gccactaact tcagcctgtt gaagcaggcc ggcgacgttg aggaaaaccc cggtcct 57

<210> 87
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A Signal Peptide_CD8 Product 3

<400> 87
atggccttac cagtgaccgc cttgctcctg ccgctggcct tgctgctcca cgccgccagg 60

ccg 63

<210> 88
<211> 483
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A Extracellular domain_CD8 Product 3

<400> 88
agccagttcc gggtgtcgcc gctggatcgg acctggaacc tgggcgagac agtggagctg 60

aagtgccagg tgctgctgtc caacccgacg tcgggctgct cgtggctctt ccagccgcgc 120

ggcgccgccg ccagtcccac cttcctccta tacctctccc aaaacaagcc caaggcggcc 180

gaggggctgg acacccagcg gttctcgggc aagaggttgg gggacacctt cgtcctcacc 240

ctgagcgact tccgccgaga gaacgagggc tactatttct gctcggccct gagcaactcc 300

atcatgtact tcagccactt cgtgccggtc ttcctgccag cgaagcccac cacgacgcca 360

gcgccgcgac caccaacacc ggcgcccacc atcgcgtcgc agcccctgtc cctgcgccca 420

gaggcgtgcc ggccagcggc ggggggcgca gtgcacacga gggggctgga cttcgcctgt 480

gat 483

<210> 89
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A Transmembrane domain_CD8 Product 3

<400> 89
atctacatct gggcgccctt ggccgggact tgtggggtcc ttctcctgtc actggttatc 60

acc 63

<210> 90
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8B intracellular domain_CD8 Product 3

<400> 90
cacctgtgct gccggcggag gagagcccgg cttcgtttca tgaaacaatt ttacaaa 57

<210> 91
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Furin cleavage site_CD8 Product 3

<400> 91
agggctaaac gg 12

<210> 92
<211> 15
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG Linker_CD8 Product 3

<400> 92
gaattcggct ccgga 15

<210> 93
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 3

<400> 93
gccactaact tctccctgtt gaaacaggct ggcgatgttg aagaaaaccc cggtcct 57

<210> 94
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
HGH/SS/2_CD8 Product 3

<400> 94
atggccaccg gctctagaac aagcctgctg ctcgcttttg gcctgctctg cctcccatgg 60

ctccaagaag gatctgct 78

<210> 95
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRB_VDJ (TCR097)_CD8 Product 3

<400> 95
aatgctggtg tcactcagac cccaaaattc cgcatcctga agataggaca gagcatgaca 60

ctgcagtgta cccaggatat gaaccataac tacatgtact ggtatcgaca agacccaggc 120

atggggctga agctgattta ttattcagtt ggtgctggta tcactgataa aggagaagtc 180

ccgaatggct acaacgtctc cagatcaacc acagaggatt tcccgctcag gctggagttg 240

gctgctccct cccagacatc tgtgtacttc tgtgccagct ccctacaggt tccctacaat 300

gagcagttct tcgggccagg gacacggctc accgtgctag aggac 345

<210> 96
<211> 534
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TCR-beta/constant_CD8 Product 3

<400> 96
ctgaaaaacg tgttccctcc aaaagtggcc gtgttcgagc cttctgaggc cgagatcagc 60

cacacacaga aagccacact cgtgtgtctg gctaccggct tctaccccga tcacgtggaa 120

ctgtcttggt gggtcaacgg caaagaggtg cacagcggcg tcagcacaga tccccagcct 180

ctgaaagaac agcccgctct gaacgacagc cgctactgcc tgtctagcag actgagagtg 240

tccgccacct tctggcagaa ccccagaaac cacttcagat gccaggtcca gttctacggc 300

ctgagcgaga acgatgagtg gacccaggac agagccaagc ctgtgacaca gatcgtgtct 360

gccgaagcct ggggcagagc cgattgtggc tttaccagcg agtcatacca gcagggcgtg 420

ctgtctgcca ccatcctgta tgagatcctg ctcggcaagg ccacactgta cgctgtgctg 480

gtgtctgctc tggtgctgat ggctatggtc tcccgggagc gcatccccga ggcc 534

<210> 97
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Furin cleavage site_CD8 Product 3

<400> 97
cgggccaagc gg 12

<210> 98
<211> 9
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG linker_CD8 Product 3

<400> 98
ggcagcggc 9

<210> 99
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 3

<400> 99
gccaccaact tcagcctgct gaagcaggcc ggcgacgtgg aggagaaccc cggccct 57

<210> 100
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
HGH/SS_CD8 Product 3

<400> 100
atggccacag gcagcagaac atctctgctg ctggccttcg gactgctgtg tctgccttgg 60

ctgcaagagg gttccgcc 78

<210> 101
<211> 337
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Exemplary TRA-VDJ (TCR097) _CD8 Product 3

<400> 101
gctcagacag tcactcagtc tcaaccagag atgtctgtgc aggaggcaga gaccgtgacc 60

ctgagctgca catatgacac cagtgagagt gattattatt tattctggta caagcagcct 120

cccagcaggc agatgattct cgttattcgc caagaagctt ataagcaaca gaatgcaaca 180

gagaatcgtt tctctgtgaa cttccagaaa gcagccaaat ccttcagtct caagatctca 240

gactcacagc tgggggatgc cgcgatgtat ttctgtgctt ttgggaactt caacaaattt 300

tactttggat ctgggaccaa actcaatgta aaaccaa 337

<210> 102
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TCR-alpha/constant_CD8 Product 3

<400> 102
atattcagaa ccccgatcct gctgtgtatc agctgcgcga cagcaagagc agcgacaaga 60

gcgtgtgttt gttc 74

<210> 103
<211> 200
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRAC CDS/right HR arm_CD8 Product 3

<400> 103
accgattttg attctcaaac aaatgtgtca caaagtaagg attctgatgt gtatatcaca 60

gacaaaactg tgctagacat gaggtctatg gacttcaaga gcaacagtgc tgtggcctgg 120

agcaacaaat ctgactttgc atgtgcaaac gccttcaaca acagcattat tccagaagac 180

accttcttcc ccagcccagg 200

<210> 104
<211> 800
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Right HR arm_CD8 Product 3

<400> 104
taagggcagc tttggtgcct tcgcaggctg tttccttgct tcaggaatgg ccaggttctg 60

cccagagctc tggtcaatga tgtctaaaac tcctctgatt ggtggtctcg gccttatcca 120

ttgccaccaa aaccctcttt ttactaagaa acagtgagcc ttgttctggc agtccagaga 180

atgacacggg aaaaaagcag atgaagagaa ggtggcagga gagggcacgt ggcccagcct 240

cagtctctcc aactgagttc ctgcctgcct gcctttgctc agactgtttg ccccttactg 300

ctcttctagg cctcattcta agccccttct ccaagttgcc tctccttatt tctccctgtc 360

tgccaaaaaa tctttcccag ctcactaagt cagtctcacg cagtcactca ttaacccacc 420

aatcactgat tgtgccggca catgaatgca ccaggtgttg aagtggagga attaaaaagt 480

cagatgaggg gtgtgcccag aggaagcacc attctagttg ggggagccca tctgtcagct 540

gggaaaagtc caaataactt cagattggaa tgtgttttaa ctcagggttg agaaaacagc 600

taccttcagg acaaaagtca gggaagggct ctctgaagaa atgctacttg aagataccag 660

ccctaccaag ggcagggaga ggaccctata gaggcctggg acaggagctc aatgagaaag 720

gagaagagca gcaggcatga gttgaatgaa ggaggcaggg ccgggtcaca gggccttcta 780

ggccatgaga gggtagacag 800

<210> 105
<211> 6
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Artificial Sequence_CD8 Product 3

<400> 105
gctagc 6

<210> 106
<211> 620
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
pBR322_origin_CD8 Product 3

<400> 106
cgcgttgctg gcgtttttcc ataggctccg ccccctgac gagcatcaca aaaatcgacg 60

ctcaagtcag aggtggcgaa acccgacagg actataaaga taccaggcgt ttccccctgg 120

aagctccctc gtgcgctctc ctgttccgac cctgccgctt accggatacc tgtccgcctt 180

tctcccttcg ggaagcgtgg cgctttctca tagctcacgc tgtaggtatc tcagttcggt 240

gtaggtcgtt cgctccaagc tgggctgtgt gcacgaaccc cccgttcagc ccgaccgctg 300

cgccttatcc ggtaactatc gtcttgagtc caacccggta agacacgact tatcgccact 360

ggcagcagcc actggtaaca ggattagcag agcgaggtat gtaggcggtg ctacagagtt 420

cttgaagtgg tggcctaact acggctacac tagaagaaca gtatttggta tctgcgctct 480

gctgaagcca gttaccttcg gaaaaagagt tggtagctct tgatccggca aacaaaccac 540

cgctggtagc ggtggttttt ttgtttgcaa gcagcagatt acgcgcagaa aaaaaggatc 600

tcaagaagat cctttgatct 620

<210> 107
<211> 810
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Kanamycin resistance (KanR2) _CD8 Product 3

<400> 107
ttagaaaaac tcatcgagca tcaaatgaaa ctgcaattta ttcatatcag gattatcaat 60

accatatttt tgaaaaagcc gtttctgtaa tgaaggagaa aactcaccga ggcagttcca 120

taggatggca agatcctggt atcggtctgc gattccgact cgtccaacat caatacaacc 180

tattaatttc ccctcgtcaa aaataaggtt atcaagtgag aaatcaccat gagtgacgac 240

tgaatccggt gagaatggca aaagtttatg catttctttc cagacttgtt caacaggcca 300

gccattacgc tcgtcatcaa aatcactcgc atcaaccaaa ccgttattca ttcgtgattg 360

cgcctgagcc agacgaaata cgcgatcgct gttaaaagga caattacaaa caggaatcga 420

atgcaaccgg cgcaggaaca ctgccagcgc atcaacaata ttttcacctg aatcaggata 480

ttcttctaat acctggaatg ctgtttttcc ggggatcgca gtggtgagta accatgcatc 540

atcaggagta cggataaaat gcttgatggt cggaagaggc ataaattccg tcagccagtt 600

tagtctgacc atctcatctg taacatcatt ggcaacgcta cctttgccat gtttcagaaa 660

caactctggc gcatcgggct tcccatacaa gcgatagatt gtcgcacctg attgcccgac 720

attatcgcga gcccatttat acccatataa atcagcatcc atgttggaat ttaatcgcgg 780

cctcgacgtt tcccgttgaa tatggctcat 810

<210> 108
<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Kanamycin promoter_CD8 Product 3

<400> 108
aacacccctt gtattactgt ttatgtaagc agacagtttt attgttcatg atgatatatt 60

tttatcttgt gcaatgtaac atcagagatt ttgagacac 99

<210> 109
<211> 5887
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Complete CD8 Product 3 construct with TCR97 insertion_CD8
Product 3

<400> 109
ggtaccacat taaaaacaca aaatcctacg gaaatactga agaatgagtc tcagcactaa 60

ggaaaagcct ccagcagctc ctgctttctg agggtgaagg atagacgctg tggctctgca 120

tgactcacta gcactctatc acggccatat tctggcaggg tcagtggctc caactaacat 180

ttgtttggta ctttacagtt tattaaatag atgtttatat ggagaagctc tcatttcttt 240

ctcagaagag cctggctagg aaggtggatg aggcaccata ttcattttgc aggtgaaatt 300

cctgagatgt aaggagctgc tgtgacttgc tcaaggcctt atatcgagta aacggtagtg 360

ctggggctta gacgcaggtg ttctgattta tagttcaaaa cctctatcaa tgagagagca 420

atctcctggt aatgtgatag atttcccaac ttaatgccaa cataccataa acctcccatt 480

ctgctaatgc ccagcctaag ttggggagac cactccagat tccaagatgt acagtttgct 540

ttgctgggcc tttttcccat gcctgccttt actctgccag agttatattg ctggggtttt 600

gaagaagatc ctattaaata aaagaataag cagtattatt aagtagccct gcatttcagg 660

tttccttgag tggcaggcca ggcctggccg tgaacgttca ctgaaatcat ggcctcttgg 720

ccaagattga tagcttgtgc ctgtccctga gtcccagtcc atcacgagca gctggtttct 780

aagatgctat ttcccgtata aagcatgaga ccgtgacttg ccagccccac agagccccgc 840

ccttgtccat cactggcatc tggactccag cctgggttgg ggcaaagagg gaaatgagat 900

catgtcctaa ccctgatcct cttgtcccac agatatccag aaccctgacc ctgccgtgta 960

ccagctgaga gactctaaat ccagtgacaa gtctgtctgc ctattcgaat tcggctccgg 1020

agccactaac ttcagcctgt tgaagcaggc cggcgacgtt gaggaaaacc ccggtcctat 1080

ggccttacca gtgaccgcct tgctcctgcc gctggccttg ctgctccacg ccgccaggcc 1140

gagccagttc cgggtgtcgc cgctggatcg gacctggaac ctgggcgaga cagtggagct 1200

gaagtgccag gtgctgctgt ccaacccgac gtcgggctgc tcgtggctct tccagccgcg 1260

cggcgccgcc gccagtccca ccttcctcct atacctctcc caaaacaagc ccaaggcggc 1320

cgaggggctg gacacccagc ggttctcggg caagaggttg ggggacacct tcgtcctcac 1380

cctgagcgac ttccgccgag agaacgaggg ctactatttc tgctcggccc tgagcaactc 1440

catcatgtac ttcagccact tcgtgccggt cttcctgcca gcgaagccca ccacgacgcc 1500

agcgccgcga ccaccaacac cggcgcccac catcgcgtcg cagcccctgt ccctgcgccc 1560

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tgatatctac atctgggcgc ccttggccgg gacttgtggg gtccttctcc tgtcactggt 1680

tatcacccac ctgtgctgcc ggcggaggag agcccggctt cgtttcatga aacaatttta 1740

caaaagggct aaacgggaat tcggctccgg agccactaac ttctccctgt tgaaacaggc 1800

tggcgatgtt gaagaaaacc ccggtcctat ggccaccggc tctagaacaa gcctgctgct 1860

cgcttttggc ctgctctgcc tcccatggct ccaagaagga tctgctaatg ctggtgtcac 1920

tcagacccca aaattccgca tcctgaagat aggacagagc atgacactgc agtgtaccca 1980

ggatatgaac cataactaca tgtactggta tcgacaagac ccaggcatgg ggctgaagct 2040

gatttattat tcagttggtg ctggtatcac tgataaagga gaagtcccga atggctacaa 2100

cgtctccaga tcaaccacag aggatttccc gctcaggctg gagttggctg ctccctccca 2160

gacatctgtg tacttctgtg ccagctccct acaggttccc tacaatgagc agttcttcgg 2220

gccagggaca cggctcaccg tgctagagga cctgaaaaac gtgttccctc caaaagtggc 2280

cgtgttcgag ccttctgagg ccgagatcag ccacacacag aaagccacac tcgtgtgtct 2340

ggctaccggc ttctaccccg atcacgtgga actgtcttgg tgggtcaacg gcaaagaggt 2400

gcacagcggc gtcagcacag atccccagcc tctgaaagaa cagcccgctc tgaacgacag 2460

ccgctactgc ctgtctagca gactgagagt gtccgccacc ttctggcaga accccagaaa 2520

ccacttcaga tgccaggtcc agttctacgg cctgagcgag aacgatgagt ggacccagga 2580

cagagccaag cctgtgacac agatcgtgtc tgccgaagcc tggggcagag ccgattgtgg 2640

ctttaccagc gagtcatacc agcagggcgt gctgtctgcc accatcctgt atgagatcct 2700

gctcggcaag gccacactgt acgctgtgct ggtgtctgct ctggtgctga tggctatggt 2760

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cctgctgaag caggccggcg acgtggagga gaaccccggc cctatggcca caggcagcag 2880

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cgctcagaca gtcactcagt ctcaaccaga gatgtctgtg caggaggcag agaccgtgac 3000

cctgagctgc acatatgaca ccagtgagag tgattattat ttattctggt acaagcagcc 3060

tcccagcagg cagatgattc tcgttattcg ccaagaagct tataagcaac agaatgcaac 3120

agagaatcgt ttctctgtga acttccagaa agcagccaaa tccttcagtc tcaagatctc 3180

agactcacag ctgggggatg ccgcgatgta tttctgtgct tttgggaact tcaacaaatt 3240

ttactttgga tctgggacca aactcaatgt aaaaccaaat attcagaacc ccgatcctgc 3300

tgtgtatcag ctgcgcgaca gcaagagcag cgacaagagc gtgtgtttgt tcaccgattt 3360

tgattctcaa acaaatgtgt cacaaagtaa ggattctgat gtgtatatca cagacaaaac 3420

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atctgacttt gcatgtgcaa acgccttcaa caacagcatt attccagaag acaccttctt 3540

ccccagccca ggtaagggca gctttggtgc cttcgcaggc tgtttccttg cttcaggaat 3600

ggccaggttc tgcccagagc tctggtcaat gatgtctaaa actcctctga ttggtggtct 3660

cggccttatc cattgccacc aaaaccctct ttttactaag aaacagtgag ccttgttctg 3720

gcagtccaga gaatgacacg ggaaaaaagc agatgaagag aaggtggcag gagagggcac 3780

gtggcccagc ctcagtctct ccaactgagt tcctgcctgc ctgcctttgc tcagactgtt 3840

tgccccttac tgctcttcta ggcctcattc taagcccctt ctccaagttg cctctcctta 3900

tttctccctg tctgccaaaa aatctttccc agctcactaa gtcagtctca cgcagtcact 3960

cattaaccca ccaatcactg attgtgccgg cacatgaatg caccaggtgt tgaagtggag 4020

gaattaaaaa gtcagatgag gggtgtgccc agaggaagca ccattctagt tgggggagcc 4080

catctgtcag ctgggaaaag tccaaataac ttcagattgg aatgtgtttt aactcagggt 4140

tgagaaaaca gctaccttca ggacaaaagt cagggaaggg ctctctgaag aaatgctact 4200

tgaagatacc agccctacca agggcaggga gaggacccta tagaggcctg ggacaggagc 4260

tcaatgagaa aggagaagag cagcaggcat gagttgaatg aaggaggcag ggccgggtca 4320

cagggccttc taggccatga gagggtagac aggctagccg cgttgctggc gtttttccat 4380

aggctccgcc cccctgacga gcatcacaaa aatcgacgct caagtcagag gtggcgaaac 4440

ccgacaggac tataaagata ccaggcgttt ccccctggaa gctccctcgt gcgctctcct 4500

gttccgaccc tgccgcttac cggatacctg tccgcctttc tcccttcggg aagcgtggcg 4560

ctttctcata gctcacgctg taggtatctc agttcggtgt aggtcgttcg ctccaagctg 4620

ggctgtgtgc acgaaccccc cgttcagccc gaccgctgcg ccttatccgg taactatcgt 4680

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ggctacacta gaagaacagt atttggtatc tgcgctctgc tgaagccagt taccttcgga 4860

aaaagagttg gtagctcttg atccggcaaa caaaccaccg ctggtagcgg tggttttttt 4920

gtttgcaagc agcagattac gcgcagaaaa aaaggatctc aagaagatcc tttgatcttt 4980

agaaaaactc atcgagcatc aaatgaaact gcaatttatt catatcagga ttatcaatac 5040

catatttttg aaaaagccgt ttctgtaatg aaggagaaaa ctcaccgagg cagttccata 5100

ggatggcaag atcctggtat cggtctgcga ttccgactcg tccaacatca atacaaccta 5160

ttaatttccc ctcgtcaaaa ataaggttat caagtgagaa atcaccatga gtgacgactg 5220

aatccggtga gaatggcaaa agtttatgca tttctttcca gacttgttca acaggccagc 5280

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cctgagccag acgaaatacg cgatcgctgt taaaaggaca attacaaaca ggaatcgaat 5400

gcaaccggcg caggaacact gccagcgcat caacaatatt ttcacctgaa tcaggatatt 5460

cttctaatac ctggaatgct gtttttccgg ggatcgcagt ggtgagtaac catgcatcat 5520

caggagtacg gataaaatgc ttgatggtcg gaagaggcat aaattccgtc agccagttta 5580

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actctggcgc atcgggcttc ccatacaagc gatagattgt cgcacctgat tgcccgacat 5700

tatcgcgagc ccatttatac ccatataaat cagcatccat gttggaattt aatcgcggcc 5760

tcgacgtttc ccgttgaata tggctcataa caccccttgt attactgttt atgtaagcag 5820

acagttttat tgttcatgat gatatatttt tatcttgtgc aatgtaacat cagagatttt 5880

gagacac 5887

<210> 110
<211> 926
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Left HR Arm_CD8 Product 4

<400> 110
acattaaaaa cacaaaatcc tacggaaata ctgaagaatg agtctcagca ctaaggaaaa 60

gcctccagca gctcctgctt tctgagggtg aaggatagac gctgtggctc tgcatgactc 120

actagcactc tatcacggcc atattctggc agggtcagtg gctccaacta acatttgttt 180

ggtactttac agtttattaa atagatgttt atatggagaa gctctcattt ctttctcaga 240

agagcctggc taggaaggtg gatgaggcac catattcatt ttgcaggtga aattcctgag 300

atgtaaggag ctgctgtgac ttgctcaagg ccttatatcg agtaaacggt agtgctgggg 360

cttagacgca ggtgttctga tttatagttc aaaacctcta tcaatgagag agcaatctcc 420

tggtaatgtg atagatttcc caacttaatg ccaacatacc ataaacctcc cattctgcta 480

atgcccagcc taagttgggg agaccactcc agattccaag atgtacagtt tgctttgctg 540

ggccttttc ccatgcctgc ctttactctg ccagagttat attgctgggg ttttgaagaa 600

gatcctatta aataaaagaa taagcagtat tattaagtag ccctgcattt caggtttcct 660

tgagtggcag gccaggcctg gccgtgaacg ttcactgaaa tcatggcctc ttggccaaga 720

ttgatagctt gtgcctgtcc ctgagtccca gtccatcacg agcagctggt ttctaagatg 780

ctatttcccg tataaagcat gagaccgtga cttgccagcc ccacagagcc ccgcccttgt 840

ccatcactgg catctggact ccagcctggg ttggggcaaa gagggaaatg agatcatgtc 900

ctaaccctga tcctcttgtc ccacag 926

<210> 111
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRAC CDS_CD8 Product 4

<400> 111
atatccagaa ccctgaccct gccgtgtacc agctgagaga ctctaaatcc agtgacaagt 60

ctgtctgcct attc 74

<210> 112
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG Linker_CD8 Product 4

<400> 112
gaattcggct ccgga 15

<210> 113
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 4

<400> 113
gccactaact tcagcctgtt gaagcaggcc ggcgacgttg aggaaaaccc cggtcct 57

<210> 114
<211> 63

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A Signal peptide_CD8 Product 4

<400> 114
atggccttac cagtgaccgc cttgctcctg ccgctggcct tgctgctcca cgccgccagg 60

ccg 63

<210> 115
<211> 483
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A Extracellular Domain_CD8 Product 4

<400> 115
agccagttcc gggtgtcgcc gctggatcgg acctggaacc tgggcgagac agtggagctg 60

aagtgccagg tgctgctgtc caacccgacg tcgggctgct cgtggctctt ccagccgcgc 120

ggcgccgccg ccagtcccac cttcctccta tacctctccc aaaacaagcc caaggcggcc 180

gaggggctgg acacccagcg gttctcgggc aagaggttgg gggacacctt cgtcctcacc 240

ctgagcgact tccgccgaga gaacgagggc tactatttct gctcggccct gagcaactcc 300

atcatgtact tcagccactt cgtgccggtc ttcctgccag cgaagcccac cacgacgcca 360

gcgccgcgac caccaacacc ggcgcccacc atcgcgtcgc agcccctgtc cctgcgccca 420

gaggcgtgcc ggccagcggc ggggggcgca gtgcacacga gggggctgga cttcgcctgt 480

gat 483

<210> 116
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8A transmembrane domain_CD8 Product 4

<400> 116
atctacatct gggcgccctt ggccgggact tgtggggtcc ttctcctgtc actggttatc 60

acc 63

<210> 117
<211> 120
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD4 intracellular domain_CD8 Product 4

<400> 117
tgtgtcaggt gccggcaccg aaggcgccaa gcagagcgga tgtctcagat caagagactc 60

ctcagtgaga agaagacctg ccagtgtcct caccggtttc agaagacatg tagccccatt 120

<210> 118
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Furin Cleavage site_CD8 Product 4

<400> 118
agggctaaac gg 12

<210> 119
<211> 15
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG Linker_CD8 Product 4

<400> 119
gaattcggct ccgga 15

<210> 120
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 4

<400> 120
gccactaact tctccctgtt gaaacaggct ggcgatgttg aagaaaaccc cggtcct 57

<210> 121
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
HGH/SS/2_CD8 Product 4

<400> 121
atggccaccg gctctagaac aagcctgctg ctcgcttttg gcctgctctg cctcccatgg 60

ctccaagaag gatctgct 78

<210> 122
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRB_VDJ (TCR097) _CD8 Product 4

<400> 122
aatgctggtg tcactcagac cccaaaattc cgcatcctga agataggaca gagcatgaca 60

ctgcagtgta cccaggatat gaaccataac tacatgtact ggtatcgaca agacccaggc 120

atggggctga agctgattta ttattcagtt ggtgctggta tcactgataa aggagaagtc 180

ccgaatggct acaacgtctc cagatcaacc acagaggatt tcccgctcag gctggagttg 240

gctgctccct cccagacatc tgtgtacttc tgtgccagct ccctacaggt tccctacaat 300

gagcagttct tcgggccagg gacacggctc accgtgctag aggac 345

<210> 123
<211> 534
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TCR-beta/constant_CD8 Product 4

<400> 123

ctgaaaaacg tgttccctcc aaaagtggcc gtgttcgagc cttctgaggc cgagatcagc 60

cacacacaga aagccacact cgtgtgtctg gctaccggct tctaccccga tcacgtggaa 120

ctgtcttggt gggtcaacgg caaagaggtg cacagcggcg tcagcacaga tccccagcct 180

ctgaaagaac agcccgctct gaacgacagc cgctactgcc tgtctagcag actgagagtg 240

tccgccacct tctggcagaa ccccagaaac cacttcagat gccaggtcca gttctacggc 300

ctgagcgaga acgatgagtg gacccaggac agagccaagc ctgtgacaca gatcgtgtct 360

gccgaagcct ggggcagagc cgattgtggc tttaccagcg agtcatacca gcagggcgtg 420

ctgtctgcca ccatcctgta tgagatcctg ctcggcaagg ccacactgta cgctgtgctg 480

gtgtctgctc tggtgctgat ggctatggtc tcccgggagc gcatccccga ggcc 534

<210> 124
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Furin cleavage site_CD8 Product 4

<400> 124
cgggccaagc gg 12

<210> 125
<211> 9
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG linker_CD8 Product 4

<400> 125
ggcagcggc 9

<210> 126
<211> 57
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Product 4

<400> 126
gccaccaact tcagcctgct gaagcaggcc ggcgacgtgg aggagaaccc cggccct 57

<210> 127
<211> 78
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
HGH/SS_CD8 Product 4

<400> 127
atggccacag gcagcagaac atctctgctg ctggccttcg gactgctgtg tctgccttgg 60

ctgcaagagg gttccgcc 78

<210> 128
<211> 337
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Exemplary TRA-VDJ (TCR097) _CD8 Product 4

<400> 128
gctcagacag tcactcagtc tcaaccagag atgtctgtgc aggaggcaga gaccgtgacc 60

ctgagctgca catatgacac cagtgagagt gattattatt tattctggta caagcagcct 120

cccagcaggc agatgattct cgttattcgc caagaagctt ataagcaaca gaatgcaaca 180

gagaatcgtt tctctgtgaa cttccagaaa gcagccaaat ccttcagtct caagatctca 240

gactcacagc tgggggatgc cgcgatgtat ttctgtgctt ttgggaactt caacaaattt 300

tactttggat ctgggaccaa actcaatgta aaaccaa 337

<210> 129
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TCR-alpha/constant_CD8 Product 4

<400> 129

atattcagaa ccccgatcct gctgtgtatc agctgcgcga cagcaagagc agcgacaaga 60

gcgtgtgttt gttc 74

<210> 130
<211> 200
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
TRAC CDS/right HR arm_CD8 Product 4

<400> 130
accgattttg attctcaaac aaatgtgtca caaagtaagg attctgatgt gtatatcaca 60

gacaaaactg tgctagacat gaggtctatg gacttcaaga gcaacagtgc tgtggcctgg 120

agcaacaaat ctgactttgc atgtgcaaac gccttcaaca acagcattat tccagaagac 180

accttcttcc ccagcccagg 200

<210> 131
<211> 800
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Right HR arm_CD8 Product 4

<400> 131
taagggcagc tttggtgcct tcgcaggctg tttccttgct tcaggaatgg ccaggttctg 60

cccagagctc tggtcaatga tgtctaaaac tcctctgatt ggtggtctcg gccttatcca 120

ttgccaccaa aaccctcttt ttactaagaa acagtgagcc ttgttctggc agtccagaga 180

atgacacggg aaaaaagcag atgaagagaa ggtggcagga gagggcacgt ggcccagcct 240

cagtctctcc aactgagttc ctgcctgcct gcctttgctc agactgtttg ccccttactg 300

ctcttctagg cctcattcta agccccttct ccaagttgcc tctccttatt tctccctgtc 360

tgccaaaaaa tctttcccag ctcactaagt cagtctcacg cagtcactca ttaacccacc 420

aatcactgat tgtgccggca catgaatgca ccaggtgttg aagtggagga attaaaaagt 480

cagatgaggg gtgtgcccag aggaagcacc attctagttg ggggagccca tctgtcagct 540

gggaaaagtc caaataactt cagattggaa tgtgttttaa ctcagggttg agaaaacagc 600

taccttcagg acaaaagtca gggaagggct ctctgaagaa atgctacttg aagataccag 660

ccctaccaag ggcagggaga ggaccctata gaggcctggg acaggagctc aatgagaaag 720

gagaagagca gcaggcatga gttgaatgaa ggaggcaggg ccgggtcaca gggccttcta 780

ggccatgaga gggtagacag 800

<210> 132
<211> 6
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Artificial Sequence_CD8 Product 4

<400> 132
gctagc 6

<210> 133
<211> 620
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
pBR322_origin_CD8 Product 4

<400> 133
cgcgttgctg gcgtttttcc ataggctccg ccccccctgac gagcatcaca aaaatcgacg 60

ctcaagtcag aggtggcgaa acccgacagg actataaaga taccaggcgt ttcccccctgg 120

aagctccctc gtgcgctctc ctgttccgac cctgccgctt accggatacc tgtccgcctt 180

tctcccttcg ggaagcgtgg cgctttctca tagctcacgc tgtaggtatc tcagttcggt 240

gtaggtcgtt cgctccaagc tgggctgtgt gcacgaaccc cccgttcagc ccgaccgctg 300

cgccttatcc ggtaactatc gtcttgagtc caacccggta agacacgact tatcgccact 360

ggcagcagcc actggtaaca ggattagcag agcgaggtat gtaggcggtg ctacagagtt 420

cttgaagtgg tggcctaact acggctacac tagaagaaca gtatttggta tctgcgctct 480

gctgaagcca gttaccttcg gaaaaagagt tggtagctct tgatccggca aacaaaccac 540

cgctggtagc ggtggttttt ttgtttgcaa gcagcagatt acgcgcagaa aaaaaggatc 600

tcaagaagat cctttgatct 620

<210> 134
<211> 810
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Kanamycin resistance (KanR2) _CD8 Product 4

<400> 134
ttagaaaaac tcatcgagca tcaaatgaaa ctgcaattta ttcatatcag gattatcaat 60

accatatttt tgaaaaagcc gtttctgtaa tgaaggagaa aactcaccga ggcagttcca 120

taggatggca agatcctggt atcggtctgc gattccgact cgtccaacat caatacaacc 180

tattaatttc ccctcgtcaa aaataaggtt atcaagtgag aaatcaccat gagtgacgac 240

tgaatccggt gagaatggca aaagtttatg catttctttc cagacttgtt caacaggcca 300

gccattacgc tcgtcatcaa aatcactcgc atcaaccaaa ccgttattca ttcgtgattg 360

cgcctgagcc agacgaaata cgcgatcgct gttaaaagga caattacaaa caggaatcga 420

atgcaaccgg cgcaggaaca ctgccagcgc atcaacaata ttttcacctg aatcaggata 480

ttcttctaat acctggaatg ctgtttttcc ggggatcgca gtggtgagta accatgcatc 540

atcaggagta cggataaaat gcttgatggt cggaagaggc ataaattccg tcagccagtt 600

tagtctgacc atctcatctg taacatcatt ggcaacgcta cctttgccat gtttcagaaa 660

caactctggc gcatcgggct tcccatacaa gcgatagatt gtcgcacctg attgcccgac 720

attatcgcga gcccatttat acccatataa atcagcatcc atgttggaat ttaatcgcgg 780

cctcgacgtt tcccgttgaa tatggctcat 810

<210> 135
<211> 99
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8 Product 4 Kanamycin promoter

<400> 135
aacacccctt gtattactgt ttatgtaagc agacagtttt attgttcatg atgatatatt 60

tttatcttgt gcaatgtaac atcagagatt ttgagacac 99

<210> 136
<211> 5950
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Complete CD8 Product 4 construct with TCR97 insertion_CD8
Product 4

<400> 136
ggtaccacat taaaaacaca aaatcctacg gaaatactga agaatgagtc tcagcactaa 60

ggaaaagcct ccagcagctc ctgctttctg agggtgaagg atagacgctg tggctctgca 120

tgactcacta gcactctatc acggccatat tctggcaggg tcagtggctc caactaacat 180

ttgtttggta ctttacagtt tattaaatag atgtttatat ggagaagctc tcatttcttt 240

ctcagaagag cctggctagg aaggtggatg aggcaccata ttcattttgc aggtgaaatt 300

cctgagatgt aaggagctgc tgtgacttgc tcaaggcctt atatcgagta aacggtagtg 360

ctggggctta gacgcaggtg ttctgattta tagttcaaaa cctctatcaa tgagagagca 420

atctcctggt aatgtgatag atttcccaac ttaatgccaa cataccataa acctcccatt 480

ctgctaatgc ccagcctaag ttggggagac cactccagat tccaagatgt acagtttgct 540

ttgctgggcc tttttcccat gcctgccttt actctgccag agttatattg ctggggtttt 600

gaagaagatc ctattaaata aaagaataag cagtattatt aagtagccct gcatttcagg 660

tttccttgag tggcaggcca ggcctggccg tgaacgttca ctgaaatcat ggcctcttgg 720

ccaagattga tagcttgtgc ctgtccctga gtcccagtcc atcacgagca gctggtttct 780

aagatgctat ttcccgtata aagcatgaga ccgtgacttg ccagccccac agagccccgc 840

ccttgtccat cactggcatc tggactccag cctgggttgg ggcaaagagg gaaatgagat 900

catgtcctaa ccctgatcct cttgtcccac agatatccag aaccctgacc ctgccgtgta 960

ccagctgaga gactctaaat ccagtgacaa gtctgtctgc ctattcgaat tcggctccgg 1020

agccactaac ttcagcctgt tgaagcaggc cggcgacgtt gaggaaaacc ccggtcctat 1080

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ggctggcgat gttgaagaaa accccggtcc tatggccacc ggctctagaa caagcctgct 1920

gctcgctttt ggcctgctct gcctcccatg gctccaagaa ggatctgcta atgctggtgt 1980

cactcagacc ccaaaattcc gcatcctgaa gataggacag agcatgacac tgcagtgtac 2040

ccaggatatg aaccataact acatgtactg gtatcgacaa gacccaggca tggggctgaa 2100

gctgatttat tattcagttg gtgctggtat cactgataaa ggagaagtcc cgaatggcta 2160

caacgtctcc agatcaacca cagaggattt cccgctcagg ctggagttgg ctgctccctc 2220

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gaccctgagc tgcacatatg acaccagtga gagtgattat tatttattct ggtacaagca 3120

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aacagagaat cgtttctctg tgaacttcca gaaagcagcc aaatccttca gtctcaagat 3240

ctcagactca cagctggggg atgccgcgat gtatttctgt gcttttggga acttcaacaa 3300

attttacttt ggatctggga ccaaactcaa tgtaaaacca aatattcaga accccgatcc 3360

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aactgtgcta gacatgaggt ctatggactt caagagcaac agtgctgtgg cctggagcaa 3540

caaatctgac tttgcatgtg caaacgcctt caacaacagc attattccag aagacacctt 3600

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cacgtggccc agcctcagtc tctccaactg agttcctgcc tgcctgcctt tgctcagact 3900

gtttgcccct tactgctctt ctaggcctca ttctaagccc cttctccaag ttgcctctcc 3960

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actcattaac ccaccaatca ctgattgtgc cggcacatga atgcaccagg tgttgaagtg 4080

gaggaattaa aaagtcagat gaggggtgtg cccagaggaa gcaccattct agttggggga 4140

gcccatctgt cagctgggaa aagtccaaat aacttcagat tggaatgtgt tttaactcag 4200

ggttgagaaa acagctacct tcaggacaaa agtcagggaa gggctctctg aagaaatgct 4260

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tcacagggcc ttctaggcca tgagagggta gacaggctag ccgcgttgct ggcgtttttc 4440

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gcctcgacgt ttcccgttga atatggctca taacacccct tgtattactg tttatgtaag 5880

cagacagttt tattgttcat gatgatatat ttttatcttg tgcaatgtaa catcagagat 5940

tttgagacac 5950

<210> 137
<211> 3
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
GSG Linker_CD8 Products 1, 2, 3, 4

<400> 137
Gly Ser Gly
1

<210> 138
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
P2A_CD8 Products 1, 2, 3, 4

<400> 138
Ala Thr Asn Phe Ser Leu Leu Lys Gln Ala Gly Asp Val Glu Glu Asn
1 5 10 15

Pro Gly Pro

<210> 139
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8alpha Signal Peptide_CD8 Products 1, 2, 3, 4

<400> 139
Met Ala Leu Pro Val Thr Ala Leu Leu Leu Pro Leu Ala Leu Leu Leu
1 5 10 15

His Ala Ala Arg Pro
20

<210> 140
<211> 161
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8alpha Extracellular Domain_CD8 Products 1, 2, 3, 4

<400> 140
Ser Gln Phe Arg Val Ser Pro Leu Asp Arg Thr Trp Asn Leu Gly Glu
1 5 10 15

Thr Val Glu Leu Lys Cys Gln Val Leu Leu Ser Asn Pro Thr Ser Gly
20 25 30

Cys Ser Trp Leu Phe Gln Pro Arg Gly Ala Ala Ala Ser Pro Thr Phe
35 40 45

Leu Leu Tyr Leu Ser Gln Asn Lys Pro Lys Ala Ala Glu Gly Leu Asp
50 55 60

Thr Gln Arg Phe Ser Gly Lys Arg Leu Gly Asp Thr Phe Val Leu Thr
65 70 75 80

Leu Ser Asp Phe Arg Arg Glu Asn Glu Gly Tyr Tyr Phe Cys Ser Ala
85 90 95

Leu Ser Asn Ser Ile Met Tyr Phe Ser His Phe Val Pro Val Phe Leu
100 105 110

Pro Ala Lys Pro Thr Thr Thr Pro Ala Pro Arg Pro Pro Thr Pro Ala
115 120 125

Pro Thr Ile Ala Ser Gln Pro Leu Ser Leu Arg Pro Glu Ala Cys Arg
130 135 140

Pro Ala Ala Gly Gly Ala Val His Thr Arg Gly Leu Asp Phe Ala Cys
145 150 155 160

Asp

<210> 141
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8alpha Transmembrane Domain_CD8 Products 1, 2, 3, 4

<400> 141
Ile Tyr Ile Trp Ala Pro Leu Ala Gly Thr Cys Gly Val Leu Leu Leu
1 5 10 15

Ser Leu Val Ile Thr
20

<210> 142
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8alpha Intracellular Domain_CD8 Product 1 and 2

<400> 142
Leu Tyr Cys Asn His Arg Asn Arg Arg Arg Val Cys Lys Cys Pro Arg
1 5 10 15

Pro Val Val Lys Ser Gly Asp Lys Pro Ser Leu Ser Ala Arg Tyr Val
20 25 30

<210> 143
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
Furin Cleavage Site_CD8 Products 1, 2, 3, 4

<400> 143
Arg Ala Lys Arg
1

<210> 144

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

<220>
<223> Description of Artificial Sequence: Synthetic
CD8beta Signal Peptide _CD8 Product 2

<400> 144
Met Arg Pro Arg Leu Trp Leu Leu Leu Ala Ala Gln Leu Thr Val Leu
1 5 10 15

His Gly Asn Ser Val
20

<210> 145
<211> 149
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD8beta Extracellular Domain _CD8 Product 2

<400> 145
Leu Gln Gln Thr Pro Ala Tyr Ile Lys Val Gln Thr Asn Lys Met Val
1 5 10 15

Met Leu Ser Cys Glu Ala Lys Ile Ser Leu Ser Asn Met Arg Ile Tyr
20 25 30

Trp Leu Arg Gln Arg Gln Ala Pro Ser Ser Asp Ser His His Glu Phe
35 40 45

Leu Ala Leu Trp Asp Ser Ala Lys Gly Thr Ile His Gly Glu Glu Val
50 55 60

Glu Gln Glu Lys Ile Ala Val Phe Arg Asp Ala Ser Arg Phe Ile Leu
65 70 75 80

Asn Leu Thr Ser Val Lys Pro Glu Asp Ser Gly Ile Tyr Phe Cys Met
85 90 95

Ile Val Gly Ser Pro Glu Leu Thr Phe Gly Lys Gly Thr Gln Leu Ser
100 105 110

Val Val Asp Phe Leu Pro Thr Thr Ala Gln Pro Thr Lys Lys Ser Thr
        115   120   125

Leu Lys Lys Arg Val Cys Arg Leu Pro Arg Pro Glu Thr Gln Lys Gly
    130   135   140

Pro Leu Cys Ser Pro
145

<210> 146
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      CD8beta Transmembrane Domain_CD8 Product 2

<400> 146
Ile Thr Leu Gly Leu Leu Val Ala Gly Val Leu Val Leu Leu Val Ser
1   5   10   15

Leu Gly Val Ala Ile
            20

<210> 147
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      CD8beta Intracellular Domain_CD8 Products 2 and 3

<400> 147
His Leu Cys Cys Arg Arg Arg Arg Ala Arg Leu Arg Phe Met Lys Gln
1   5   10   15

Phe Tyr Lys

<210> 148
<211> 40
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
CD4 Intracellular Domain_CD8 Product 4

<400> 148
Cys Val Arg Cys Arg His Arg Arg Arg Gln Ala Glu Arg Met Ser Gln
1 5 10 15

Ile Lys Arg Leu Leu Ser Glu Lys Lys Thr Cys Gln Cys Pro His Arg
20 25 30

Phe Gln Lys Thr Cys Ser Pro Ile
35 40