

SEQUENCE LISTING

<110> COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES
ALTERNATIVES

<120> IMMUNOMODULATORY COMPLEX AND USES THEREOF FOR THERAPY

<130> B1920035FRWO

<160> 23

<170> PatentIn version 3.5

<210> 1

<211> 116

<212> PRT

<213> artificial sequence

<220>

<223> synthetic polypeptide (BB fragment of Staphylococcus aureus
protein A)

<400> 1

Ala Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile
1 5 10 15

Leu His Leu Pro Asn Leu Asn Glu Glu Gln Arg Asn Gly Phe Ile Gln
20 25 30

Ser Leu Lys Asp Asp Pro Ser Gln Ser Ala Asn Leu Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Ala Asp Asn Lys Phe Asn
50 55 60

Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu
65 70 75 80

Asn Glu Glu Gln Arg Asn Gly Phe Ile Gln Ser Leu Lys Asp Asp Pro

85 90 95

Ser Gln Ser Ala Asn Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
100 105 110

Gln Ala Pro Lys
115

<210> 2
<211> 116
<212> PRT
<213> artificial sequence

<220>
<223> synthetic polypeptide (ZZ derivative of BB fragment of
Staphylococcus aureus protein A)

<400> 2

Val Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile
1 5 10 15

Leu His Leu Pro Asn Leu Asn Glu Glu Gln Arg Asn Ala Phe Ile Gln
20 25 30

Ser Leu Lys Asp Asp Pro Ser Gln Ser Ala Asn Leu Leu Ala Glu Ala
35 40 45

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Val Asp Asn Lys Phe Asn
50 55 60

Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu
65 70 75 80

Asn Glu Glu Gln Arg Asn Ala Phe Ile Gln Ser Leu Lys Asp Asp Pro
85 90 95

Ser Gln Ser Ala Asn Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala
100 105 110

Gln Ala Pro Lys
115

<210> 3
<211> 9
<212> PRT
<213> artificial sequence

<220>
<223> synthetic peptide (HIV Tat 49-57)

<400> 3

Arg Lys Lys Arg Arg Gln Arg Arg Arg
1 5

<210> 4
<211> 11
<212> PRT
<213> artificial sequence

<220>
<223> synthetic peptide (HIV Tat 28-48)

<400> 4

Phe Thr Lys Lys Gly Leu Gly Ile Ser Tyr Gly
1 5 10

<210> 5
<211> 154
<212> PRT
<213> artificial sequence

<220>
<223> synthetic polypeptide (R domain of Diptheria Toxin)

<400> 5

Pro Gly His Lys Thr Gln Pro Phe Leu His Asp Gly Tyr Ala Val Ser
1 5 10 15

Trp Asn Thr Val Glu Asp Ser Ile Ile Arg Thr Gly Phe Gln Gly Glu
20 25 30

Ser Gly His Asp Ile Lys Ile Thr Ala Glu Asn Thr Pro Leu Pro Ile
35 40 45

Ala Gly Val Leu Leu Pro Thr Ile Pro Gly Lys Leu Asp Val Asn Lys
50 55 60

Ser Lys Thr His Ile Ser Val Asn Gly Arg Lys Ile Arg Met Arg Cys
65 70 75 80

Arg Ala Ile Asp Gly Asp Val Thr Phe Cys Arg Pro Lys Ser Pro Val
85 90 95

Tyr Val Gly Asn Gly Val His Ala Asn Leu His Val Ala Phe His Arg
100 105 110

Ser Ser Ser Glu Lys Ile His Ser Asn Glu Ile Ser Ser Asp Ser Ile
115 120 125

Gly Val Leu Gly Tyr Gln Lys Thr Val Asp His Thr Lys Val Asn Ser
130 135 140

Lys Leu Ser Leu Phe Phe Glu Ile Lys Ser
145 150

<210> 6

<211> 16

<212> PRT

<213> artificial sequence

<220>

<223> synthetic peptide (penetratin 43-58)

<400> 6

Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
1 5 10 15

<210> 7

<211> 15

<212> PRT

<213> artificial sequence

<220>

<223> synthetic peptide (Diphtheria Toxin 453-467)

<400> 7

Asn Gly Arg Lys Ile Arg Met Arg Cys Arg Ala Ile Asp Gly Asp
1 5 10 15

<210> 8

<211> 21

<212> PRT

<213> artificial sequence

<220>

<223> synthetic peptide (HIV Tat 37-57)

<400> 8

Cys Phe Thr Lys Lys Gly Leu Gly Ile Ser Tyr Gly Arg Lys Lys Arg
1 5 10 15

Arg Gln Arg Arg Arg
20

<210> 9

<211> 36

<212> PRT

<213> artificial sequence

<220>

<223> synthetic peptide (HIV Tat22-57C

(22-37)S)

<400> 9

Ser Asn Asn Ser Tyr Ser Lys Lys Ser Ser Phe His Ser Gln Val Ser
1 5 10 15

Phe Thr Lys Lys Gly Leu Gly Ile Ser Tyr Gly Arg Lys Lys Arg Arg
20 25 30

Gln Arg Arg Arg
35

<210> 10

<211> 101

<212> PRT

<213> artificial sequence

<220>

<223> synthetic polypeptide (HIV Tat consensus sequence)

<400> 10

Met Glu Pro Val Asp Pro Lys Leu Glu Pro Trp Lys His Pro Gly Ser
1 5 10 15

Gln Pro Lys Thr Ala Cys Asn Asn Cys Tyr Cys Lys Lys Cys Cys Phe
20 25 30

His Cys Gln Val Cys Phe Thr Lys Lys Gly Leu Gly Ile Ser Tyr Gly
35 40 45

Arg Lys Lys Arg Arg Gln Arg Arg Arg Ala Pro Gln Asp Ser Gln Thr

50 55 60

His Gln Val Ser Leu Ser Lys Gln Pro Ala Ser Gln Pro Arg Gly Asp
65 70 75 80

Pro Thr Gly Pro Lys Glu Ser Lys Lys Lys Val Glu Arg Glu Thr Glu
85 90 95

Thr Asp Pro Val Asp
100

<210> 11
<211> 873
<212> DNA
<213> artificial sequence

<220>
<223> synthetic polypeptide (ZZ-DTRBDcoli)

<400> 11
atggcgcaac acgatgaagc cgtagacaac aaattcaaca aagaacaaca aaacgcgttc 60

tatgagatct tacatttacc taacttaaac gaagaacaac gaaacgcctt catccaaagt 120

ttaaagatg acccaagcca aagcgctaac ctttagcag aagctaaaaa gctaatgat 180

gctcaggcgc cgaaagtaga caacaaattc aacaaagaac aacaaaacgc gttctatgag 240

atcttacatt tacctaactt aaacgaagaa caacgaaacg ccttcatcca aagtttaaaa 300

gatgacccaa gccaaagcgc taaccttta gcagaagcta aaaagctaaa tgatgctcag 360

gcgccgaaag tagacgcgaa ttcgagctcg gtaccgtcga cgccgggtca taaaaccag 420

ccgtttctgc atgatggcta tgcggtgagc tggaacaccg tggaagatag cattattcgt 480

accggcttgc agggcgaaag cggccatgat attaaaatta ccgcggaaaa caccgcgctg 540

ccgattgcgg gtgttctgct gccgaccatt ccgggcaaac tggatgtgaa caaaagcaaa 600

accatatta gcgtgaacgg ccgtaaaatt cgtatgcgtt gccgtgcgat tgatggtgat 660

gtgaccttt gccgtccgaa aagcccgggtg tatgtgggca acggcgtgca tgcgaacctg 720
catgtggcgt ttcacgtag cagcagcgaa aaaatccata gcaacgaaat tagcagcgat 780
agcattggcg tgctgggcta tcagaaaacc gtggatcata ccaaagtga ctctaaactg 840
agcctgttct tcgaaatcaa aagcggaagc tta 873

<210> 12
<211> 291
<212> PRT
<213> artificial sequence

<220>
<223> synthetic polypeptide (ZZ-DTRBDcoli)

<400> 12

Met Ala Gln His Asp Glu Ala Val Asp Asn Lys Phe Asn Lys Glu Gln
1 5 10 15

Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Asn Glu Glu
20 25 30

Gln Arg Asn Ala Phe Ile Gln Ser Leu Lys Asp Asp Pro Ser Gln Ser
35 40 45

Ala Asn Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro
50 55 60

Lys Val Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu
65 70 75 80

Ile Leu His Leu Pro Asn Leu Asn Glu Glu Gln Arg Asn Ala Phe Ile
85 90 95

Gln Ser Leu Lys Asp Asp Pro Ser Gln Ser Ala Asn Leu Leu Ala Glu

100

105

110

Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Val Asp Ala Asn Ser
 115 120 125

Ser Ser Val Pro Ser Thr Pro Gly His Lys Thr Gln Pro Phe Leu His
 130 135 140

Asp Gly Tyr Ala Val Ser Trp Asn Thr Val Glu Asp Ser Ile Ile Arg
 145 150 155 160

Thr Gly Phe Gln Gly Glu Ser Gly His Asp Ile Lys Ile Thr Ala Glu
 165 170 175

Asn Thr Pro Leu Pro Ile Ala Gly Val Leu Leu Pro Thr Ile Pro Gly
 180 185 190

Lys Leu Asp Val Asn Lys Ser Lys Thr His Ile Ser Val Asn Gly Arg
 195 200 205

Lys Ile Arg Met Arg Cys Arg Ala Ile Asp Gly Asp Val Thr Phe Cys
 210 215 220

Arg Pro Lys Ser Pro Val Tyr Val Gly Asn Gly Val His Ala Asn Leu
 225 230 235 240

His Val Ala Phe His Arg Ser Ser Ser Glu Lys Ile His Ser Asn Glu
 245 250 255

Ile Ser Ser Asp Ser Ile Gly Val Leu Gly Tyr Gln Lys Thr Val Asp
 260 265 270

His Thr Lys Val Asn Ser Lys Leu Ser Leu Phe Phe Glu Ile Lys Ser
 275 280 285

Gly Ser Leu
290

<210> 13
<211> 930
<212> DNA
<213> artificial sequence

<220>
<223> synthetic polynucleotide (ZZ-DTRBDHEK)

<400> 13
atgggctggc cctgcatcat cctgtttctg gtggccacag ccaccgggtg tcaactgcc 60
cagcatgatg aggccgtgga caacaagttc aacaaagagc agcagaacgc cttctacgag 120
atcctgcata tggccaacct gaacgaggaa cagagaaaacg ccttcattca gagcctgaag 180
gacgacccta gccagagcgc taatctgctg gccgaggcca agaagctgaa cgacgctcag 240
gcccctaaag tcgataacaa gttaacaaa gaacaacaaa atgcctttta tgagatcctc 300
cacctccga atctcaatga ggaacagcgg aatgccttta ttacgtccct gaaggatgat 360
ccctctcagt ccgccaacct gctggctgaa gctaaaaaac tgaatgatgc ccaggctcct 420
aagggtggacg cgaatgctag cagcggggta cctcaacac cagggcacia gactcagccc 480
ttctgcacg atggctatgc tctgagctgg aatacagtg aagattccat cattaggaca 540
ggctttcaag gcgaaagtgg ccatgacatc aagattactg ccgaaaacac ccattgccg 600
atagctggcg ttctcttcc cagcattcct gggaaactgg acgtcaacaa gtccaagact 660
cacatctccg tgaatggacg caaaatacgg atgcgatgta gagccattga tggcgatgtg 720
accttttgca gacccaaatc tctgtgtac gttgggaatg taggtcatgc gaatctccat 780
gtcgcatctc accgttcac ccttgagaag atccacagca acgagatcag ctctgactca 840
attggagtgc tgggatacca gaaaaccgta gaccatacca aggtcaacag caagctgagt 900

ctgttcttcg agatcaaaag cggaagctta

930

<210> 14

<211> 291

<212> PRT

<213> artificial sequence

<220>

<223> synthetic polypeptide (ZZ-DTRBDHEK)

<400> 14

Ala Gln His Asp Glu Ala Val Asp Asn Lys Phe Asn Lys Glu Gln Gln
1 5 10 15

Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Asn Glu Glu Gln
20 25 30

Arg Asn Ala Phe Ile Gln Ser Leu Lys Asp Asp Pro Ser Gln Ser Ala
35 40 45

Asn Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
50 55 60

Val Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile
65 70 75 80

Leu His Leu Pro Asn Leu Asn Glu Glu Gln Arg Asn Ala Phe Ile Gln
85 90 95

Ser Leu Lys Asp Asp Pro Ser Gln Ser Ala Asn Leu Leu Ala Glu Ala
100 105 110

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Val Asp Ala Asn Ala Ser
115 120 125

Ser Gly Val Pro Ser Thr Pro Gly His Lys Thr Gln Pro Phe Leu His
130 135 140

Asp Gly Tyr Ala Val Ser Trp Asn Thr Val Glu Asp Ser Ile Ile Arg
145 150 155 160

Thr Gly Phe Gln Gly Glu Ser Gly His Asp Ile Lys Ile Thr Ala Glu
165 170 175

Asn Thr Pro Leu Pro Ile Ala Gly Val Leu Leu Pro Thr Ile Pro Gly
180 185 190

Lys Leu Asp Val Asn Lys Ser Lys Thr His Ile Ser Val Asn Gly Arg
195 200 205

Lys Ile Arg Met Arg Cys Arg Ala Ile Asp Gly Asp Val Thr Phe Cys
210 215 220

Arg Pro Lys Ser Pro Val Tyr Val Gly Asn Val Gly His Ala Asn Leu
225 230 235 240

His Val Ala Phe His Arg Ser Ser Ser Glu Lys Ile His Ser Asn Glu
245 250 255

Ile Ser Ser Asp Ser Ile Gly Val Leu Gly Tyr Gln Lys Thr Val Asp
260 265 270

His Thr Lys Val Asn Ser Lys Leu Ser Leu Phe Phe Glu Ile Lys Ser
275 280 285

Gly Ser Leu
290

<210> 15

<211> 873

<212> DNA

<213> artificial sequence

<220>

<223> synthetic polynucleotide (BB-DTRBDcoli)

<400> 15

atggcgcaac acgatgaagc cgcagacaac aaattcaaca aagaacaaca aaacgcgttc 60

tatgagatct tacatttacc taacttaaac gaagaacaac gaaacggttt catccaaagt 120

ttaaaagatg acccaagcca aagcgctaac cttttagcag aagctaaaaa gctaaatgat 180

gctcaggcgc cgaaagcaga caacaattc aacaaagaac aacaaaacgc gttctatgag 240

atcttacatt tacctaactt aaacgaagaa caacgaaacg gtttcatcca aagtttaaaa 300

gatgacccaa gccaaagcgc taaccttta gcagaagcta aaaagctaaa tgatgctcag 360

gcgccgaaag tagacgcgaa ttcgagctcg gtaccgtcga cgccgggtca taaaaccag 420

ccgtttctgc atgatggcta tgcggtgagc tggaacaccg tggaagatag cattattcgt 480

accggctttc agggcgaaag cggccatgat attaaaatta ccgcggaaaa caccgcgctg 540

ccgattgcgg gtgttctgct gccgaccatt ccgggcaaac tggatgtgaa caaaagcaaa 600

acccatatta gcgtgaacgg ccgtaaaatt cgtatgcgtt gccgtgcgat tgatggtgat 660

gtgacctttt gccgtccgaa aagcccgggtg tatgtgggca acggcgtgca tgcgaaacctg 720

catgtggcgt ttcattcgtag cagcagcgaa aaaatccata gcaacgaaat tagcagcgat 780

agcattggcg tgctgggcta tcagaaaacc gtggatcata ccaaagtga ctctaaactg 840

agcctgttct tcgaaatcaa aagcggaagc tta 873

<210> 16

<211> 291

<212> PRT

<213> artificial sequence

<220>

<223> synthetic polypeptide (BB-DTRBDcoli)

<400> 16

Met Ala Gln His Asp Glu Ala Ala Asp Asn Lys Phe Asn Lys Glu Gln
1 5 10 15

Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Asn Glu Glu
20 25 30

Gln Arg Asn Gly Phe Ile Gln Ser Leu Lys Asp Asp Pro Ser Gln Ser
35 40 45

Ala Asn Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro
50 55 60

Lys Ala Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu
65 70 75 80

Ile Leu His Leu Pro Asn Leu Asn Glu Glu Gln Arg Asn Gly Phe Ile
85 90 95

Gln Ser Leu Lys Asp Asp Pro Ser Gln Ser Ala Asn Leu Leu Ala Glu
100 105 110

Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Val Asp Ala Asn Ser
115 120 125

Ser Ser Val Pro Ser Thr Pro Gly His Lys Thr Gln Pro Phe Leu His
130 135 140

Asp Gly Tyr Ala Val Ser Trp Asn Thr Val Glu Asp Ser Ile Ile Arg
145 150 155 160

Thr Gly Phe Gln Gly Glu Ser Gly His Asp Ile Lys Ile Thr Ala Glu

165 170 175

Asn Thr Pro Leu Pro Ile Ala Gly Val Leu Leu Pro Thr Ile Pro Gly
180 185 190

Lys Leu Asp Val Asn Lys Ser Lys Thr His Ile Ser Val Asn Gly Arg
195 200 205

Lys Ile Arg Met Arg Cys Arg Ala Ile Asp Gly Asp Val Thr Phe Cys
210 215 220

Arg Pro Lys Ser Pro Val Tyr Val Gly Asn Gly Val His Ala Asn Leu
225 230 235 240

His Val Ala Phe His Arg Ser Ser Ser Glu Lys Ile His Ser Asn Glu
245 250 255

Ile Ser Ser Asp Ser Ile Gly Val Leu Gly Tyr Gln Lys Thr Val Asp
260 265 270

His Thr Lys Val Asn Ser Lys Leu Ser Leu Phe Phe Glu Ile Lys Ser
275 280 285

Gly Ser Leu
290

<210> 17

<211> 930

<212> DNA

<213> artificial sequence

<220>

<223> synthetic polynucleotide (BB-DTRBDHEK)

<400> 17

atgggctggt cctgcatcat cctgtttctg gtggccacag ccaccggtgt tcactctgcc 60

cagcatgatg aggccgccga caacaagttc aacaaagagc agcagaacgc cttctacgag 120
 atcctgcacg tgcccaacct gaacgaggaa cagagaaaacg gcttcatcca gagcctgaag 180
 gacgacccta gccagagcgc taatctgctg gccgaggcca agaagctgaa cgacgctcag 240
 gccctaaag ccgataacaa gttaacaaa gaacaacaaa atgccttta tgagatcctc 300
 cacctccga atctcaatga ggaacagcgg aatggcttta ttcagtccct gaaggatgat 360
 ccctctcagt ccgccaacct gctggctgaa gctaaaaaac tgaatgatgc ccaggctcct 420
 aaggtggacg cgaatgctag cagcggggta cctcaacac cagggcacia gactcagccc 480
 ttctgcacg atggctatgc tctgagctgg aatacagtg aagattccat cattaggaca 540
 ggcttcaag gcgaaagtgg ccatgacatc aagattactg ccgaaaacac ccattgccg 600
 atagctggtg ttctcttcc cagattcct gggaaactgg acgtcaacia gtccaagact 660
 cacatctccg tgaatggacg caaaatacgg atgcgatgta gagccattga tggcgatgtg 720
 acctttgca gacccaaatc tctgtgtac gttgggaatg taggtcatgc gaatctccat 780
 gtcgcatttc accgttcacg ctctgagaag atccacagca acgagatcag ctctgactca 840
 attggagtgc tgggatacca gaaaaccgta gaccatacca aggtcaacag caagctgagt 900
 ctgttcttcg agatcaaaaag cggaagctta 930

<210> 18

<211> 291

<212> PRT

<213> artificial sequence

<220>

<223> synthetic polypeptide (BB-DTRBDHEK)

<400> 18

Ala	Gln	His	Asp	Glu	Ala	Ala	Asp	Asn	Lys	Phe	Asn	Lys	Glu	Gln	Gln
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Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Asn Glu Glu Gln
20 25 30

Arg Asn Gly Phe Ile Gln Ser Leu Lys Asp Asp Pro Ser Gln Ser Ala
35 40 45

Asn Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys
50 55 60

Ala Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu Ile
65 70 75 80

Leu His Leu Pro Asn Leu Asn Glu Glu Gln Arg Asn Gly Phe Ile Gln
85 90 95

Ser Leu Lys Asp Asp Pro Ser Gln Ser Ala Asn Leu Leu Ala Glu Ala
100 105 110

Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Val Asp Ala Asn Ala Ser
115 120 125

Ser Gly Val Pro Ser Thr Pro Gly His Lys Thr Gln Pro Phe Leu His
130 135 140

Asp Gly Tyr Ala Val Ser Trp Asn Thr Val Glu Asp Ser Ile Ile Arg
145 150 155 160

Thr Gly Phe Gln Gly Glu Ser Gly His Asp Ile Lys Ile Thr Ala Glu
165 170 175

Asn Thr Pro Leu Pro Ile Ala Gly Val Leu Leu Pro Thr Ile Pro Gly
180 185 190

Lys Leu Asp Val Asn Lys Ser Lys Thr His Ile Ser Val Asn Gly Arg
195 200 205

Lys Ile Arg Met Arg Cys Arg Ala Ile Asp Gly Asp Val Thr Phe Cys
210 215 220

Arg Pro Lys Ser Pro Val Tyr Val Gly Asn Val Gly His Ala Asn Leu
225 230 235 240

His Val Ala Phe His Arg Ser Ser Ser Glu Lys Ile His Ser Asn Glu
245 250 255

Ile Ser Ser Asp Ser Ile Gly Val Leu Gly Tyr Gln Lys Thr Val Asp
260 265 270

His Thr Lys Val Asn Ser Lys Leu Ser Leu Phe Phe Glu Ile Lys Ser
275 280 285

Gly Ser Leu
290

<210> 19

<211> 504

<212> DNA

<213> artificial sequence

<220>

<223> synthetic polynucleotide (ZZ-Tat22-57C(22-37)Scoli)

<400> 19

atggcgcaac acgatgaagc cgtagacaac aaattcaaca aagaacaaca aaacgcgttc 60

tatgagatct tacattacc taacttaaac gaagaacaac gaaacgcctt catccaaagt 120

ttaaaagatg acccaagcca aagcgctaac ctttagcag aagctaaaaa gctaaatgat 180

gctcaggcgc cgaaagtaga caacaaattc aacaaagaac aacaaaacgc gttctatgag 240

atcttacatt tacctaactt aaacgaagaa caacgaaacg ccttcatcca aagtttaaaa 300
 gatgacccaa gccaaagcgc taaccttta gcagaagcta aaaagctaaa tgatgctcag 360
 gcgccgaaag tagacgcgaa ttcgagctcg gtaccagca ataattccta tagcaaaaaa 420
 agcagctttc atagccaggt gagctttacc aaaaaaggcc tgggcattag ctatggccgt 480
 aaaaaacgtc gtcagcgtcg tcgt 504

<210> 20

<211> 168

<212> PRT

<213> artificial sequence

<220>

<223> synthetic polypeptide (ZZ-Tat22-57C(22-37)Scoli)

<400> 20

Met Ala Gln His Asp Glu Ala Val Asp Asn Lys Phe Asn Lys Glu Gln
 1 5 10 15

Gln Asn Ala Phe Tyr Glu Ile Leu His Leu Pro Asn Leu Asn Glu Glu
 20 25 30

Gln Arg Asn Ala Phe Ile Gln Ser Leu Lys Asp Asp Pro Ser Gln Ser
 35 40 45

Ala Asn Leu Leu Ala Glu Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro
 50 55 60

Lys Val Asp Asn Lys Phe Asn Lys Glu Gln Gln Asn Ala Phe Tyr Glu
 65 70 75 80

Ile Leu His Leu Pro Asn Leu Asn Glu Glu Gln Arg Asn Ala Phe Ile
 85 90 95

Gln Ser Leu Lys Asp Asp Pro Ser Gln Ser Ala Asn Leu Leu Ala Glu
100 105 110

Ala Lys Lys Leu Asn Asp Ala Gln Ala Pro Lys Val Asp Ala Asn Ser
115 120 125

Ser Ser Val Pro Ser Asn Asn Ser Tyr Ser Lys Lys Ser Ser Phe His
130 135 140

Ser Gln Val Ser Phe Thr Lys Lys Gly Leu Gly Ile Ser Tyr Gly Arg
145 150 155 160

Lys Lys Arg Arg Gln Arg Arg Arg
165

<210> 21
<211> 11
<212> PRT
<213> artificial sequence

<220>
<223> synthetic peptide (linker)

<400> 21

Val Asp Ala Asn Ser Ser Ser Val Pro Ser Thr
1 5 10

<210> 22
<211> 12
<212> PRT
<213> artificial sequence

<220>
<223> synthetic peptide (linker)

<400> 22

Val Asp Ala Asn Ala Ser Ser Gly Val Pro Ser Thr

1 5 10

<210> 23

<211> 9

<212> PRT

<213> artificial sequence

<220>

<223> synthetic peptide (linker)

<400> 23

Val Asp Ala Asn Ser Ser Ser Val Pro

1 5