

SEQUENCE LISTING

<110> Immudex ApS
Herlev Hospital

<120> Determining Antigen Recognition through Barcoding of MHC
Multimers

<130> P3887PC00

<160> 189

<170> PatentIn version 3.5

<210> 1

<211> 69

<212> DNA

<213> Artificial sequence

<220>

<223> Barcode for CMV, Biotin-TEG at 5' end

<220>

<221> misc_feature

<222> (1)..(69)

<223> Barcode for CMV

<220>

<221> misc_feature

<222> (13)..(18)

<223> n: any of A, T, G, C independently

<400> 1

gagatacgtt gacctcgttg aannnnnntc tatccattcc atccagctca cttaagctct 60

tggttgcat 69

<210> 2

<211> 69

<212> DNA

<213> Artificial sequence

<220>

<223> Barcode for HIV, Biotin-TEG at 5' end

<220>

<221> misc_feature

<222> (1)..(69)

<223> Barcode for HIV

<220>

<221> misc_feature
 <222> (13)..(18)
 <223> n: any of A, T, G, C independently

<400> 2
 gagatacgtt gacctcgttg aannnnnntc tataggtgtc tactacctca cttagctct 60
 tggttgcatt 69

<210> 3
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Forward-01 primer

<220>
 <221> primer_bind
 <222> (1)..(20)
 <223> Forward-01 primer

<400> 3
 gagatacgtt gacctcgttg 20

<210> 4
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Reverse-01 primer

<220>
 <221> primer_bind
 <222> (1)..(20)
 <223> Reverse-01 primer

<400> 4
 atgcaaccaa gagcttaagt 20

<210> 5
 <211> 69
 <212> DNA
 <213> Artificial sequence

<220>
 <223> TestOligo-01, biotin-TEG at 5' end

<220>
 <221> misc_feature
 <222> (1)..(69)
 <223> TestOligo-01

<220>
 <221> misc_feature
 <222> (13)..(18)
 <223> n: any of A, T, G, C independently

<400> 5
 gagatacgtt gacctcgttg aannnnnnntc tatccattcc atccagctca cttagctct 60
 tggttgcat 69

<210> 6
 <211> 69
 <212> DNA
 <213> Artificial sequence

<220>
 <223> TestOligo-02, biotin-TEG at 5' end followed by HEG (terminal modifications)

<220>
 <221> misc_feature
 <222> (1)..(69)
 <223> TestOligo-02

<220>
 <221> misc_feature
 <222> (13)..(18)
 <223> n: any of A, T, G, C independently

<400> 6
 gagatacgtt gacctcgttg aannnnnnntc tatccattcc atccagctca cttagctct 60
 tggttgcat 69

<210> 7
 <211> 69
 <212> DNA
 <213> Artificial sequence

<220>
 <223> TestOligo-03, biotin-TEG at 5' end followed by HEG (terminal modifications) and HEG at 3' end

<220>

<221> misc_feature
 <222> (1)..(69)
 <223> TestOligo-03

<220>
 <221> misc_feature
 <222> (13)..(18)
 <223> n: any of A, T, G, C independently

<400> 7
 gagatacgtt gacctcgttg aannnnnntc tatccattcc atccagctca cttagctct 60
 tggttgcat 69

<210> 8
 <211> 69
 <212> DNA
 <213> Artificial sequence

<220>
 <223> TestOligo-04, biotin-TEG at 5' end followed by HEG (terminal modifications) and HEG at 3' end

<220>
 <221> misc_feature
 <222> (1)..(69)
 <223> TestOligo-04

<220>
 <221> misc_feature
 <222> (13)..(18)
 <223> n: any of A, T, G, C independently

<400> 8
 gagatacgtt gacctcgttg aannnnnntc ttgaactatg aatcgtctca cttagctct 60
 tggttgcat 69

<210> 9
 <211> 69
 <212> DNA
 <213> Artificial sequence

<220>
 <223> TestOligo-05, biotin-TEG at 5' end followed by HEG (terminal modifications) and HEG at 3' end

<220>
 <221> misc_feature
 <222> (1)..(69)

<223> TestOligo-05

<220>

<221> misc_feature

<222> (13)..(18)

<223> n: any of A, T, G, C

<400> 9

gagatacgtt gacctcgttg aannnnnntc tataggtgtc tactacctca cttaagctct 60

tggttgcacat 69

<210> 10

<211> 69

<212> DNA

<213> Artificial sequence

<220>

<223> TestOligo-06, biotin-TEG at 5' end followed by HEG (terminal modifications) and HEG at 3' end

<220>

<221> misc_feature

<222> (1)..(69)

<223> TestOligo-06

<220>

<221> misc_feature

<222> (13)..(18)

<223> n: any of A, T, G, C independently

<400> 10

gagatacgtt gacctcgttg aannnnnntc ttatttggag agcacgtca cttaagctct 60

tggttgcacat 69

<210> 11

<211> 19

<212> DNA

<213> Artificial sequence

<220>

<223> LNA-3, 6FAM in 5', BHQ-1-plus in 3'

<220>

<221> misc_feature

<222> (1)..(19)

<223> LNA-3

<220>

<221> misc_feature
<222> (4)..(6)
<223> LNA modified RNA nucleotides

<220>
<221> misc_feature
<222> (9)..(10)
<223> LNA modified RNA nucleotides

<220>
<221> misc_feature
<222> (13)..(15)
<223> LNA modified RNA nucleotides

<400> 11
tctatccatt ccatccagc

19

<210> 12
<211> 19
<212> DNA
<213> Artificial sequence

<220>
<223> LNA-4, 6FAM in 5'. BHQ-1-plus in 3'

<220>
<221> misc_feature
<222> (1)..(19)
<223> LNA-4

<220>
<221> misc_feature
<222> (4)..(6)
<223> LNA modified RNA nucleotides

<220>
<221> misc_feature
<222> (9)..(10)
<223> LNA modified RNA nucleotides

<220>
<221> misc_feature
<222> (13)..(15)
<223> LNA modified RNA nucleotides

<400> 12
tcttgaacta tgaatcgtc

19

<210> 13
<211> 19
<212> DNA

<213> Artificial sequence

<220>

<223> LNA-5, HEX in 5', BHQ-1-plus in 3'

<220>

<221> misc_feature

<222> (1)..(19)

<223> LNA-5

<220>

<221> misc_feature

<222> (4)..(6)

<223> LNA modified RNA nucleotides

<220>

<221> misc_feature

<222> (9)..(10)

<223> LNA modified RNA nucleotides

<220>

<221> misc_feature

<222> (13)..(15)

<223> LNA modified RNA nucleotides

<400> 13

tctataggtg tctactacc

19

<210> 14

<211> 19

<212> DNA

<213> Artificial sequence

<220>

<223> LNA-6, cyanine 5 in 5'-end; bhq-2-plus in 3' end

<220>

<221> misc_feature

<222> (1)..(19)

<223> LNA-6

<220>

<221> misc_feature

<222> (4)..(6)

<223> LNA modified RNA nucleotides

<220>

<221> misc_feature

<222> (9)..(10)

<223> LNA modified RNA nucleotides

<220>
<221> misc_feature
<222> (13)..(15)
<223> LNA modified RNA nucleotides

<400> 14
tctttattgg agagcacgc

19

<210> 15
<211> 9
<212> PRT
<213> Influenza virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> Dextramer 1, Flu (HLA-A*0201/GILGFVFTL/MP/Influenza)

<400> 15
Gly Ile Leu Gly Phe Val Phe Thr Leu
1 5

<210> 16
<211> 9
<212> PRT
<213> Human cytomegalovirus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> Dextramer 2, CMV (HLA-A*0201/NLVPMVATV/pp65/CMV)

<400> 16
Asn Leu Val Pro Met Val Ala Thr Val
1 5

<210> 17
<211> 9
<212> PRT
<213> Artificial sequence

<220>
<223> Negative control

<220>
<221> PEPTIDE

<222> (1)..(9)
<223> Dextramer 3, Negative (HLA-A*0201/ALIAPVHAV/Neg.Control).

<400> 17

Ala Leu Ile Ala Pro Val His Ala Val
1 5

<210> 18
<211> 9
<212> PRT
<213> Human immunodeficiency virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> HIV derived peptide

<400> 18

Ile Leu Lys Glu Pro Val His Gly Val
1 5

<210> 19
<211> 10
<212> PRT
<213> Human cytomegalovirus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> CMV-derived peptide

<400> 19

Thr Pro Arg Val Thr Gly Gly Gly Ala Met
1 5 10

<210> 20
<211> 20
<212> DNA
<213> Artificial sequence

<220>
<223> Reverse-03, HEG at 5'

<220>
<221> misc_feature

<222> (1)..(20)
<223> Reverse-03

<400> 20
atgcaaccaa gagcttaagt 20

<210> 21
<211> 21
<212> DNA
<213> Artificial sequence

<220>
<223> Probe-03 FAM at 5'. BHQ-1-plus at 3'

<220>
<221> misc_feature
<222> (1)..(21)
<223> Probe-03 FAM at 5'

<400> 21
tctatccatt ccatccagct c 21

<210> 22
<211> 21
<212> DNA
<213> Artificial sequence

<220>
<223> Probe-04 FAM at 5'. BHQ-1-plus at 3'

<220>
<221> misc_feature
<222> (1)..(21)
<223> Probe-04

<400> 22
tcttgaacta tgaatcgtct c 21

<210> 23
<211> 21
<212> DNA
<213> Artificial sequence

<220>
<223> Probe-05 HEX at 5'. BHQ-1-plus at 3'

<220>
<221> misc_feature

<222> (1)..(21)
 <223> Probe-05 HEX at 5'

 <400> 23
 tctataggtg tctactacct c 21

 <210> 24
 <211> 21
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> Probe-06 cyanine 5 in 5'-end; bhq-2-plus in 3' end

 <220>
 <221> misc_feature
 <222> (1)..(21)
 <223> Probe-06

 <400> 24
 tctttattgg agagcacgct c 21

 <210> 25
 <211> 58
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> A-key 10S-F1-1

 <220>
 <221> misc_feature
 <222> (1)..(58)
 <223> A-key 10S-F1-1

 <400> 25
 ccatctcatc cctgcgtgtc tccgactcag gaagatgatt ctataaactg tgcggtcc 58

 <210> 26
 <211> 58
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> A-key 10S-F1-2

 <220>
 <221> misc_feature

<222> (1)..(58)
<223> A-key 10S-F1-2

<400> 26
ccatctcatc cctgCGTgtc tccgactcag tcctgagatt ctataaactg tgcggtcc 58

<210> 27
<211> 58
<212> DNA
<213> Artificial sequence

<220>
<223> A-key 10S-F1-3

<220>
<221> misc_feature
<222> (1)..(58)
<223> A-key 10S-F1-3

<400> 27
ccatctcatc cctgCGTgtc tccgactcag tgtggagatt ctataaactg tgcggtcc 58

<210> 28
<211> 58
<212> DNA
<213> Artificial sequence

<220>
<223> A-key 10S-F1-4

<220>
<221> misc_feature
<222> (1)..(58)
<223> A-key 10S-F1-4

<400> 28
ccatctcatc cctgCGTgtc tccgactcag catttagatt ctataaactg tgcggtcc 58

<210> 29
<211> 58
<212> DNA
<213> Artificial sequence

<220>
<223> A-key 10S-F1-5

<220>
<221> misc_feature

<222> (1)..(58)
 <223> A-key 10S-F1-5

 <400> 29
 ccatctcatc cctgCGTgtc tccgactcag ttacccgatt ctataaactg tgcggtcc 58

 <210> 30
 <211> 58
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> A-key 10S-F1-6

 <220>
 <221> misc_feature
 <222> (1)..(58)
 <223> A-key 10S-F1-6

 <400> 30
 ccatctcatc cctgCGTgtc tccgactcag attctcgatt ctataaactg tgcggtcc 58

 <210> 31
 <211> 58
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> A-key 10S-F1-7

 <220>
 <221> misc_feature
 <222> (1)..(58)
 <223> A-key 10S-F1-7

 <400> 31
 ccatctcatc cctgCGTgtc tccgactcag agaccgatt ctataaactg tgcggtcc 58

 <210> 32
 <211> 58
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> A-key 10S-F1-8

 <220>
 <221> misc_feature

<222> (1)..(58)
 <223> A-key 10S-F1-8

<400> 32
 ccatctcatc cctgCGTgtc tccgactcag cgcattgatt ctataaactg tgcggtcc 58

<210> 33
 <211> 58
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 10S-F1-9

<220>
 <221> misc_feature
 <222> (1)..(58)
 <223> A-key 10S-F1-9

<400> 33
 ccatctcatc cctgCGTgtc tccgactcag tcctcggatt ctataaactg tgcggtcc 58

<210> 34
 <211> 58
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 10S-F1-10

<220>
 <221> misc_feature
 <222> (1)..(58)
 <223> A-key 10S-F1-10

<400> 34
 ccatctcatc cctgCGTgtc tccgactcag attcctgatt ctataaactg tgcggtcc 58

<210> 35
 <211> 58
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 10S-F1-11

<220>
 <221> misc_feature

<222> (1)..(58)
 <223> A-key 10S-F1-11

<400> 35
 ccatctcatc cctgCGTgtc tccgactcag cgtcgagatt ctataaactg tgcggtcc 58

<210> 36
 <211> 58
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 10S-F1-12

<220>
 <221> misc_feature
 <222> (1)..(58)
 <223> A-key 10S-F1-12

<400> 36
 ccatctcatc cctgCGTgtc tccgactcag gccaatgatt ctataaactg tgcggtcc 58

<210> 37
 <211> 58
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 10S-F1-13

<220>
 <221> misc_feature
 <222> (1)..(58)
 <223> A-key 10S-F1-13

<400> 37
 ccatctcatc cctgCGTgtc tccgactcag atacgggatt ctataaactg tgcggtcc 58

<210> 38
 <211> 58
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 10S-F1-14

<220>
 <221> misc_feature

<222> (1)..(58)
 <223> A-key 10S-F1-14

 <400> 38
 ccatctcatc cctgCGTgtc tccgactcag gtcagagatt ctataaactg tgcggtcc 58

 <210> 39
 <211> 58
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> A-key 10S-F1-15

 <220>
 <221> misc_feature
 <222> (1)..(58)
 <223> A-key 10S-F1-15

 <400> 39
 ccatctcatc cctgCGTgtc tccgactcag cGagttgatt ctataaactg tgcggtcc 58

 <210> 40
 <211> 54
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> A-key 20S-F1-1

 <220>
 <221> misc_feature
 <222> (1)..(54)
 <223> A-key 20S-F1-1

 <400> 40
 ccatctcatc cctgCGTgtc tccgactcag ctgggggaag ttccagccag cgtc 54

 <210> 41
 <211> 54
 <212> DNA
 <213> Artificial sequence

 <220>
 <223> A-key 20S-F1-2

 <220>
 <221> misc_feature

<222> (1)..(54)
 <223> A-key 20S-F1-2

<400> 41
 ccatctcatc cctgCGTgtc tccgactcag ctccacgaag ttccagccag cgtc 54

<210> 42
 <211> 54
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 20S-F1-3

<220>
 <221> misc_feature
 <222> (1)..(54)
 <223> A-key 20S-F1-3

<400> 42
 ccatctcatc cctgCGTgtc tccgactcag cttaccgaag ttccagccag cgtc 54

<210> 43
 <211> 54
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 20S-F1-4

<220>
 <221> misc_feature
 <222> (1)..(54)
 <223> A-key 20S-F1-4

<400> 43
 ccatctcatc cctgCGTgtc tccgactcag tggcaggaag ttccagccag cgtc 54

<210> 44
 <211> 54
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 20S-F1-5

<220>
 <221> misc_feature

<222> (1)..(54)
 <223> A-key 20S-F1-5

<400> 44
 ccatctcatc cctgCGTgtc tccgactcag tgagtagaag ttccagccag cgtc 54

<210> 45
 <211> 54
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 20S-F1-6

<220>
 <221> misc_feature
 <222> (1)..(54)
 <223> A-key 20S-F1-6

<400> 45
 ccatctcatc cctgCGTgtc tccgactcag attcaggaag ttccagccag cgtc 54

<210> 46
 <211> 54
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 20S-F1-7

<220>
 <221> misc_feature
 <222> (1)..(54)
 <223> A-key 20S-F1-7

<400> 46
 ccatctcatc cctgCGTgtc tccgactcag tgagctgaag ttccagccag cgtc 54

<210> 47
 <211> 54
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 20S-F1-8

<220>
 <221> misc_feature

<222> (1)..(54)
 <223> A-key 20S-F1-8

<400> 47
 ccatctcatc cctgCGTgtc tccgactcag ggcgtggaag ttccagccag cgtc 54

<210> 48
 <211> 54
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 20S-F1-9

<220>
 <221> misc_feature
 <222> (1)..(54)
 <223> A-key 20S-F1-9

<400> 48
 ccatctcatc cctgCGTgtc tccgactcag aaattggaag ttccagccag cgtc 54

<210> 49
 <211> 54
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 20S-F1-10

<220>
 <221> misc_feature
 <222> (1)..(54)
 <223> A-key 20S-F1-10

<400> 49
 ccatctcatc cctgCGTgtc tccgactcag gctgacgaag ttccagccag cgtc 54

<210> 50
 <211> 54
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 20S-F1-11

<220>
 <221> misc_feature

<222> (1)..(54)
<223> A-key 20S-F1-11

<400> 50
ccatctcatc cctgCGTgtc tccgactcag ttcttagaag ttccagccag cgtc 54

<210> 51
<211> 54
<212> DNA
<213> Artificial sequence

<220>
<223> A-key 20S-F1-12

<220>
<221> misc_feature
<222> (1)..(54)
<223> A-key 20S-F1-12

<400> 51
ccatctcatc cctgCGTgtc tccgactcag tggtgggaag ttccagccag cgtc 54

<210> 52
<211> 54
<212> DNA
<213> Artificial sequence

<220>
<223> A-key 20S-F1-13

<220>
<221> misc_feature
<222> (1)..(54)
<223> A-key 20S-F1-13

<400> 52
ccatctcatc cctgCGTgtc tccgactcag gcagtcgaag ttccagccag cgtc 54

<210> 53
<211> 54
<212> DNA
<213> Artificial sequence

<220>
<223> A-key 20S-F1-14

<220>
<221> misc_feature

<222> (1)..(54)
 <223> A-key 20S-F1-14

<400> 53
 ccatctcatc cctgctgtgc tccgactcag tcgtgagaag ttccagccag cgtc 54

<210> 54
 <211> 54
 <212> DNA
 <213> Artificial sequence

<220>
 <223> A-key 20S-F1-15

<220>
 <221> misc_feature
 <222> (1)..(54)
 <223> A-key 20S-F1-15

<400> 54
 ccatctcatc cctgctgtgc tccgactcag tacagtgaag ttccagccag cgtc 54

<210> 55
 <211> 44
 <212> DNA
 <213> Artificial sequence

<220>
 <223> P1-key 10S-R1

<220>
 <221> misc_feature
 <222> (1)..(44)
 <223> P1-key 10S-R1

<400> 55
 cctctctatg ggcagtcggt gatgagtaca tgatagcgcc gtac 44

<210> 56
 <211> 44
 <212> DNA
 <213> Artificial sequence

<220>
 <223> P1-key 20S-R1

<220>
 <221> misc_feature

<222> (1)..(44)
 <223> P1-key 20S-R1

<400> 56
 cctctctatg ggcagtcggt gatctgtgac tatgtgaggc tttc 44

<210> 57
 <211> 81
 <212> DNA
 <213> Artificial sequence

<220>
 <223> 10S-1-Oligo-1, Biotin-C6- in 5'

<220>
 <221> misc_feature
 <222> (1)..(81)
 <223> 10S-1-Oligo-1

<220>
 <221> misc_feature
 <222> (26)..(31)
 <223> n: any of A, T, G, C independently

<400> 57
 agattctata aactgtgcgg tccttnnnnn ntatgaggac gaatctcccg cttataggta 60
 cggcgctatc atgtactcat g 81

<210> 58
 <211> 81
 <212> DNA
 <213> Artificial sequence

<220>
 <223> 10S-1-Oligo-2, Biotin-C6- in 5'

<220>
 <221> misc_feature
 <222> (1)..(81)
 <223> 10S-1-Oligo-2, Biotin-C6- in 5'

<220>
 <221> misc_feature
 <222> (26)..(31)
 <223> n: any of A, T, G, C independently

<400> 58
 agattctata aactgtgcgg tccttnnnnn nggtcttgac aaacgtgtgc ttgtacggta 60

cggcgctatc atgtactcat g

81

<210> 59
<211> 81
<212> DNA
<213> Artificial sequence

<220>
<223> 10S-1-Oligo-3, Biotin-C6- in 5'

<220>
<221> misc_feature
<222> (1)..(81)
<223> 10S-1-Oligo-3

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 59
agattctata aactgtgcgg tccttnnnnn ngtttatcgg gcgtggtgct cgcataaggta 60

cggcgctatc atgtactcat g 81

<210> 60
<211> 81
<212> DNA
<213> Artificial sequence

<220>
<223> 10S-1-Oligo-4, Biotin-C6- in 5'

<220>
<221> misc_feature
<222> (1)..(81)
<223> 10S-1-Oligo-4, Biotin-C6- in 5'

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 60
agattctata aactgtgcgg tccttnnnnn nccgatgttg acggactaat cctgacggta 60

cggcgctatc atgtactcat g 81

<210> 61

<211> 81
<212> DNA
<213> Artificial sequence

<220>
<223> 10S-1-Oligo-5, Biotin-C6- in 5'

<220>
<221> misc_feature
<222> (1)..(81)
<223> 10S-1-Oligo-5, Biotin-C6- in 5'

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 61
agattctata aactgtgcgg tccttnnnnn ntagtagttc agacgccgtt aagcgcggta 60

cggcgctatc atgtactcat g 81

<210> 62
<211> 81
<212> DNA
<213> Artificial sequence

<220>
<223> 10S-1-Oligo-6, Biotin-C6- in 5'

<220>
<221> misc_feature
<222> (1)..(81)
<223> 10S-1-Oligo-4

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 62
agattctata aactgtgcgg tccttnnnnn nccgtaccta gatacactca atttgtggta 60

cggcgctatc atgtactcat g 81

<210> 63
<211> 81
<212> DNA
<213> Artificial sequence

<220>
<223> 10S-1-Oligo-7, Biotin-C6- in 5'

<220>
<221> misc_feature
<222> (1)..(81)
<223> 10S-1-Oligo-7

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 63
agattctata aactgtgcgg tccttnnnnn nggggttccg ttttacattc caggaaggta 60

cggcgctatc atgtactcat g 81

<210> 64
<211> 81
<212> DNA
<213> Artificial sequence

<220>
<223> 10S-1-Oligo-8, Biotin-C6- in 5'

<220>
<221> misc_feature
<222> (1)..(81)
<223> 10S-1-Oligo-8

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 64
agattctata aactgtgcgg tccttnnnnn ntatcccgtg aagcttgagt ggaatcggta 60

cggcgctatc atgtactcat g 81

<210> 65
<211> 81
<212> DNA
<213> Artificial sequence

<220>
<223> 10S-1-Oligo-9, Biotin-C6- in 5'

```

<220>
<221> misc_feature
<222> (1)..(81)
<223> 10S-1-Oligo-9

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 65
agattctata aactgtgcgg tccttnnnnn nctgacgtgt gaggcgctag agcataggta      60

cggcgctatc atgtactcat g                                              81


<210> 66
<211> 81
<212> DNA
<213> Artificial sequence

<220>
<223> 10S-1-Oligo-10, Biotin-C6- in 5'


<220>
<221> misc_feature
<222> (1)..(81)
<223> 10S-1-Oligo-10

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 66
agattctata aactgtgcgg tccttnnnnn nggtatggca cgcctaattt ggacacggta      60

cggcgctatc atgtactcat g                                              81


<210> 67
<211> 72
<212> DNA
<213> Artificial sequence

<220>
<223> 20S-1-Oligo-A1, Biotin-C6- in 5'


<220>
<221> misc_feature
<222> (1)..(72)
<223> 20S-1-Oligo-A1

```

<220>
 <221> misc_feature
 <222> (26)..(31)
 <223> n: any of A, T, G, C independently

<400> 67
 gaagttccag ccagcgtcac agtttnnnnn ncgagggcaa tggttaactg acacgtggtc 60
 agcatcattt cc 72

<210> 68
 <211> 72
 <212> DNA
 <213> Artificial sequence

<220>
 <223> 20S-1-Oligo-A2, Biotin-C6- in 5'

<220>
 <221> misc_feature
 <222> (1)..(72)
 <223> 20S-1-Oligo-A2

<220>
 <221> misc_feature
 <222> (26)..(31)
 <223> n: any of A, T, G, C independently

<400> 68
 gaagttccag ccagcgtcac agtttnnnnn ncagaaagca gtctcgtcgg ttcgaaggtc 60
 agcatcattt cc 72

<210> 69
 <211> 72
 <212> DNA
 <213> Artificial sequence

<220>
 <223> 20S-1-Oligo-A3, Biotin-C6- in 5'

<220>
 <221> misc_feature
 <222> (1)..(72)
 <223> 20S-1-Oligo-A3

<220>
 <221> misc_feature
 <222> (26)..(31)

<223> n: any of A, T, G, C indepepdently

<400> 69

gaagttccag ccagcgtcac agtttnnnnn ntaagtagcg ggcataatgt acgctcggtc 60

agcatcattt cc 72

<210> 70

<211> 72

<212> DNA

<213> Artificial sequence

<220>

<223> 20S-1-Oligo-A4, Biotin-C6- in 5'

<220>

<221> misc_feature

<222> (1)..(72)

<223> 20S-1-Oligo-A4

<220>

<221> misc_feature

<222> (26)..(31)

<223> n: any of A, T, G, C independently

<400> 70

gaagttccag ccagcgtcac agtttnnnnn nggatccagt aagctactgc gtttatggtc 60

agcatcattt cc 72

<210> 71

<211> 72

<212> DNA

<213> Artificial sequence

<220>

<223> 20S-1-Oligo-A5, Biotin-C6- in 5'

<220>

<221> misc_feature

<222> (1)..(72)

<223> 20S-1-Oligo-A5

<220>

<221> misc_feature

<222> (26)..(31)

<223> n: any of A, T, G, C independently

<400> 71

gaagttccag ccagcgtcac agtttnnnnn ngggctgcgg agcgtttact ctgtatggtc 60

agcatcattt cc 72

<210> 72
<211> 72
<212> DNA
<213> Artificial sequence

<220>
<223> 20S-1-Oligo-A6

<220>
<221> misc_feature
<222> (1)..(72)
<223> 20S-1-Oligo-A6

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 72
gaagttccag ccagcgtcac agtttnnnnn naaacgtatg tgctttgtcg gatgccggtc 60

agcatcattt cc 72

<210> 73
<211> 72
<212> DNA
<213> Artificial sequence

<220>
<223> 20S-1-Oligo-B1

<220>
<221> misc_feature
<222> (1)..(72)
<223> 20S-1-Oligo-B1

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 73
ctgtgactat gtgaggcttt ctcgannnnn ngcctgtagt cccacgcgat ctaacaggaa 60

atgatgctga cc 72

<210> 74
<211> 72
<212> DNA
<213> Artificial sequence

<220>
<223> 20S-1-Oligo-B2

<220>
<221> misc_feature
<222> (1)..(72)
<223> 20S-1-Oligo-B2

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C

<400> 74
ctgtgactat gtgaggcttt ctcgannnnn ncaaccattg attggggaca actgggggaa 60

atgatgctga cc 72

<210> 75
<211> 72
<212> DNA
<213> Artificial sequence

<220>
<223> 20S-1-Oligo-B3

<220>
<221> misc_feature
<222> (1)..(72)
<223> 20S-1-Oligo-B2

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 75
ctgtgactat gtgaggcttt ctcgannnnn nacgtttaag catctgtact ccagatggaa 60

atgatgctga cc 72

<210> 76
<211> 72
<212> DNA
<213> Artificial sequence

<220>
<223> 20S-1-Oligo-B4

<220>
<221> misc_feature
<222> (1)..(72)
<223> 20S-1-Oligo-B4

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 76
ctgtgactat gtgaggcttt ctcgannnnn ngaattgaag ccacgctttc gcgcaaggaa 60

atgatgctga cc 72

<210> 77
<211> 72
<212> DNA
<213> Artificial sequence

<220>
<223> 20S-1-Oligo-B5

<220>
<221> misc_feature
<222> (1)..(72)
<223> 20S-1-Oligo-B5

<220>
<221> misc_feature
<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 77
ctgtgactat gtgaggcttt ctcgannnnn ncgtagcttt tgtagcgtct gagggcggaa 60

atgatgctga cc 72

<210> 78
<211> 72
<212> DNA
<213> Artificial sequence

<220>
<223> 20S-1-Oligo-B6

<220>
 <221> misc_feature
 <222> (1)..(72)
 <223> 20S-1-Oligo-B6

<220>
 <221> misc_feature
 <222> (26)..(31)
 <223> n: any of A, T, G, C independently

<400> 78
 ctgtgactat gtgaggcttt ctcgannnnn naatcgtcag tccctgtttc gacatcggaa 60
 atgatgctga cc 72

<210> 79
 <211> 72
 <212> DNA
 <213> Artificial sequence

<220>
 <223> 20S-1-Oligo-B7

<220>
 <221> misc_feature
 <222> (1)..(72)
 <223> 20S-1-Oligo-B7

<220>
 <221> misc_feature
 <222> (26)..(31)
 <223> n: any of A, T, G, C independently

<400> 79
 ctgtgactat gtgaggcttt ctcgannnnn ncggtggtag gtgatacttc tgtaccggaa 60
 atgatgctga cc 72

<210> 80
 <211> 72
 <212> DNA
 <213> Artificial sequence

<220>
 <223> 20S-1-Oligo-B8

<220>
 <221> misc_feature
 <222> (1)..(72)

<223> 20S-1-Oligo-B8

<220>

<221> misc_feature

<222> (26)..(31)

<223> n: any of A, T, G, C independently

<400> 80

ctgtgactat gtgaggcttt ctcgannnnn ntgactatcg gggcgtgaca tgagctggaa 60

atgatgctga cc 72

<210> 81

<211> 72

<212> DNA

<213> Artificial sequence

<220>

<223> 20S-1-Oligo-B9

<220>

<221> misc_feature

<222> (1)..(72)

<223> 20S-1-Oligo-B9

<220>

<221> misc_feature

<222> (26)..(31)

<223> n: any of A, T, G, C independently

<400> 81

ctgtgactat gtgaggcttt ctcgannnnn ngttggtgaa actaccgacg ctttacggaa 60

atgatgctga cc 72

<210> 82

<211> 72

<212> DNA

<213> Artificial sequence

<220>

<223> 20S-1-Oligo-B10

<220>

<221> misc_feature

<222> (1)..(72)

<223> 20S-1-Oligo-B10

<220>

<221> misc_feature

<222> (26)..(31)
<223> n: any of A, T, G, C independently

<400> 82
ctgtgactat gtgaggcttt ctcgannnnn naatggaggt gcaggaatac tctcgtggaa 60
atgatgctga cc 72

<210> 83
<211> 11
<212> PRT
<213> Human cytomegalovirus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> CMV pp65 YSE

<400> 83
Tyr Ser Glu His Pro Thr Phe Thr Ser Gln Tyr
1 5 10

<210> 84
<211> 9
<212> PRT
<213> Human cytomegalovirus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> CMV pp50 VTE

<400> 84
Val Thr Glu His Asp Thr Leu Leu Tyr
1 5

<210> 85
<211> 9
<212> PRT
<213> Influenza virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> FLU BP-VSD

<400> 85

Val Ser Asp Gly Gly Pro Asn Leu Tyr
1 5

<210> 86

<211> 10

<212> PRT

<213> Human herpesvirus 4

<220>

<221> PEPTIDE

<222> (1)..(10)

<223> EBV-EBNA4

<400> 86

Ala Val Phe Asp Arg Lys Ser Asp Ala Lys
1 5 10

<210> 87

<211> 9

<212> PRT

<213> Human cytomegalovirus

<220>

<221> PEPTIDE

<222> (1)..(9)

<223> HCMV pp65

<400> 87

Gly Pro Ile Ser Gly His Val Leu Lys
1 5

<210> 88

<211> 9

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(9)

<223> VP1

<400> 88

Asp Leu Gln Gly Leu Val Leu Asp Tyr

1

5

<210> 89
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 89

Val Leu Gly Arg Lys Met Thr Pro Lys
1 5

<210> 90
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 90

Val Thr Leu Arg Lys Arg Trp Val Lys
1 5

<210> 91
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 91

Leu Val Leu Asp Tyr Gln Thr Glu Tyr
1 5

<210> 92
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 92

Gly Gln Glu Lys Thr Val Tyr Pro Lys
1 5

<210> 93
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 93

Val Thr Phe Gln Ser Asn Gln Gln Asp Lys
1 5 10

<210> 94
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 94

Leu Lys Gly Pro Gln Lys Ala Ser Gln Lys
1 5 10

<210> 95
<211> 11
<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(11)

<223> VP1

<400> 95

Asn Val Ala Ser Val Pro Lys Leu Leu Val Lys
1 5 10

<210> 96

<211> 9

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(9)

<223> VP1

<400> 96

Thr Ser Asn Trp Tyr Thr Tyr Thr Tyr
1 5

<210> 97

<211> 11

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(11)

<223> VP1

<400> 97

Leu Val Leu Asp Tyr Gln Thr Glu Tyr Pro Lys
1 5 10

<210> 98

<211> 11

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 98

Thr Leu Arg Lys Arg Trp Val Lys Asn Pro Tyr
1 5 10

<210> 99
<211> 11
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 99

Ala Val Thr Phe Gln Ser Asn Gln Gln Asp Lys
1 5 10

<210> 100
<211> 11
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 100

Pro Leu Lys Gly Pro Gln Lys Ala Ser Gln Lys
1 5 10

<210> 101
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)

<223> VP1

<400> 101

Arg Ile Tyr Glu Gly Ser Glu Gln Leu
1 5

<210> 102

<211> 9

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(9)

<223> VP1

<400> 102

Ser Leu Phe Ser Asn Leu Met Pro Lys
1 5

<210> 103

<211> 10

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(10)

<223> VP1

<400> 103

Lys Leu Leu Val Lys Gly Gly Val Glu Val
1 5 10

<210> 104

<211> 11

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(11)

<223> VP1

<400> 104

Ser Leu Ile Asn Val His Tyr Trp Asp Met Lys
1 5 10

<210> 105
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> HPV E6 29-38

<400> 105

Thr Ile His Asp Ile Ile Leu Glu Cys Val
1 5 10

<210> 106
<211> 9
<212> PRT
<213> Influenza virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> FLU MP 58-66 GIL

<400> 106

Gly Ile Leu Gly Phe Val Phe Thr Leu
1 5

<210> 107
<211> 9
<212> PRT
<213> Human herpesvirus 4

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> EBV LMP2 CLG

<400> 107

Cys Leu Gly Gly Leu Leu Thr Met Val
1 5

<210> 108
<211> 9
<212> PRT
<213> Human herpesvirus 4

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> EBV BMF1 GLC

<400> 108

Gly Leu Cys Thr Leu Val Ala Met Leu
1 5

<210> 109
<211> 9
<212> PRT
<213> Human herpesvirus 4

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> EBV LMP2 FLY

<400> 109

Phe Leu Tyr Ala Leu Ala Leu Leu Leu
1 5

<210> 110
<211> 9
<212> PRT
<213> Human herpesvirus 4

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> EBV BRLF1 YVL

<400> 110

Tyr Val Leu Asp His Leu Ile Val Val
1 5

<210> 111

<211> 10
<212> PRT
<213> Human papillomavirus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> HPV E7 11-20

<400> 111

Tyr Met Leu Asp Leu Gln Pro Glu Thr Thr
1 5 10

<210> 112
<211> 9
<212> PRT
<213> Human cytomegalovirus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> CMV IE1 VLE

<400> 112

Val Leu Glu Glu Thr Ser Val Met Leu
1 5

<210> 113
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 113

Gly Cys Cys Pro Asn Val Ala Ser Val
1 5

<210> 114
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 114

Ser Ile Thr Gln Ile Glu Leu Tyr Leu
1 5

<210> 115
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 115

Leu Gln Met Trp Glu Ala Ile Ser Val
1 5

<210> 116
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 116

Ala Ile Ser Val Lys Thr Glu Val Val
1 5

<210> 117
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 117

Lys Met Thr Pro Lys Asn Gln Gly Leu
1 5

<210> 118
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 118

Thr Val Leu Gln Phe Ser Asn Thr Leu
1 5

<210> 119
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 119

Gly Leu Phe Ile Ser Cys Ala Asp Ile
1 5

<210> 120
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 120

Leu Leu Val Lys Gly Gly Val Glu Val Leu
1 5 10

<210> 121

<211> 10

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(10)

<223> VP1

<400> 121

Glu Leu Tyr Leu Asn Pro Arg Met Gly Val
1 5 10

<210> 122

<211> 10

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(10)

<223> VP1

<400> 122

Asn Leu Pro Ala Tyr Ser Val Ala Arg Val
1 5 10

<210> 123

<211> 10

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(10)

<223> VP1

<400> 123

Thr Leu Gln Met Trp Glu Ala Ile Ser Val
1 5 10

<210> 124
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 124

Gln Met Trp Glu Ala Ile Ser Val Lys Thr
1 5 10

<210> 125
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 125

Val Val Gly Ile Ser Ser Leu Ile Asn Val
1 5 10

<210> 126
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 126

Ser Leu Ile Asn Val His Tyr Trp Asp Met
1 5 10

<210> 127
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 127

His Met Phe Ala Ile Gly Gly Glu Pro Leu
1 5 10

<210> 128
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 128

Phe Ala Ile Gly Gly Glu Pro Leu Asp Leu
1 5 10

<210> 129
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 129

Asn Leu Ile Asn Ser Leu Phe Ser Asn Leu
1 5 10

<210> 130
<211> 11

<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 130

Phe	Leu	Phe	Lys	Thr	Ser	Gly	Lys	Met	Ala	Leu
1				5					10	

<210> 131
<211> 11
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 131

Ala	Leu	His	Gly	Leu	Pro	Arg	Tyr	Phe	Asn	Val
1				5					10	

<210> 132
<211> 11
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 132

Asn	Leu	Ile	Asn	Ser	Leu	Phe	Ser	Asn	Leu	Met
1				5					10	

<210> 133
<211> 11
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 133

Phe Leu Asp Lys Phe Gly Gln Glu Lys Thr Val
1 5 10

<210> 134
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 134

Val Lys Gly Gly Val Glu Val Leu Ser Val
1 5 10

<210> 135
<211> 10
<212> PRT
<213> Human cytomegalovirus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> HCMV 248-256

<400> 135

Ala Tyr Ala Gln Lys Ile Phe Lys Ile Leu
1 5 10

<210> 136
<211> 9
<212> PRT
<213> Human herpesvirus 4

<220>
<221> PEPTIDE

<222> (1)..(9)
<223> EBV LMP2

<400> 136

Ile Tyr Val Leu Val Met Leu Val Leu
1 5

<210> 137
<211> 9
<212> PRT
<213> Human herpesvirus 4

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> EBV BRLF1

<400> 137

Thr Tyr Pro Val Leu Glu Glu Met Phe
1 5

<210> 138
<211> 9
<212> PRT
<213> Human herpesvirus 4

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> EBV BMLF1

<400> 138

Asp Tyr Asn Phe Val Lys Gln Leu Phe
1 5

<210> 139
<211> 11
<212> PRT
<213> Human cytomegalovirus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> CMV pp150 TTV

<400> 139

Thr Thr Val Tyr Pro Pro Ser Ser Thr Ala Lys
1 5 10

<210> 140

<211> 8

<212> PRT

<213> Influenza virus

<220>

<221> PEPTIDE

<222> (1)..(8)

<223> FLU NP 265-273 ILR

<400> 140

Ile Leu Arg Gly Ser Val Ala His
1 5

<210> 141

<211> 9

<212> PRT

<213> Human herpesvirus 4

<220>

<221> PEPTIDE

<222> (1)..(9)

<223> EBV EBNA 3a RLR

<400> 141

Arg Leu Arg Ala Glu Ala Gln Val Lys
1 5

<210> 142

<211> 10

<212> PRT

<213> Human cytomegalovirus

<220>

<221> PEPTIDE

<222> (1)..(10)

<223> CMV pp150 TVY

<400> 142

Thr Val Tyr Pro Pro Ser Ser Thr Ala Lys

1 5 10

<210> 143
<211> 9
<212> PRT
<213> Human herpesvirus 4

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> EBV BRLF1 148-56 RVR

<400> 143

Arg Val Arg Ala Tyr Thr Tyr Ser Lys
1 5

<210> 144
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 144

Ala Ser Val Pro Lys Leu Leu Val Lys
1 5

<210> 145
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 145

Cys Cys Pro Asn Val Ala Ser Val Pro Lys
1 5 10

<210> 146
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 146

Ile Thr Ile Glu Thr Val Leu Gly Arg
1 5

<210> 147
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 147

Asn Thr Leu Thr Thr Val Leu Leu Asp
1 5

<210> 148
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 148

Ala Leu His Gly Leu Pro Arg Tyr Phe
1 5

<210> 149
<211> 10
<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(10)

<223> VP1

<400> 149

Val Ala Ser Val Pro Lys Leu Leu Val Lys
1 5 10

<210> 150

<211> 9

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(9)

<223> VP1

<400> 150

Val Ser Gly Gln Pro Met Glu Gly Lys
1 5

<210> 151

<211> 10

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(10)

<223> VP1

<400> 151

Lys Ala Ser Ser Thr Cys Lys Thr Pro Lys
1 5 10

<210> 152

<211> 10

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 152

Lys Thr Pro Lys Arg Gln Cys Ile Pro Lys
1 5 10

<210> 153
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 153

Tyr Thr Tyr Thr Tyr Asp Leu Gln Pro Lys
1 5 10

<210> 154
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 154

Pro Ile Thr Ile Glu Thr Val Leu Gly Arg
1 5 10

<210> 155
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)

<223> VP1

<400> 155

Ser Val Ala Arg Val Ser Leu Pro Met
1 5

<210> 156

<211> 10

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(10)

<223> VP1

<400> 156

Asn Ser Leu Phe Ser Asn Leu Met Pro Lys
1 5 10

<210> 157

<211> 10

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(10)

<223> VP1

<400> 157

Lys Val Ser Gly Gln Pro Met Glu Gly Lys
1 5 10

<210> 158

<211> 10

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(10)

<223> VP1

<400> 158

Thr Val Tyr Pro Lys Pro Ser Val Ala Pro
1 5 10

<210> 159
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 159

Gly Val Glu Val Leu Ser Val Val Thr
1 5

<210> 160
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 160

Pro Leu Asp Leu Gln Gly Leu Val Leu
1 5

<210> 161
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 161

Gly Leu Asp Pro Gln Ala Lys Ala Lys
1 5

<210> 162
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 162

Glu Val Trp Cys Pro Asp Pro Ser Lys
1 5

<210> 163
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 163

Ala Asp Ile Val Gly Phe Leu Phe Lys
1 5

<210> 164
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 164

Lys Thr Ser Gly Lys Met Ala Leu His
1 5

<210> 165

<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 165

Lys Met Ala Leu His Gly Leu Pro Arg
1 5

<210> 166
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 166

Arg Tyr Phe Asn Val Thr Leu Arg Lys
1 5

<210> 167
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 167

Thr Leu Arg Lys Arg Trp Val Lys Asn
1 5

<210> 168
<211> 10
<212> PRT
<213> Human cytomegalovirus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> CMV pp65 RPH-L

<400> 168

Arg Pro His Glu Arg Asn Gly Phe Thr Val
1 5 10

<210> 169
<211> 9
<212> PRT
<213> Human herpesvirus 4

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> EBV EBNA RPP

<400> 169

Arg Pro Pro Ile Phe Ile Arg Leu Leu
1 5

<210> 170
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 170

Lys Pro Gly Cys Cys Pro Asn Val Ala
1 5

<210> 171
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 171

Gln Pro Ile Lys Glu Asn Leu Pro Ala
1 5

<210> 172
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 172

Leu Pro Arg Tyr Phe Asn Val Thr Leu
1 5

<210> 173
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 173

Met Pro Lys Val Ser Gly Gln Pro Met
1 5

<210> 174
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 174

Tyr Pro Lys Pro Ser Val Ala Pro Ala
1 5

<210> 175

<211> 9

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(9)

<223> VP1

<400> 175

Lys Pro Ser Val Ala Pro Ala Ala Val
1 5

<210> 176

<211> 9

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(9)

<223> VP1

<400> 176

Ala Pro Leu Lys Gly Pro Gln Lys Ala
1 5

<210> 177

<211> 10

<212> PRT

<213> Merkel Cell Polyoma Virus

<220>

<221> PEPTIDE

<222> (1)..(10)

<223> VP1

<400> 177

Ala Pro Lys Arg Lys Ala Ser Ser Thr Cys
1 5 10

<210> 178
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 178

Ser Val Ala Arg Val Ser Leu Pro Met Leu
1 5 10

<210> 179
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 179

Tyr Pro Lys Thr Thr Asn Gly Gly Pro Ile
1 5 10

<210> 180
<211> 10
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(10)
<223> VP1

<400> 180

Tyr Pro Lys Pro Ser Val Ala Pro Ala Ala
1 5 10

<210> 181
<211> 11
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 181

Lys Pro Gly Cys Cys Pro Asn Val Ala Ser Val
1 5 10

<210> 182
<211> 11
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 182

Asn Pro Arg Met Gly Val Asn Ser Pro Asp Leu
1 5 10

<210> 183
<211> 11
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 183

Leu Pro Ala Tyr Ser Val Ala Arg Val Ser Leu
1 5 10

<210> 184
<211> 11

<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 184

Thr	Pro	Thr	Val	Leu	Gln	Phe	Ser	Asn	Thr	Leu
1				5					10	

<210> 185
<211> 11
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 185

Leu	Pro	Arg	Tyr	Phe	Asn	Val	Thr	Leu	Arg	Lys
1				5					10	

<210> 186
<211> 11
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 186

Tyr	Pro	Val	Val	Asn	Leu	Ile	Asn	Ser	Leu	Phe
1				5					10	

<210> 187
<211> 11
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 187

Tyr Pro Lys Pro Ser Val Ala Pro Ala Ala Val
1 5 10

<210> 188
<211> 11
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(11)
<223> VP1

<400> 188

Lys Pro Ser Val Ala Pro Ala Ala Val Thr Phe
1 5 10

<210> 189
<211> 9
<212> PRT
<213> Merkel Cell Polyoma Virus

<220>
<221> PEPTIDE
<222> (1)..(9)
<223> VP1

<400> 189

Ala Pro Lys Arg Lys Ala Ser Ser Thr
1 5