Figure 1

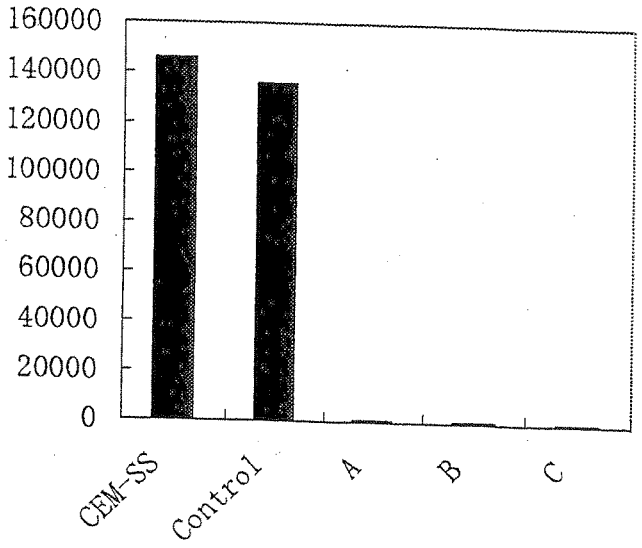


Figure 2

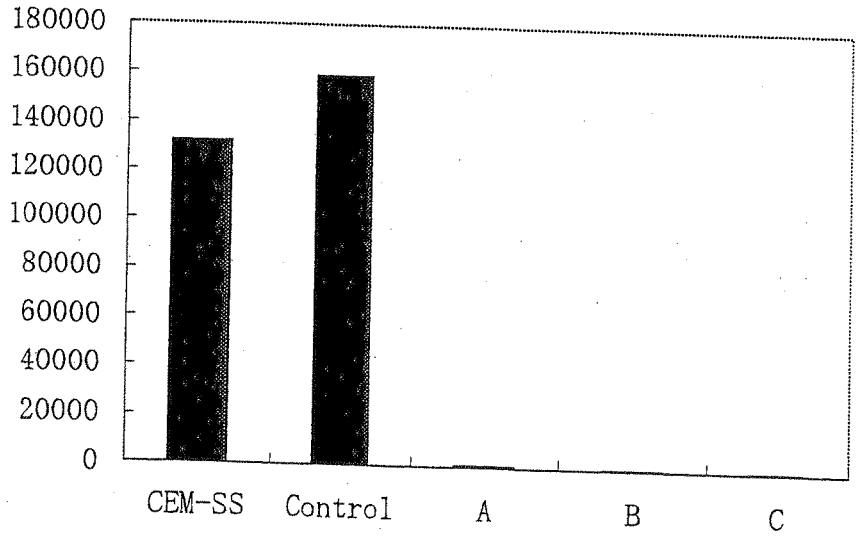
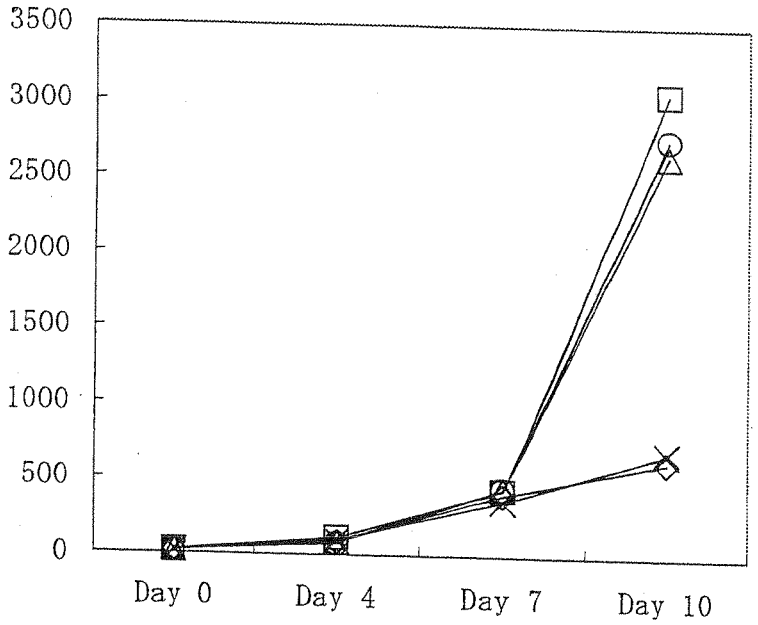


Figure 3



SEQUENCE LISTING

<110> TAKARA BIO INC.

<120> Nucleic acid for treatment or prevention of the disease caused by human immunodeficiency virus infection.

<130> 666964

<150> JP 2005-236160
<151> 2005-08-16

<150> JP 2006-140243
<151> 2006-05-19

<160> 24

<170> PatentIn version 3.3

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<212> PRT
<213> Escherichia coli

<400> 1

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Phe Asp Pro Thr Lys Gly Ser Glu Gln Ala Gly His Arg Pro Ala Val
20 25 30

Val Leu Ser Pro Phe Met Tyr Asn Asn Lys Thr Gly Met Cys Leu Cys
35 40 45

Val Pro Cys Thr Thr Gln Ser Lys Gly Tyr Pro Phe Glu Val Val Leu
50 55 60

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

Ile Ala Trp Arg Ala Arg Gly Ala Thr Lys Lys Gly Thr Val Ala Pro
85 90 95

Glu Glu Leu Gln Leu Ile Lys Ala Lys Ile Asn Val Leu Ile Gly
100 105 110

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<211> 336
<212> DNA
<213> Escherichia coli

<400> 2
atggtaagcc gatacgtacc cgatatgggc gatctgattt gggttgattt tgacccgaca 60

aaaggtagcg agcaagctgg acatcgtcca gctgttgtcc tgagtccttt catgtacaac 120

aacaaaacag gtatgtgtct gtgtgttcct tgtacaacgc aatcaaaagg atatccgttc 180

gaagttgttt tatccggtca ggaacgtgat ggcgtagcgt tagctgatca ggtaaaaagt 240

atcgcctggc gggcaagagg agcaacgaag aaaggaacag ttgccccaga ggaattacaa 300

ctcattaaag ccaaaattaa cgtactgatt gggtag 336

<210> 3
<211> 336
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic DNA encoding MazF.

<400> 3
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aaaggtagcg agcaagctgg ccatcgtcca gctgttgtcc tgagtccttt catgtataat 120

aataaaaccg gtatgtgtct gtgtgttcct tgtaccacgc aatcaaaagg atatccgttc 180

gaagttgttt tatccggtca ggaacgtgat ggcgtagcgt tagctgatca ggtaaaaagt 240

atcgcctggc gggcaagagg agcaacgaag aaaggaaccg ttgccccaga ggaactgcag 300

ctcattaaag ccaaaattaa cgtactgatt ggttaa 336

<210> 4
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer 5' HIV1 U3 to amplify a portion of HIV LTR.

<400> 4
acgcgtctgg aagggctaat ttggtcccaa 30

<210> 5
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer 3' HIV1 R to amplify a portion of HIV LTR.

<400> 5
gggcccggat cctgagcact caaggcaagc tttatt 36

<210> 6
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer 3' HIV1 TAR to amplify a portion of HIV LTR.

<400> 6
gggcccggat ccgggttccc tagttagcca gagagc 36

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

<220>
<223> Primer 5' MazF to amplify a DNA encoding MazF.

<400> 7
ggatccatgg taagccgata cgtacccgat 30

<210> 8
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer 3' MazF to amplify a DNA encoding MazF.

<400> 8
agatctttaa ccaatcagta cgttaatttt 30

<210> 9
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer 5' KpnI to amplify a DNA encoding GaLV envelope.

<400> 9
ggtaccatgg tattgctg 18

<210> 10
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer 3' ClaI to amplify a DNA encoding GaLV envelope.

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atcgattgat gatgcatgg 19

<210> 11
<211> 33
<212> DNA
<213> Artificial

<220>
<223> PCR primer NE1181-F to amplify a DNA encoding NE1181 polypeptide.

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ggggagctaa catatgactg atttcaagca gcg 33

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

<220>
<223> PCR primer NE1181-R to amplify a DNA encoding NE1181 polypeptide.

<400> 12
ggggctcgag caaatcaaag atgatcatta aagctg 36

<210> 13
<211> 339
<212> DNA
<213> Nitrosomonas europaea ATCC 19718

<400> 13
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gaaacaagaa aattaaggcc atgtgtaatt attcaaagtg acctggttaa cgttcaatcc 120
agaacagtga tagttgcccc tttgctcctt cagcataaac cctggccatt tgcagtgaat 180
ctggagccca cagaaaaaaa tggtctggat aaggatcgtc atatcaacct caagcaatta 240
cgcgcggttg atatttcacg cattggaaaa aaacaaggca ggcttgaaaa tagatacaag 300
gatcctatca aagcagcttt aatgatcatc tttgatttg 339

<210> 14

<211> 113
<212> PRT
<213> Nitrosomonas europaea ATCC 19718

<400> 14
Met Thr Asp Phe Lys Gln Arg Asp Ile Tyr Trp Ile Asp Leu Glu
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Pro Thr Lys Gly Ala Glu Thr Arg Lys Leu Arg Pro Cys Val Ile
20 25 30
Ile Gln Ser Asp Leu Val Asn Val Gln Ser Arg Thr Val Ile Val
35 40 45
Ala Pro Leu Leu Leu Gln His Lys Pro Trp Pro Phe Ala Val Asn
50 55 60
Leu Glu Pro Thr Glu Lys Asn Gly Leu Asp Lys Asp Arg His Ile
65 70 75
Asn Leu Lys Gln Leu Arg Ala Val Asp Ile Ser Arg Ile Gly Lys
80 85 90
Lys Gln Gly Arg Leu Glu Asn Arg Tyr Lys Asp Pro Ile Lys Ala
95 100 105
Ala Leu Met Ile Ile Phe Asp Leu
110

<210> 15
<211> 339
<212> DNA
<213> Artificial Sequence

<220>

<223> Synthetic DNA encoding NE1181 polypeptide.

<400> 15
atgactgatt tcaagcagcg ggatatttac tggatcgatc ttgaaccgac aaagggtgcg 60
gaaacaagaa agttaaggcc atgtgtaatt attcaaagtg acctggttaa cgttcaatcc 120
agaacagtga tagttgcccc tttgctcctt cagcataaac cctggccatt tgcagtgaac 180
ctggagccca cagaaaaaaa cggtctggat aaggatcgtc atatcaacct caagcaatta 240
cgcgcggttg atatttcacg cattggaaaa aaacaaggca ggcttgaaaa cagatacaag 300
gatcctatca aagcagcttt aatgatcatc tttgatttg 339

<210> 16
<211> 33
<212> DNA
<213> Artificial

<220>
<223> PCR primer DR0662-F to amplify a DNA encoding DR0662 polypeptide.

<400> 16
ggggagctaa catatggctg taggactcat ccg 33

<210> 17
<211> 28
<212> DNA
<213> Artificial

<220>
<223> PCR primer DR0662-R to amplify a DNA encoding DR0662 polypeptide.

<400> 17
ggggctcgag cagggcaagg tgaaggcg 28

<210> 18
<211> 345
<212> DNA
<213> Deinococcus radiodurans R1

<400> 18
atggctgtag gactcatccg gcgcggcgac atttttctga cccatttcgg ccccgcccgc 60
gcaggcgaac cggacttcaa acgccccgct gtggtcatca ccaacaatgt cgccaacgcc 120
aaagcggatg ccgtgaccgt cattccgctc accagcaacc tggaaaccct ctacgatttt 180
caactgctgc tccccaccga gcgaaccggg ctgaacttgg acagcaaagc gcagacggaa 240
ttgatctcgt gtattgccat cagccgcatc gggaagcacc tggggcaagt gccagccgac 300
ctcatggctg aactggacgc cagaatccgc cttcaccttg ccctg 345

<210> 19
<211> 115
<212> PRT
<213> Deinococcus radiodurans R1

<400> 19
Met Ala Val Gly Leu Ile Arg Arg Gly Asp Ile Phe Leu Thr His
1 5 10 15
Phe Gly Pro Ala Arg Ala Gly Glu Pro Asp Phe Lys Arg Pro Ala
20 25 30
Val Val Ile Thr Asn Asn Val Ala Asn Ala Lys Ala Asp Ala Val
35 40 45

Thr Val Ile Pro Leu Thr Ser Asn Leu Glu Thr Leu Tyr Asp Phe
50 55 60
Gln Leu Leu Leu Pro Thr Glu Arg Thr Gly Leu Asn Leu Asp Ser
65 70 75
Lys Ala Gln Thr Glu Leu Ile Ser Cys Ile Ala Ile Ser Arg Ile
80 85 90
Gly Lys His Leu Gly Gln Val Pro Ala Asp Leu Met Ala Glu Leu
95 100 105
Asp Ala Arg Ile Arg Leu His Leu Ala Leu
110 115

<210> 20
<211> 25
<212> DNA
<213> Artificial

<220>
<223> PCR primer to amplify a DNA encoding DR0662 polypeptide.

<400> 20
gggggatatc caccatggct gtagg 25

<210> 21
<211> 25
<212> DNA
<213> Artificial

<220>
<223> PCR primer to amplify a DNA encoding DR0662 polypeptide.

<400> 21
ggggtctaga ttacagggca aggtg 25

<210> 22
<211> 34
<212> DNA
<213> Artificial

<220>
<223> PCR primer to amplify a DNA encoding MazF.

<400> 22
atatgagctc caccatggta agccgatacg tacc 34

<210> 23
<211> 33
<212> DNA
<213> Artificial

<220>
<223> PCR primer to amplify a DNA encoding MazF.

<400> 23
atatgaattc tcattaacca atcagtacgt taa 33

<210> 24
<211> 249
<212> DNA
<213> Escherichia coli

<400> 24
atgatccaca gtagcgtaaa gcgttgggga aattcaccgg cggtgcggat cccggctacg 60
ttaatgcagg cgctcaatct gaatattgat gatgaagtga agattgacct ggtggatggc 120
aaattaatta ttgagccagt gcgtaaagag cccgtattta cgcttgctga actggtcaac 180
gacatcacgc cggaaaacct ccacgagaat atcgactggg gagagccgaa agataaggaa 240
gtctggtaa 249