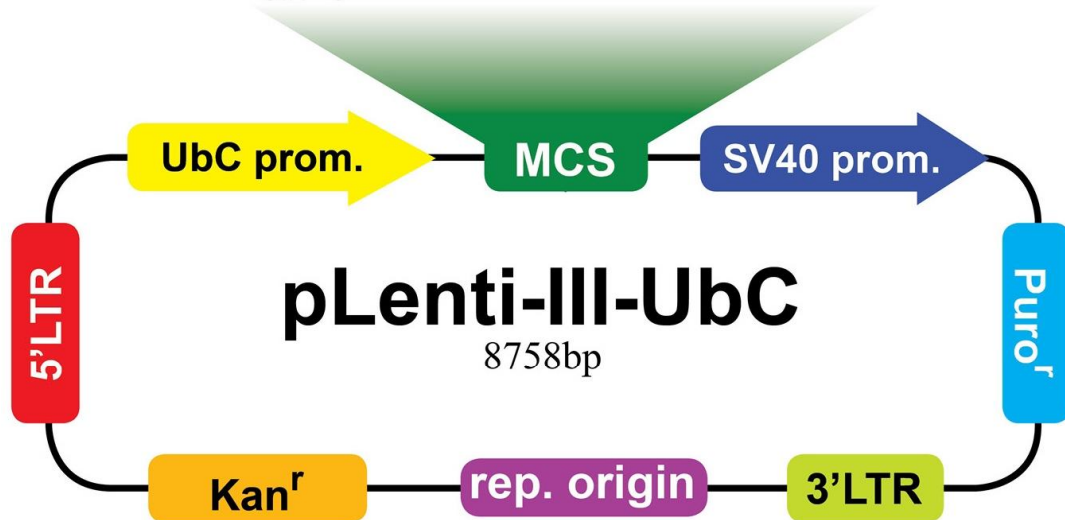


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Gentaur Molecular Products
Voortstraat 49
1910 Kampenhout, Belgium

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3241 gtaccttgg gagcgcgc cctcgtcgt tcgtgacgt acccgttct tggcttata
3301 atgcagggt gggccacct cggtaggtg tgcgtaggc ttttctcct gcaggagcc
3361 aggttccgg cctaggtag gctcctga atcagagcc gccggacct tggtagggg
3421 agggataagt gaggctcag tttcttggc cgttttatg tacctatct ctaagtagc
3481 tgaagctcc gtttgaact atgcctcgg gttggcgag tgtttttg gaagtttt
3541 aggcacctt tgaatgtaa tcatttggg caatatgaa tttcagtg tagactagta
3601 aattgtccg taaattctg ccgttttgg ctttttgt agacgctagc ggaatcatt
3661 agtacttac taggtaccc agtgtggtg cctgcagggt aattcactag taccgtagg
3721 cctgtcagc atacgggccc cgcggcct ggatcctca gactcagct cgagtacca
3781 tacgacgtc cagactacg ttgagttta acacgctgg tgtgaaagt cccaggctc
3841 cccagcaggc agaagtatg aaagcatga tctcaattag tcagcaacca ggtgtgaaa
3901 gtcccaggc tcccagcag gcagaagtat gcaaagcatg catctcaatt agtcagcaac
3961 catagtccc ccctaactc gcccacccc gccctaact ccgcccagtt ccgcccatt
4021 tccgcccac ggctgactaa tttttttat ttatgcagag gccgaggcc cctcggcct
4081 tgagctatt cagaagtagt gaggaggctt ttttggaggc catgaccgag tacaagcca
4141 cgtgcccct cgccaccgc gacgacgtc ctcgggccc acgaccctc gcccccgcg
4201 tcccgacta ccccacacg gccacaccg tggaccgga ccgcccacat gagcgggtca
4261 ccgagctga agaactctc ctacgcgcg tgggctcga catcggaag gttggtcgc
4321 cggacgacg cgccgctg cgggtctga ccacgcccga gagcgtcga cggggggcgg
4381 tttcgcga gatcggccc ccatggccg agttgagcgg tcccggctg gccgcgagc
4441 aacagatga agggctcct gcgccacc ggccaagga gcccgctgg ttctggcca
4501 ccgtcggct ctcgcccac caccaggga aggtctggg cagcggctc gttctcccg
4561 gaggggggc ggccgagcg gccggggtc ccgcttct ggagacctc gcgcccgcg
4621 acctcccct ctacgagcg ctcggctca ccgtaccgc cgacgtcag gtcgccaag
4681 gaccgacg ctggtgatg accgcaagc ccggtgctg aacggttcc ggaaatcaac
4741 ctctggatta caaaattgt gaaagattga ctggtattt taactatgt gctccttta
4801 cgctatgtg atacgctgt ttaatgcct tttatcatg tattgctcc cgtatggct
4861 tcattttct ctctgtat aaatcctgt tctgtctt ttatgaggag ttgtggccc
4921 ttgtcaggc acgtggctg gttgactg ttttctga cgcaacccc actggttgg
4981 gcattgccac cactgtcag ctctttccg ggactttgc tttcccctc cctattgca
5041 cggcgaact catcggccc gcttggccc gctgctggc aggggctcgg ctgttggca
5101 ctgacaattc cgtggtgtg tggggaagc tgacgtcct tccatggct ctcgctgtg
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5221 cggacctcc tcccgcgc ctgctcccg ctctcggcc tctccgct ctcgcttcg
5281 ccctcagac agtcggatct cctttgggc gcctcccc cctgtccga tggagggt

5341 aattcactcc caacgaatac aagatctgct ttttgcttgt actgggtctc tctggtaga
5401 ccagatctga gcctgggagc tctctggcta actaggaac cactgctta agcctcaata
5461 aagcttgctc tgagtgttc aagtagtgg tgcccgtctg ttgtgtgact ctgtaacta
5521 gagatccctc agaccctttt agtcagtgtg gaaaatctct agcagtagta gttcatgtca
5581 tcttattatt cagtatttat aactgcaaa gaaatgaata tcagagagtg agaggaactt
5641 gtttattgca gcttataatg gttacaaata aagcaatagc atcacaatc tcacaaataa
5701 agcatttttt tcaactgcatt ctagtgtgg tttgtccaaa ctatcaatg tatcttatca
5761 tgtctggcat ctatgtcggg tgcggagaaa gaggtaatga aatggcatta tgggtattat
5821 gggctctgat taatgaatcg gccaacgatc ccggtgtgaa ataccgaca gatgcgtaag
5881 gagaaaatac cgcatcaggc gctcttcgc ttctcgtc actgactcg tgcgctcgtt
5941 cgttcgctg cggcgagcgg tatcagctca ctcaaaggcg gtaatacggg tatccacaga
6001 atcaggggat aacgcaggaa agaactgtg agcaaaaggc cagcaaaagg ccaggaaccg
6061 taaaaaggcc gcgttctgg cgttttcca taggctccgc cccctgacg agcatcaaa
6121 aatcagcgc tcaagtcaaa ggtggcgaaa cccgacagga ctataaagat accagcggtt
6181 tccccctgga agctccctcg tgcctctcc tgttccgacc ctgccgctta ccggatact
6241 gtcgcctttt ctccctcgg gaagcgtggc gctttctcat agctcacgct gtaggtatct
6301 cagttcgtg taggtcttc gctcaagct gggctgtgtg cacgaacccc ccgttcagcc
6361 cgaccgctgc gcctatccg gtaactatc tcttgagtcc aaccggtaa gacacgactt
6421 atgccactg gcagcagcca ctgtaacag gattagcaga gcgaggtatg taggcggtg
6481 tacagagttc ttgaagtggg gcctaacta cggctacact agaaggacag tatttggat
6541 ctgcctctg ctgaagccag ttacctcgg aaaaagagt gtagctctt gatccggcaa
6601 acaaaccacc gctgtagcg gtggttttt ttttgcaag cagcagatta cgcgagaaa
6661 aaaaggatct caagaatc cttgatctt ttctacggg tctgacgctc agtggaaagc
6721 aaactcacgt taagggattt tggctatgag attatcaaaa aggatcttca ctagatct
6781 ttaataataa aatgaagt ttaaatcaat ctaaagtata tatgagtaa cttggtctga
6841 cagttacaa tgctaatca gtgaggcacc tatctcagc atctgtctat ttcgttcat
6901 catagttgcc tgaactccg tctgtatg aactacgata cgggagggt taccatctg
6961 cccagtgct gcaatgata cgcgagacc acgctcacc gctccagatt tatcagcaat
7021 aaaccagcca gccggaagg cgcagcagc aagtgtcct gcaactttat ccgctccat
7081 ccagtctatt aattgttcc gggaagctag agtaagtagt tcgccagta atagttgctg
7141 caactgtgtt gaaaaaggat cttcacctag atcctttca ctagaaaagc cagtcgag
7201 aaacggtgct gacccggat gaatgtcagc tactgggcta tctggacaag ggaaaacgca
7261 agcgaaga gaaagcaggt agcttgagc gggcttcat gccgatagct agactgggct
7321 gttttatgga cagcaagcga accggaattg ccagctggg cgcctctg taaggtggg
7381 aagcctgca aagtaactg gatggcttc tcgcccaa ggatctgat gcgagggga
7441 tcaagctctg atcaagagac aggatgagga tctttcga tgattgaaca agatggattg
7501 cacgaggtt ctccggcgc ttgggtggag aggctattc gctatgact ggcaaacag
7561 acaatcggct gctctgatc cgcctgttc cggctgtcag gcagggg cccggttctt
7621 tttgtcaaga ccgacctg cgggtccctg aatgaactg aagacgagc agcgcggcta
7681 tctggctgg ccacagcgg cgctcttc gcagctgtc tcgacgttg cactgaagc
7741 ggaagggact ggctgctatt gggcgaagt ccggggcagg atctctgtc atctcactt
7801 gctcctcgc agaaagtat catcatggct gatcaatgc gccggctgca tacgctgat
7861 ccgctacct gccattcga ccaccaagc aaacatcga tcgagcagc acgtactcg
7921 atggaagccg gtctgtcga tcaggatgat ctggacgaag agcatcagg gctcgcgca
7981 gccgaactg tcgccaggc caaggcagc atgccgagc gcgagatct ctcgctgacc
8041 catggcagc cctgctgct gaatatcat gtggaaatg gccctttt tggattcat
8101 gactgtggc ggctgggtg ggcggaccg tatcaggaca tagcgttggc taccgtgat
8161 attgctgaag agcttggcg cgaatgggt gaccgttcc tctgcttca cggtatgcc
8221 gctccgatt cgcagcgc atcctctat cgcctctt acgagttct ctgaatttg
8281 taaaaattt ttttaaatca gctcatttt taaccaatg gccgaaatc gcaacatccc

8341 ttataaatca aaagaataga ccgcataggt gttgagtgtt gttccagttt ggaacaagag
8401 tccactatta aagaactgg actccaactg caaagggcga aaaaccgtct atcagggcga
8461 tggcccacta cgtgaacat caccacaatc aagtttttg cggtcgaggt gccgtaaagc
8521 tctaatcgg aaccctaaag ggagccccg atttagagct tgacggggaa agccggcgaa
8581 cgtggcgaga aaggaagga agaaagcga aggagcgggc gctagggcgc tggcaagtgt
8641 agcggtcacg ctgctgtaa ccaccacac cgctgctta atgctggcct acagggcgcg
8701 tccattgcc attcagatc gaattaattc ttaattaaca tcatcaataa tatacctt

```
1      ttttggattgaagccaatatgataatgagggggtgagtttgtgacgtggcgcggggcgt 60
      AAAACCTAACTTCGGTTACTATTACTCCCCACCTCAAACACTGCACCGCGCCCCGCA

61      gggaaacggggcgggtgacgtagtagtggtggcgaagtgtgatgttgcagtggtggcgaa 120
      CCCTTGCCCCGCCACTGCATCATCACACCGCCTTCACACTACAACGTTACACCGCCTT

                                     Encap other (162, 310) >>>
                                     |
121     cacatgtaagcagcggatgtggcaaaagtgaogtttttgggtgctgcgggtgtacacagg 180
      GTGTACATTCGCTGCCTACACCGTTTTCACTGCAAAAACACACGCGGCCACATGTGTCC

181     aagtgacaattttcgcggttttagcggatgtttagtaaaattgggcgtaaccgagt 240
      TTCACTGTAAAAGCGCGCAAAATCCGCCTACAACATCATTTAAACCCGCATTGGCTCA

241     aagatttggccattttcggggaaaactgaataagaggaagtgaatctgaataattttg 300
      TTCTAAACCGTAAAAGCGCCCTTTGACTTATTCFCTTCACTTTAGACTTATTA AAC

301     tgttactcatagcggtaatacggcagacctcagcgttagattatgaagcatttatcag 360
      ACAATGAGTATCGCGCATATGCCGCTCTGGAGTCGCGATCTAATAACTTCGTAATAAGTC

                                     amp prom (365, 393) <<<
                                     |
361     ggttattgtctcatgagcggatacatatttgaatgtatttagaaaaataaacaataggg 420
      CCAATAACAGAGTACTCGCCTATGTATAAACTTACATAAATCTTTTATTGTATTATCCC

                                     HpaI
                                     |
421     gttccgcgcacatttcccgaagtgccacctgacgttaactataacggctcctaaggtta 480
      CAAGGCGCGTAAAGGGGCTTTTCACGGTGGACTGCAATTGATATTGCCAGGATTCAT

                                     5' LTR (485, 2177) >>>
                                     |
481     gcgaaaatgtagtctttagcaatactctttagtcttggcaacatggtaacgatgagttag 540
      CGCTTTACATCAGAATACGTTATGAGAATCAGAACGTTGTACCATTGCTACTCAATC

541     caacatgcttacaaggagagaaaagcaccgtgcatgccgattggtggaagtaaggtgg 600
      GTTGTACGGAATGTTCTCTCTTTTCGTGGCAGTACGGCTAACACCTTCATTCCACC

601     tacgatcgtgcttattaggaaggcaacagacgggtctgacatggattggaagcaacct 660
      ATGCTAGCACGGAATAATCCTTCCGTTGTCTGCCAGACTGTACCTAACCTGCTTGGTGA

                                     HIV-1_5_LTR other (715, 895) >>>
                                     |
661     gaattgcccattgcagagatattgtatttaagtgcctagctcgatacataaacgggtct 720
      CTTAACGGCGTAACGTCTCTATAACATAAATTCACGGATCGAGCTATGTATTTGCCAGA

721     ctctggttagaccagatctgagcctgggagctctctggttaactaggaacccactgett 780
      GAGACCAATCTGGCTAGACTCGGACCCTCGAGAGACCGATTGATCCCTTGGGTGACGAA

781     aagcctcaataaagcttgccttgagtctcaagtagtgtgtgcccgtctgttgtgtgac 840
      TTCGGAGTTATTTGAAACGGAACCTCAGAAAGTTCATCACACGCGGACAGACAACACTG

841     tctggttaactagagatccctcagacccttttagtcagtgtggaaaatctctagcagtgcc 900
      AGACCATTGATCTTAGGGAGTCTGGGAAAATCAGTCACACCTTTTAGAGATCGTACCCG

901     gcccgaaacagggacttgaaagcgaagggaaccagaggagctctctcgacgcaggactc 960
      CGGGCTTGCTCCCTGAACTTTCGCTTTCCTTTGGTCTCCTCGAGAGACTGCTGCTCTGAG
```


HIV-1_psi_pack other(1006,1050)>>>

|

961 ggcttgctgaagcgcgcacggcaagagggcgagggcgactggtgagtagcgcacaaa 1020
 CCGAACGACTTCGCGCGTCCGCTTCTCCGCTCCCCGCGCTGACCACTCATGCGGTTTT

1021 ttttgactagcggaggetagaaggagagagatgggtgagagcgtcagtagtaagcggg 1080
 AAAACTGATCGCCTCCGATCTTCTCTCTACCCACGCTCTCGCAGTCATAATTGCGCC

NruI

|

1081 ggagaattagatcgcgatgggaaaaaattcggttaagccagggggaagaaaaatata 1140
 CCTCTAATCTAGCGCTACCCTTTTTAAGCCAATTCGGTCCCCCTTTCTTTTTTATAT

1141 aattaaacata tagtagggcaagcaggagctagaacgattcgcagttaatcctggcc 1200
 TTAATTTTGTATATACATACCCGTTCCGTCCTCGATCTTGCTAAGCGTCAATTAGGACCGG

1201 tgttagaaacatcagaaggctgtagacaaatactgggacagctacaacctccctcaga 1260
 ACAATCTTTGTAGCTTCCGACATCTGTTTATGACCCTGTCGATGTTGGTAGGGAAGTCT

1261 caggatcagaagaacttagatcattatataatacagtagcaacctctattgtgtgcatc 1320
 GTCCTAGTCTTCTGAATCTAGTAATATATTTATGTCATCGTTGGGAGATAACACACGTAG

1321 aaaggatagagataaaagacaccaaggaagccttagacaagatagaggaagagcaaaa 1380
 TTTCTATCTCTATTTCTGTGGTTCCTTCGAAATCTGTCTATCTCCTTCTCGTTTTGT

1381 aaagtaagaccaccgacagcaagcccgtgatcttcagacctggaggaggagatagag 1440
 TTTCAATCTGGTGGCGTTCGTTCCGGCGACTAGAAGTCTGGACCTCCTCCTTATACTC

1441 ggacattggagaagtgaattataaaataaaagtagtaaaaattgaaccattaggagta 1500
 CCTGTAACCTCTCCTTAATATATTTATTTTCATCATTTTAACTTGGTAATCCTCAT

RRE reg (1557,1790)>>>

|

1501 gcaccccaagcgaagagaagagtggtgcagagagaaaaagagcagtggaatagga 1560
 CGTGGGTGGTCCGTTCTCTCTCACCACGTCTCTTTTTTCTCGTACCCTTATCTC

ORF_1 rf(1) (1600,2301)>>>

|

1561 gtttggctcctgggttcttgggagcagcaggaagcactatggcgagcagcgaatgagc 1620
 CGAAACAGGAACCAAGAACCTCGTCGTCCTTCGTGATACCCGCGTCGAGTTACTGC

1621 ctgacggtacaggccagacaattattgtctggtatagtcgagcagcagaacaatttctg 1680
 GACTGCCATGTCGGTCTGTTAATAACAGACCATATCAGCTCGTCGCTTGTAAACGAC

1681 agggctattgagcgaacagcatctgttgaactcacagctctgggcatcaagcagctc 1740
 TCCCGATAACTCCGCTTGTGCTAGACAACGTTGAGTGTGACACCCCGTAGTTCGTCGAG

1741 caggcaagaatcctggctgtgaaagatacctaagatcaacagctcctgggatttgg 1800
 GTCCGTTCTTAGGACCGACACCTTTCTATGGATTTCTAGTTGTGAGGACCCCTAAAC

1801 ggttgcctggaaaaactcatttgcaccactgctgtgccttggatgctagttggagta 1860
 CCAACGAGACCTTTTGTAAACGTTGAGTGTGACGACACGAACTTACGATCAACCTCATT

1861 aatctctggaacagatttgaatcacagcactggatggagtgaggagagaaattaac 1920
 TTTAGAGACCTTGTCTAAACCTTAGTGTGCTGGACCTACCTCACCCTGTCTCTTAATTG

1921 aattacacaagcttaatacactccttaattgaagaatcgcaaaaccagcaagaaaaga 1980
 TTAATGTGTTGCAATTATGTGAGGAATTAACCTTCTTAGCGTTTTGGTCTCTTTTCTTA

1981 gaacaagaattattggaattagataaattggcaagtttgggaattggttaacataaca 2040
 CTTGTTCTTAATAACCTTAATCTATTTACCCGTTCAACACCTTAACCAAATTGATTTG

2041 aattgctgtggtatataaaattattcataatgatagtaggagccttggtagtttaaga 2100
 TTAACCGACACCATATATTTAATAAGTATTACTATCATCTCCGAACCATCCAAATCT

2101 atagttttgctgtactttctatagtagaattagtaggagcagggatattcaccattatc 2160
 TATCAAAAACGACATGAAAGATATCACTTATCTCAATCCGTCCTATAAGTGGTAATAGC

2161 tttcagaccacacctcccaaccccgaggggacccgacagggcccgaaggaatagaagaagaa 2220
AAAGTCTGGGTGGAGGGTTGGGGCTCCCTGGGCTGTCCGGCTTCCTTATCTTCTTCTT

2221 ggtggagagagagacagagacagatccattcgattagtgaaacggatctcgacggtatoga 2280
CCACCTCTCTCTGTCTGTCTAGGTAAGCTAATCACTTGCCCTAGAGCTGCCATAGCT

2281 aagcttgggattcgaatttaaaagaaagggggattgggggtacagtgccaggggaaag 2340
TTCGAACCTAAGCTTAAATTTTCTTTCCCCCTAACCCCATGTCACGTCCTCCCTTC

2341 aaatagtagacataatagcaacagacatacaaaactaaagaactacaaaaacaaattacaaa 2400
TTATCATCTGTATTATCGTTGTCTGTATGTTGATTCTTGATGTTTTTGTGTTAATGTTT

hUbc prom (2433, 3644) >>>
|

2401 aattcaaaaattttcgggtttttcgaacctagaggcctccgcgcccgggttttgccgctcc 2460
TTAAGTTTAAAAGCCAAAAAGCTTGGATCTCCGGAGGCGCGGCCAAAAACCGCGGAGG

2461 cgcgggcgccccctcctcaacgagcgcgtgccacgtcagacgaagggcgacgagcgcg 2520
GCGCCCGCGGGGGAGGAGTGCCTCGCGACGGTGCAGTCTGCTTCCCGCGTCGCTCGC

2521 tcctgatccttccgcccggacgctcaggacagcggcccgcgtgctcataaactcggcctt 2580
AGGACTAGGAAGCGGCCCTGCGAGTCCGTGCGCCGGCGACGAGTATTCTGAGCCGGA

2581 agaaccccagatcagcagaaggacatcttaggacgggacttgggtgactctagggcact 2640
TCTTGGGGTCATAGTCGTCTTCTGTAAATCTGCCCTGAACCCACTGAGATCCCGTGA

2641 ggttttcttccagagagcggaaacagcagagaaaagtagtcccttctcggcattctgc 2700
CCAAAAGAAAGGTCTCTCGCCTTGTCCGCTCCTTTTCATCAGGGAAGAGCCGCTAAGACG

2701 ggagggatcctccgtggggcgggtgaacgcccgatgattataaaggacgcccgggtgtggc 2760
CCTCCCTAGAGGCACCCGCCACTTGCGGCTACTAATATATTCTGCGCGGCCACACCCG

2761 acagctagtccgtcgcagccgggatttgggtcgcggttcttgggttgatcgcgtgta 2820
TGTGATCAAGGCAGCGTCGGCCCTAAACCCAGCGCAAGAACAAACACTAGCGACT

2821 tcgtcacttgggtgagtagcgggctgctgggctggcggggcttctcgtggcgcggggcgc 2880
AGCAGTGAACCACTCATCGCCGACGACCCGACCGCCCGAAAGCACCGGCGCCCGGC

2881 ctcggtgggacggaagcgtgtggagagaccgcaaggcgtgtagtctgggtccgcgagca 2940
GAGCCACCCTGCCTTCGCACACCTCTCTGGCGTTCCTCCGACATCAGACCCAGCGCTCGT

2941 aggttgcctgaactgggggttgggggagcgcagcaaaatggcgctgttcccgagtct 3000
TCCAACGGGACTTGACCCCAACCCCTCGCGTCTTTTACCGCCGACAAGGGCTCAGA

3001 tgaatggaagacgcttgtgaggcggcgtgtgaggtcgttgaaacaaggtgggggcatgg 3060
ACTTACCTTCTGCGAACACTCCGCCGACACTCCAGCAACTTTGTTCCACCCCGGTACC

3061 tggcgggcaagaacccaaggtcttgagcccttcgctaatgcggaagctcttattcggg 3120
ACCCGCCGTTCTTGGGTTCAGAACTCCGGAAGCGATTACGCCCTTTCGAGAATAAGCCC

3121 tgagatgggtggggcaccatctggggaccctgacgtgaagttgtcactgactggagaa 3180
ACTCTACCCGACCCCGTGGTAGACCCCTGGGACTGCACCTTCAACAGTGACTGACCTCTT

3181 ctcggtttgtcgtctgttgcggggggcagttatggcggtgcggttgggcagtgcaacc 3240
GAGCCAAACAGCAGACAACGCCCCCGCCGTCAATACCGCCACGGCAACCCGTCACGTGGG

3241 gtacctttgggagcgcgcctcctcgtgtcgtgacgtcaccgcttctgttgcttata 3300
CATGGAAACCTCGCGCGGGAGCAGCACAGCACTGCAGTGGGCAAGACAACCGAATAT

3301 atgcagggtggggccacctgcccgttaggtgtcggtaggcttttctcctcgcaggaagc 3360
TAGTCCACCCCGGTGGACGGCCATCCACACGCCATCCGAAAAGAGGCAGCGTCTCTGCC

3361 agggttcggcctagggtagctctcctgaaacagcagcgcggcaccctctggtgaggg 3420
TCCCAAGCCGGATCCCATCCGAGAGGACTTAGCTGTCCGCGGCTGGAGACCACCTCCC

3421 agggataagtggcgctcagtttcttgggtcgggttttatgtacctatcttcttaagtagc 3480
TCCCTATTCACTCCGAGTCAAAGAAACAGCCAAAATACATGGATAGAAGAATTCATCG

4501 ccgtcggcgtctcgcgccaccaccagggaagggctctgggcagcgcgctcgtgctccccg 4560
GGCAGCCGCAGAGCGGGCTGGTGGTCCCCTCCAGACCCGTCGCGGCAGCACGAGGGGC

4561 gagtggaggcggccgagcgcgcgggggtgcccgccttctctggagacctccgcgccccgca 4620
CTCACCTCCGCCGGCTCGCGCGGCCCCACGGCCGGAAGGACCTCTGGAGGCGCGGGGCGT

4621 acctcccccttctacgagcggctcggcttaccgtcaccgcgcagctcaggtgccccgaag 4680
TGGAGGGGAAGATGCTCGCCGAGCCGAAGTGGCAGTGGCGGCTGCAGCTCCACGGGCTTC

3' LTR (4721, 5807) >>>

|

4681 gaccgcgcacctgggtgcatgaccgcgaagcccgggtgacctgaacgcgttccggaaatcaac 4740
CTGGCGGCTGGACCACGTAAGTGGGCTTCGGGCCACGGACTTGCAGCAAGGCTTTAGTTG

4741 ctctggattacaaaattgtgaaagattgactggatttcttaactatggtgctcctttta 4800
GAGACCTAATGTTTAAACACTTTCTAAGTACCCATAAGAAATGATACACGAGGAAAT

4801 cgctatgtggatagctgctttaaagcctttgtatcatgctattgcttcccgatggctt 4860
GCGATACACCTATGCGACGAAATTACGGAAACATAGTACGATAACGAAGGGCATACCGAA

4861 tcattttctcctcctgtataaaatcctgggtgctgtctctttatgaggagtgtggcccc 4920
AGTAAAAGAGGAGGAACATATTTAGGACCAACGACAGGAAATACCTCAACACCGGGC

4921 ttgtcaggcaactggcgtggtgtgactgtgtttgctgaogcaacccccactggttggg 4980
AACAGTCCGTTGCACCGCACACGACGACAAACGACTGCGTGGGGGTGACCAACCC

4981 gcattgccaccacctgtcagctccttccgggacttctgcttcccccctcctattgcca 5040
CGTAACGGTGGTGGACAGTCGAGGAAAGGCCCTGAAAGCGAAAGGGGGAGGATAACGGT

5041 cggcgggaactcatcgccgcctgcttgcctgcccgtgctggacaggggctcggctgttggca 5100
GCCGCCTTGAGTAGCGGGCGGACGGACGGGCGACGACTGTCCCCGAGCCGACAACCCCT

5101 ctgacaattccgtggtgtgtcggggaagctgacgtccttccatggtgctcgcctgtg 5160
GACTGTTAAGGACCAACACAGCCCTTCGACTGCGAGGAAAGGTACCGACGAGCGGACAC

5161 ttgccaactggaattctgcccgggaactccttctgctacgtccttccggccctcaatccag 5220
AACGGTGGACTAAGACGCGCCCTGCAGGAAAGCATGCGAGGAAAGCCGGGAGTTAGGTC

5221 cggacttccctcccggcctgctgcccgtctgcccctcttccggctctcgccttcg 5280
GCCTGGAAGGAAGGGCGCCGACGACGGCCGAGACCCGGAGAAAGGCGCAGAGCGGAAGC

delta_U3 other (5331, 5383) >>>

|

5281 ccctcagacgagtcggatctcccttgggcgcgcctccccgcctgctccggatggaagggct 5340
GGGAGTCTGCTCAGCTAGAGGGAACCCGGCGGAGGGGCGGACAGGCTACCTTCCCGA

HIV-1_5_LTR other (5384, 5564) >>>

|

5341 aattcactcccaacgaatacaagatctgcttttggcttactgggtctctctggttaga 5400
TTAAGTGAGGGTGTCTTATGTTCTAGACGAAAACGAACATGACCCAGAGACCAATCT

5401 ccagatctgagcctgggagctctctggttaactaggaacccactgcttaagcctcaata 5460
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5461 aagcttgccttgagtcttcaagtagtgtgtgcccgtctgttgtgactctggttaacta 5520
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5521 gagatccctcagacccttttagtcagtggtgaaaaatctctagcagtagtagttcatgtca 5580
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5581 tcttattatcagatatttataacttcaaagaatgaatatcagagagtgagaggaactt 5640
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5641 gtttattgacgttataatggttacaataaagcaatagcatcacaatttcacaaataa 5700
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5701 agcattttttcactgcattctagttgtggtttgtccaaactcatcaatgtatcttatca 5760
TCGTAATAAAGTACGTAAGATCAACACCAACAGGTTTGAGTAGTTACATAGAAATAGT

5761 tgtctggcatctatgtcgggtgaggagaaagaggtaatgaaatggcattatgggtattat 5820
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5821 gggctctgcattaatgaaatcgccaacgatcccgggtgtaaataccgcacagatgcgtaag 5880
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5881 gagaaaaaccgcatcaggcgtcttccgcttctcgtcactgactcgtcgcgctcgggt 5940
CTCTTTTATGGCGTAGTCCGCGAGAAGGCGAAGGAGCGAGTGACTGAGCGACGCGAGCCA

5941 cgttcggctgaggcagcgggtatcagctcactcaaaggcggtaatacggttatccacaga 6000
GCAAGCCGACGCCCTCGCCATAGTCGAGTGAGTTTCCGCCATTATGCCAATAGGTGTCT

6001 atcaggggataacgcaggaagaacaatgtgagcaaaaggccagcaaaaggccaggaaccg 6060
TAGTCCCTATTGCGTCTTTCTTGTACTCGTTTCCGGTCTTTCCGGTCTTTGGC

pBR322 origin (6070, 6689) <<<
|

6061 taaaaaggcgcgttctgctggcgtttttccataggctccgccccctgacgagatcacaa 6120
ATTTTCCGGCGCAACGACCGCAAAAAGGTATCCGAGGCGGGGGACTGCTCGTAGTGT

6121 aaatcgacgctcaagtacagagtgaggcaaacccgacaggactataaagataaccaggcgtt 6180
TTTAGCTGCGAGTTCAGTCTCCACCGCTTTGGGCTGTCTGATATTTCTATGGTCCGCAA

6181 tccccctggaagctccctcgtgctcctcgttccgaccctgcccgttaccggataacct 6240
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6241 gtccgctttctccctcgggaagcgtggcgttttctcatagctcacgctgtaggtatct 6300
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6301 cagttcgggttaggtcgttcgctccaagctgggctggtgcaacgcccccttccagcc 6360
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6361 cgaccctgctccttaccggttaactatcgtcttgagtccaacccgtaagacacgactt 6420
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6421 atcgccactggcagcagcactggtaacaggatttagcagagcaggatgtagggcgtgc 6480
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6481 tacagagttcctgaagtggccttaactacggctacactagaaggacagtatttggtat 6540
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6541 ctgctcgtcgtgaagccagttaccttcggaaaagagttggtagctccttgatccgcaa 6600
GACGCGAGACGACTTCGGTCAATGGAAGCCTTTTCTCAACCATCGAGAACTAGGCCGTT

6601 acaaaccaccgctggtagcgggtgtttttgtttgcaagcagcagattacgcgcaaaa 6660
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6661 aaaaggatcacaagaagatcctttgatcttttctacgggtctgacgctcagtggaacga 6720
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6721 aaactcacgttaaggatthttggtcatgagattatcaaaaaggatcttcacctagatcct 6780
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6781 tttaaataaaaatgaagttttaaatcaatcctaaagtatatatgagtaaaacttggtctga 6840
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6841 cagttaccaatgcttaatcagtgaggcacctatctcagcgatctgtctatcttcttcate 6900
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6901 catagttgctgactccccctcgtgtagataaactacgatacgggagggttaccatctg 6960
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6961 ccccagtgctgcaatgataccgagagccacgctcaccggctccagatttatcagcaat 7020
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7021 aaaccagccagccggaaggccgagcgcagaagtggctcctgcaactttatccgcctccat 7080
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7081 ccagctatataattgttgcgggaagctagagtaagtagttccagttaatagtttgcg 7140
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7141 caacgttgttgaaaaaggatcttcaactagatcctttttcacgtagaagccagtcgcgag 7200
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7201 aaacggtgctgacccccggatgaatgtcagctactgggctatctggacaagggaaaaacgca 7260
TTTGGCCAGACTGGGGCTACTTACAGTCGATGACCCGATAGACCTGTTCCTTTTTCGGT

7261 agcgcaagagaagcaggtagcttgcagtggttacctacatggcgatagctagactgggag 7320
TCGCGTTTCTCTTTCGTCCATCGAACGTCACCCGAATGTACCCTATCGATCTGACCCGC

NEOKAN prom (7342, 7391) >>>

7321 gttttatggacagcaagcgaaccggaattgccagctggggcgccctctgtaagttggg 7380
CAAAATACCTGTCGTTTCGCTTGGCCTTAACGGTCGACCCCGGGGAGACCATTCCAACCC

7381 aagccctgcaagtaaaactggatggctttctcgcgcccaaggatctgatggcgagggga 7440
TTCGGGACGTTTCATTTGACCTACCAGAAAGAGCGCGGTTCCTAGACTACCCTGCTCCCT

NTP_II marker (7483, 8271) >>>

ORF_2 rf (1) (7480, 8274) >>>

Bcl I Kanamycin/Neomycin (7479, 8271) >>>

7441 tcaagctctgatcaagagacaggatgaggatcgtttccgatgattgaacaagatggattg 7500
AGTTCGAGACTAGTTCTCTGTCTACTCCTAGCAAAGCGTACTAACTTGTCTACCTAAC

7501 cacgcaggttctccggccgcttgggtggagaggtatctccgctatgactgggcacaacag 7560
GTGCGTCCAAGAGGCCGGCAACCCACCTCTCCGATAAGCCGATACTGACCCGTGTGTCT

7561 acaatcggctgctctgatgcccgggttccggctgtcagcgcaggggcccgggttctt 7620
TGTTAGCCGACGAGACTACGGCGGCACAAGGCCGACAGTCGCGTCCCGCGGGCCAAGAA

7621 ttgtcaagaccgacctgtccggtgcctgaatgaactgcaagacgagcagcggccta 7680
AAACAGTTCTGGCTGGACAGGCCACGGGACTTACTTGACGTTCTGTCTCCGTCGCGCCGAT

7681 tcgtggtggccacgacgggcttcccttgcgcagctgtgctcagcttgcactgaagcg 7740
AGCACCGACCCGTGCTGCCCGCAAGGAACGCGTCGACACGAGCTGCAACAGTACTTCGC

7741 ggaagggactggctgctattgggcaagtgccggggcaggatctcctgtcatctcacctt 7800
CCTTCCCTGACCGAGATAAACCCGCTTCACGGCCCCGCTCCTAGAGGACAGTAGAGTGGAA

7801 gctcctgcccagaaagtatccatcctggtgatgcaatgcccgggctgcatacgttgat 7860
CGAGGACGGCTCTTTCATAGGTAGTACCAGACTACGTTACGCCGCCGACGTATGCGAACTA

7861 ccggctacctgcccattcgcaccaccaagcgaacatcgcatcgagcagcactactcgg 7920
GGCCGATGGACGGGTAAGCTGGTGGTTTCGCTTTGTAGCGTAGCTCGCTCGTGCATGAGCC

7921 atggaagccggctcttgcgatcaggatgatctggacgaagagcatcaggggctcgcgcca 7980
TACCTTCGGCCAGAACAGCTAGTCTACTAGACCTGCTTCTCGTAGTCCCGAGCGCGGT

7981 gccgaactgttccaggctcaaggcagcagcagcagcagcagcagcagcagcagcagcagc 8040
CGGCTTGACAAGCGGTCCGAGTTCGCTCGTACGGGCTGCCGCTCCTAGAGCAGCACTGG

8041 catggcgatgcctgcttgcgcaatatcatggtggaatggccgcttttctggattcacc 8100
GTACCGCTACGGACGAACGGCTTATAGTACCACCTTTTACCGCGAAAAGACCTAAGTAG

8101 gactgtggccggctgggtgtgcccggaccgctatcagacatagcgttggctaccctgat 8160
CTGACACCGGCCGACCCACACCGCCTGGCGATAGTCTGTATCGCAACCGATGGGCACTA

8161 attgtgaagagcttggcggcgaatgggctgaccgcttccctcgtgctttacggtatcgcc 8220
TAACGACTTCTCGAACCGCGCTTACCCGACTGGCGAAGGAGCACGAAATGCCATAGCGG

8221 gctcccgatcgcagcgcacgccttctatgccttcttgcagagttcttctgaattttg 8280
CGAGGGCTAAGCGTCGCTAGCGGAAGATAGCGGAAGAACTGCTCAAGAAGACTTAAAC

8281 ttaaaatTTTTgttaaatcagctcattTTTTtaaccaataggccgaaatcggaacatccc 8340
 AATTTTAAAAACAATTTAGTCGAGTAAAAAATTGGTTATCCGGCTTTAGCCGTTGTAGGG

f1 origin(8379,8684)<<<
 |

8341 ttataaatcaaaagaatagaccgogatagggttgagtgtgttccagtttggacaagag 8400
 AATATTTAGTTTTCTTATCTGGCGCTATCCCAACTCACAACAAGGTCAAACCTTGTCTC

8401 tccactattaagaacgtggactccaacgtcaaaggcgcaaaaaccgtctatcagggoga 8460
 AGGTGATAATTTCTTGCACCTGAGGTTGCAGTTTCCCGCTTTTGGCAGATAGTCCCGCT

8461 tggcccactacgtgaaccatcacccaaatcaagtttttggggtcgaggtgcccgtaaagc 8520
 ACCGGGTGATGCACCTTGGTAGTGGGTTTAGTTCAAAAAACGCCAGCTCCACGGCATTTCC

8521 tctaaatcggaaccctaaaggagccccgatttagagcttgacggggaagccggcgcaa 8580
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8581 cgtggcgagaaaggaaggaagaaagcgaagggagcggcgctagggcgctggcgaagtgt 8640
 GCACCGCTCTTTCCTTCCCTTCTTTCGCTTTCCTCGCCCGCATCCCGCGACCGTTTACA

8641 agcggtcacgctgcccgtaccaccacacccgcgcttaatgcgcccgtacagggcgcg 8700
 TCGCCAGTGCACGCGCATTGGTGGTGTGGGCGCGCAATTACGCGCGATGTCCCGCGC

8701 tccattcgccattcaggatcgaattaattcttaattaacatcatcaataataacatt 8758
 AGGTAAGCGGTAAGTCCTAGCTTAATTAAGAATTAATTGTAGTAGTTATTATATGGAA

5'-LTR
 Start: 486 End: 2177

UBC
 Start: 2433 End: 3655

Psv40e
 Start: 3819 End: 4121

Pur
 Start: 4122 End: 4721

3'-LTR
 Start: 4722 End: 5807 (Complementary)

Kan
 Start: 7480 End: 8271