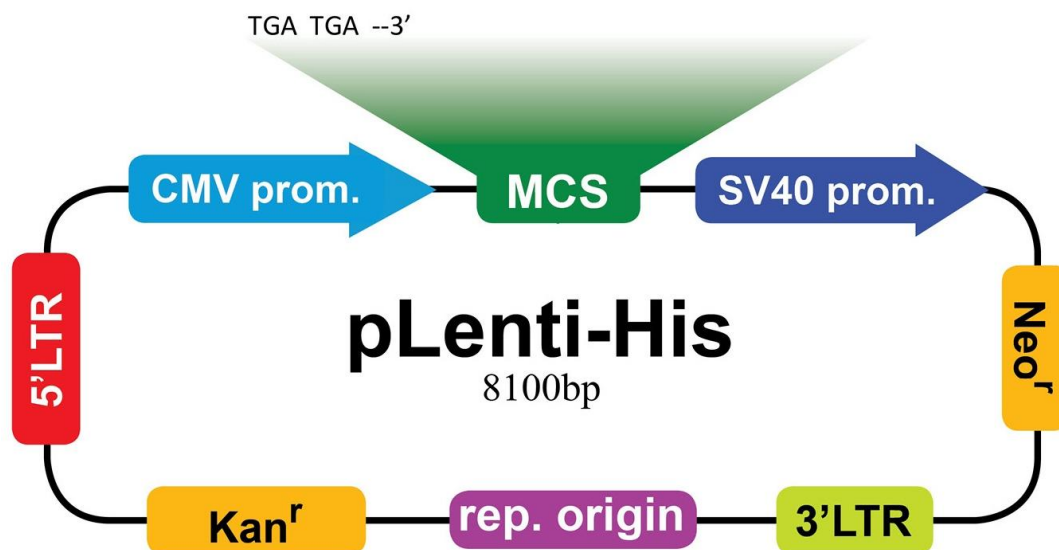


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VectorType	Lentiviral vector
Antibiotic Information	Kanamycin
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3301 aaagcatgca tctcaattag tcagcaacca tagtcccggc cctaactcgc cccactcgc
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3421 atgcagaggg caggccgcgc agtattcca agtattcca gaagtatga ggaggctttt
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3541 gtccagggcg atctgatcaa gagacaggat gaggatcgtt tcgcatgatt gaacaagatg
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3721 ttctttttgt caagacogac ctgtccgggt cctgaaatga actgcaggac gaggcagcgc
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3901 acctgtctcc tgcagagaaa gtaaccaaca tggctgatgc aatgcccggg ctgcaacgc
3961 ttgatccggc tacctgccc aatcgaccacc aagcgaaca tcgcatcgag cgagcagta
4021 ctggatgga agcggctctt gtcgatcagg atgatctgga cgaagagcat caggggctcg
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4141 tgaccatggc cgtactctgc ttgcccataa tcaatgggga aatggccgc tttctggat
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4261 gtgatatgct tgaagagctt ggcggcgaaat gggctgacc cttctctgt ctttacggta
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5341 gaatcagggg ataacgcagg aaagaacatg tgagcaaaa gccagcaaaa ggccaggaac
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5761 ttatcgccac tggcagcagc cactggtaac aggattagca gagcgaggta ttaggcccgt
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5941 aaaaaacca ccgctggtag cgggtggttt tttgtttgca agcagcagat tacgcgcaga
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6541 aaaaacggtg ctgaccocgg atgaatgtca gctactgggc tatctggaca agggaaaaag
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7741 agtccaacta taagaacgtg ggactccaac gtcaaaaggg gaaaaaccgt ctatccgggc
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7861 gctctaaatc ggaaccotaa agggagcccc cgatttagag cttgaagggg aaagcggcg
7921 aactgtggca gaaaggaagg gaagaaagcg aaaggagcgg gcgctagggc gctggcaagt
7981 gtacgggtca cgtcgcgctg aaccaccaca cccgcgcgct taatgcccg ctacagggcg
8041 cgtccattcg ccattcagga togaattaat tcttaattaa catcatcaat aatatacctt

Encap other (162,310)>>>

121 cacatgtaagcgacgga tgtggcaaaagtga cgtttttgggtg tgcgcgggtgtacacagg 180
GTGTACATTTCGTGCCTACACCGTTTTCACCTGCAAAAACACACGCGGCCACATGTGTCC

181 aagtgacaattttcgcgctgttttagcggatgtttagtaaaatttggcgtaaccgagt 240
TTCACCTGTTAAAAGCGCGCCAAAATCCGCCTACAACATCATTTAAACCCGCATTTGCTCA

241 aagatttggccattttcgcgggaaaactgaataagaggaaagtaaatctgaataattttg 300
TTCTAAACCGTAAAAGCGCCCTTTTGACTTATTTCTCTTCACTTTAGACTTATTAAC

301 tgttactcatagcgcgtaatacggcagacctcagcgttagattattgaagcatttatcag 360
ACAATGAGTATCGGCATTATGCCGTCTGGAGTCGCATCTAATAACTTCGTAATAGTC

amp prom (365,393)<<<

361 ggttattgtctcatgagcggatatacatatttgaatgtatttgaaaaataaacaataggg 420
CCAATAACAGAGTACTCGCCTATGTATAAACTTACATAAACTTTTTTATTGTTTATCCC

HpaI
|

421 gttccgcgcacatttccccgaaaagtgccacctgacgttaactataacggctcctaaggt 480
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481 gcgaaagctcagatctggatctccoga tccctatggctcagctctcagtaaatctgctc 540
CGCTTTCGAGTCTAGACCTAGAGGGCTAGGGGATACAGCTGAGAGTCTGTTAGACGAG

541 tgatgccgcatagttaaagcagatctgctcctgcttgtgtgttggaggtcgtgagta 600
ACTACGGCGTATCAATTCGGTCATAGACGAGGGACGAACACAACTCCAGCGACTCAT

601 gtgcgcgagcaaaatttaagctacaacaaggcaagcgttgaccgacaattatgtagtct 660
CACGCGCTCGTTTTAAATTCGATGTTGTTCCGTTCCGAAGTGGCTGTTAATTACATCAGA

661 tatgcaatactctttagtcttgaacatggtaacgatgagttagcaacatgccttaca 720
ATACGTTATGAGAATCAGAACGTTGTACCATTGCTACTCAATCGTTGTACGGAATGTT

721 ggagagaaaaagcaccgtgcatgccgatttgggtgaagtaaggtggtacgatcgtgcctta 780
CCTCTCTTTTTTCGTGGCAGTACGGCTAACACCTTCATCCACCATGCTAGCACGGAAAT

781 ttaggaaggcaacagacgggtctgacatggattggacgaaccaatgaattggcgcattgc 840
AATCTTCCGTTGCTGCCCAGACTGTACTTAACCTGCTTGGTGACTTAACGGCGTAACG

HIV-1_5_LTR other(880,1060)>>>

|

841 agagatatattgtatatttaagtgccctagctcgatatacaaaacgggtctctctggttagaccag 900
TCTCTATAACATAAATTCACGGATCGAGCTATGTATTTGCCAGAGAGACCAATCTGGTC

901 atctgagcctgggagctctctggctaactagggaaacccactgcttaagcctcaataaaagc 960
TAGACTCGGACCCCTCGAGAGACCGATTGATCCCTTGGGTGACGAATTCGGAGTTATTTCCG

961 ttgccttgagtgcttcaagtagtggtgcccgtctgttggtgactctggtaactagaga 1020
AACGGAACFCACGAAGTTCATCACACACGGGCAGACAACACACTGAGACCATTGATCTCT

1021 tccctcagacccttttagtcagtggtgaaaatctctagcagtgccgcccgaacagggact 1080
AGGGAGTCTGGGAAAATCAGTCACACCTTTAGAGATCGTCACCCGGGCTTGTCCCTGA

1081 tgaagcgaagggaaacagaggagctctctcgacgcaggactcggcttgctgaagcgc 1140
ACTTTCGCTTTCCCTTTGGTCTCCTCGAGAGAGCTGCGTCTGAGCCGAACGACTTCCGG

HIV-1_psi_pack other(1171,1215)>>>

|

1141 gcacggcaagaggcgagggggcgactggtgagtagcaccaaaattttgactagcggag 1200
CGTGCCGTTCTCCGCTCCCGCCGCTGACCACTCATGCGGTTTTTAAACTGATCGCCTC

1201 gctagaaggagagagatgggtgagagcgtcagttatgaagcggggagaaattagatcgc 1260
CGATCTTCTCTCTTACCACGCTCTCGCAGTCATAATTCGCCCTCTTAATCTAGCG

NruI

|

1261 gatgggaaaaaattcggttaagccaggggaaagaaaaataaaattaaacatatag 1320
CTACCTTTTTTAAGCCAATTCGGTCCCCCTTTCCTTTTTATATTTAATTTGTATATC

1321 tatgggcaagcagggagctagaacgattcgcagttaatcctggcctgtagaaacatcag 1380
ATACCCGTTTCGTCCTCGATCTGCTAAGCGTCAATTAGGACCGGACAATCTTTGTAGTC

1381 aaggctgtagacaataactgggacagctacaaccatcccttcagacaggatcagaagaac 1440
TFCGACATCTGTTTATGACCCTGTCGATGTTGGTAGGGAAGTCTGCTTAGTCTTCTTG

1441 ttagatcattatataatacagtagcaaccctctattgtgtgcatcaaggatagagataa 1500
AATCTAGTAATATATATGTCATCGTTGGGAGATAACACAGTAGTTTCTATCTCTAT

1501 aagacaccaaggaagccttagacaagatagaggaagagcaaaacaaagtaagaccaccg 1560
TTCTGTGGTTCCTTCGAAATCTGTTCTATCTCCTTCTCGTTTTGTTTTCAATCTGGTGGC

1561 cacagcaagcgcctgtagctctcagacctggaggaggagatagagggacaattgagaag 1620
GTGTCGTTTCGCGGCGACTAGAAGTCTGGACCTCCTCCTTATACTCCCTGTTAACTCTTC

1621 tgaattatataaaataaaagtagtaaaaattgaaccattaggagtagcaccaccaagggc 1680
ACTTAATATATTTATATTTCAATCTTTAACTTGGTAATCCTCATCGTGGGTGGTCCG

RRE reg(1723,1956)>>>

|

1681 aaagagaagagtggtgcagagagaaaaagagcagtgggaaataggagccttggctccttg 1740
TTTCTCTTCTCACCACGTCTCTTTTTTCTCGTACCCTTATCCTCGAACAAGGAACC

ORF_1 rf(2)(1766,2449)>>>

|

1741 gttcttgggagcagcaggaagcactatgggagcagcgtcaatgacgctgacggtacaggg 1800
CAAGAACCCTCGTCTCCTTCGTGATACCCGCGTGCAGTTACTGCGACTGCCATGTCCG

1801 cagacaattattgtctggtatagtgagcagcagacaatttctgtagggctattgaggg 1860
GTCTGTTAATAACAGACCATATCAGTCTGCTGTTGTTAAACGACTCCCGATAACTCCG

1861 gcaacagcatctgttgaactcacagctctgggcatcaagcagctccaggcaagaatcct 1920
CGTTGTCGTAGACAACGTTGAGTGTGACACCCCGTAGTTCGTCGAGGTCCGTTCTTAGGA

1921 ggctgtggaagatacctaaggatcaacagctcctgggattggggttctctggaaga 1980
CCGACACCTTTCTATGGAATTCCTAGTTGTCGAGGACCCCTAAACCCCAACGAGACCTTT

1981 actcatttgcaccactgctgtgcttggaaatgctagttggagtaataaaatctctggaaca 2040
TGAGTAAACGTTGGTGACGACACGGAACCTTACGATCAACCTCATTATTTAGAGACCTTGT

2041 gatttggaaatcacacgacctggatggagtgaggacagagaaattaacaattacacaagctt 2100
CTAAACCTTAGTGTGCTGGACCTACCTCACCTCTCTTTAATTTGTTAATGTGTTTCGAA

2101 aatacactccttaattgaagaatcgcaaaaccagcaagaaagaatgaacaagaattatt 2160
TTATGTGAGGAATTAACCTTAGCTTTTGGTCTCTTTTCTTACTTGTGTTCTTAATAA

2161 ggaattagataaatgggcaagtttggaaattggtttaaatacaaaattggctgtggta 2220
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2221 tataaaattattcataatgatagtaggagcttggtaggtttaaagaatgttttgtctgt 2280
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2281 actttctatagtgatagagtaggacaggatattcaccattatcgtttcagaccaccct 2340
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2341 cccaacccccgaggggaccgacagggcccgaaggaatagaagaagaaggtggagagagaga 2400
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2401 cagagacagatccattcgattagtgacggatctcgacggtatcgataagccttgggagtt 2460
GTCTCTGTCTAGGTAAGCTAATCAGCTTGCCCTAGAGCTGCCATAGCTATTGCAACCCCTCAA

2461 ccgcgttacataacttaccggttaaatggcccgcctggctgacgcccacgacccccgccc 2520
GGCGCAATGTATTGAATGCCATTTACCGGGCGGACCAGCTGGCGGGTTGCTGGGGCGGG

2521 attgacgtcaataatgacgtatgttcccatagtaacgccaatagggactttccattgacg 2580
TAACTGCAGTTATTACTGCATACAGGGTATCATTGCGGTTATCCCTGAAAGGTAAGTGC

NdeI
|

2581 tcaatgggtggagatatttaccggttaactgcccacttggcagttacatcaagtgtatcatat 2640
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2641 gccaaagtacgcccctattgacgtcaatgacggttaaatggcccgcctggcattatgccca 2700
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2701 gtacatgaccttatgggactttcctacttggcagttacatctacgtattagtcacgtat 2760
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2761 taccatgggtgatgcggttttggcagttacatcaatggcgtggatagcgggtttagtcaag 2820
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2821 gggatttcaagtctccaccccattgacgtcaatgggagtttgggtttggcaccacaaatca 2880
CCCTAAAGGTTACAGAGTGGGTAAGTGCAGTTACCCCTCAACAAAACCGTGGTTTTAGT

CMV prom(2911,2992)>>>

|

2881 acgggactttccaaaatgtcgttaacaactccgcccattgacgcaaatggcggtaggcg 2940
TGCCCTGAAAGGTTTACAGCATTGTTGAGGCGGGTAAGTGCAGTTACCCGCCATCCGC

2941 tgtacggtgggaggtctatataagcagagctcgttttagtgaaccgtcagatcgccctggag 3000
ACATGCCACCTCCAGATATATTCGCTCGAGCAAATCACTTGGCAGTCTAGCGGACCTC

3001 acgccaatccacgctgttttgacctccatagaagacaccggctagcgtttaaacttaagct 3060
TGGGTTAGGTGCGACAAAACCTGGAGTATCTTCTGTGGCCGATCGCAAAATTTGAATTCGA

BamHI
|

KpnI EcoRI XbaI NotI ApaI
| | | | |

3061 tggtagcggatccactagtgaaattctctagagcggcgcaccgaggtagtgggcccc 3120
ACCATGGCCTAGGTGATCACTTAAGAGATCTCGCCGGCGTGGCGCCTCATGACCCGGGG

XhoI 6xHis tag (3131,3148)>>> SV40ER reg (3164,3400)<<<

3121 taggtcogagcatcaccatcaccattgatgatgacccccggctgtggaatgtgtgtc 3180
ATCCGAGCTCGTAGTGGTAGTGGTAAGTACTACTAGGGGCGGACCTTACACACAG

SV40 prom(3187,3455)>>>

|

3181 agttaggggtgtgaaagtccccaggctccccagcaggcagaagtatgcaagcatgcatc 3240
TCAATCCACACCTTTACAGGGTCCGAGGGTCCGTCCTTTCATACGTTTCGTACGTAG

3241 tcaattagtcagcaaccaggtgtgaaagtccccaggctccccagcaggcagaagtatgc 3300
AGTTAATCAGTCGTTGGTCCACACCTTTACAGGGTCCGAGGGTCCGTCCTTTCATACG

SV40 origin(3354,3431)>>>

|

3301 aaagcatgcatctcaattagtcagcaaccatagtcgcccctaaactccgccatccgc 3360
TTTCGTACGTAGAGTTAATCAGTCGTTGGTATCAGGGCGGGGATTGAGGCGGGTAGGGCC

3361 ccctaactccgcccagttccgcccattctccgcccattggtgactaattttttttattt 3420
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SfiI
|

3421 atgcagagccgagggcgcctcggcctctgagctattccagaagttagtggagggtttt 3480
TACGTCTCCGGCTCCGGCGGAGCCGAGACTCGATAAGGTCTTCATCACTCTCCGAAAA

StuI
|

3481 ttggaggcctagtaccagatctaatgctagggcccttttgcaaaaagcttgggctgcag 3540
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NTP_II marker (3588,4376)>>>
|
ORF_2 rf(3) (3585,4379)>>>
| |

3541 gtcgagggcggatctgatcaagagacaggtgaggtcgttttcgcatgattgaacaagatg 3600
CAGTCCGCCTAGACTAGTCTCTGTCTACTCCTAGCAAAGCGTACTAAGTTGTTCTAC

3601 gattgcacgaggttctccggcgccttgggtggagaggtattcggtatgactgggcaac 3660

CTAACGTGCGTCCAAGAGGCCGGCGAACCCACCTCTCCGATAAGCCGATACTGACCCGTG

3661 aaacagacaatcggtgctctgtagcgcgctgttccggctgtcagcgcaggggcccgg 3720
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3721 ttctttttgtcaagaccgacctgtccgggtccctgaatgaactgcaggacgagggcagcgc 3780
AAGAAAAACAGTTCGGCTGGACAGGCCACGGGACTTACTTGACGTCCCTGCTCCGTCGCG

3781 ggctatcgtggctggccacgacgggcttccttgccagctgtgctcagcgttgctcactg 3840
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3841 aagcgggaagggactggctgctattgggcaagtgcggggcaggatctcctgtcatctc 3900
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3901 acctgtcctcgcgagaaagtatccatcatggctgatgcaatgcggggctgcatcgc 3960
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4081 cgcacgcgaactgttcgccaggtcaaggcgcgatgcccgacggcgaggatctcgtcg 4140
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4141 tgaccatggcgatgctgcttgcgaatatcatggtggaatggccgcttttctggat 4200
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4201 tcatcgaactggtggcggctgggtgtggcggaccgctatcaggacatagcgttgctaccc 4260
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4261 gtgatattgtgaagacttggcgggaatgggctgaccgcttctcctgcttcttaaggt 4320
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4321 tcgcccgtcccattcgcagcgcacgccttctatgccttctctgacgagttctctgag 4380
AGCGCGAGGGCTAAGCGTCCGCTAGCGGAAGATAGCGGAAGAACTGCTCAAGAAGACTC

EcoRV
|

4381 cgggactctggggttcgatatctagcgcaccagatctaatgctgcaaggcagctgtaga 4440
GCCCTGAGACCCCAAGCTATAGATCGCTGGTCTAGATTAACGCACGTTCCGTCGACATCT

delta_U3 other (4473, 4525) >>>
|

4441 tcttagccactttttaaagaaaagggggactggaagggttaattcactcccaacgaag 4500
AGAATCGGTGAAAAATTTTCTTTTCCCCCTGACCTTCCCGATTAAGTGAGGGTTGCTTC

HIV-1_5_LTR other (4526, 4706) >>>
|

4501 acaagatctgcttttctgtactgggtctctctggttagaccagatctgagcctggga 4560
TGTTCCTAGACGAAAACGAACATGACCCAGAGAGACCAATCTGGTCTAGACTCGGACCT

4561 gctctctggtaactagggaaaccactgcttaagcctcaataaagcttgcccttgagtgct 4620
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4621 tcaagtagtgtgtgcccgctctgtgtgactctgtaactagagatccctcagaccctt 4680
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SmaI
|
XmaI
|

4861 gttgttgcggggcgcgatcgtgcccctccccgtgcttctctgaccctggaaggtgc 4920
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pBR322 origin (5412, 6031) <<<
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NEOKAN prom(6684, 6733) >>>
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NTP_II marker (6825, 7613) >>>
|
ORF_3 rf (3) (6822, 7616) >>>
| |

6781 gatcaagctctgatcaagagacaggatgaggatcgtttcgatgattgaacaagatggat 6840
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f1 origin (7721, 8026) <<<
|

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5'-LTR
Start: 670 End: 1151
CMV Promoter
Start: 2451 End: 3020
Neomycin
Start: 3585 End: 4379
3'-LTR
Start: 4501 End: 4790
Kanamycin
Start: 6822 End: 7613