

Absent Sites	0	AarI,AbstI,AjuI,AjuI',AlfI,AlfI',Alol,Alol',AscI,AsiSI,AvrII,BaeI,BaeI',BamHI,BarI,BarI',BclI,BlpI,BmgBI,BsiWI,BspMI,BstBI,BstEII,BstXI,BstZ17I,FspAI,MauBI,MreI,PmlI,PshAI,PsiI,PspXI,Psrl,Psrl',RsrII,SbfI,SexAI,SfiI,SgrAI,Smal,SphI,SrfI,StuI,Swal,TstI,TstI',Tth111I,XcmI,XhoI,XmaI
Acc65I	1	6530
AfeI	1	3195
AgeI	1	3199
AhdI	1	7995
Apal	1	2572
BbeI	1	984
BbvCI	1	1767
BmtI	1	3194
BsaBI	1	4322
BsaXI	1	2191
BsaXI'	1	2161
BseYI	1	7406
BsrGI	1	3921
BssHII	1	1054
Bsu36I	1	6526
DrdI	1	7210
EcoNI	1	1513
EcoRI	1	4490
FseI	1	1491
FspI	1	8217
GsaI	1	7410
HpaI	1	4362
KasI	1	980
KpnI	1	6534
MscI	1	5341
NarI	1	981
NheI	1	3190
NotI	1	3932
NsiI	1	2598
PacI	1	5706
PciI	1	5682
PpuMI	1	2277
PspOMI	1	2568
PstI	1	2380
SacII	1	6307
SanDI	1	2277
SapI	1	1443
SfoI	1	982
SgrDI	1	2
SpeI	1	253
XbaI	1	2576

p201 (pPRIME-CMV-GFP-FF3)

SgrDI

5' gtcgacggatcgggagatctcccgatcccctatggtgcactctcagtacaatctgctctgatgccgcatagttaagccagtatctgctccctgcttgtgt
 100
 3' cagctgcctagccctctagagggctaggggataccacgtgagagtcaggttagacgagactacggcgtatcaattcgggtcatagacgagggacgaacaca
 +

5' gttggaggtcgctgagtagtgcgcgagcaaaathtaagctacaacaaggcaaggcttgaccgacaattgcatgaagaatctgcttaggggttaggcgttt
 200
 3' caacctccagcgactcatcacgcgctcgtttaaatcagatggttccgttccgaactggctgtaacgtacttcttagacgaatccaatccgcaaaa
 +

Spel

5' gcgctgcttcgogatgtacgggcccagatatacgcgcttgacattgattattgactagttattaatagtaatacaattacgggggtcattagttcatagcccat
 300
 3' cgcgacgaagcgctacatgcccggctctatatgcgcaactgtaactaataactgatcaataattatcattagttaatgcccagtaatacaagatcgggta
 +

5' atatggagttccgcttacataaacttacggtaaatggcccgcctggctgaccgcccacgacccccgccattgacgtcaataatgacgtatgttcccat
 400
 3' tatacctcaaggcgcaatgtattgaatgccatttacggggcggaccgactggcgggtgctggggcgggtaactgcagttattactgcatacaagggt
 +

5' agtaacgccaatagggactttccattgacgtcaatgggtggagatattacggtaaaactgcccaactggcagtacatcaagtgtatcatatgccaaagtacg
 500
 3' tcatgcggttatccctgaaaggtaactgcagttaccacctcataaatgccattgacgggtgaaccgtcatgtagttcacatagatacggttcatgc
 +

5' cccctattgacgtcaatgacggtaaatggcccgcctggcattatgccagtacatgacctatgggactttcctacttggcagtacatctacgtattag
 600
 3' gggggataactgcagttactgccatttaccgggcccggaccgtaatacgggtcatgtactggaataccctgaaaggatgaaccgtcatgtagatgcataatc
 +

5' tcatcgctattaccatgggtgatgcgggttttggcagtacatcaatgggcgtggatagcgggttgactcacggggatttccaagtctccacccattgacgt
 700
 3' agtagcgataatggtaccactacgcaaaaaccgtcatgtagttaccggcacctatcgccaaactgagtgcccctaaagggttcagaggtgggtaactgca
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5' caatgggagttgttttggcaccaaaatcaacgggactttccaaaatgtcgtacaactccgccccattgacgcaaatggcggttaggcgtgtacgggtg
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 3' gttaccctcaaacaaaaccgtggttttagttgcctgaaagggttttacagcatggttgaggcgggtaactgcgtttaccggccatccgcacatgccacc
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5' gaggtctatagaccagatctgagcctgggagctctctggctaactagggaaaccactgcttaagcctcaataaagcttgcttgagtgctcaagtagtg
 900
 3' ctccagatatctggctagactcggaccctcgagagaccgattgatccctgggtgacgaattcggagttatttgaacggaactcacgaagttcatcac
 +

LTR

KasI
 NarI
 SfoI
 BbeI

5' tgtgccgctctgttgtgtgactctggtaaactagagatccctcagacccttttagtcagtggtgaaaaatctctagcagtgggcggccgaacagggacttgaa
 1000
 3' acacgggcagacaacacactgagaccattgatctctagggagctctgggaaaaatcagtcacaccttttagagatcgtcaccgcgggcttgcctcctgaactt
 +

LTR

BssHII

5' agcgaagggaaccagaggagctctctcgacgcaggactcggcttgcctgaagcgcgcacggcaagaggcgaggggcgactggtagtacgcaaaa
 1100
 3' tcgctttcccttggctcctcagagagactgcgctcctgagccgaacgacttcgcgcgctgcccgttctccgctccccgcccgtgaccactcatgcggtttt
 +

LTR

p201 (pPRIME-CMV-GFP-FF3)

5' attttgactagcggaggctagaaggagagagatgggtgcgagagcgtcagtattaagcgggggagaattagatcgcgatgggaaaaattcgggtaaggc
 1200
 3' taaaactgatcgctccgatcttctctctctaccacgctctcgcagtcataattcgccccctcttaattctagcgtacccttttttaagccaattccg
 LTR

5' cagggggaaagaaaaatataataaacatatagtagggcaagcagggagctagaacgattcgcagttaatcctggcctgttagaaacatcagaaggct
 1300
 3' gtcccccttctttttatattttgtatatacataccggttcgctcctcgatcttgtaagcgtcaattaggaccggacaatctttgtagtcttccga
 LTR

5' gtagacaaatactgggacagctacaaccatcccttcagacaggatcagaagaacttagatcattatataatacagtagcaaccctctattgtgtgcatca
 1400
 3' catctgtttatgacctgtcgatgttggtaggaagtctgtcctagtctctctgaaatctagtaatatattatgtcatcgtgggagataacacacgtagt
 LTR

SapI FseI
 5' aaggatagagataaaaagacaccaaggaagcttttagacaagatagaggaagagcaaaacaaaagtaagaccaccgcacagcaagcggcggccgctgat
 1500
 3' ttctatctctatcttctgtggttccttcgaaatctgttctatctccttctcgctttgtttcattctggtggcgtgctcgttcgccggccggcggcacta
 LTR

EcoNI
 5' cttcagacctggaggaggagatagaggacaattggagaagtgaattatataataataaagtagtaaaaattgaaccattaggagtagcaccaccaag
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 LTR HIV RRE

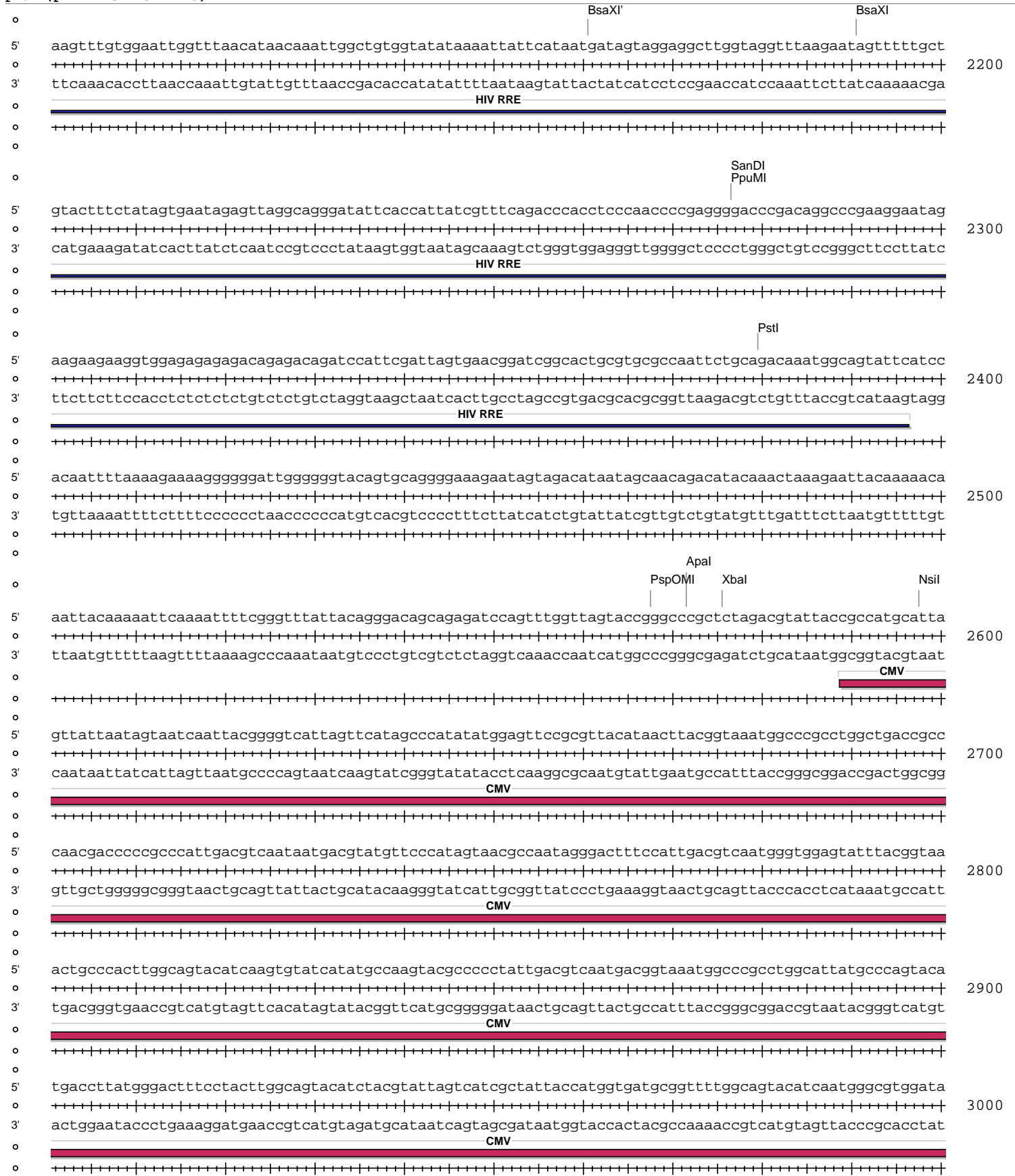
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 3' cgtttctcttcaccacgctctctctttttctcgtcacccttatcctcgaacaaggaaccaagaacctcgtcgtcctcgtgatacccgctcgca
 HIV RRE

BbvCI
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 HIV RRE

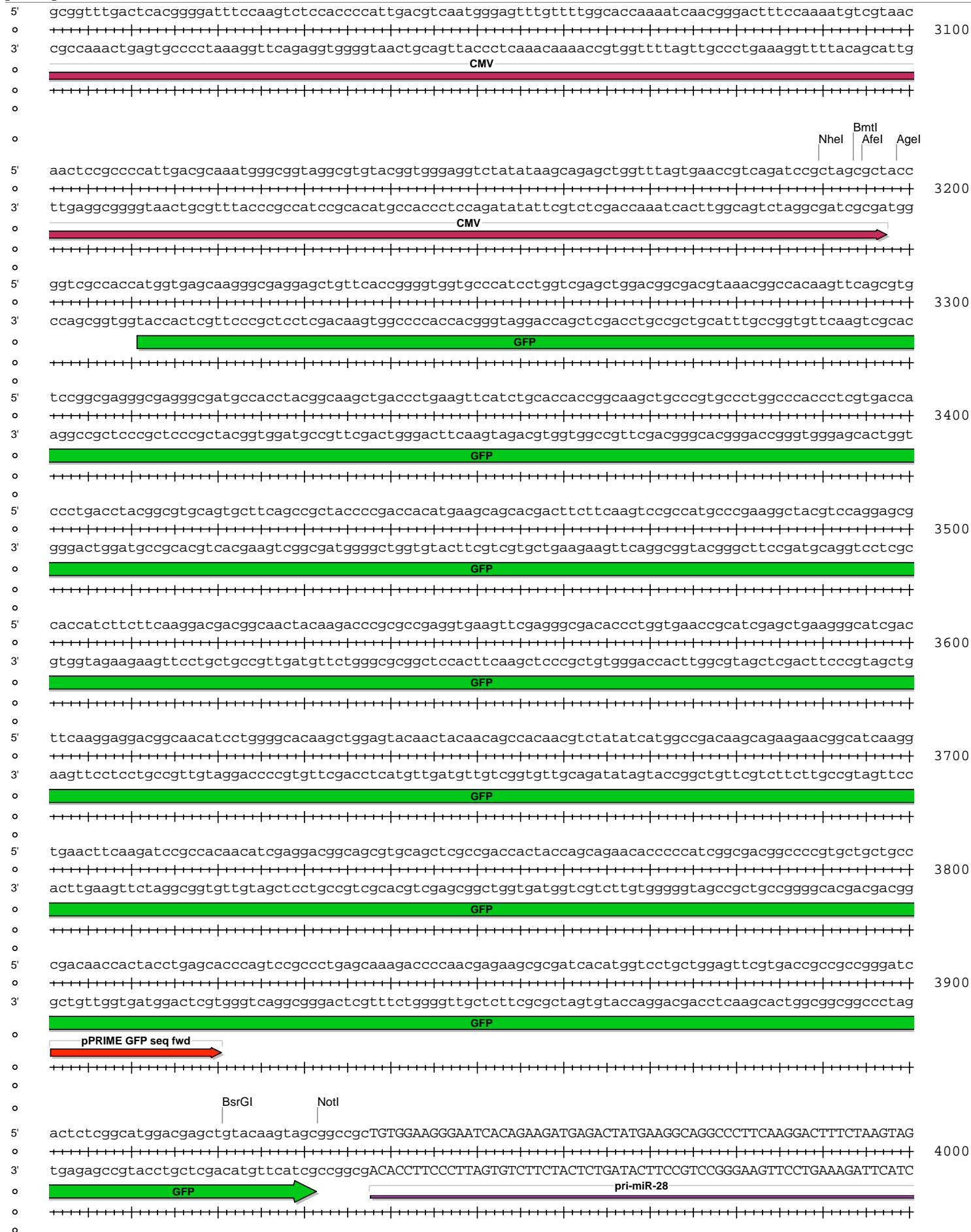
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 HIV RRE

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 2000
 3' tttagttaaactggtgacgacacggaaccttacgatcaacctcattattagagacctgtctaaaccttagtgtgctggacctacctcacctgtctc
 HIV RRE

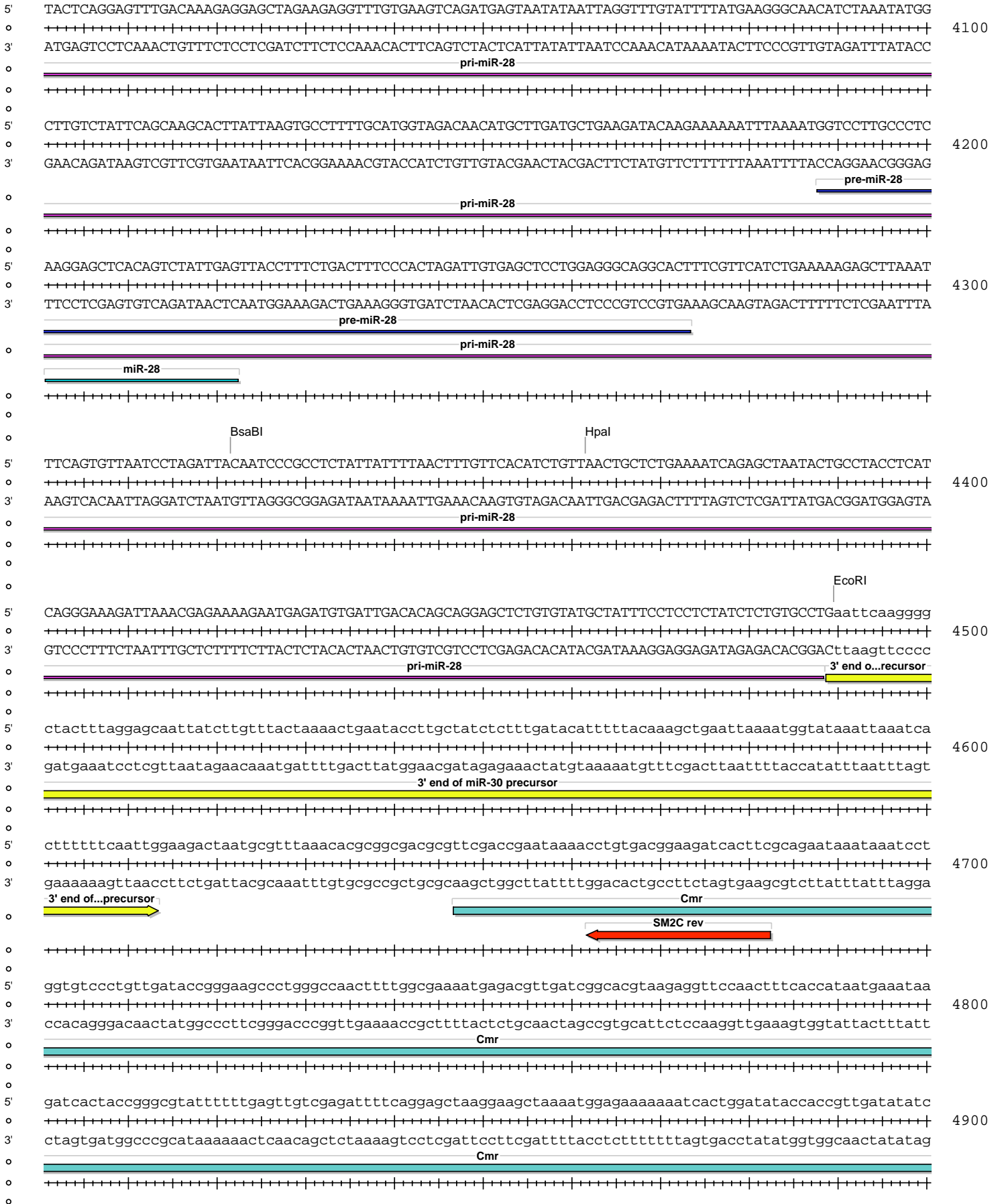
5' aaattaacaattacacaagcttaatacactccttaattgaagaatcgaaaaccagcaagaaaagaatgaacaagaattattggaattagataaatgggc
 2100
 3' ttaattgttaagtgttcgaattatgtgaggaattaacttcttagcgttttggtcgttctttcttacttgttcttaataaccttaacttatttaccg
 HIV RRE



p201 (pPRIME-CMV-GFP-FF3)



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p201 (pPRIME-CMV-GFP-FF3)

5' ccaatggcatcgtaaagaacattttgaggcatttcagtcagttgctcaatgtacctataaccagaccgttcagctggatattacggcctttttaagacc
 o ++++++
 3' ggttaccgtagcattttctgtaaaactcggtaaagtcagtcacagagttacatggatattggtctggcaagtcgacctataatgccggaaaaatctctgg
 o
 o
 o
 5' gtaaagaaaaataagcacaagttttatcggcctttattcacattcttgcccgcctgatgaatgctcatccggaattacgtatggcaatgaaagacggtg
 o ++++++
 3' catttctttttattctgtgttcaaaataggccggaaataagtgtaagaacggggcggactacttacgagtaggccttaatgcataccggttactttctgccac
 o
 o
 o
 5' agctggatgatgggatagtggtcacccttggttacaccgttttccatgagcaaaactgaaacggttttcatcgctctggagtgaataccacgacgatttcg
 o ++++++
 3' tcgaccactataccctatcacaagtggaacaatgtggcaaaaggtactcgtttgactttgcaaaagtagcgagacctcacttatggtgctgctaaaggg
 o
 o
 o
 5' gcagtttctacacatatattcgcaagatgtggcgtgttacggtgaaaacctggcctatttccctaaagggtttattgagaatatgttttctgctcagcc
 o ++++++
 3' cgtcaaagatgtgtatataagcgttctacaccgcacaatgccacttttgaccggataaagggtattcccaataactcttatacaaaaagcagagtcgg
 o
 o
 o
 o
 5' aatccctgggtgagtttcaccagttttgatttaaacgtggccaatatggacaacttcttcgccccggttttcaccatgggcaaatattatacgcaaggcg
 o ++++++
 3' ttagggaccactcaaagtggtcaaaactaaatttgcaccgggtatacctgttgaagaagcgggggcaaaagtggtaccggtttataatatgcttccgc
 o
 o
 o
 o
 5' acaagtgctgatgccgctggcgattcagggttcacatcatgcccgtttgtgatggcttccatgtcggcagaatgcttaatgaattacaacagctactgcatga
 o ++++++
 3' tgttccacgactacggcgaccgctaagtccaagtagtacggcaaacactaccgaaggtacagccgctctacgaattacttaatgtgtcatgacgctact
 o
 o
 o
 o
 5' gtggcagggcggggcgtaatTTTTTaaaggcagttattggtgcccttaaaccgctgggtgctacgcctgaataagtataataagcggatgaatggcaga
 o ++++++
 3' caccgtcccgcgccatataaaaaattccgtcaataaccacgggaatttggcggaccaacgatgaggacttattcactattattcgccacttaccgtct
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 o
 o
 o
 5' aattcggatctcgaccggtttggcggtggctccctgccacgcggctccgaacagaagctgatctccaagaggatctgacatgtgtttaaacctcgac
 o ++++++
 3' ttaagcctagagctggcgcaaacccgccaccgagggagcgtgcccggaggttgtcttcgactagaggcttctcctagactgtacacaaatTTGGAGCTG
 o
 o
 o
 o
 5' ttaattaagtCGAGGGTGCAGGTCGATCGATAAGCTCGCTTCAACGAGATCATGTTAAAGGGTCCGGTCCACTAGGTACAATTCGATATCAAGCTTATCG
 o ++++++
 3' aattaattcagctcccagctgccatagctattcgagcgaagtgtcttagtacaattccaaggccaaggtgatccatgtaagctatagttcgaatagc
 o
 o
 o
 o
 5' ataatcaacctctggattacaaaatttgtaaaagattgactggatattcttaactatggtgctccttttacgctatgtggatacgcgtgctttaatgccttt
 o ++++++
 3' tattagttggagacctaatgttttaaacactttctaactgaccataagaattgatatacaacgaggaaaatgcgatacacctatgcgacgaaattacggaaa
 o
 o
 o
 o

Cmr

Cmr

Cmr

Cmr

MscI

Cmr

Cmr

Cmr

Cmr

PciI

Cmr

Pacl

WRE

p201 (pPRIME-CMV-GFP-FF3)

5' gctgcatccggactgtactgggtctctctgggttagaccagatctgagcctgggagctctctggctaactaggaacccactgcttaagcctcaataaagc
 7000
 3' cgacgtaggcctgacatgaccagagagaccaatctgggtctagactcggaccctcgagagaccgattgatcccttgggtgacgaattcggagttatttcg
 LTR

5' ttgccttgagtgcttcaagtagtgtgtgcccgctctgttgtgtgactctggtaactagagatccctcagacccttttagtcagtgaggaaaatctctagca
 7100
 3' aacggaactcacgaagtccatcacacacgggcagacaacacactgagaccattgatctctagggagctctgggaaaatcagtcacaccttttagagatcgt
 LTR

5' gcatgtgagcaaaaggccagcaaaaggccaggaaccgtaaaaaggccgcttggctggcggttttccataggctccgccccctgacgagcatcacaaaa
 7200
 3' cgtacactcgtttccggctcgtttccggctccttggcattttccggcgcaacgaccgcaaaaaggatccgaggggggggactgctcgtagtgtttt
 LTR

5' ttcgacgctcaagttagaggtggcgaaccgacaggactataaagataaccaggcgtttccccctggaagctccctcgtgcgctctcctgttccgaccctg
 7300
 3' agctgcgagttcagctccaccgctttgggctgtcctgatatttctatggtccgcaaagggggaccttcgagggagcacgcgagaggacaaggctgggac
 Drdl

5' ccgcttaccggatacctgtccgctttctcccttcgggaagcgtggcgctttctcatagctcacgctgtaggtatctcagttcgggtgtaggtcgttcgct
 7400
 3' ggcgaaatggcctatggacaggcggaaagagggaaagcccttcgcaccgcaagagatcgagtgcgacatccatagagtcaggccacatccagcaagcga
 BseYI Gsal

5' ccaagctgggctgtgtgcacgaacccccgcttcagcccagccgctgccccttatccggtaactatcgtcttgagtcacaacccggaagacacgacttacc
 7500
 3' gggtcgaccgacacacgtgcttggggggaagtcgggctggcgacgaggaataggccattgatagcagaactcaggttgggccattctgtgctgaatag

5' gccactggcagcagccactggtaacaggattagcagagcagggatgtaggcgggtctacagagttcttgaagtgggtggcctaactacggctacactaga
 7600
 3' cggtgaccgctcgtcggtgaccattgtcctaactcgtctcgtccatacatccgccagatgtctcaagaacttcaccaccgattgatgccgatgtgatct

5' agaacagttatttggatctgcgctctgctgaagccagttaccttcggaaaaagagttggtagctcttgatccggcaaacaaaccacgctggtagcggtg
 7700
 3' tcttgtcataaacatagacgcgagacgacttcgggtcaatggaagccttttctcaaccatcgagaactaggccgtttgtttgggtggcaccatcgccac

5' gttttttgtttgcaagcagcagattacgcgcgaaaaaaaggatctcaagaagatcctttgatcttttctacggggtctgacgctcagtggaacgaaaa
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 3' caaaaaaacaacgctcgtcgtctaatacgcgctcttttttctagagttcttctaggaactagaaaagatgccccagactgagcagctcaccttgctttt

5' ctcaagtttaaggattttgggtcatgagattatcaaaaaggatcttcacctagatccttttaattaaaaatgaagttttaaataaatcaatctaaagtatatat
 7900
 3' gagtcaattccctaaaccagttactctaatagtttttctagaagtggatctaggaaaatttaatttttacttcaaaaattagttagattcatatata

5' gagtaaaccttggctgacagttaccaatgcttaatcagtgaggcacctatctcagcgatctgtctatttcgctcatccatagttgcctgactccccgctcg
 8000
 3' ctcatttgaaccagactgtcaatgggttagcaattagtcaactccgtggatagagtcgctagacagataaagcaagtaggtatcaaccgactgaggggacgc
 Ahdl

p201 (pPRIME-CMV-GFP-FF3)

5'	tgtagataactacgat	8100
o	+++++	
3'	acatctattgatgctatg	
o	+++++	
o		
5'	ccagccagccggaagg	8200
o	+++++	
3'	ggtcggtcggccttccc	
o	+++++	
o		
FspI 		
5'	ccagttaatagtttg	8300
o	+++++	
3'	ggtaattatcaaacg	
o	+++++	
o		
5'	caaggcgagttacat	8400
o	+++++	
3'	ggtccgctcaatgt	
o	+++++	
o		
5'	catggttatggcagc	8500
o	+++++	
3'	gtaccaatacgcgt	
o	+++++	
o		
5'	tgtatgcggcgacc	8600
o	+++++	
3'	acatacgccgctgg	
o	+++++	
o		
5'	cgggggcaaaaact	8700
o	+++++	
3'	gcccgccttttgag	
o	+++++	
o		
5'	cgtttctgggtgag	8800
o	+++++	
3'	gcaaagaccactcg	
o	+++++	
o		
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o	+++++	
3'	ataacttcgtaaat	
o	+++++	
o		
5'	aagtgccacctgac	8914
o	+++++	
3'	ttcacggtggactg	
o	+++++	
o		