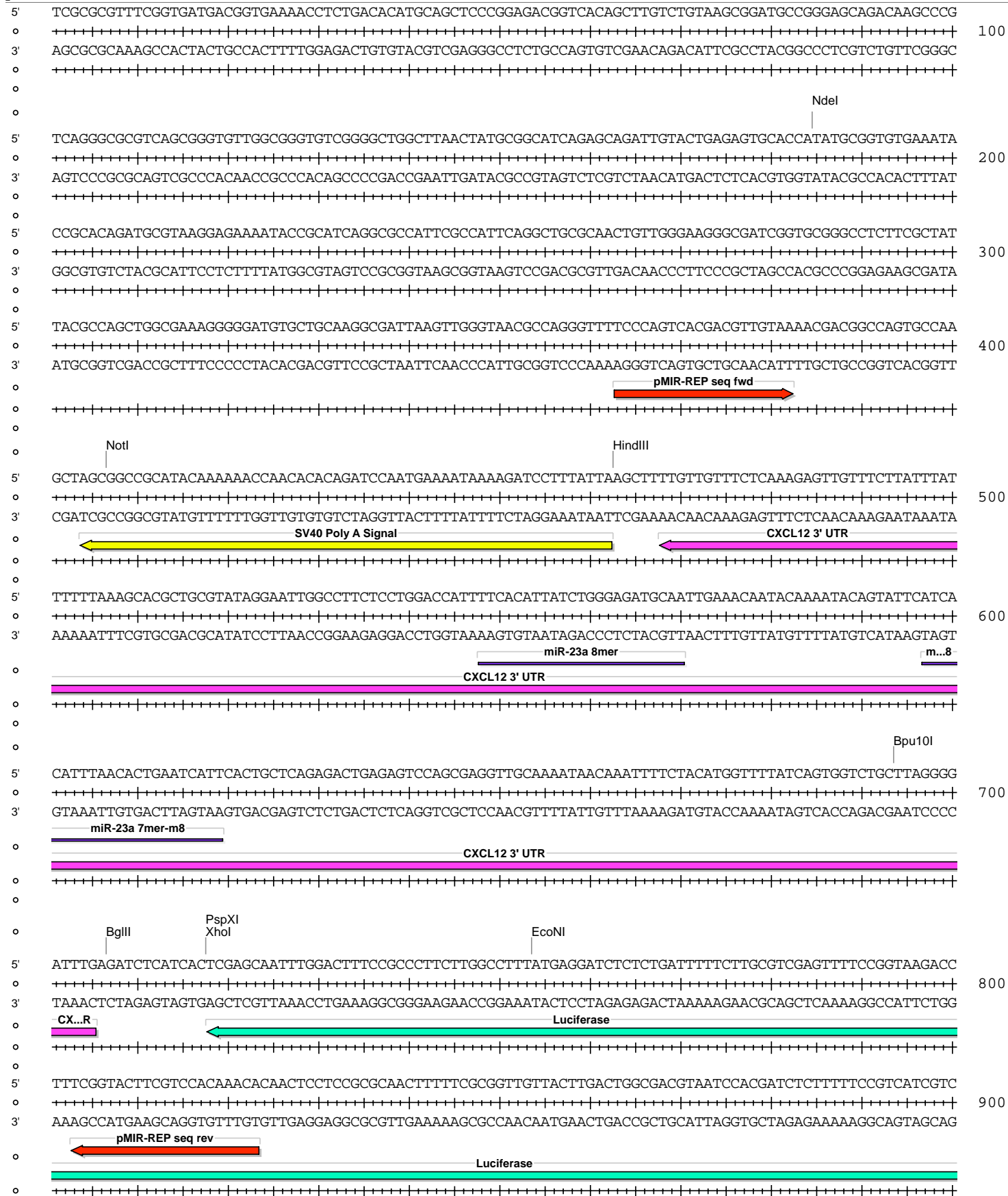


pMIR-REP-dCMV-CXCL12 3' UTR (2847-3084) wt

Absent Sites	0	AarI,AbstI,AfeI,AfIII,AleI,Apal,Ascl,AsiSI,BaeI,BaeI',BarI,BarI',BbvCI,BclI,BlpI,BmgBI,BsgI,BstXI,BstZ17I,EcoICRI,Fall,Fall',FseI,FspAI,MauBI,MluI,MreI,NaeI,NgoMIV,NruI,PaSI,PfIMI,PmeI,PmlI,PshAI,PspOMI,SacI,SanDI,SgrDI,SpeI,SrfI,Swal
Acc65I	1	2642 (6312)
AccI	1	5777 (6312)
AgeI	1	5945 (6312)
AjuI	1	1488 (6312)
AjuI'	1	1520 (6312)
Alol	1	2401 (6312)
Alol'	1	2369 (6312)
Arsl	1	1189 (6312)
Arsl'	1	1221 (6312)
AvrII	1	5996 (6312)
BamHI	1	2377 (6312)
BglII	1	707 (6312)
Bpu10I	1	694 (6312)
BsaBI	1	5161 (6312)
BsmI	1	5074 (6312)
BsrGI	1	1878 (6312)
BssHII	1	5429 (6312)
Bsu36I	1	1756 (6312)
BtgZI	1	2627 (6312)
Clal	1	1005 (6312)
CspCI	1	2591 (6312)
CspCI'	1	2556 (6312)
DraIII	1	5320 (6312)
EcoNI	1	754 (6312)
EcoO109I	1	1190 (6312)
EcoRV	1	1034 (6312)
HindIII	1	463 (6312)
HpaI	1	5060 (6312)
KpnI	1	2646 (6312)
MscI	1	5513 (6312)
NdeI	1	185 (6312)
NotI	1	407 (6312)
PacI	1	1050 (6312)
PciI	1	3106 (6312)
PpuMI	1	1190 (6312)
PspXI	1	718 (6312)
Psrl	1	2239 (6312)
Psrl'	1	2207 (6312)
PstI	1	5968 (6312)
RsrII	1	5769 (6312)
SacII	1	5676 (6312)
Sall	1	5776 (6312)
SbfI	1	5968 (6312)
Scal	1	4479 (6312)
SfiI	1	6050 (6312)
SgrAI	1	940 (6312)
SnaBI	1	2625 (6312)
SspI	1	4803 (6312)
Tth111I	1	5845 (6312)
XcmI	1	1638 (6312)
XhoI	1	718 (6312)
XmnI	1	4598 (6312)

pMIR-REP-dCMV-CXCL12 3' UTR (2847-3084) wt



SgrAI

5' TTTCGGTGCTCCAAAACAACAACGGCGGGGAGTTTACCGCGGTCATCGTCGGGAAGACCTGCCACGCCCGCTCGAAGATGTTGGGGTGTGTGAACA
1000
3' AAAGGCACGAGGTTTTTGTGTGTCGCCCGCCCTTCAAGTGGCCGAGTAGCAGCCCTTCTGGACGGTGC GGCGCAGCTTCTACAACCCCAACATTGT

Luciferase

Clal

EcoRV

PacI

5' ATATCGATTCCAATTAGCGGGGCCACCTGATATCCTTTGTATTTAATTAAGACTTCAAGCGGTCAACTATGAAGAAGTGTTCGTCTTCGTCCAGTA
1100
3' TATAGCTAAGGTTAAGTCGCCCCGGTGGACTATAGGAAACATAAATTAATTTCTGAAGTTCGCCAGTTGATACTTCTTACAAGCAGAAGCAGGGTCAT

Luciferase

ArsI
EcoO109I
PpuMI

5' AGCTATGTCTCCAGAATGTAGCCATCCATCCTTGTCAATCAAGGCGTTGGTTCGCTTCCGGATTGTTTACATAACCGGACATAATCATAGGTCCTCTGACA
1200
3' TCGATACAGAGGCTTACATCGGTAGGTAGGAAACAGTTAGTTCGCAACCAGCGAAGGCCTAACAAATGTATTGGCCTGTATTAGTATCCAGGAGACTGT

Luciferase

ArsI'

5' CATAATTCGCCTCTCTGATTAACGCCAGCGTTTTTCCCGGTATCCAGATCCACAACCTTCGCTTCAAAAAATGGAACAACCTTACCGACCGCGCCCGTT
1300
3' GTATTAAGCGGAGAGACTAATTCGGGTTCGCAAAAGGGCCATAGGTCTAGGTGTTGGAAGCGAAGTTTTTTACCTTGTGAAATGGCTGGCGGGGCCAA

Luciferase

5' TATCATCCCCCTCGGGTGTAAATCAGAATAGCTGATGTAGTCTCAGTGAGCCCATATCCTTGTGCGTATCCCTGGAAGATGGAAGCGTTTTGCAACCGCTTC
1400
3' ATAGTAGGGGAGCCACATTAGTCTTATCGACTACATCAGAGTCACTCGGGTATAGGAACAGCATAGGGACCTTCTACCTTCGCAAAACGTTGGCGAAG

Luciferase

AjuI

5' CCCGACTTCTTTCGAAAGAGGTGCGCCCCAGAAAGCAATTCGTGTAAATAGATAAATCGTATTTGTCAATCAGAGTGCCTTTGGCGAAGAATGAAAT
1500
3' GGGCTGAAGAAAGCTTCTCCACGCGGGGGTCTTCGTAAAGCACATTTAATCTATTTAGCATAAACAGTTAGTCTCACGAAAACCGCTTCTTACTTTTA

Luciferase

AjuI'

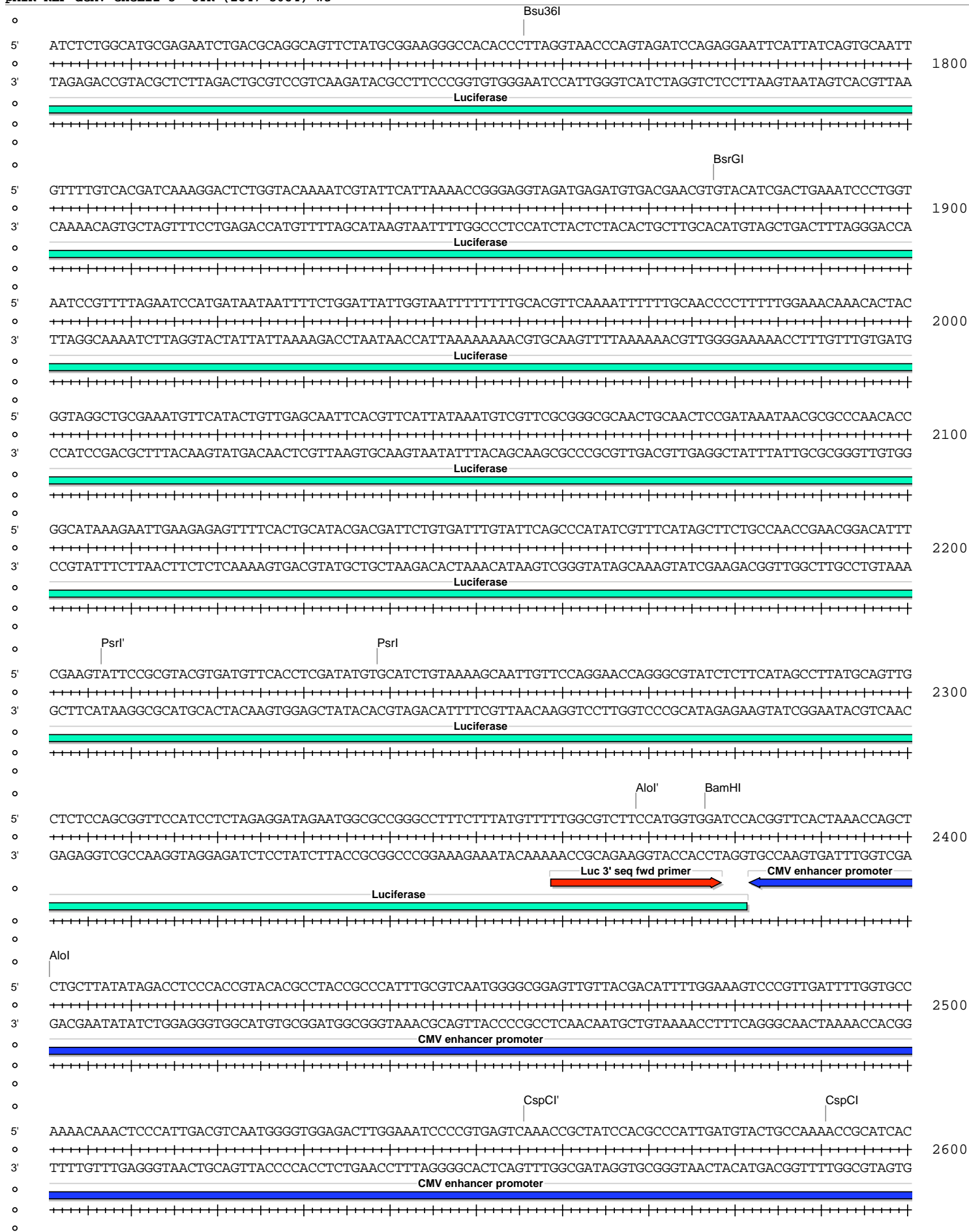
5' AGGGTTGGTACTAGCAACGCACCTTTGAATTTTGAATCCTGAAGGATCGTAAAAACAGCTTCTTCAAATCTATACATTAAGACGACTCGAAATCCAC
1600
3' TCCCAACCATGATCGTTGCGTGAAACTTAAACATTAGGACTTCCCTAGCATTTTTGTGCGAGAAGAAGTTTAGATATGTAATCTGCTGAGCTTTAGGTG

Luciferase

XcmI

5' ATATCAAATATCCGAGTGTAGTAAACATTCCAAAACCGTGATGGAATGGGACAACACTTAAATCGCAGTATCCGGAACGATTTGATTGCCAAAAATAGG
1700
3' TATAGTTTATAGGCTCACATCATTTGTAAGGTTTTGGCACTACCTTACCCTGTTGTGAATTTAGCGTCATAGGCCTTGCTAAACTAACGGTTTTTATCC

Luciferase



pMIR-REP-dCMV-CXCL12 3' UTR (2847-3084) wt

Restriction sites: SnaBI, BtgZI, Acc65I, KpnI, PciI

2700
 5' CATGGTAATAGCGATGACTAATAACgtaggttcaactGATCTGGTACCTTGAATTCATGCTTCTCCTCCCTTTAGTGAGGGTAATCTCTCTCTCCCTAT
 3' GTACCATTATCGCTACTGATTATGcatccaagtgaCTAGACCATGGAAC'TTAAGTACGAAGAGGAGGAAATCACTCCCATTAAGAGAGAGAGAGGGATA
 CMV enhancer promoter

2800
 5' AGTGAGTCGTATTAATTCCTTCTCTTATAGTGTACCTAAATCGTTGCAATTCGTAATCATGTCATAGCTGTTTCTGTGTGAAATTGTTATCCGCTC
 3' TCACTCAGCATAAATTAAGGAAGAGAAGATATCACAGTGGATTTAGCAACGTTAAGCATTAGTACAGTATCGACAAAGGACACACTTTAACAATAGGCGAG

2900
 5' ACAATTCACACAACATACGAGCCGGAAGCATAAAAGTGTAAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCCCG
 3' TGTTAAGGTGTGTTGTATGCTCGGCCTTCGTATTTACATTTTCGACCCACGGATTACTCACTCGATTGAGTGTAAATTAACGCAACGCGAGTGACGGGC

3000
 5' CTTTCCAGTCGGGAAACCTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGGGGAGAGGCGGTTTGCCTATTGGGCGCTCTTCCGCTTCTCGCT
 3' GAAAGGTCAGCCCTTTGGACAGCACGGTTCGACGTAATTAAGTCTAGCCGTTGCGCGCCCTCTCCGCCAAACGCATAACCCGCGAGAAGGCGAAGGAGCGA
 ColE1 origin

3100
 5' CACTGACTCGCTGCGCTCGGTCGTTTCGGCTGCGCGGAGCGGTATCAGCTCACTCAAAGGCGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGA
 3' GTGACTGAGCGACGCGAGCCAGCAAGCCGACGCGCTCGCCATAGTCGAGTGAGTTTCCGCCATTATGCCAATAGGTGTCTTAGTCCCCTATTGCGTCCT
 ColE1 origin

3200
 5' AAGAACATGTGAGCAAAGGCCAGCAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACA
 3' TTCTTGTAACACTCGTTTTCCGGTCGTTTTCCGGTCCTTGCCATTTTTCCGGCGCAACGACCCGCAAAAAGGTATCCGAGGCGGGGGACTGCTCGTAGTGT
 ColE1 origin

3300
 5' AAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGAC
 3' TTTTAGCTGCGAGTTCAGTCTCCACCGCTTTGGGCTGTCTGATATTTCTATGGTCCGCAAAGGGGGACCTTCGAGGGAGCACGCGAGAGGACAAGGCTG
 ColE1 origin

3400
 5' CCTGCCCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGAAGCGTGGCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTT
 3' GGACGGCGAATGGCCTATGGACAGGCGAAAGAGGGAAGCCCTTCGCACCCGAAAGAGTATCGAGTGCACATCCATAGAGTCAAGCCACATCCAGCAA
 ColE1 origin

3500
 5' CGCTCCAAGCTGGGCTGTGTGCACGAACCCCGTTCAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACT
 3' GCGAGGTTCCACCCGACACACGTGCTTGGGGGCAAGTCGGGCTGGCGACGCGGAATAGGCCATTGATAGCAGAACTCAGGTTGGGCCAATCTGTGCTGA
 ColE1 origin

3600
 5' TATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACAC
 3' ATAGCGGTGACCGTCGTCGGTGACCATTTGTCCTAATCGTCTCGTCCATACATCCGCCACGATGTCTCAAGAACTTCACCACCGGATTGATGCCGATGTG
 ColE1 origin

pMIR-REP-dCMV-CXCL12 3' UTR (2847-3084) wt

5' TCTTCGGGGCGAAAACTCTCAAGGATCTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACTGATCTTCAGCATCTTTTACTTTCA
 4700
 3' AGAAGCCCCGCTTTTGAGAGTTCTTAGAATGGCGACAACCTCTAGGTCAAGCTACATTGGGTGAGCACGTGGGTTGACTAGAAGTCGTAGAAAATGAAAGT

AMPr

5' CCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAAATGCCGCAAAAAGGGAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCTTTTCA
 4800
 3' GGTTCGCAAAGACCCACTCGTTTTGTCTTCCGTTTTACGGCGTTTTTCCCTTATTCCCGCTGTGCCTTTACAACCTTATGAGTATGAGAAGGAAAAAGT

AMPr

Sspl

5' ATATTATTGAAGCATTATCAGGGTTATGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAACAAATAGGGGTTCCGCGCACATTTCCC
 4900
 3' TATAATAACTTCGTAAATAGTCCAATAACAGAGTACTCGCCTATGTATAAACTTACATAAATCTTTTATTTGTTTATCCCAAGGCGGTGTAAGGG

5' CGAAAAGTGCCACCTGACGTCTAAGAAACCATTATTATCATGACATTAACCTATAAAAATAGGCGTATCACGAGATTGCAGTGAAAAAATGCTTTATTT
 5000
 3' GCTTTTCACGGTGGACTGCAGATTCTTTGGTAATAATAGTACTGTAATTGGATATTTTATCCGCATAGTGCTCTAACGTCACCTTTTTTACGAAATAAA

SV4... A

HpaI

BsmI

5' GTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAACAACAACAATTGCATTCAATTTATGTTTCAGGTTTCAGGG
 5100
 3' CACTTTAAACACTACGATAACGAAATAAACATTGGTAATATTCGACGTTATTTGTTCAATTGTGTTGTTAACGTAAGTAAAATACAAAGTCCAAGTCCC

SV40 Poly A

BsaBI

5' GGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAACCTCTACAAATGTGGTATGGCTGATTATGATCCTCTAGAGTCGGTGGCCCTCGGGGCGGGTGC
 5200
 3' CCTCCACACCTCCAAAAAATTCGTTTCATTTTGGAGATGTTTACACCATACCGACTAATACTAGGAGATCTCAGCCACCCGGAGCCCGCCACGCCC

5' GTCGGCGGGGCGCCCGGGTGGCTTCGGTCCGAGCCATGGGGTTCGTGCGCTCCTTTTCGGTCCGGCGCTGCGGGTTCGTGGGGCGGGCGTCAGGCACCGGG
 5300
 3' CAGCCGCCCCGGCGGGGCCACCGAAGCCAGCCTCGGTACCCAGCACGCGAGGAAAGCCAGCCCGCGACGCCAGCACCCCGCCGAGTCCGTGGCCC

Puomyc...istance

DrallI

5' CTTGCGGGTTCATGCACCAGGTGCGCGGTCTTTCGGGCACCTCGACGTCGGCGGTGACGGTGAAGCCGAGCCGCTCGTAGAAGGGGAGGTTGCGGGGCGCG
 5400
 3' GAACGCCAGTACGTGGTCCACGCGCCAGGAAGCCCGTGGAGCTGCAGCCGCCACTGCCACTTCGGCTCGGCGAGCATCTTCCCTCCAACGCCCGCGC

Puomycin resistance

BssHII

5' GAGGTCTCCAGGAAGGCGGGCACCCCGCGCTCGGCCGCTCCACTCCGGGGAGCACGACGGCGCTGCCAGACCTTGCCCTGGTGGTTCGGGCGAGA
 5500
 3' CTCCAGAGGTCTTCCGCCGTTGGGGCCGCGAGCCCGGAGGTGAGGCCCTCGTGCTGCCGCGAGGGTCTGGGAACGGGACCACCAGCCCGCTCT

Puomycin resistance

