



## pMSCVneo-GFP-miR Cntl

Absent Sites	0	AarI,AbstI,AjuI,AjuI',AlfI,AlfI',ApaI,AsiSI,AvrII,BarI,BarI',BbsI,BclI,BplI,BplI',BsaBI,BsiWI,BstBI,BstXI,BstZ17I,CspCI,CspCI',DraIII,FseI,FspAI,HpaI,MauBI,MfeI,MluI,MreI,NruI,NsiI,Pacl,PfiMI,PmeI,PmlI,PshAI,PsiI,PspOMI,PspXI,Psri,Psri',SacII,SanDI,SbfI,SfiI,SgrDI,SnaBI,SrfI,Swal,XcmI,XhoI
AccI	1	3519
AflIII	1	4608
ArsI	1	1732
ArsI'	1	1700
BamHI	1	3512
BglIII	1	1411
BplI	1	2466
BsaAI	1	3147
BsmI	1	2624
BspEI	1	2612
BstEII	1	1089
Clal	1	3539
EcoRI	1	2173
HincII	1	3520
HindIII	1	3532
NdeI	1	6672
NotI	1	2158
PciI	1	4608
RsrII	1	3359
Sall	1	3518
Scal	1	5981
SexAI	1	1217
SgrAI	1	7044
StuI	1	2487

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5' TGAAAGACCCACCTGTAGGTTTGGCAAGCTAGCTTAAGTAACGCCATTTTGC AAGGCATGGAAAATACATAACTGAGAATAGAGAAGTTCAGATCAAGG  
 100  
 3' ACTTCTG GGGTGGACATCCAAACCGTTCGATCGAATTCATTGCGGTA AACCGTTC CGTACCTTTTATGTATTGACTCTTATCTCTTCAAGTCTAGTTCC  
 5' pCMV LTR

5' TTAGGAACAGAGACAGCAGAATATGGGCCAAACAGGATATCTGTGGTAAGCAGTTCCTGCCCCGGCTCAGGGCCAAGAACAGATGGTCCCCAGATGCG  
 200  
 3' AATCCTTGTCTCTCTGTGCTTATACCCGGTTTGTCTTATAGACACCATTTCGTCAAGGACGGGGCCGAGTCCCGGTTCTTGTCTACCAGGGGTCTACGC  
 5' pCMV LTR

5' GTCCCGCCCTCAGCAGTTTCTAGAGAACCATCAGATGTTTCCAGGGTGCCCCAAGGACCTGAAATGACCCTGTGCCTTATTTGAACTAACCAATCAGTTC  
 300  
 3' CAGGGCGGGAGTCGTCAAAGATCTCTTGGTAGTCTACAAAGTCCACGGGGTTCCTGGACTTTACTGGGACACGGAATAAACTTGATTGGTTAGTCAAG  
 5' pCMV LTR

5' GCTTCTCGTCTCTGTTCGCGCCTTCTGCTCCCCGAGCTCAATAAAAAGAGCCACAAACCCCTCACTCGGCGCGCAGTCTCCGATAGACTGCGTCGCCC  
 400  
 3' CGAAGAGCGAAGACAAGCGCGGAAGACGAGGGGCTCGAGTTAATTTCTCGGGTGTGGGGAGTGAGCCGCGCGGTGAGGAGGCTATCTGACGCAGCGGG  
 5' pCMV LTR

5' GGGTACCCGTATCCCAATAAAGCCTCTTGCTGTTTGCATCCGAATCGTGGACTCGCTGATCCTTGGGAGGGTCTCCTCAGATTGATTGACTGCCACCT  
 500  
 3' CCCATGGGCATAAGGGTTAATTTGCGGAGAACGACAAACGTAGGCTTAGCACCTGAGCGACTAGGAACCCCTCCAGAGGAGTCTAACTAACTGACGGGTGGA  
 5' pCMV LTR

5' CGGGGTCTTTTCAATTTGGAGGTTCCACCGAGATTGGAGACCCCTGCCAGGGACCACCGACCCCCCGCGGGAGGTAAGCTGGCCAGCGGTCTGTTTCG  
 600  
 3' GCCCCAGAAAGTAAACCTCCAAGGTGGCTCTAAACCTCTGGGGACGGGTCCCTGGTGGCTGGGGGGCGGCCCTCCATTTCGACCGGTTCGCCAGCAAAGC  
 5' pCMV LTR Pack Signal

5' TGTCTGTCTCTGTCTTTGTGCGTGTTTGTGCCGCATCTAATGTTTGC GCCTGCGTCTGTACTAGTTAGCTAACTAGCTCTGTATCTGGCGGACCCGTGG  
 700  
 3' ACAGACAGAGACAGAAACACGCACAAACACGGCCGTAGATTACAAACCGGACGCAGACATGATCAATCGATTGATCGAGACATAGACCGCTGGGCACC  
 Pack Signal

5' TGGAATGACGAGTTCGAAACCCCGCGCAACCTGGGAGACGTCCCAGGGACTTTGGGGCCGTTTGTGGCCCGACCTGAGGAAGGGAGTCGATG  
 800  
 3' ACCTTGACTGCTCAAGACTTGTGGGCCGGCGTTGGGACCCTCTGCAGGGTCCCTGAAACCCCGGCAAAAACACCGGGCTGGACTCCTTCCTCAGCTAC  
 Pack Signal

5' TGGAATCCGACCCCGT CAGGATATGTGGTCTGGTAGGAGACGAGAACC TAAAACAGTTC CCGCCTCCGTCTGAATTTTGTCTTCGGTTTGAACCGAA  
 900  
 3' ACCTTAGGCTGGGGCAGTCTTATACACCAAGACCATCCTCTGCTCTTGGATTTTGTCAAGGGCGGAGGCAGACTTAAAAACGAAAGCCAAACCTTGGCTT  
 Pack Signal

5' GCCGCGCTCTGTCTGCTGCAGCGCTGCAGCATCGTTCGTGTTGTCTCTGTCTGACTGTGTTTCTGTATTTGTCTGAAAATTAGGGCCAGACTGTTAC  
 1000  
 3' CGGCGCGCAGAACAGACGACGTCGCGACGTCGTAGCAAGACACAACAGAGACAGACTGACACAAAGACATAAACAGACTTTTAATCCCGGTCTGACAATG  
 Pack Signal



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5' GGCTGCTCTGATGCCGCCGTGTTCCGGCTGTCCAGCGCAGGGGCGCCCGGTTCTTTTGTCAAGACCGACCTGTCCGGTGCCTGAATGAACTGCAGGACG  
 2900  
 3' CCGACGAGACTACGGCGGCACAAGGCCGACAGTCGCGTCCCCGCGGGCCAAGAAAAACAGTTCTGGCTGGACAGGCCACGGGACTTACTTGACGTCCTGC  
 Neo Resistance

5' AGGCAGCGCGCTATCGTGGCTGGCCACGACGGGCGTTCTTGGCGAGCTGTGCTCGACGTTGTCTACTGAAGCGGGAAGGGACTGGCTGCTATTGGGCGA  
 3000  
 3' TCCGTCGCGCCGATAGCACCGACCGGTGCTGCCCGCAAGGAACGCGTTCGACACGAGCTGCAACAGTGACTTCGCCCTTCCTGACCGACGATAACCCGCT  
 Neo Resistance

5' AGTGCCGGGGCAGGATCTCCTGTCATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCT  
 3100  
 3' TCACGGCCCCGTCTTAGAGGACAGTAGAGTGGAAACGAGGACGGCTCTTTCATAGGTAGTACCGACTACGTTACGCCCGGACGTATGCGAACTAGGCCGA  
 Neo Resistance

BsaI  
 5' ACCTGCCCATTCGACCACCAAGCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTGCGATCAGGATGATCTGGACGAAGAGCATC  
 3200  
 3' TGGACGGTAAGCTGGTGGTTTCGCTTTGTAGCGTAGCTCGCTCGTCATGAGCCTACCTTCGGCCAGAACAGCTAGTCTACTAGACCTGCTTCTCGTAG  
 Neo Resistance

5' AGGGGCTCGCGCCAGCCGAAGTTCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGTGACCCATGGCGATGCCTGCTTGCCGAATAT  
 3300  
 3' TCCCGAGCGCGTTCGCTTGACAAGCGGTCCGAGTTCGCGCGTACGGGCTGCCGCTCCTAGAGCAGCACTGGGTACCGCTACGGACGAACGGCTTATA  
 Neo Resistance

RsrII  
 5' CATGGTGGAAAATGGCCGCTTTTCTGGATTTCATCGACTGTGGCCGGCTGGGTGTGGCGGACCCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCT  
 3400  
 3' GTACCACCTTTTACCGCGAAAAGACCTAAGTAGCTGACACCGGCCGACCCACACCGCTGGCGATAGTCTGTATCGCAACCGATGGGCACTATAACGA  
 Neo Resistance

5' GAAGAGCTTGCGCGCAATGGGCTGACCGCTTCTCGTGCTTTACGGTATCGCCGCTCCCGATTTCGAGCGCATCGCCTTCTATCGCCTTCTTGACGAGT  
 3500  
 3' CTTCTCGAACCGCCGCTTACCCGACTGGCGAAGGAGCACGAAATGCCATAGCGCGAGGGCTAAGCGTCGCGTAGCGGAAGATAGCGGAAGAACTGCTCA  
 Neo Resistance

BamHI      SalI  
 AccI  
 HincII      HindIII      ClaI  
 5' TCTTCTGAGGGATCCGTCGACCTGCAGCCAAGCTTATCGATAAAAATAAAAGATTTTATTTAGTCTCCAGAAAAGGGGGGAATGAAAGACCCACCTGT  
 3600  
 3' AGAAGACTCCCTTAGGCAGCTGGACGTCGGTTCGAATAGCTATTTTATTTTCTAAAATAAATCAGAGTCTTTTCCCCCTTACTTTCTGGGGTGGACA  
 Neo ...ance

5' AGGTTTGGCAAGCTAGCTTAAGTAACGCCATTTTGAAGGCATGGAAAATACATAACTGAGAATAGAGAAGTTCAGATCAAGGTTAGGAACAGAGAGACA  
 3700  
 3' TCCAAACCGTTCGATCGAATTCATTGCGGTAAAACGTTCCGTACCTTTTATGTATTGACTCTTATCTCTCAAGTCTAGTTCCAATCCTTGTCTCTGT  
 3' pCMV LTR

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5' GCAGAAATATGGGCCAAACAGGATATCTGTGGTAAGCAGTTCCTGCCCCGGCTCAGGGCCAAGAACAGATGGTCCCAGATGCGGTCCCGCCCTCAGCAGT  
 3' CGTCTTATAACCCGGTTTGTCTATAGACACCATTTCGTCAAGGACGGGGCCGAGTCCCGGTTCTTGTCTACCAGGGGTCTACGCCAGGGCGGGAGTCTGCA

3' pCMV LTR

3800

5' TTCTAGAGAACCATCAGATGTTTCCAGGGTGCCCCAAGGACCTGAAATGACCCTGTGCCTTATTTGAACTAACCAATCAGTTCGCTTCTCGCTTCTGTTC  
 3' AAGATCTCTTGGTAGTCTACAAAGGTCCACGGGGTTCCTGGACTTTACTGGGACACGGAATAAACTTGATTGGTTAGTCAAGCGAAGAGCGAAGACAAG

3' pCMV LTR

3900

5' GCGCGCTTCTGCTCCCGAGCTCAATAAAAGAGCCACAACCCCTCACTCGGCGCGCCAGTCTCCGATAGACTGCGTGCCTCCGGGTACCCGTGTATCCA  
 3' CGCGCAAGACGAGGGGCTCGAGTTATTTCTCGGGTGTGGGGAGTGAGCCGCGCGGTGAGGAGGCTATCTGACGCAGCGGGCCCATGGGCACATAGGT

3' pCMV LTR

4000

5' ATAAACCCCTCTGCAGTTGCATCCGACTTGTGGTCTCGTGTTCCTTGGGAGGGTCTCCTCTGAGTGATGACTACCCGTCAGCGGGGTCTTTCATGGG  
 3' TATTTGGGAGAAGCTCAACGTAGGCTGAACACCAGAGCGACAAGGAACCCCTCCAGAGGAGACTCACTAACTGATGGGCAGTCCGCCCCAGAAAGTACCC

3' pCMV LTR

4100

5' TAACAGTTTCTTGAAGTTGGAGAACAACATTCTGAGGGTAGGAGTTCGAATATTAAGTAATCCTGACTCAATTAGCCACTGTTTTGAATCCACATACTCCA  
 3' ATTTGCAAAGAACTTCAACCTCTTGTGTAAGACTCCCATCCTCAGCTTATAATTCATTAGGACTGAGTTAATCGGTGACAAAACCTTAGGTGTATGAGGT

4200

5' ATACTCCTGAAATAGTTCATTATGACAGCGCAGAAGAGCTGGGGAGAATTAATTCGTAATCATGGTCATAGCTGTTTCTGTGTGAAAITGTTATCCGC  
 3' TATGAGGACTTTATCAAGTAATACCTGTGCGCTTCTTCGACCCCTCTTAATTAAGCATTAGTACCAGTATCGACAAAGGACACACTTTAACAATAGGCG

4300

5' TCACAATTCACACAACATACGAGCCGGAAGCATAAAGTGTAAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCC  
 3' AGTGTTAAGGTGTGTGTATGCTCGGCCTTCGTATTTACATTTCCGACCCACGGATTACTCACTCGATTGAGTGTAAATTAACGCAACGCGAGTGACGG

4400

5' CGCTTTCAGTCGGGAAACCTGTGCTGCCAGCTGCATTAATGAATCGGCCAACGCGGGGAGAGGCGGTTTGCCTATTGGGCGCTCTTCCGCTTCTCTG  
 3' GCGAAAGGTGAGCCCTTTGGACAGCAGGTCGACGTAATTAAGTTCGCGCCCTCTCCGCCAAACGCATAACCCGCGAGAAGGCGAAGGAGC

4500

5' CTCCTGACTCGCTGCGCTCGGTCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAG  
 3' GAGTACTGAGCGACGCGAGCCAGCAAGCCGACCGCTCGCCATAGTCGAGTGAGTTTCCGCCATTATGCCAATAGGTGTCTTAGTCCCCTATTGCGTC

4600

Pcil  
AfilII

5' GAAAGAACATGTGAGCAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCA  
 3' CTTTCTGTACTACTCGTTTTCCGGTCGTTTTCCGGTCTTGGCATTTTTCCGGCGCAACGACCGCAAAAAGGTATCCGAGGCGGGGGACTGCTCGTAGT

4700

5' CAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCG  
 3' GTTTTATAGCTGCGAGTTCAGTCTCCACCCTTTGGGCTGTCTGATATTTCTATGGTCCGCAAAAGGGGACCTTCGAGGAGACGCGAGAGGACAAGGC

4800

5' ACCCTGCCGCTTACCGGATACCTGTCCGCCCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCG  
 3' TGGGACGGCGAATGGCCTATGGACAGGCGGAAAGAGGGAAGCCCTTCGCACCGCAAGAGTATCGAGTGCACATCCATAGAGTCAAGCCACATCCAGC

4900





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5' GAATAGTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAATACGGGATAATACCGCGCCACATAGCAGAACTTTAAAAGTGTCTCATCATTGGAAAAC  
 6100  
 3' CTTATCACATACGCCGCTGGCTCAACGAGAACGGGCCGAGTTATGCCCTATTATGGCGCGGTGTATCGTCTTGAAATTTTCACGAGTAGTAACCTTTTG  
 Amp res

5' GTTCTTCGGGGCGAAAACCTCTCAAGGATCTTACCGCTGTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACTGATCTTCAGCATCTTTACTTT  
 6200  
 3' CAAGAAGCCCCGCTTTTGAGAGTTCTTAGAATGGCGACAACCTCTAGGTCAAGCTACATTGGGTGAGCACGTGGGTTGACTAGAAGTCGTAGAAAATGAAA  
 Amp res

5' CACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAAAGGGAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCCTTTTT  
 6300  
 3' GTGGTCGAAAGACCCACTCGTTTTTGTCTTCCGTTTTTACGGCGTTTTTTCCCTTATTCCCGCTGTGCCTTTACAACCTTATGAGTATGAGAAGGAAAA  
 Amp res

5' CAATATTATTGAAGCATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAAACAAATAGGGGTTCCGCGCACATTTT  
 6400  
 3' GTTATAATAACTTCGTAAATAGTCCCAATAACAGAGTACTCGCCTATGTATAAACCTACATAAATCTTTTATTGTTTATCCCAAGGCGCGTGTAAAG

5' CCCGAAAAGTGCCACCTGACGTCTAAGAAACCATTTATTCATGACATTAACCTATAAAAATAGGCGTATCACGAGGCCCTTTCGTCTCGCGGTTTTCGG  
 6500  
 3' GGGCTTTTACCGGTGGACTGCAGATTCTTGGTAATAATAGTACTGTAATTTGGATATTTTTATCCGCATAGTGTCCGGGAAAGCAGAGCGCGCAAGCC

5' TGATGACGGTGAAAACCTCTGACACATGCAGCTCCCGGAGACGGTCACAGCTTGTCTGTAAGCGGATGCCGGGAGCAGACAAGCCCGTCAGGGCGCGTCA  
 6600  
 3' ACTACTGCCACTTTTGGAGACTGTGTACGTGAGGGCCTCTGCCAGTGTGAAACAGACATTCGCCTACGGCCCTCGTCTGTTCCGGCAGTCCCGCGCAGT

NdeI

5' GCGGGTGTGGCGGGTGTGCGGGCTGGCTTAACTATGCGGCATCAGAGCAGATTGTACTGAGAGTGCACCATATGCGGTGTGAAATACCGCACAGATGCG  
 6700  
 3' CGCCACAACCGCCACAGCCCCGACCGAATTGATACGCGTAGTCTCGTCTAACATGACTCTCACGTGGTATACGCCACACTTTATGGCGTGTCTACGC

5' TAAGGAGAAAATACCGCATCAGGCGCCATTCGCCATTCAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTTCGCTATTACGCCAGCTGGC  
 6800  
 3' ATTCCTCTTTTATGGCGTAGTCCGCGTAAGCGGTAAGTTCGACGCGTTGACAACCTTCCCGCTAGCCACGCCGAGAGCGATAATGCGGTGACCCG

5' GAAAGGGGATGTGCTGCAAGGCGATTAAGTTGGGTAACGCCAGGGTTTTCCAGTACGACGTTGTAACACGCGGCGCAAGGAATGGTGCATGCAAGG  
 6900  
 3' CTTTCCCCCTACACGAGTTCGCTAATTCACCCATTGCGGTCCAAAAGGGTCAGTGTGCAACATTTGCTGCCGCTTCCTTACCACGTACGTTCC

5' AGATGGCGCCCAACAGTCCCCGGCCACGGGGCTGCCACCATACCACGCCGAAACAAGCGCTCATGAGCCGAAAGTGGCGAGCCCGATCTTCCCCATC  
 7000  
 3' TCTACCGCGGTTGTGAGGGGCGGTTGCCCGGACGGTGGTATGGGTGCGGCTTTGTTCCGAGTACTCGGGCTTACCAGCTCGGGCTAGAAGGGGTAG

SgrAI

5' GGTGATGTCGCGGATATAGGCCCGCAGCAACCGCACCTGTGGCGCCGGTGTGCGGGCCACGATGCGTCCGGCGTAGAGGCGATTAGTCCAATTTGTTAAA  
 7100  
 3' CCACTACAGCCGCTATATCCGCGGTGTTGGCTGGACACCGCGCCACTACGGCCGGTGTACGACGCGCCGATCTCCGCTAATCAGGTTAAACAATTT

5' GACAGGATATCAGTGGTCCAGGCTCTAGTTTTGACTCAACAATATCACCAGCTGAAGCCTATAGAGTACGAGCCATAGATAAAAATAAAAGATTTTATTTA  
 7200  
 3' CTGTCTATAGTACACAGGTCCGAGATCAAACTGAGTTGTTATAGTGGTGCAGTTCGGATATCTCATGCTCGGTATCTATTTTATTTTCTAAAATAAAT

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5' GTCCTCCAGAAAAAGGGGGAA  
o ++++++|+++++|+++++|+++++|+  
3' CAGAGGTCTTTTCCCCCCTT  
o ++++++|+++++|+++++|+++++|+  
o

7221