



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' ACTTCTGGGGTGGACATCCAAACCGTTCGATCGAATTCATTGCGGTA AACCGTTCGCTACCTTTTATGTATTGACTCTTATCTCTTCAAGTCTAGTTCC
 5' pCMV LTR

5' TTAGGAACAGAGAGACAGCAGAATATGGGCCAAACAGGATATCTGTGGTAAGCAGTTCCTGCCCCGGCTCAGGGCCAAGAACAGATGGTCCCCAGATGCG
 200
 3' AATCCTTGTCTCTCTGTGCTTATACCCGGTTTGTCTTATAGACACCATTTCGTCAAGGACGGGGCCGAGTCCCGGTTCTTGTCTACCAGGGGTCTACGC
 5' pCMV LTR

5' GTCCCGCCCTCAGCAGTTTCTAGAGAACCATCAGATGTTTCCAGGGTGCCCCAAGGACCTGAAATGACCCTGTGCCTTATTTGAACTAACCAATCAGTTC
 300
 3' CAGGGCGGGAGTCGTCAAAGATCTCTTGGTAGTCTACAAAGGTCCACGGGGTTCCTGGACTTTACTGGGACACGGAATAAACTTGATTGGTTAGTCAAG
 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' ACAGACAGAGACAGAAACACGCACAAACACGGCCGTAGATTACAAACGCGGACGCAGACATGATCAATCGATTGATCGAGACATAGACCGCTGGGCACC
 Pack Signal

5' TGGAATGACGAGTTCGAAACCCCGCGCAACCTGGGAGACGTCCCAGGGACTTTGGGGCCGTTTGTGGCCCGACCTGAGGAAGGGAGTCGATG
 800
 3' ACCTTGACTGCTCAAGACTTGTGGGCCGGCGTTGGGACCCTCTGCAGGGTCCCTGAAACCCCGGCAAAAACACCGGGCTGGACTCCTTCCTCAGCTAC
 Pack Signal

5' TGGAATCCGACCCCGTCAAGATATGTGGTCTGGTAGGAGACGAGAACC TAAAACAGTTCGCCCTCCGTCTGAATTTTGTCTTTCGGTTTGAACCGAA
 900
 3' ACCTTAGGCTGGGGCAGTCTTATACACCAAGACCATCCTCTGCTCTTGGATTTTGTCAAGGGCGGAGGCAGACTTAAAAACGAAAGCCAAACCTTGGCTT
 Pack Signal

5' GCCGCGCTCTGTCTGCTGCAGCGCTGCAGCATCGTTCGTGTTGTCTCTGTCTGACTGTGTTTCTGTATTTGTCTGAAAATTAGGGCCAGACTGTTAC
 1000
 3' CGGCGCGCAGAACAGACGACGTCGCGACGTCGTAGCAAGACACAACAGAGACAGACTGACACAAAGACATAAACAGACTTTTAATCCCGGTCTGACAATG
 Pack Signal



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5' GGCTGCTCTGATGCCGCCGTGTTCCGGCTGTTCAGCGCAGGGGCGCCCGGTTCTTTTGTCAAGACCGACCTGTCCGGTGCCTGAATGAACTGCAGGACG
 2900
 3' CCGACGAGACTACGGCGGCACAAGGCCGACAGTCGCGTCCCCGGGGCCAAAGAAAACAGTTCTGGCTGGACAGGCCACGGGACTTACTTGACGTCCTGC
 Neo Resistance

5' AGGCAGCGCGCTATCGTGGCTGGCCACGACGGGCGTTCTTGGCGAGCTGTGCTCGACGTTGTCTACTGAAGCGGGAAGGGACTGGCTGCTATTGGGCGA
 3000
 3' TCCGTCGCGCCGATAGCACCGACCGGTGCTGCCCGCAAGGAACGCGTTCGACACGAGCTGCAACAGTGACTTCGCCCTTCCTGACCGACGATAACCCGCT
 Neo Resistance

5' AGTGCCGGGGCAGGATCTCCTGTCATCTCACCTTGCTCCTGCCGAGAAAGTATCCATCATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCT
 3100
 3' TCACGGCCCCGTCTTAGAGGACAGTAGAGTGAACGAGGACGGCTCTTTCATAGGTAGTACCGACTACGTTACGCCCGGACGTATGCGAACTAGGCCGA
 Neo Resistance

BsaI
 5' ACCTGCCCATTCGACCACCAAGCGAAACATCGCATCGAGCGAGCACGTA CTGGATGGAAGCCGGTCTTGTGCGATCAGGATGATCTGGACGAAGAGCATC
 3200
 3' TGGACGGTAAGCTGGTGGTTGCTTTGTAGCGTAGCTCGCTCGTCATGAGCCTACCTTCGGCCAGAACAGCTAGTCTACTAGACCTGCTTCTCGTAG
 Neo Resistance

5' AGGGGCTCGCGCCAGCCGAAGTTCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGTGACCCATGGCGATGCCTGCTTGCCGAATAT
 3300
 3' TCCCGAGCGCGGTCGGCTTGACAAGCGGTCCGAGTTCGCGCGTACGGGCTGCCGCTCCTAGAGCAGCACTGGGTACCGCTACGGACGAACGGCTTATA
 Neo Resistance

RsrII
 5' CATGGTGGAAAATGGCCGCTTTTCTGGATTTCATCGACTGTGGCCGGCTGGGTGTGGCGGACCCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCT
 3400
 3' GTACCACCTTTTACCGCGAAAAGACCTAAGTAGCTGACACCGGCCACCCACACCGCTGGCGATAGTCTGTATCGCAACCGATGGGCACTATAACGA
 Neo Resistance

5' GAAGAGCTTGCGCGCAATGGGCTGACCGCTTCTCGTGCTTTACGGTATCGCCGCTCCCGATTTCGAGCGCATCGCCTTCTATCGCCTTCTTGACGAGT
 3500
 3' CTTCTCGAACC CGCTTACCCGACTGGCGAAGGAGCACGAAATGCCATAGCGGCGAGGGCTAAGCGTCGCGTAGCGGAAGATAGCGGAAGAACTGCTCA
 Neo Resistance

BamHI SalI AccI HincII
 HindIII ClaI

5' TCTTCTGAGGGATCCGTCGACCTGCAGCCAAGCTTATCGATAAAAATAAAAGATTTTATTTAGTCTCCAGAAAAGGGGGGAATGAAAGACCCACCTGT
 3600
 3' AGAAGACTCCCTTAGGCAGCTGGACGTCGGTTCGAATAGCTATTTTATTTTCTAAAATAAATCAGAGTCTTTTCCCCCTTACTTTCTGGGGTGGACA
 Neo ...ance

5' AGGTTTGCAAGCTAGCTTAAGTAACGCCATTTTGAAGGCATGGAAAATACATAACTGAGAATAGAGAAGTTCAGATCAAGGTTAGGAACAGAGAGACA
 3700
 3' TCCAAACCGTTCGATCGAATTCATTGCGGTAAAACGTTCCGTACCTTTTATGTATTGACTCTTATCTCTCAAGTCTAGTTCCAATCCTTGTCTCTGT
 3' pCMV LTR

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5' GCAGAAATATGGGCCAAACAGGATATCTGTGGTAAGCAGTTCCTGCCCCGGCTCAGGGCCAAGAACAGATGGTCCCAGATGCGGTCCCGCCCTCAGCAGT
 3' CGTCTTATAACCCGGTTTGTCTATAGACACCATTTCGTCAAGGACGGGGCCGAGTCCCGGTTCTTGTCTACCAGGGGTCTACGCCAGGGCGGGAGTCTGCA
 3' pCMV LTR

5' TTCTAGAGAACCATCAGATGTTTCCAGGGTGCCCCAAGGACCTGAAATGACCCTGTGCCTTATTTGAACTAACCAATCAGTTCGCTTCTCGCTTCTGTTC
 3' AAGATCTCTTGGTAGTCTACAAAGGTCCACGGGGTTCCTGGACTTTACTGGGACACGGAATAAACTTGATTGGTTAGTCAAGCGAAGAGCGAAGACAAG
 3' pCMV LTR

5' GCGCGCTTCTGCTCCCGAGCTCAATAAAAGAGCCACAACCCCTCACTCGGCGCGCCAGTCTCCGATAGACTGCGTCCCGGGTACCCGTGTATCCA
 3' CGCGCAAGACGAGGGGCTCGAGTTATTTCTCGGGTGTGGGGAGTGAGCCGCGCGGTGAGGAGGCTATCTGACGCAGCGGGCCCATGGGCACATAGGT
 3' pCMV LTR

5' ATAAACCCCTCTGCAGTTGCATCCGACTTGTGGTCTCGTGTTCCTTGGGAGGGTCTCCTCTGAGTGATGACTACCCGTCAGCGGGGTCTTTCATGGG
 3' TATTTGGGAGAAGCTCAACGTAGGCTGAACACCAGAGCGACAAGGAACCCCTCCAGAGGAGACTCACTAACTGATGGGCAGTCCGCCCCAGAAAGTACCC
 3' pCMV LTR

5' TAACAGTTTCTTGAAGTTGGAGAACAACATTCTGAGGGTAGGAGTTCGAATATTAAGTAATCCTGACTCAATTAGCCACTGTTTTGAATCCACATACTCCA
 3' ATTTGCAAAGAACTTCAACCTCTTGTGTAAGACTCCCATCCTCAGCTTATAATTCATTAGGACTGAGTTAATCGGTGACAAAACCTTAGGTGTATGAGGT

5' ATACTCCTGAAATAGTTCATTATGACAGCGCAGAAGAGCTGGGGAGAATTAATTCGTAATCATGGTCATAGCTGTTTCTGTGTGAAAITGTTATCCGC
 3' TATGAGGACTTTATCAAGTAATACCTGTGCGCTTCTTCGACCCCTCTTAATTAAGCATTAGTACCAGTATCGACAAAGGACACACTTTAACAATAGGCG

5' TCACAATTCCACACAACATACGAGCCGGAAGCATAAAGTGTAAAGCCTGGGGTGCCATAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCACTGCC
 3' AGTGTTAAGGTGTGTGTATGCTCGGCCTTCGTATTTACATTTCCGACCCACGGATTACTCACTCGATTGAGTGTAAATTAACGCAACGCGAGTGACGG

5' CGCTTTCAGTCGGGAAACCTGTCTGCCAGCTGCATTAATGAATCGGCCAACGCGGGGAGAGGCGGTTTGCATATTGGGCGCTCTTCCGCTTCTCTCG
 3' GCGAAAGGTGAGCCCTTTGGACAGCAGGTCGACGTAATTACTTAGCCGGTTGCGCGCCCTCTCCGCCAAACGCATAACCCGCGAGAAGGCGAAGGAGC

5' CTCCTGACTCGCTGCGCTCGGTCGGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAG
 3' GAGTACTGAGCGACGCGAGCCAGCAAGCCGACCGCTCGCCATAGTCGAGTGAGTTTCCGCCATTATGCCAATAGGTGTCTTAGTCCCCTATTGCGTC

Pcil
 AfilII

5' GAAAGAACATGTGAGCAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGTGCGGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCA
 3' CTTTCTGTACTACTCGTTTTCCGGTCGTTTTCCGGTCTTGGCATTTTTCCGGCGCAACGACCGCAAAAAGGTATCCGAGGCGGGGGACTGCTCGTAGT

5' CAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCTGGAAGCTCCCTCGTGCCTCTCCTGTTCCG
 3' GTTTTATAGCTGCGAGTTCAGTCTCCACCCTTTGGGCTGTCTGATATTTCTATGGTCCGCAAGGGGGACCTTCGAGGAGACGCGAGAGGACAAGGC

5' ACCCTGCCGCTTACCGGATACCTGTCCGCCCTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCAGCTGTAGGTATCTCAGTTCGGTGTAGGTCG
 3' TGGGACGGCGAATGGCCTATGGACAGGCGGAAAGAGGGAAGCCCTTCGCACCGCAAGAGTATCGAGTGCACATCCATAGAGTCAAGCCACATCCAGC

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5' TTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCGGTTACGCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGA
 0 ++++++ 5000

3' AAGCGAGGTTTCGACCCGACACACGTGCTTGGGGGGCAAGTCGGCTGGCGACGCGGAATAGGCCATTGATAGCAGAACTCAGGTTGGGCCATTCTGTGCT
 0 ++++++

5' CTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTAC
 0 ++++++ 5100

3' GAATAGCGGTGACCGTCGTGCGTGACCATTGTCTTAATCGTCTCGCTCCATACATCCGCCACGATGTCTCAAGAACTTACCACCGGATTGATGCCGATG
 0 ++++++

5' ACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGTCTTGATCCGGCAAACAAACCACCGCTGGTA
 0 ++++++ 5200

3' TGATCTTCCTGTCTATAAACCATAGACGCGAGACGACTTCGGTCAATGGAAGCCTTTTCTCAACCATCGAGAACTAGGCCGTTTGTGGTGGCGACCAT
 0 ++++++

5' GCGGTGGTTTTTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTCTACGGGTCTGACGCTCAGTGGAA
 0 ++++++ 5300

3' CGCCACCAAAAAACAACGTTTCGTGCTCTAATGCGCGTCTTTTCTCCTAGAGTTCTTCTAGGAACTAGAAAAGATGCCCGACTGCGAGTCACTTT
 0 ++++++

5' CGAAAACCTCACGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTACCTAGATCCTTTTAAATTAAAAATGAAGTTTTAAATCAATCTAAAGT
 0 ++++++ 5400

3' GCTTTTGAGTGCAATTCCTAAAACAGTACTCTAATAGTTTTTCTAGAAAGTGGATCTAGGAAAATTAATTTTACTTCAAAAATTTAGTTAGATTTC
 0 ++++++

5' ATATATGAGTAAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTCAGCGATCTGTCTATTTTCGTTTCATCCATAGTTGCCTGACTCC
 0 ++++++ 5500

3' TATATACTCATTTGAACCAGACTGTCAATGGTTACGAATTAGTCACTCCGTGGATAGAGTCGCTAGACAGATAAAGCAAGTAGGTATCAACGGACTGAGG
 0 ++++++
 Amp res

5' CCGTCGTGTAGATAACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGTGCAATGATACCCGCGAGACCCACGCTCACCAGGCTCCAGATTTATCAGC
 0 ++++++ 5600

3' GGCAGCACATCTATTGATGCTATGCCCTCCCGAATGGTAGACCGGGTACGACGTTACTATGGCGCTCTGGGTGCGAGTGGCCGAGGTCTAAATAGTCG
 0 ++++++
 Amp res

5' AATAAACCCAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCTGCAACTTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGGAAGCTAGAGTAAAGT
 0 ++++++ 5700

3' TTATTTGGTCGGTCGGCTTCCCGGCTCGCGTCTTACCAGGACGTTGAAAATAGGCGGAGGTAGGTGAGATAAATTAACAACGGCCCTTCGATCTCATTCA
 0 ++++++
 Amp res

5' AGTTCGCCAGTTAATAGTTTGGCGAACGTTGTTGCCATTGCTACAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGCTTCATTCAGCTCCGGTTCCC
 0 ++++++ 5800

3' TCAAGCGGTCAATTATCAAACGCGTTGCAACAACGGTAACGATGTCCGTAGCACCACAGTGCAGCAGCAAACCATAACGAAGTAAGTCGAGGCCAAGGG
 0 ++++++
 Amp res

5' AACGATCAAGGCGAGTTACATGATCCCCATGTTGTGCAAAAAGCGGTTAGTCTCTTCGGTCTCCGATCGTTGTCAGAAGTAAGTTGGCCGAGTGT
 0 ++++++ 5900

3' TTGCTAGTTCCGCTCAATGTACTAGGGGTACAACACGTTTTTTCGCCAATCGAGGAAGCCAGGAGGTAGCAACAGTCTTCATTCAACCCGCGTCAAA
 0 ++++++
 Amp res

5' ATCACTCATGGTTATGGCAGCACTGCATAATTCTTACTGTGTCATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGGTACTCAACCAAGTCATTCTGA
 0 ++++++ 6000

3' TAGTGAGTACCAATACCGTCGTGACGTATTAAGAGAATGACAGTACGGTAGGCATTTCTACGAAAAGACACTGACCACTCATGAGTTGGTTCAGTAAGACT
 0 ++++++
 Amp res

Scal

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5' GAATAGTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAATACGGGATAATACCGCGCCACATAGCAGAACTTTAAAAGTGTCTCATCATTGGAAAAC
 6100
 3' CTTATCACATACGCCGCTGGCTCAACGAGAACGGGCCGAGTTATGCCCTATTATGGCGCGGTGTATCGTCTTGAAATTTTCACGAGTAGTAACCTTTTG
 Amp res

5' GTTCTTCGGGGCGAAAACCTCTCAAGGATCTTACCGCTGTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAACTGATCTTCAGCATCTTTTACTTT
 6200
 3' CAAGAAGCCCCGCTTTTGAGAGTTCTTAGAATGGCGACAACCTCTAGGTCAAGCTACATTGGGTGAGCACGTGGGTTGACTAGAAGTCGTAGAAAATGAAA
 Amp res

5' CACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAAAGGGAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCCTTTTT
 6300
 3' GTGGTCGAAAGACCCACTCGTTTTTGTCTTCCGTTTTTACGGCGTTTTTTCCCTTATTCCCGCTGTGCCTTTACAACCTTATGAGTATGAGAAGGAAAA
 Amp res

5' CAATATTATTGAAGCATTTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAAACAAATAGGGGTTCCGCGCACATTTTC
 6400
 3' GTTATAATAACTTCGTAAATAGTCCCAATAACAGAGTACTCGCCTATGTATAAACCTACATAAATCTTTTATTGTTTATCCCAAGGCGCGTGTAAAG

5' CCCGAAAAGTGCCACCTGACGTCTAAGAAACCATTTATTCATGACATTAACCTATAAAAATAGGCGTATCACGAGGCCCTTTCGTCTCGCGGTTTTCGG
 6500
 3' GGGCTTTTACCGGTGGACTGCAGATTCTTTGGTAATAATAGTACTGTAATTTGGATATTTTTATCCGCATAGTGTCCGGGAAAGCAGAGCGCGCAAGCC

5' TGATGACGGTGAAAACCTCTGACACATGCAGCTCCCGGAGACGGTCACAGCTTGTCTGTAAGCGGATGCCGGGAGCAGACAAGCCCGTCAGGGCGCGTCA
 6600
 3' ACTACTGCCACTTTTGGAGACTGTGTACGTGAGGGCCCTTGCCAGTGTGAAACAGACATTCGCCTACGGCCCTCGTCTGTTCCGGCAGTCCCGCGCAGT

NdeI

5' GCGGGTGTGGCGGGTGTGCGGGCTGGCTTAACTATGCGGCATCAGAGCAGATTGTACTGAGAGTGCACCATATGCGGTGTGAAATACCGCACAGATGCG
 6700
 3' CGCCACAACCGCCACAGCCCCGACCGAATTGATACGCCGTAGTCTCGTCTAACATGACTCTCACGTGGTATACGCCACACTTTATGGCGTGTCTACGC

5' TAAGGAGAAAATACCGCATCAGGCGCCATTCGCCATTCAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTTCGCTATTACGCCAGCTGGC
 6800
 3' ATTCCTCTTTTATGGCGTAGTCCGCGTAAGCGGTAAGTTCGACGCGTTGACAACCTTCCCGCTAGCCACGCCGAGAGCGATAATGCGGTGACCCG

5' GAAAGGGGATGTGCTGCAAGGCGATTAAGTTGGGTAACGCCAGGGTTTTCCAGTACGACGTTGTAAAACGACGGCGCAAGGAATGGTGCATGCAAGG
 6900
 3' CTTTCCCCCTACACGAGTTCGCTAATTCACCCATTGCGGTCCAAAAGGGTCAGTGTGCAACATTTGCTGCCGCTTCCCTTACCACGTACGTTCC

5' AGATGGCGCCCAACAGTCCCCGGCCACGGGGCTGCCACCATACCCACGCCGAAACAAGCGCTCATGAGCCGAAAGTGGCGAGCCCGATCTTCCCCATC
 7000
 3' TCTACCGCGGTTGTGAGGGGCGGTTGCCCGGACGGTGGTATGGGTGCGGCTTTGTTCCGAGTACTCGGGCTTACCAGCTCGGGCTAGAAGGGGTAG

SgrAI

5' GGTGATGTCGGCGATATAGGCCCGCAGCAACCGCACCTGTGGCGCCGGTGTGCGGGCCACGATGCGTCCGGCGTAGAGGCGATTAGTCCAATTTGTTAAA
 7100
 3' CCACTACAGCCGCTATATCCGCGTCTGTGGCTGGACACCGCGCCACTACGGCCGGTGTACGACGCGCCGATCTCCGCTAATCAGGTTAAACAATTT

5' GACAGGATATCAGTGGTCCAGGCTCTAGTTTTGACTCAACAATATCACCAGCTGAAGCCTATAGAGTACGAGCCATAGATAAAAATAAAAGATTTTATTTA
 7200
 3' CTGTCTATAGTACACAGGTCGAGATCAAACTGAGTTGTTATAGTGGTGCAGTTCGGATATCTCATGCTCGGTATCTATTTTATTTTCTAAAATAAAT

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5'  GTCTCCAGAAAAGGGGGAA
o  ++++++|+++++|+++++|+++++|+
3'  CAGAGGTCTTTTCCCCCCTT
o  ++++++|+++++|+++++|+++++|+
o
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