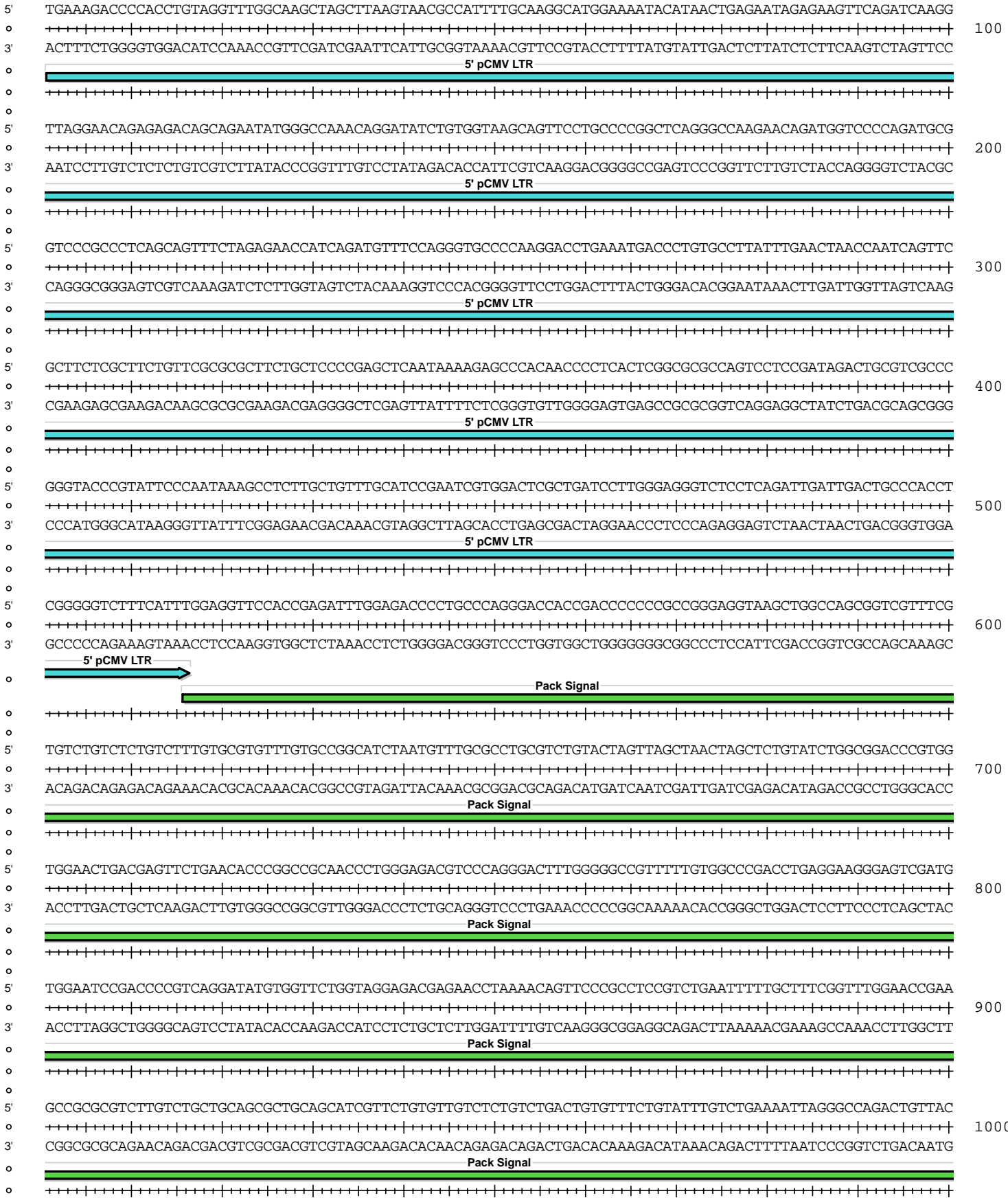


pMSCVpuro-GFP miR-23a cluster

Absent Sites	0	AarI,Abst,Accl,Ajul,Ajul',AlfI,AlfI',AsiSI,AvrII,BamHI,BarI,BarI',BbsI,BpII,BpII',BsaAI,BsaBI,BstBI,BstXI,BstZ17I,CspCI,CspCI',FseI,FspAI,HincII,HpaI,MauBI,MfeI,MluI,MreI,NruI,Pacl,PmeI,PmlI,PsiI,PspXI,Psrl,Psrl',Sall,Sbfl,Sfil,SgrDI,SnaBI,SrfI,Swal,XcmI,XhoI
AfIII	1	5221
Apal	1	2832
Arsl	1	1732
Arsl'	1	1700
BclI	1	2199
BglII	1	1411
BsiWI	1	3554
BsmI	1	3409
BspMI	1	3487
BtgZI	1	1559
Clal	1	4152
DrallI	1	4069
EcoRI	1	2968
HindIII	1	3489
NcoI	1	1436
NotI	1	2158
Nsil	1	4151
PciI	1	5221
PfIMI	1	2296
PshAI	1	2791
PspOMI	1	2828
RsrII	1	3614
SanDI	1	2875
Scal	1	6594
SgrAI	1	7657

pMSCVpuro-GFP miR-23a cluster



pMSCVpuro-GFP miR-23a cluster

5' CACTCCCTTAAGTTTACCTTAGGTCAGTGGAAAGATGTCGAGCGGATCGCTCACACCAGTCGGTAGATGTCAAGAAGAGACGTTGGGTTACCTTCTGC
 1100
 3' GTGAGGGAATCAAACTGGAATCCAGTGACCTTTCTACAGCTCGCCTAGCGAGTGTGGTCAGCCATCTACAGTTCTTCTCTGCAACCCAATGGAAGACG
 Pack Signal

5' TCTGCAGAATGGCCAACCTTTAACGTCGGATGGCCGCGAGACGGCACCTTTAACCGAGACCTCATCACCAGGTTAAGATCAAGGTCTTTTCACCTGGCC
 1200
 3' AGACGCTTACCGGTTGGAAATTCAGCCTACCGGCGCTCTGCCGTGGAAATTTGGCTCTGGAGTAGTGGGTCCAATTCTAGTTCAGAAAAGTGGACCGG
 Pack Signal

5' CGCATGGACACCCAGACCAGGTCCCCTACATCGTGACCTGGGAAGCCTTGGCTTTTGACCCCCCTCCCTGGGTCAAGCCCTTTGTACACCCTAAGCCTCC
 1300
 3' GCGTACCTGTGGGTCTGGTCCAGGGGATGTAGCACTGGACCCTTCGGAACCGAAACTGGGGGAGGGACCCAGTTCGGGAAACATGTGGGATTCGGAGG
 Pack Signal

5' GCCTCTCTTCTCCATCCGCCCCGTCTCTCCCCTTGAACCTCCTCGTTCGACCCCGCCTCGATCCTCCCTTTATCCAGCCCTCACTCCTTCTCTAGGC
 1400
 3' CGGAGGAGAAGGAGGTAGGCGGGGCGAGAGGGGGAACCTTGGAGGAGCAAGCTGGGGCGGAGCTAGGAGGAAATAGGTGGGAGTGAGGAAGAGATCCG
 Pack Signal

BglII NcoI
 5' GCCGGAATTAGATCTccagcgtgaccggtgcccaccatggtgagcaagggcgaggagctgttcaccggggtggtgcccatcctggtcgagctggacggcg
 1500
 3' CGGCCTTAATCTAGAggtcgactggccagcgtggtaccactcgttcccgtcctcgacaagtggccccaccacgggtaggaccagctcgacctgccgc
 Pa...I GFP

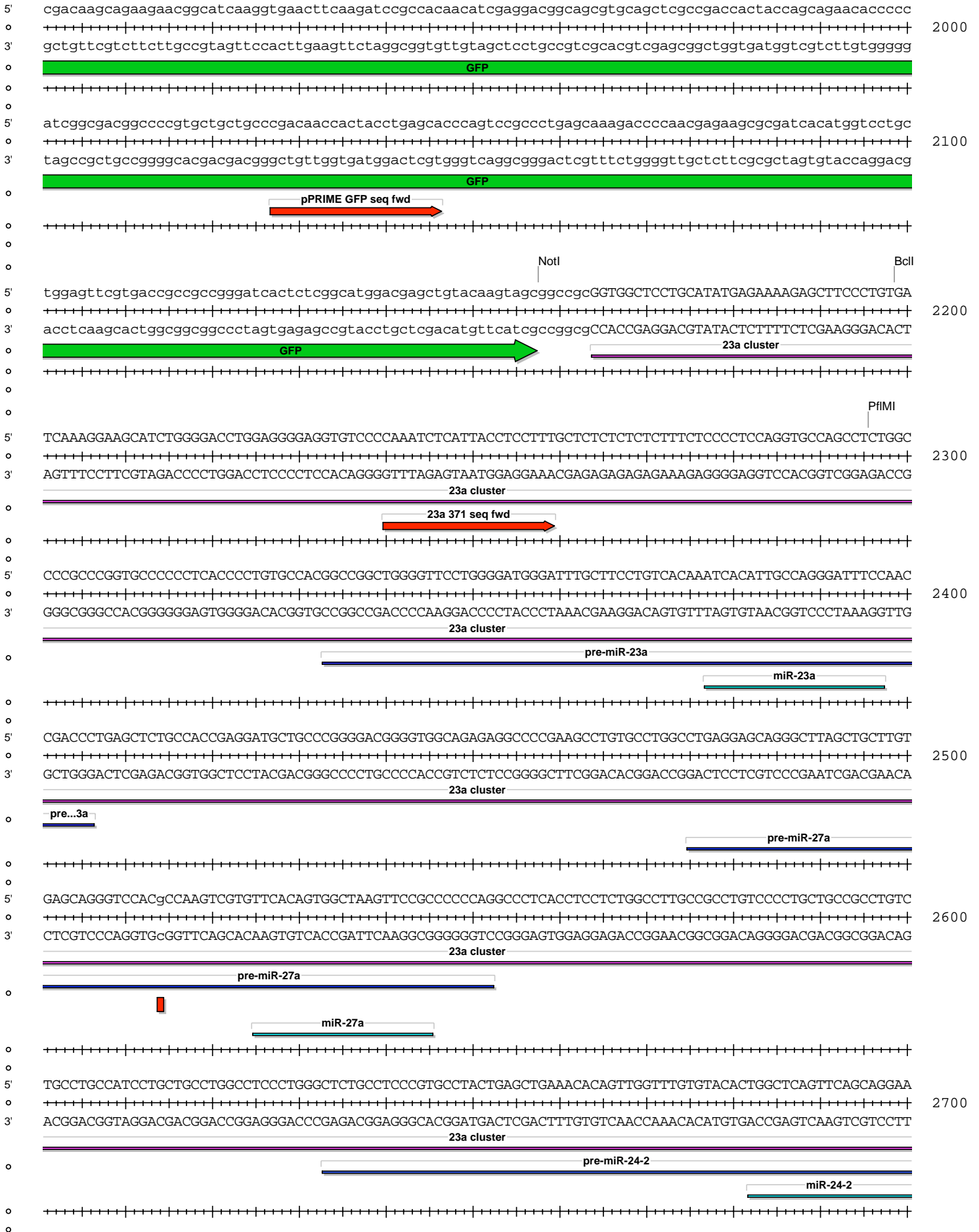
BtgZI
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 1600
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 GFP

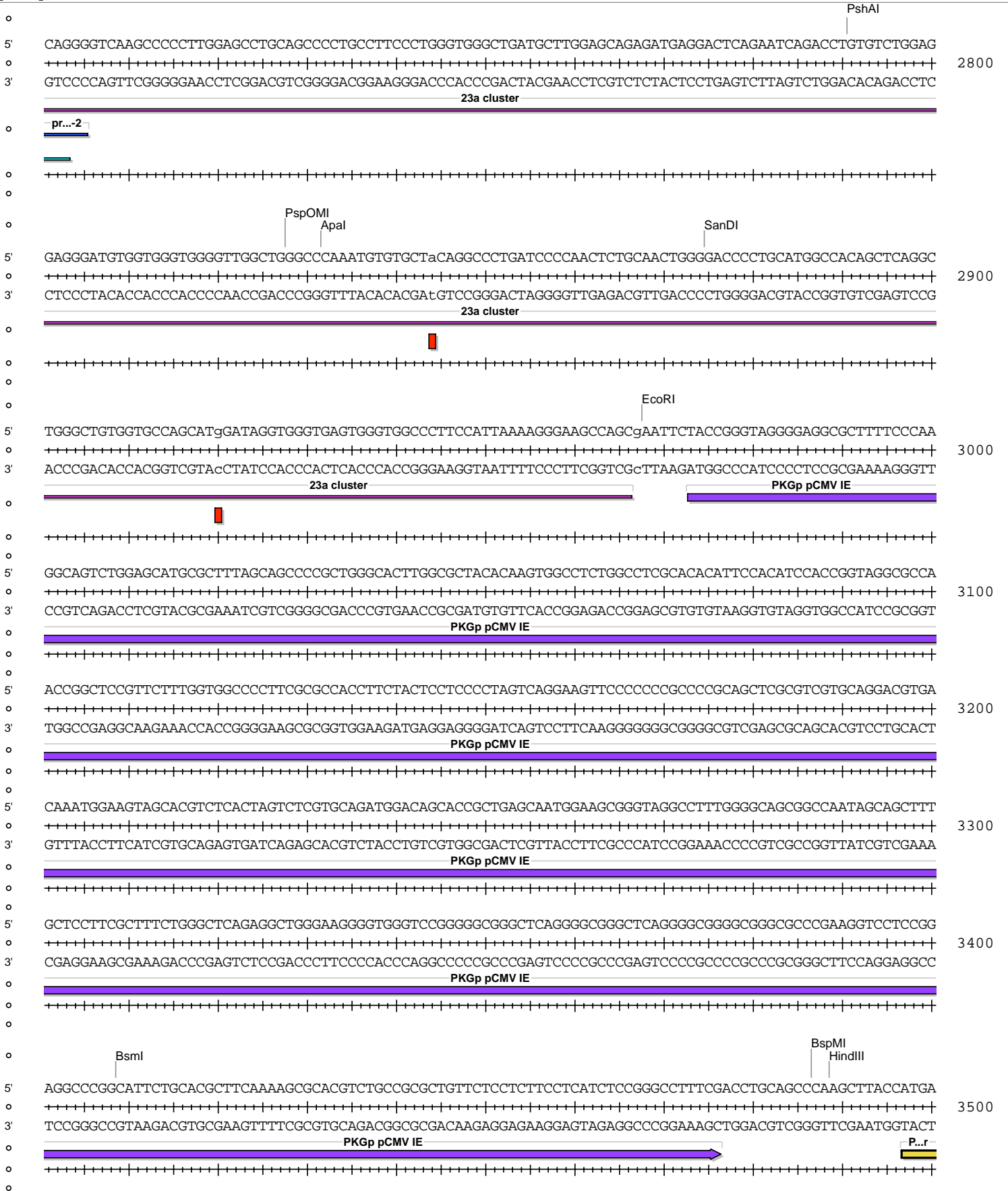
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 1700
 3' gcacgggaccgggtgggagcactggtgggactggatgcccacgtcacgaagtccgcatggggctggtgtacttcgtcgtgctgaagaagttcaggcgg
 GFP

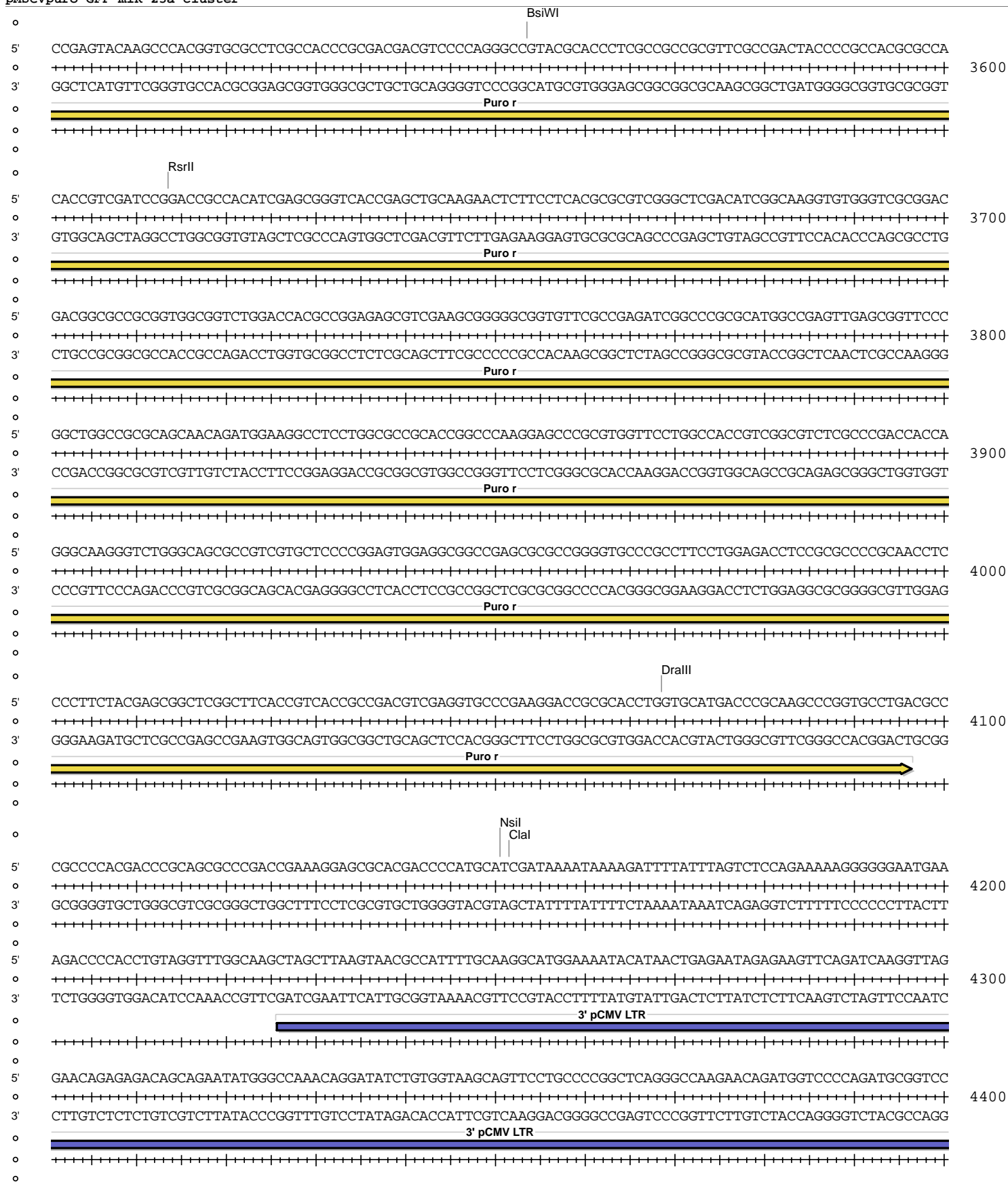
ArsI
 5' atgcccgaaggctacgtccaggagcgcaccatcttcttcaaggacgacggcaactacaagaccgcgccgaggtgaagttcgagggcgacaccctggtga
 1800
 3' tacgggcttccgatgcaggtcctcgcgtggtagaagaagttcctgctgcccgtgatgttctgggcgaggctccacttcaagctcccgtgtgggaccact
 GFP

5' accgcatcgagctgaaggcatcgacttcaaggaggacggcaacatcctggggcacaagctggagtacaactacaacagccacaacgtctatatcatggc
 1900
 3' tggcgtagctcgacttcccgtagctgaagttcctcctgcccgtttaggaccccgtgttcgacctcatgtgatgttgcggtgtgcagatatagtaccg
 GFP

pMSCVpuro-GFP miR-23a cluster







pMSCVpuro-GFP miR-23a cluster

5' CGCCCTCAGCAGTTTCTAGAGAACCATCAGATGTTTCCAGGGTGCCCCAAGGACCTGAAATGACCCTGTGCCTTATTTGAACTAACCAATCAGTTCGCTT
 4500
 3' GCGGGAGTCGTCAAAGATCTCTTGGTAGTCTACAAAGGTCCACGGGGTTCCTGGACTTTACTGGGACACGGAATAAACTTGATTGGTTAGTCAAGCGAA
 3' pCMV LTR

5' CTCGCTTCTGTTTCGCGCGCTTCTGCTCCCCGAGCTCAATAAAAGAGCCACAAACCCCTCACTCGGCGGCCAGTCCCTCCGATAGACTGCGTCGCCCGGGT
 4600
 3' GAGCGAAGACAAGCGCGGAAGACGAGGGGCTCGAGTTATTTTCTCGGGTGTGGGGAGTGAGCCGCGCGGTTCAGGAGGCTATCTGACGCAGCGGGCCCA
 3' pCMV LTR

5' ACCCGTGTATCCAATAAACCCCTCTTGCAGTTGCATCCGACTTGTGGTCTCGCTGTTCCCTGGGAGGGTCTCCTCTGAGTGATTGACTACCCGTGACGGG
 4700
 3' TGGGCACATAGGTTATTTGGGAGAACGTCAACGTAGGCTGAACACCAGAGCGACAAGGAACCCCTCCAGAGGAGACTCACTAACTGATGGGCAGTCGCCC
 3' pCMV LTR

5' GGTCTTTCATGGGTAACAGTTTCTTGAAGTTGGAGAACAACATTCTGAGGGTAGGAGTCAATATTAAGTAATCCTGACTCAATTAGCCACTGTTTGTAA
 4800
 3' CCAGAAAGTACCCATTGTCAAAGAACCTCAACCTCTTGTGTGAAGACTCCCATCCTCAGCTTATAATCATTAGGACTGAGTTAATCGGTGACAAAACCTT
 3' pCMV LTR

5' TCCACATACTCCAATACTCCTGAAATAGTTTATTATGGACAGCGCAGAAGAGCTGGGGAGAATTAATTCGTAATCATGGTCATAGCTGTTTCTGTGTGA
 4900
 3' AGGTGTATGAGGTTATGAGGACTTTATCAAGTAATACCTGTCGCTCTTCTCGACCCTCTTAATTAAGCATTAGTACCAGTATCGACAAAGGACACACT

5' AATTGTTATCCGCTCACAATTCCACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGCGT
 5000
 3' TTAACAATAGGCGAGTGTAAAGGTGTGTGTATGCTCGGCCTTCGTATTTACATTTTCGACCCACGGATTACTCACTCGATTGAGTGTAAATTAACGCA

5' TGCGCTCACTGCCCGCTTCCAGTCGGGAAACCTGTGCTGCCAGCTGCATTAATGAATCGGCCAACGCGGGGAGAGGCGGTTTGCCTATTGGGCGCTC
 5100
 3' ACGCGAGTGACGGGCGAAAGGTGAGCCCTTTGGACAGCAGCGTGCAGTAATTACTTAGCCGTTGCGCGCCCTCTCCGCCAAACGCATAACCCGCGAG

5' TTCCGCTTCTCGCTCACTGACTCGCTCGCTCGGTGCTTCCGCTGCGGCGAGCGGTATCAGCTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCA
 5200
 3' AAGGCGAAGGAGCGAGTGACTGAGCGACGCGAGCCAGCAAGCCGACGCGCTCGCCATAGTCGAGTGAGTTTCCGCCATATGCCAATAGGTGTCTTAGT

5' GGGGATAACGCAGGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCTTGCTGGCGTTTTCCATAGGCTCCGCCCCC
 5300
 3' CCCCTATTGCGTCTTTCTTGTACACTCGTTTTCCGGTCTTTTTCCGGTCTTGGCATTTTTCCGGCGCAACGACCGCAAAAAGGTATCCGAGGCGGGG

5' CTGACGAGCATCACAATAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCG
 5400
 3' GACTGCTCGTAGTGTTTTCTAGCTGCGAGTTCAGTCTCCACCGCTTTGGGCTGTCTGATATTTCTATGGTCCGCAAAGGGGACCTTCGAGGGAGCACGC

5' CTCCTCTGTTCCGACCCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCGCTTCTCATAGCTCACGCTGTAGGTATCTCAGT
 5500
 3' GAGAGGACAAGGCTGGGACGGCGAATGGCTATGGACAGCGGAAAGAGGGAAGCCCTTCGCACCAGGAAAGAGTATCGAGTGCACATCCATAGAGTCA

5' TCGGTGTAGGTCGTTTCGCTCCAAGCTGGGCTGTGTGCAGAACCCCGTTCAGCCCGACCGCTGCGCTTATCCGGTAACTATCGTCTTGTAGTCCAACC
 5600
 3' AGCCACATCCAGCAAGCGAGGTTTCGACCCGACACAGTGTCTTGGGGGCAAGTCCGGCTGGCGACGCGGAATAGGCCATTGATAGCAGAACTCAGGTTGG

PciI
 AflIII

pMSCVpuro-GFP miR-23a cluster

5' ATCATTTGAAAACGTTCTTCGGGGCGAAAACCTCTCAAGGATCTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAAGTATCTTCAG
 6800
 3' TAGTAACCTTTTGCAAGAAGCCCGCTTTTGAGAGTTCCTAGAATGGCGACAACCTTAGGTCAAGCTACATTGGGTGAGCACGTGGGTTGACTAGAAGTC
 Amp Res

5' CATCTTTTACTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAATGCCGCAAAAAGGGAATAAGGGCGACACGAAATGTTGAATACTCAT
 6900
 3' GTAGAAAATGAAAGTGGTCGCAAGACCCACTCGTTTTTGTCTTCCGTTTTACGGCGTTTTTTCCCTTATTCCCGCTGTGCCTTTACAACCTTATGAGTA
 Amp Res

5' ACTCTTCCTTTTCAATATTATTGAAGCATTATCAGGGTTATTGTCTCATGAGCGGATACATATTTGAATGTATTTAGAAAAATAAACAAATAGGGGTT
 7000
 3' TGAGAAGGAAAAAGTTATAATAACTTCGTAAATAGTCCCAATAACAGAGTACTCGCCTATGTATAAACTTACATAAAATCTTTTTATTGTTTATCCCAA
 CCGCGCACATTTCCCCGAAAAGTGCCACCTGACGTCTAAGAAACCATTATTATCATGACATTAACCTATAAAAAATAGGCGTATCACGAGGCCCTTTTCGTC
 7100
 3' GGCGCGTAAAGGGGCTTTTACGGTGGACTGCAGATTCTTTGGTAATAATAGTACTGTAATTGGATATTTTATCCGCATAGTGCTCCGGGAAAGCAG
 TCGCGCGTTTCGGTGATGACGGTGAAAACCTCTGACACATGCAGCTCCCGGAGACGGTCACAGCTTGTCTGTAAGCGGATGCCGGGAGCAGACAAGCCCG
 7200
 3' AGCGCGCAAAGCCACTACTGCCACTTTTGGGAGACTGTGTACGTGAGGGCCTCTGCCAGTGTGCAACAGACATTGCGCTACGGCCCTCGTCTGTTCCGGC
 TCAGGGCGGTCAGCGGGTGTGGCGGGTGTGGGGCTGGCTTAACTATGCGGCATCAGAGCAGATTGTACTGAGAGTGCACCATATGCGGTGTGAAATA
 7300
 3' AGTCCCGCGCAGTCGCCACAACCGCCACAGCCCGACCGAATTGATACGCCGTAGTCTCGTCTAACATGACTCTCACGTGGTATACGCCACACTTTAT
 CCGCACAGATGCGTAAGGAGAAAATACCGCATCAGGCGCCATTGCCATTAGGCTGCGCAACTGTTGGGAAGGCGGATCGGTGCGGGCCTCTTCGCTAT
 7400
 3' GGCGTGTCTACGCATTCCTCTTTTATGGCGTAGTCCGCGGTAAGCGGTAAGTCCGACGCGTTGACAACCCTTCCCGCTAGCCACGCCGGAGAAGCGATA
 TACGCCAGCTGGCGAAAAGGGGATGTGCTGCAAGGCGATTAAGTTGGGTAACGCCAGGGTTTTCCAGTACAGCGTTGTAAAACGACGGCGCAAGGAAT
 7500
 3' ATGCGGTGACCGCTTTCCCTTACACGACGTTCCGCTAATTCAACCCATTGCGGTCCCAAAAGGGTCAAGTGTGCAACATTTTGTGCGCGGTTCTTTA
 GGTGCATGCAAGGAGATGGCGCCCAACAGTCCCCGGCCACGGGGCTGCCACCATACCCACGCCGAAACAAGCGCTCATGAGCCCGAAGTGGCGAGCCC
 7600
 3' CCACGTACGTTCTCTACCGCGGTTGTGAGGGGGCCGGTGCCTCCGACGGTGGTATGGGTGCGGCTTTGTTTCGCGAGTACTCGGGCTTACCGCTCGGG
 SgrAI
 5' GATCTTCCCATCGGTGATGTGCGCGATATAGGCGCCAGCAACCGCACCTGTGGCGCCGGTATGCCCGCCACGATGCGTCCGGCGTAGAGGCGATTAGT
 7700
 3' CTAGAAGGGGTAGCCACTACAGCCGCTATATCCCGGTCGTTGGCGTGGACACCGCGCCACTACGGCCGGTGTACGCGAGGCCGATCTCCGCTAATCA
 CCAATTTGTTAAAGACAGGATATCAGTGGTCCAGGCTCTAGTTTTGACTCAACAATATCACCAGCTGAAGCCTATAGAGTACGAGCCATAGATAAAATAA
 7800
 3' GGTAAACAATTTCTGTCTATAGTACCAGGTCGAGATCAAAACTGAGTTGTTATAGTGGTTCGACTTCGGATATCTCATGCTCGGTATCTATTTTATT
 AAGATTTTATTAGTCTCCAGAAAAGGGGGAA
 7834
 3' TTCTAAAATAAATCAGAGGTCTTTTCCCCCTT