

pMIR-REP-dCMV-ST7L 3' UTR (844-2494) wt + down gDNA

Absent Sites	0	AarI,AbstI,AfeI,AfIII,Apal,AscI,AsiSI,BarI,BarI',BclI,BlpI,BmgBI,BstXI,BstZ17I,EcoICRI,FseI,FspAI,MauBI,MreI,NaeI,NgoMIV,NruI,PfiMI,PmeI,PmlI,PspOMI,SacI,SgrDI,SpeI,SrfI
Acc65I	1	4200 (7870)
AccI	1	7335 (7870)
AgeI	1	7503 (7870)
AhdI	1	5557 (7870)
AjuI	1	3046 (7870)
AjuI'	1	3078 (7870)
AleI	1	1858 (7870)
Alol	1	3959 (7870)
Alol'	1	3927 (7870)
AlwNI	1	5080 (7870)
ArsI	1	2747 (7870)
ArsI'	1	2779 (7870)
AvrII	1	7554 (7870)
BaeI	1	895 (7870)
BaeI'	1	928 (7870)
BamHI	1	3935 (7870)
BbvCI	1	916 (7870)
BssHII	1	6987 (7870)
BtgZI	1	4185 (7870)
Clal	1	2563 (7870)
CspCI	1	4149 (7870)
CspCI'	1	4114 (7870)
EcoRV	1	2592 (7870)
HindIII	1	463 (7870)
HpaI	1	6618 (7870)
KpnI	1	4204 (7870)
MluI	1	2259 (7870)
NdeI	1	185 (7870)
NotI	1	407 (7870)
PacI	1	2608 (7870)
PciI	1	4664 (7870)
PshAI	1	1302 (7870)
PspXI	1	2276 (7870)
Psrl	1	3797 (7870)
Psrl'	1	3765 (7870)
RsrII	1	7327 (7870)
SacII	1	7234 (7870)
Sall	1	7334 (7870)
SanDI	1	1539 (7870)
SfiI	1	7608 (7870)
SgrAI	1	2498 (7870)
SnaBI	1	4183 (7870)
SspI	1	6361 (7870)
Swal	1	1376 (7870)
Tth111I	1	7403 (7870)
XhoI	1	2276 (7870)
XmnI	1	6156 (7870)

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5' TCGCGCGTTTCGGTGTGACGGTGAAAACCTCTGACACATGCAGTCCCGGAGACGGTCACAGCTTGTCTGTAAGCGGATGCCGGGAGCAGACAAGCCCG
 100
 3' AGCGCGCAAAGCCACTACTGCCACTTTTGGAGACTGTGTACGTCGAGGGCCTCTGCCAGTGTGGAACAGACATTTCGCCTACGGCCCTCGTCTGTTCCGGC

5' TCAGGGCGCTCAGCGGGTGTGGCGGGTGTGGGGCTGGCTTAACTATGCGGCATCAGAGCAGATTGTACTGAGAGTGCACCATATGCCGGTGTGAAATA
 200
 3' AGTCCCGCGCAGTCGCCACAACCGCCACAGCCCGACCGAATTGATACGCCGTAGTCTCGTCTAACATGACTCTCACGTGGTATACGCCACACTTTAT

5' CCGCACAGATGCGTAAGGAGAAAATACCGCATCAGGCGCCATTGCCATTTCAGGCTGCGCAACTGTTGGGAAGGGCGATCGGTGCGGGCCTCTTCGCTAT
 300
 3' GGCGTGTCTACGCATTCTCTTTATAGGCGTAGTCCGCGTAAGCGGTAAGTCCGACGCGTTGACAACCCTTCCCGTAGCCACGCCGGAGAAGCGATA

5' TACGCCAGCTGGCGAAAGGGGATGTGTGCAAGGCGATTAAAGTTGGGTAAAGCCAGGGTTTCCAGTCCAGCGTTGTAACAAACGACGGCCAGTGCCAA
 400
 3' ATGCGGTGACCGCTTCCCTTACACGACGTTCCGCTAATTCAACCCATTGCGGTCCCAAAGGGTCAAGTGTGCAACATTTTGTGCCGGTACCGGTT

5' GCTAGCGGCCGCATACAAAAACCAACACACAGATCCAATGAAAATAAAGATCCTTTATTAAGCTTaccacggaggttatgtggtcccaaaggaaatga
 500
 3' CGATCGCCGGCGTATGTTTTTGGTGTGTGTCTAGGTTACTTTTATTTTCTAGGAAATAAATCGAAtggtgctccaataacaccagggttttcttact

5' tggccaagcaattaatTTTTCTCTAGTtcttagcttctgcttctgattgattggctttacacaactggcatttagtctgcattacacaaatagacacta
 600
 3' accggttcgtaattaaaaaggaggatcaagaatcgaacgaagacgtaactaaccgaaatgtgtgaccgtaaatcagacgtaatgtgtttatctgtgat

5' atttatTTGGAACAAGCAGCAAAATGAGAACTTTATTTGGTGCAGTCAGGGCTCCATTTAGTTCCTCACTCTGCTTCTAATCACCCCTTCTCCAGCCC
 700
 3' taaataAACCTTGTTTCGTCGTTTACTCTTGAATAAACCACGTCAGTCCCGAGGTAAATCAAGGGAGTGAGACGAAGATTAGTGGGAAGAGGGTCGGG

5' TCTTCTATTTGATAGAGGTCTGTCCCTCAGATCAGCAATGTCTTAGCCCCCTCTCCTCTCTTCCATTCCTTCTCCTGTTGGTACTCATTCTTCTAACTTTTA
 800
 3' AGAAGATAAACTATCTCCAGACAGGGAGTCTAGTCGTTACAGAATCGGGGAGAGGAGAAGGTAAGGAAGGACAACCATGAGTAAAGAAGATTGAAAAT

5' ATAAACATTTAGGTATAATACATTACAGTAAGTGCTATTTAGATACAACTTAAACATACTATATATTTAAGGATCTAAGAATCCTTTAGAGAAGGCA
 900
 3' TATTTGTAATCCATATATGTAATGTCATTACGATAAATCTATGTTTGAATTTTGTATGATATATAAAATCCTAGATTCTTAGGAAATCTCTCCGT

5' CATGACTGAAGTACCTCAGCTGCGCAGCCTGTAGCCAGTTTTTTTAAATGTAAAAGTAAGAATGCCAGCCTTAACCTAGCCCTGCAGATAAAAGCTAACTT
 1000
 3' GTACTGACTTCATGGAGTCGACGCGTCGGACATCGGTCAAAAAAATTACATTTTCTTACGGTTCGGAATTGGATCGGGACGCTATTTTTCGATTGAA

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5' TTATTAATACCAGCCCTGAATAATGGCACTAATCCACACTCTTCCTTAGAGTGATGCTGGAAAAATAAAATCAGGGCTTCAGATTAAAAAACAACAA
 1100
 3' AATAATATGGTCGGGACTTATTACCGTGATTAGGTGTGAGAAGGAATCTCACTACGACCTTTTATTTTAGTCCCGAAGTCTAATTTTTTTTTTTGTT
 ST7L 3' UTR

5' AAAACAAAAACAAAAACAAACATTGCCTGGCCCTGAGGGTCTGTTGCAAACTTCTTGTAGATCTAATTTCTGAACACTCACTGCTTCAATTTCTATTC
 1200
 3' TTTTGTTTTTTGTTTTTGTTTGTAAACGACCGGACTCCAGACAAAACGTTTTGAAGAACATCTAGATTAAAGACTTGTGAGTGACGAAGTAAAGATAAG
 ST7L 3' UTR

5' CTCCTGTTGCAGGGAGTAATTTCTTCTCCTTTGTCTCACTTCCCTTATCAAGAACACCAACCAGTAAGTCTTTGCCAAATTTCTCAGACCCACTCAGGACA
 1300
 3' GAGGACAACGTCCCTCATTAAAGAAGAGGAAACAGAGTGAAGGGAATAGTTCTTGTGGTTGGTCATTTCAGAAACGGTTTAAGAGTCTGGGTGAGTCTGT
 ST7L 3' UTR

PshAI SwaI

5' CGAGTCTCTACATGGCTTAACAGAAGAGAGATAATTAGGATTTTTTTTCTCAGTCTTTCTGAGGTTTTATTTAAATGCACTCAGTGGTCATAGGGCA
 1400
 3' GCTCAGAGATGTACCGAATTGTCTTCTCTATTAATCCTAAAAAAGAGTTCAGAAAGACTCCAAAAATAATTTACGTGAGTCACCAGTATCCCGT
 ST7L 3' UTR

5' GAAGCTCAAGCTAGCTGGGGCGAAGGGAGGACGCCAGGGAGAGTATGTTTCTCATCCCTGGGAGGCATTTCAGCTAGCTCCTGCAGCCAAATTACAGCAC
 1500
 3' CTTCGAGTTCGATCGACCCCGTTCCTCCTGCGGTCCCTCTCATACAAAGAGTAGGGACCTCCGTAAGTCGGATCGAGGACGTGGTTTAAATGTCGTG
 ST7L 3' UTR

SanDI

5' CAGAGAACAATGTGATGCATTCTGGGCAGGTCGGTGGGACCTGGGGCCCTGGGCCTTGTGGAGAGAGGTGCCAGACACAGAGTTCTCCGTAAGCAATC
 1600
 3' GTCTCTTGTACACTACGTAAGGACCCGTCAGCCACCTGGGACCCGCGGACCCGGAACACCTCTCTCCACGTCGTGTCTCAAGAGGCATTTCGTTAG
 ST7L 3' UTR

miR-23a 8mer

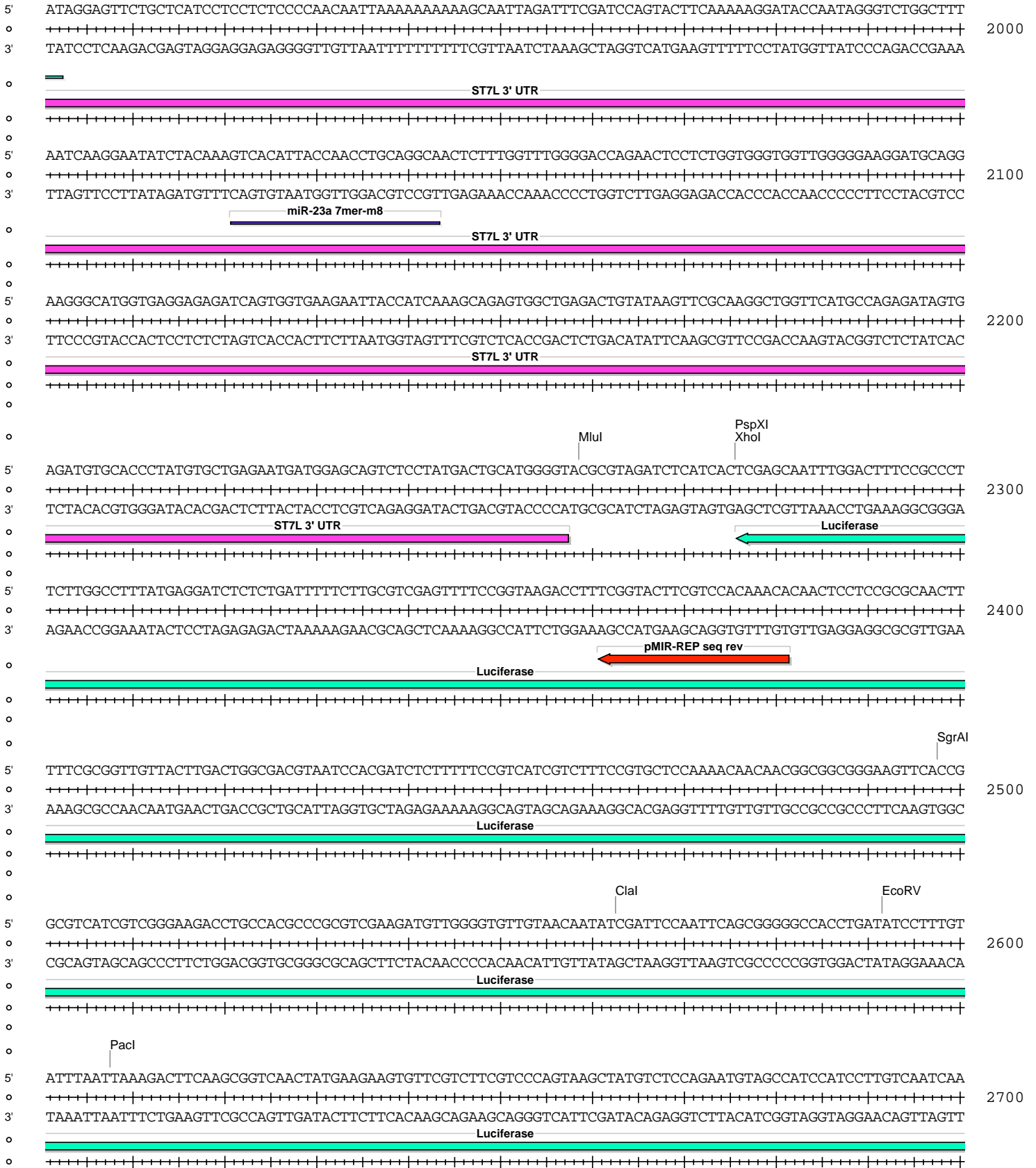
5' CTGCAGAGCCGCCCTGGGTGCAGAAATGAAATACGGGAGAGCTTACATTACACAGAGACCTGTAGCTCACACCTGGTTATGTAGGCCTTGGTGGAG
 1700
 3' GACGTCTCGGCGGGGACCCACGTCTTACTTTATGCCCTCTCGAAGTGTAAATGTGTCTCTGGACATCGAGTGTGGACCAATAACTACCGGAACCACCTC
 ST7L 3' UTR

5' GCCTCTGCCCCGACCTCCACTTGGGAAGTGCCTGCTACTACGGGGTGGGCATCTTTGAAGCAATGTTGGATAACAAGAAAGAGATGCTTCTTTTCA
 1800
 3' CGGAGACGGGGCTGGGAGGTGAACCCTTGACGGACGATGATGCCCCCAACCGTAGAAACTCGTTACAACCTATTGTTCTTTCTACGAAGGAAAAGT
 ST7L 3' UTR

AleI

5' CTCCTTGCCCTCCCTGTCAGCCTGAGCACAACCATGAGGTTACACACACACACAGAGGTGTACATATAACAGACATAGAGAACTTCTCTCAGGCTGC
 1900
 3' GAGAAACGGGAGGGACAGTCCGACTCGTGTGGTACTCCAATGTGTGTGTGTGTCTCCACATGTATATGTCTGTGTATCTCTTGAAGAGAGTCCGACG
 miR-146a 7mer-m8
 ST7L 3' UTR

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5' GGCGTTGGTCGCTTCCGGATTGTTTACATAACCGGACATAATCATAGGTCCTCTGACACATAATTTCGCCTCTCTGATTAACGCCAGCGTTTCCCGGTA 2800
o
3' CCGCAACCAGCGAAGGCTAACAAATGTATTGGCCTGTATTAGTATCCAGGAGACTGTGTATTAAGCGGAGAGACTAATTGCGGGTCGAAAAGGGCCAT
o
Luciferase
o
o
o

5' TCCAGATCCACAACCTTCGCTTCAAAAAATGGAACAACCTTACCAGCCGCGCCGGTTTATCATCCCCCTCGGGTGTAAATCAGAATAGCTGATGTAGTCT 2900
o
3' AGGTCTAGGTGTTGGAAGCGAAGTTTTTTACCTTGTTGAAATGGCTGGCGCGGGCCAAATAGTAGGGGAGCCACATTAGTCTTATCGACTACATCAGA
o
Luciferase
o
o
o

5' CAGTGAGCCCATATCCTTGTCGTATCCCTGGAAGATGGAAGCGTTTTCGAACCGCTTCCCGACTTCTTTCGAAAGAGGTGCGCCCCAGAAGCAATTC 3000
o
3' GTCACTCGGGTATAGGAACAGCATAGGGACCTTCTACCTTCGAAAACGTTGGCGAAGGGCTGAAGAAAGCTTCTCCACGCGGGGGTCTTCGTTAAAG
o
Luciferase
o
o
o

5' GTGTAAATTAGATAAAATCGTATTTGTCAATCAGAGTGCCTTTGGCGAAGAATGAAAAATAGGGTTGGTACTAGCAACGCCTTTGAATTTTGTAAATCCTGA 3100
o
3' CACATTTAATCTATTTAGCATAAACAGTTAGTCTCACGAAAACCGCTTCTACTTTTATCCCAACCATGATCGTTCGCGTAAACTTAAAACATTAGGACT
o
Luciferase
o
o
o

5' AGGGATCGTAAAAACAGCTCTTCTTCAAATCTATACATTAAGACGACTCGAAATCCACATATCAAATATCCGAGTGTAGTAAACATTCCAAAACCGTGAT 3200
o
3' TCCCTAGCATTTTGTGCGAGAAGAAGTTTAGATATGTAATTTCTGCTGAGCTTTAGGTGTATAGTTTATAGGCTCACATCATTGTAAAGTTTTGGCACTA
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Luciferase
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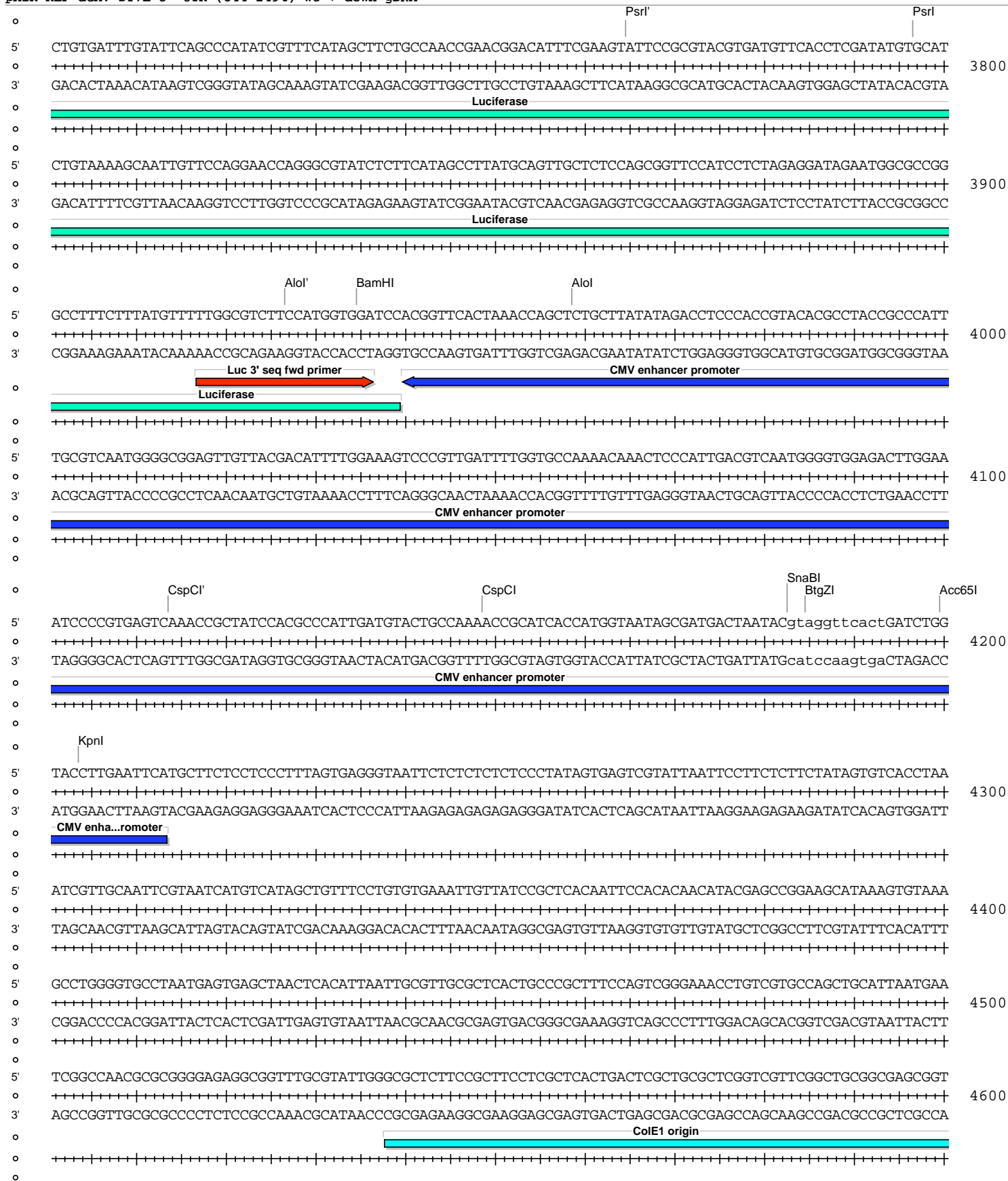
5' GGAATGGGACAACACTTAAAATCGCAGTATCCGGAACGATTTGATTGCCAAAAATAGGATCTCTGGCATGCGAGAATCTGACGCAGGCAGTTCTATGCGG 3300
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3' CCTTACCCTGTTGTGAATTTTAGCGTCATAGGCCTTGCTAAACTAACGGTTTTTATCCTAGAGACCGTACGCTCTTAGACTGCGTCCGTCAAGATACGCC
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Luciferase
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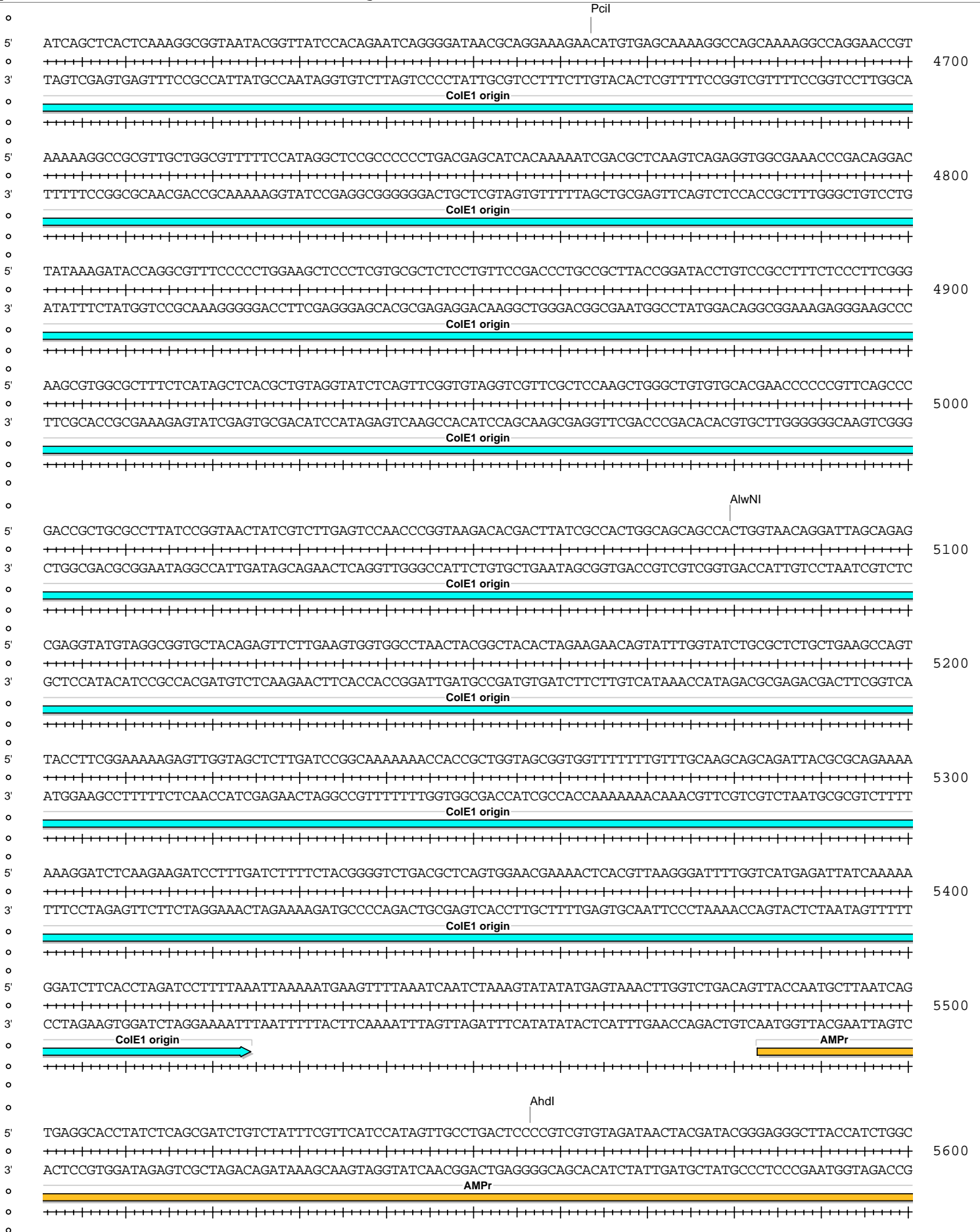
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3' TTCCCGGTGTGGGAATCCATTGGGTCATCTAGGTCTCCTTAAGTAATAGTACGTTAAACAAAACAGTCTAGTTTCCTGAGACCATGTTTTAGCATAAGT
o
Luciferase
o
o
o

5' TTAAAACCGGGAGGTAGATGAGATGTGACGAACGTGTACATCGACTGAAATCCCTGGTAATCCGTTTTAGAAATCCATGATAATAATTTCTGGATTATTG 3500
o
3' AATTTTGGCCCTCCATCTACTCTACACTGCTTGACATGTAGCTGACTTTAGGGACCATTAGGCAAAATCTTAGGTAATTTTAAAAGACCTAATAAC
o
Luciferase
o
o
o

5' GTAATTTTTTTTGCACGTTCAAAATTTTTCGAACCCCTTTTGGAAACAAACACTACGGTAGGCTGCGAAATGTTCACTGTTGAGCAATTCACGTTTC 3600
o
3' CATTAATAAAAAACGTCAGTTTAAAAACGTTGGGGAAAAACCTTTGTTTGTGATGCCATCCGACGCTTTACAAGTATGACAACTCGTTAAGTGAAG
o
Luciferase
o
o
o

5' ATTATAAATGTCGTTTCGCGGGCGCAACTGCAACTCCGATAAATAACGCGCCCAACACCGGCATAAAGAATTGAAGAGAGTTTTCACTGCATACGACGATT 3700
o
3' TAATATTTACAGCAAGCGCCCGGTTGACGTTGAGGCTATTTAATGCGCGGGTTGTGGCCGTTTCTTAACCTCTCTCAAAGTGACGTATGCTGCTAA
o
Luciferase
o
o
o





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5' CCCAGTGTCTGCAATGATACCGCGAGACCCACGCTCACC GGCTCCAGATTTATCAGCAATAAACAGCCAGCCGGAAGGGCCGAGCGCAGAAGTGGTCTCG
 3' GGGTCACGACGTTACTATGGCGCTCTGGGTGCGAGTGGCCGAGGTCTAAATAGTCGTTATTTGGTCCGGTTCGGCCTTCCCGGCTCGCGTCTTCACCAGGAC
 AMPr

5' CAACTTTATCCGCCTCCATCCAGTCTATTAATTGTTGCCGGAAGCTAGAGTAAGTAGTTCCGCCAGTTAATAGTTTGGCACAACGTTGTTGCCATTGCTAC
 3' GTTGAAATAGGCGGAGGTAGGTCAGATAATTAACAACGGCCCTTCGATCTCATTTCATCAAGCGGTCAATTATCAAACGCGTTGCAACAACGGTAACGATG
 AMPr

5' AGGCATCGTGGTGTACGCTCGTCGTTTGGTATGGCTTCATTCAGCTCCGGTTCCCAACGATCAAGGCGAGTTACATGATCCCCCATGTTGTGCAAAAA
 3' TCCGTAGCACCACAGTGGCAGCAGCAAACCATAACGAAGTAAGTCGAGGCCAAGGGTTGCTAGTTCGGCTCAATGTACTAGGGGGTACAACACGTTT
 AMPr

5' GCGGTTAGCTCCTTCGGTCTCCGATCGTTGTGAGAAGTAAGTTGGCCGAGTGTATCACTCATGGTTATGGCAGCACTGCATAATTCTCTTACTGTCA
 3' CGCCAATCGAGGAAGCCAGGAGGCTAGCAACAGTCTTCATTCAACCGGCGTCACAATAGTGAGTACCAATACCGTTCGTGACGTATTAAGAGAATGACAGT
 AMPr

5' TGCCATCCGTAAGATGCTTTTCTGTGACTGGTGTGACTCAACCAAGTCATTCTGAGAATAGTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAAT
 3' ACGGTAGGCATTTCTACGAAAAGACACTGACCACCTCATGAGTTGGTTTCAGTAAGACTCTTATCACATACGCCGCTGGCTCAACGAGAACGGGCCGAGTTA
 AMPr

Xmnl

5' ACGGGATAATACCGCGCCACATAGCAGAACCTTTAAAAGTGCTCATCATTGAAAAACGTTCTTCGGGGCGAAAACTCTCAAGGATCTTACCGCTGTTGAGA
 3' TGCCCTATTATGGCGCGGTGTATCGTCTTGAAATTTTACAGAGTAGTAACCTTTTGAAGAAGCCCCGCTTTTGGAGAGTTCTAGAAATGGCGACAACCTCT
 AMPr

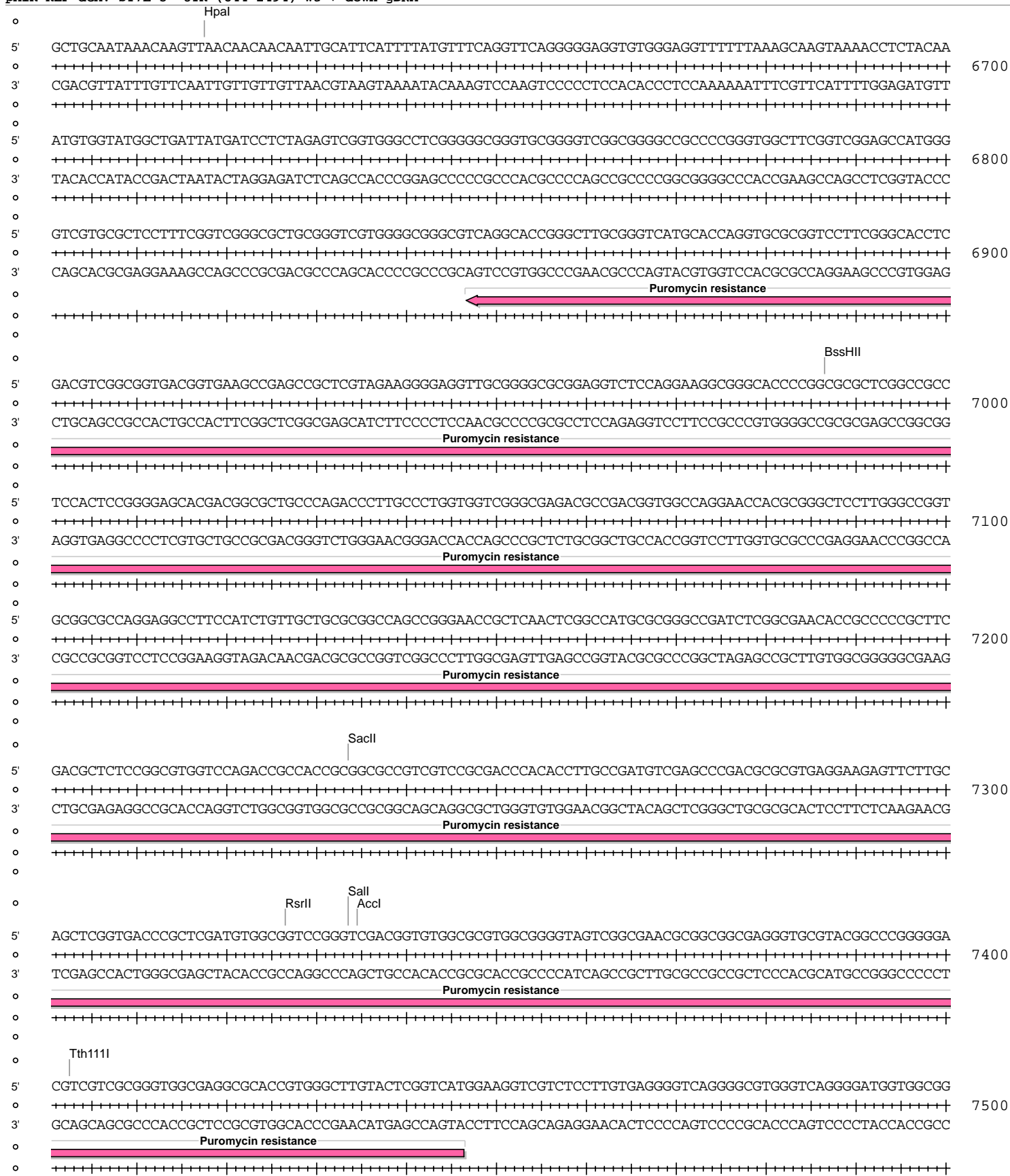
5' TCCAGTTCGATGTAACCCACTCGTGCACCCAACTGATCTTCAGCATCTTTTACTTTTACCAGCGTTTCTGGGTGAGCAAAAACAGGAAGGCAAAAATGCCG
 3' AGGTCAAGCTACATTGGGTGAGCAGTGGGTTGACTAGAAAGTCGTAGAAAATGAAAGTGGTCGCAAAGACCCACTCGTTTGTCTTCCGTTTACGGC
 AMPr

Sspl

5' CAAAAAAGGAATAAGGGCGACACGGAATGTTGAATACTCATACTCTTCTTTTCAATATATTGAAGCATTATCAGGGTTATGTCTCATGAGCGG
 3' GTTTTTTCCCTTATTCCCGCTGTGCCTTTACAACCTTATGAGTATGAGAAGGAAAAAGTTATAATAACTTCGTAATAGTCCCAATAACAGAGTACTCGCC
 AMPr

5' ATACATATTTGAATGTATTTAGAAAAATAAACAAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGACGTCTAAGAAACCATTTATTATCATG
 3' TATGTATAAATTTACATAAATCTTTTATTTGTTTATCCCAAGGCGCGTGTAAAGGGGCTTTTTCACGGTGGACTGCAGATTCTTTGGTAATAATAGTAC

5' ACATTAACCTATAAAAATAGGCGTATCACGAGATTGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTTATAA
 3' TGTAATGGATATTTTATCCGCATAGTGCTCTAACGTCACCTTTTACGAAATAAACACTTTAAACACTACGATAACGAAATAAACATTGGTAATATT
 SV40 Poly A



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