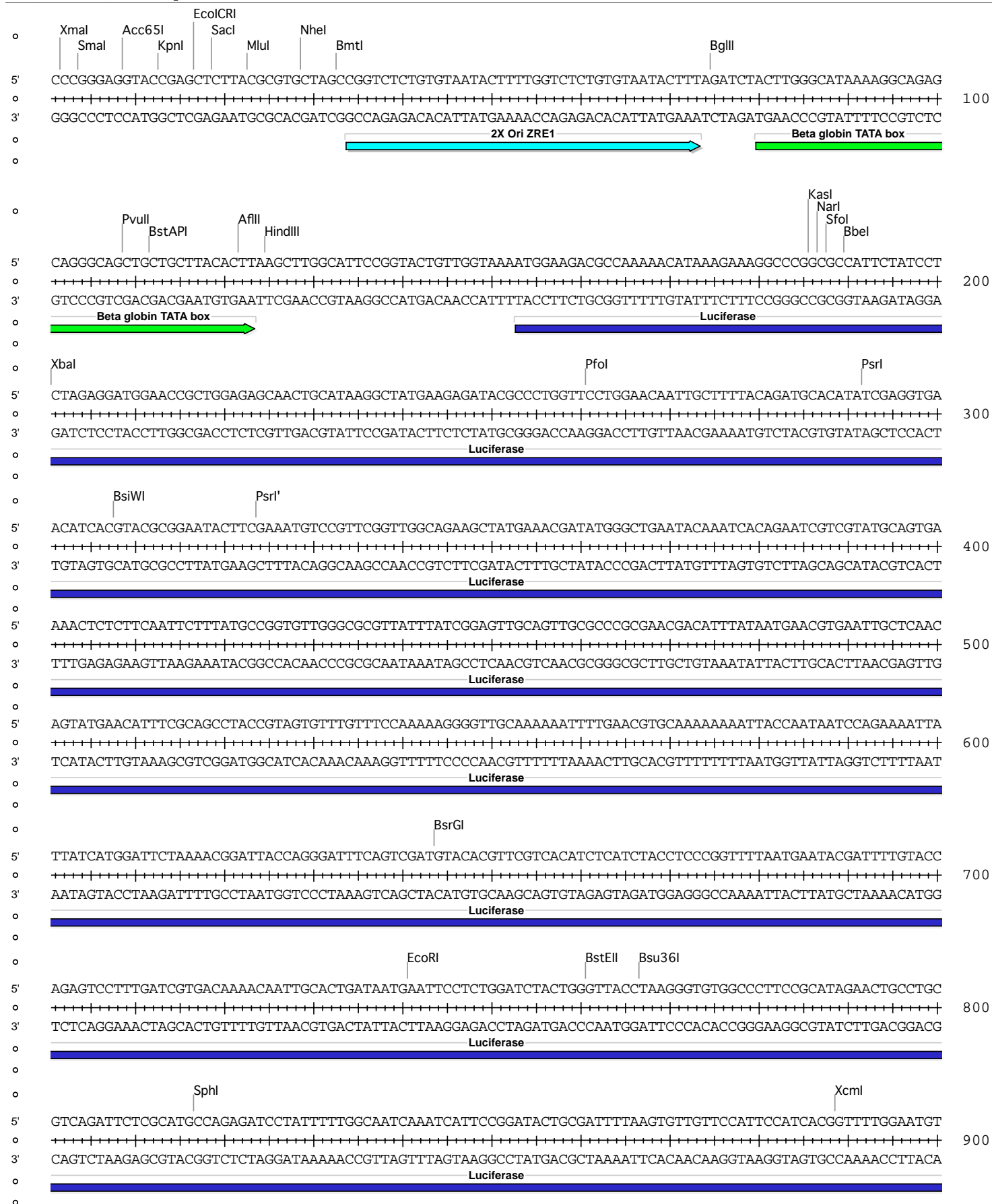


Absent Sites	0	AarI,AatII,AbSI,Agel,AleI,Apal,AscI,AsiSI,AvrII,BaeI,BaeI',BbvCI,BclI,BlpI,BmgBI,Bpu10I,BsmBI,BssHII,BstXI,BstZ17I,BtgI,CspCI,CspCI',EagI,FalI,Fall',FseI,FspAI,MauBI,MreI,NcoI,NdeI,NotI,NruI,Nsil,PasI,PmeI,PmlI,PspOMI,PspXI,PstI,RsrII,SacII,SanDI,SbfI,SexAI,SfiI,SgrDI,SnaBI,SpeI,SrfI,StuI,Swal,Tth111,XhoI,ZraI
Acc65I	1	(8) 9 (5666)
AccI	1	(2822) 2823 (2852)
AfeI	1	(2947) 2948 (2727)
AfIII	1	(121) 122 (5553)
AhdI	1	(3964) 3965 (1710)
AjuI	1	(1042) 1043 (4632)
AjuI'	1	(1010) 1011 (4664)
Alol	1	(5184) 5185 (490)
Alol'	1	(5152) 5153 (522)
ArsI	1	(1341) 1342 (4333)
ArsI'	1	(1309) 1310 (4365)
BamHI	1	(2815) 2816 (2859)
BarI	1	(1970) 1971 (3704)
BarI'	1	(2002) 2003 (3672)
BbeI	1	(189) 190 (5485)
BglII	1	(74) 75 (5600)
BmtI	1	(32) 33 (5642)
BsaBI	1	(2583) 2584 (3091)
BsgI	1	(2352) 2353 (3322)
BsiWI	1	(307) 308 (5367)
BsmFI	1	(1443) 1444 (4231)
BspMI	1	(1551) 1552 (4123)
BsrGI	1	(643) 644 (5031)
BstAPI	1	(111) 112 (5563)
BstEII	1	(760) 761 (4914)
Bsu36I	1	(766) 767 (4908)
Clal	1	(1518) 1519 (4156)
DrallI	1	(5116) 5117 (558)
EcoICRI	1	(16) 17 (5658)
EcoNI	1	(1770) 1771 (3904)
EcoO109I	1	(1332) 1333 (4342)
EcoRI	1	(740) 741 (4934)
EcoRV	1	(1491) 1492 (4183)
HindIII	1	(124) 125 (5550)
KasI	1	(185) 186 (5489)
KpnI	1	(12) 13 (5662)
MluI	1	(22) 23 (5652)
MscI	1	(1659) 1660 (4015)
NarI	1	(186) 187 (5488)
NheI	1	(28) 29 (5646)
NmeAIII	1	(4113) 4114 (1561)
PacI	1	(1477) 1478 (4197)
PciI	1	(3071) 3072 (2603)
PfIMI	1	(2120) 2121 (3554)
PfoI	1	(260) 261 (5414)
PpuMI	1	(1332) 1333 (4342)
PshAI	1	(2886) 2887 (2788)
Psrl	1	(291) 292 (5383)
Psrl'	1	(323) 324 (5351)

Pvull	1	(108) 109 (5566)
Sacl	1	(18) 19 (5656)
Sall	1	(2821) 2822 (2853)
Scal	1	(4444) 4445 (1230)
Sfol	1	(187) 188 (5487)
SgrAI	1	(1581) 1582 (4093)
Smal	1	(3) 4 (5671)
SphI	1	(816) 817 (4858)
StyI	1	(2268) 2269 (3406)
XbaI	1	(200) 201 (5474)
XcmI	1	(888) 889 (4786)
XmaI	1	(1) 2 (5673)
XmnI	1	(4563) 4564 (1111)



2X (Ori ZRE1) BG-Luc pGL2basic

5' TTACTACACTCGGATATTTGATATGTGGATTTTCGAGTCGTCTTAATGTATAGATTTGAAGAAGAGCTGTTTTTACGATCCCTTCAGGATTACAAAATCA
 1000
 3' AATGATGTGAGCCTATAAACTATACACCTAAAGCTCAGCAGAATTACATATCTAACTTCTTCTCGACAAAAATGCTAGGGAAGTCTAATGTTTTAAGT
 Luciferase

Ajul' Ajul

5' AAGTGCCTTGTAGTACCAACCCTATTTTCATTCTTCGCCAAAAGCACTCTGATTGACAAATACGATTTATCTAATTTACACGAAATTGCTTCTGGGGGC
 1100
 3' TTCACGCAACGATCATGGTTGGGATAAAAGTAAGAAGCGGTTTTTCGTGAGACTAACTGTTTTATGCTAAATAGATTAAATGTGCTTTAACGGAAGACCCCG
 Luciferase

5' GCACCTCTTTTCGAAAGAAGTCGGGGAAGCGGTTGCAAAACGCTTCCATCTTCCAGGGATACGACAAGGATATGGGCTCACTGAGACTACATCAGCTATTC
 1200
 3' CGTGGAGAAAAGCTTTCTCAGCCCCTTCGCCAACGTTTTGCGAAGGTAGAAGGTCCCTATGCTGTTCTATACCCGAGTGACTCTGATGTAGTCGATAAG
 Luciferase

5' TGATTACACCCGAGGGGGATGATAAACCGGGCGCGGTTCGTAAGTTGTTCCATTTTTTGAAGCGAAGGTTGTGGATCTGGATACCGGGAAAACGCTGGG
 1300
 3' ACTAATGTGGGCTCCCTACTATTTGGCCCGCCAGCCATTTCAACAAGGTAAAAAAGTTCGCTTCCAACACCTAGACCTATGGCCCTTTTGCAGACC
 Luciferase

ArsI' EcoO109I PpuMI Arsl

5' CGTTAATCAGAGAGGCGAATTATGTGTCAGAGGACCTATGATTATGTCCGTTATGTAACAATCCGGAAGCGACCAACGCCTTGATTGACAAGGATGGA
 1400
 3' GCAATTAGTCTCTCCGCTTAATACACAGTCTCCTGGATACTAATACAGGCCAATACATTTGTTAGGCCCTTCGCTGGTTGCGGAACTAAGTGTCTCTACCT
 Luciferase

BsmFI PacI EcoRV

5' TGGTACATTTCTGGAGACATAGCTTACTGGGACGAAGACGAACACTTCTTCATAGTTGACCGCTTGAAGTCTTTAATTAATAACAAAGGATATCAGGTGG
 1500
 3' ACCGATGTAAGACCTCTGTATCGAATGACCCTGCTTCTGCTTGTGAAGAAGTATCAACTGGCGAAGTTCAGAAATTAATTTATGTTTCTATAGTCCACC
 Luciferase

Clal BspMI SgrAI

5' CCCCCTGGAATTGGAATCGATATTGTTACAACACCCCAACATCTTCGACGCGGGCGTGGCAGGTCTTCCCAGCATGACGCCGTTGAAGTTCACCGCCG
 1600
 3' GGGGCGACTTAACCTTAGCTATAACAATGTTGTTGGGGTTGTAGAAGCTGCGCCCGCACCGTCCAGAAGGGCTGCTACTGCGGCCACTTGAAGGGCGGGC
 Luciferase

MscI

5' CGTTGTTGTTTTGGAGCACGGAAGACGATGACGGAAGAGATCGTGGATTACGTGGCCAGTCAAGTAACAACCGGAAAAAGTTGCGCGGAGGAGTT
 1700
 3' GCAACAACAAAACCTCGTGCCTTTCTGCTACTGCCTTTTCTCTAGCACCTAATGCACCGGTCAGTTCATTGTTGGCGCTTTTTCAACGCGCTCTCTCAA
 Luciferase

EcoNI

5' GTGTTTGTGGACGAAGTACCGAAAGGCTTACCAGAAAACCTCGACGCAAGAAAAATCAGAGAGATCCTCATAAAGGCCAAGAAGGGCGGAAAAGTCCAAAT
 1800
 3' CACAAACACCTGCTTCATGGCTTTCCAGAATGGCCTTTTGGAGCTGCGTCTTTTTTAGTCTCTTAGGAGTATTTCCGGTCTTCCCGCCTTTTCAGGTTTA
 Luciferase

5' TGTAATAATGTAAGTATTACAGCATGACGAAATCTTAGCTATTGTAATACTGCGATGAGTGGCAGGGCGGGCGTAATTTTTTAAAGGCAGTTATTGG
 1900
 3' ACATTTTACATTGACATAAGTCGCTACTGCTTTAAGAATCGATAACATTATGACGCTACTCACCGTCCCGCCCGCATTAAAAAATTCGCTCAATAAC
 Lu...se

o
5' TGCCCTTAAACGCCTGGTGTCTACGCCTGAATAAGTATAATAAGCGGATGAATGGCAGAAATTCGCCGGATCTTTGTGAAGGAACCTTACTTCTGTGGTG
o ++++++ 2000
3' ACGGGAATTTGCGGACCACGATGCGGACTTATTCACTATTATTTCGCTACTTACCGTCTTTAAGCGGCTAGAAACACTTCCTTGAATGAAGACACCAC
o
o
o BarI'
5' TGACATAAATTGGACAACTACCTACAGAGATTTAAAGCTCTAAGGTAAATATAAAATTTTAAAGTGTATAATGTGTTAAACTACTGATTCTAATTGTTTG
o ++++++ 2100
3' ACTGTATTAACCTGTTTGATGGATGTCTCTAAATTTTCGAGATTCCATTTATATTTTAAAAATTCACATATTACACAATTTGATGACTAAGATTAACAAAC
o
o
o PflMI
5' TGTATTTTAGATTCCAACCTATGGAAGTGAATGGGAGCAGTGGTGAATGCCTTTAATGAGGAAAACCTGTTTGGCTCAGAAGAAATGCCATCTAGT
o ++++++ 2200
3' ACATAAAATCTAAGGTTGGATACCTTGACTACTTACCCTCGTCACCACCTTACGGAATTAATCCTTTTGGACAAAACGAGTCTTCTTTACGGTAGATCA
o
o
o Styl
5' GATGATGAGGCTACTGCTGACTCTCAACATTCTACTCCTCCAAAAAGAAGAGAAAGGTAGAAGACCCCAAGGACTTTCCTTCAGAATTGCTAAGTTTTT
o ++++++ 2300
3' CTACTACTCCGATGACGACTGAGAGTTGTAAGATGAGGAGGTTTTTCTTCTCTTTCCATCTTCTGGGGTTCCTGAAAGGAAGTCTTAACGATTCAAAAA
o
o
o BsgI
5' TGAGTCATGCTGTGTTTAGTAATAGAACTCTTGCTTGCTTTGCTATTTACACCACAAAGGAAAAAGCTGCACCTGCTATACAAGAAAATTATGGAAAAATA
o ++++++ 2400
3' ACTCAGTACGACACAAATCATATCTTGAGAACGAACGAACGATAAATGTGGTGTTCCTTTTCGACGTGACGATATGTTCTTTAATACCTTTTTAT
o
5' TTCTGTAACCTTTATAAGTAGGCATAACAGTTATAATCATAACATACTGTTTTTCTTACTCCACACAGGCATAGAGTGTCTGCTATTAATAACTATGCT
o ++++++ 2500
3' AAGACATTGGAAATATTCATCCGTATTGTCAATATTAGTATTGTATGACAAAAAGAATGAGGTGTGCCGTATCTCACAGACGATAATTATGATACGA
o
o
o BsaBI
5' CAAAAATTGTGTACCTTTAGCTTTTAAATTTGTAAGGGGTTAATAAGGAATATTTGATGTATAGTGCCTTGACTAGAGATCATAATCAGCCATACCACA
o ++++++ 2600
3' GTTTTAAACACATGGAAATCGAAAAATTAACATTTCCCAATTATCTTATAAACTACATATCACGGAACCTGATCTCTAGTATTAGTCGGTATGGTGT
o SV40...lyA
o
5' TTTGTAGAGGTTTACTTGTCTTAAAAAACCTCCACACCTCCCCCTGAACCTGAAACATAAAATGAATGCAATGTTGTTGTTAACTGTTTATTGCGAG
o ++++++ 2700
3' AAACATCTCCAAAATGAACGAAATTTTGGAGGGTGTGGAGGGGACTTGGACTTTGTATTTACTTACGTTAACAACAACAAATGAACAAATAACGTC
o SV40 late polyA
o
o
5' CTTATAATGGTTACAAATAAAGCAATAGCATCACAATTTCAAAATAAAGCATTTTTTTCACTGCATTCTAGTTGTGGTTTGTCCAAACTCATCAATGT
o ++++++ 2800
3' GAATATTACCAATGTTTATTTTCGTTATCGTAGTGTAAAGTGTATTTTCGTAAAAAAGTGACGTAAGATCAACACCAACAGGTTTGAGTAGTTACA
o SV40 late polyA
o
o
o BamHI Sall Accl PshAI
5' ATCTTATCATGTCTGGATCCGTCGACCGATGCCCTTGAGAGCCTTCAACCCAGTCAGCTCCTTCCGGTGGGCGGGGCATGACTATCGTCGCCGCACTT
o ++++++ 2900
3' TAGAATAGTACAGACCTAGGCAGCTGGCTACGGAACTCTCGGAAGTTGGGTGAGTCGAGGAAGGCCACCCGCGCCCGTACTGATAGCAGCGGCGTGAA
o SV40 late polyA
o
o
o Afel
5' ATGACTGTCTCTTTTATCATGCAACTCGTAGGACAGGTGCCGGCAGCGCTCTCCGCTTCCGCTCACTGACTCGCTGCGCTCGGTGCTTCCGCTGCGG
o ++++++ 3000
3' TACTGACAGAAGAAATAGTACGTTGAGCATCTGTCCACGGCCGTGCGGAGAAGGCGAAGGAGCGAGTGACTGACGACGCGAGCCAGCAAGCCGACGCC

PciI

5' CGAGCGGTATCAGCTCACTCAAAGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCAGGAAAGAACATGTGAGCAAAGGCCAGCAAAGGCCA 3100
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' GCTCGCCATAGTCGAGTGAGTTCCGCCATTATGCCAATAGGTGTCTTAGTCCCCTATTGCGTCCTTTCTTGTACTACTGTTTTCCGGTCGTTTTCCGGT

5' GGAACCGTAAAAGGCCCGCTTGTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCC 3200
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' CCTTGGCATTTTTCCGGCGCAACGACCGCAAAAAGGTATCCGAGGCGGGGGACTGCTCGTAGTGTTTTAGCTGCGAGTTCAGTCTCCACCGCTTTGGG

5' GACAGGACTATAAAGATAACAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCCTCTCTGTTCCGACCTGCCGCTTACCGGATACCTGTCCGCCTTTCTC 3300
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' CTGTCTGATATTTCTATGGTCCGAAAGGGGACCTTCGAGGGAGCACGCGAGAGGACAAGGCTGGGACGGCGAATGGCTATGGACAGGCGGAAAGAG

5' CCTTCGGGAAGCGTGGCGCTTTCTCAATGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCG 3400
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' GGAAGCCCTTCGCACCGCAAAGAGTTACGAGTGCACATCCATAGAGTCAAGCCACATCCAGCAAGCGAGGTTGACCCGACACACGTGCTTGGGGGGC

5' TTCAGCCCACCGCTGCGCCTTATCCGTAACCTATCGTCTTGAAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGAT 3500
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' AAGTCGGGCTGGCGACGCGAATAGGCCATTGATAGCAGAACTCAGGTTGGGCCATTCTGTGCTGAATAGCGGTGACCGTGCCTGCGTGACCATTGTCTTA

5' TAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTG 3600
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' ATCGTCTCGTCCATACATCCGCCACGATGTCTCAAGAACTTACCACCGGATTGATGCCGATGTGATCTTCTGTGATAAAACCATAGACGCGAGACGAC

5' AAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCTTGTATCCGGCAAACAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTGCAAGCAGCAGATTACGC 3700
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' TTCGGTCAATGGAAGCCTTTTTCTCAACCATCGAGAACTAGGCCGTTTGTGTTGGTGGCGACCATCGCCACCAAAAAACAACAGTTCGTGCTTAATGCG

5' GCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGCTGACGCTCAGTGAACGAAAACCTCACGTTAAGGGATTTTGGTTCATGAGATT 3800
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' CGTCTTTTTTCTAGAGTCTTCTAGGAACTAGAAAAGATGCCCCAGACTGCGAGTACCTTGTCTTTGAGTGCAATCCCTAAAACAGTACTCTAA

5' ATCAAAAAGGATCTTACCTAGATCCTTTTAAATTAATAAATGAAGTTTTAAATCAATCTAAAATATATATGAGTAAACTTGGTCTGACAGTTACCAATGC 3900
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' TAGTTTTTCTAGAAAGTGGATCTAGGAAAATTTAATTTTTACTTCAAAATTTAGTTAGATTTTCAATATACTCATTGAAACCAGACTGTCAATGGTTACG

beta-lactamase

AhdI

5' TTAATCAGTGAGGCACCTATCTCAGCGATCTGTCTATTTTCGTTCCATCCATAGTTGCCTGACTCCCCGTCGTGTAGATAACTACGATACGGGAGGGCTTAC 4000
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' AATTAGTCACTCCGTGGATAGAGTTCGCTAGACAGATAAAGCAAGTAGGTATCAACGGACTGAGGGGCAGCACATCTATTGATGCTATGCCCTCCCGAATG

beta-lactamase

5' CATCTGGCCCCAGTGTGCAATGATACCGCGAGACCCACGCTCACGGCTCCAGATTTATCAGCAATAAACCCAGCCAGCCGGAAGGGCCGAGCGCAGAAG 4100
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' GTAGACCGGGTACGACGTTACTATGGCGCTCTGGGTGCGAGTGGCCGAGGCTAAATAGTCGTTATTTGGTTCGGTTCGGCTTCCCGGCTCGCGTCTTC

beta-lactamase

NmeAIII

5' TGGTCTGCAACTTTATCCGCCTCCATCCAGTCTATTAATTTGTTGCCGGGAAGCTAGAGTAAGTAGTTCCGCAGTTAATAGTTTGCGAACGTTGTTGCC 4200
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' ACCAGGACGTTGAAATAGGCGGAGGTAGGTAGATAAATTAACAACGGCCCTTCGATCTCATTTCATCAAGCGGTCAATTATCAAACGCGTTGCAACAACGG

beta-lactamase

5' ATTGCTACAGGCATCGTGGTGTACGCTCGTCTGTTGGTATGGCTTCATTACGCTCCGGTCCCAACGATCAAGGGCAGTTACATGATCCCCATGTTGT 4300
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' TAACGATGTCCGTAGCACCACAGTGCAGCAGCAAACCATAACGAAGTAAGTCGAGGCCAAGGGTGTAGTTCGGCTCAATGTACTAGGGGGTACAACA

beta-lactamase

5' GCAAAAAGCGGTTAGCTCCTTCGGTCTCCGATCGTTGTCAGAAGTAAGTTGGCCGCGAGTGTATCACTCATGGTTATGGCAGCACTGCATAATTCTCT 4400
 +-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
 3' CGTTTTTTCGCCAATCGAGGAAGCCAGGAGGCTAGCAACAGTCTTCAATTCACCGGCGTCACAATAGTGAGTACCAATACCGTTCGTGACGTATTAAGAGA

beta-lactamase

