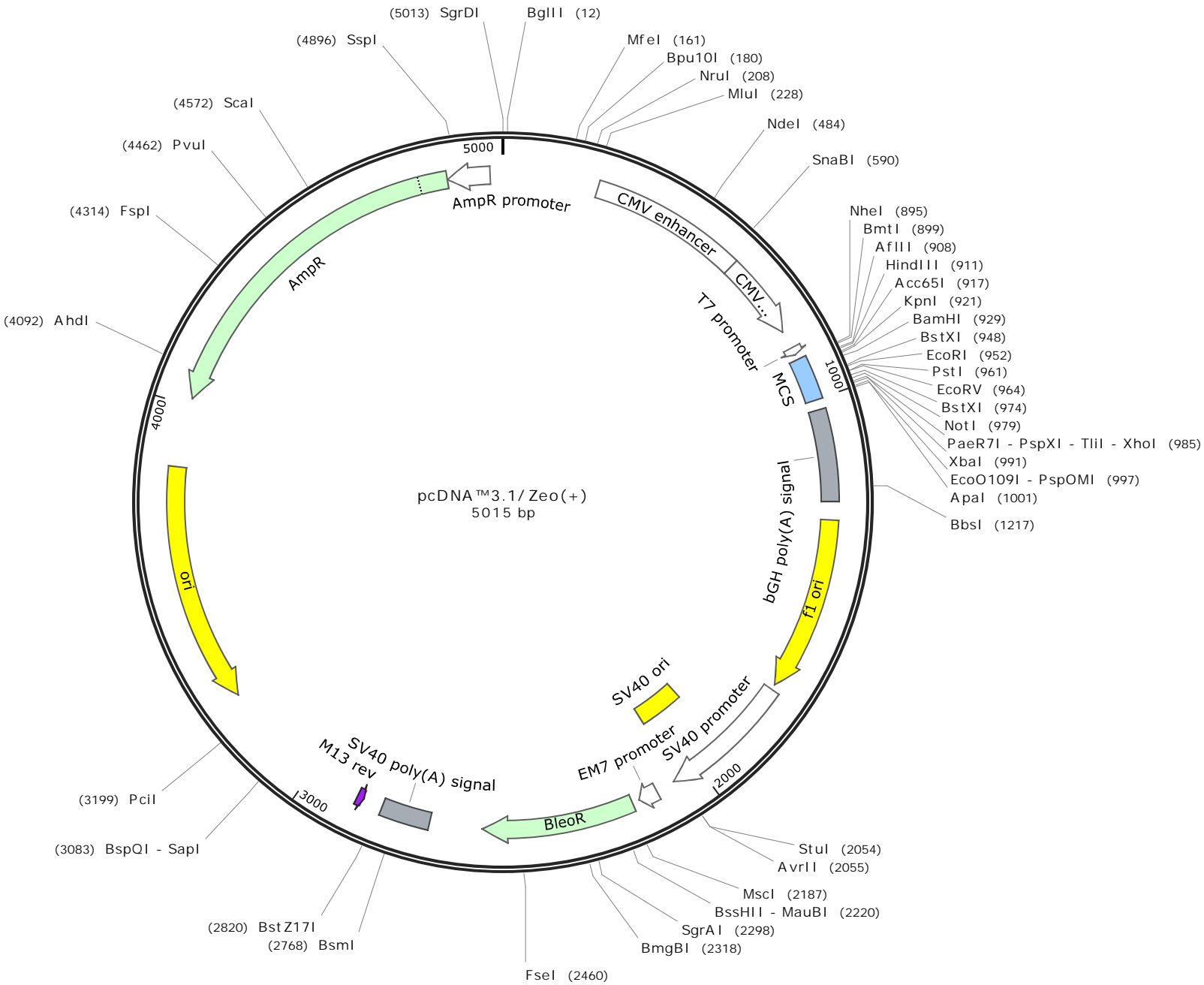
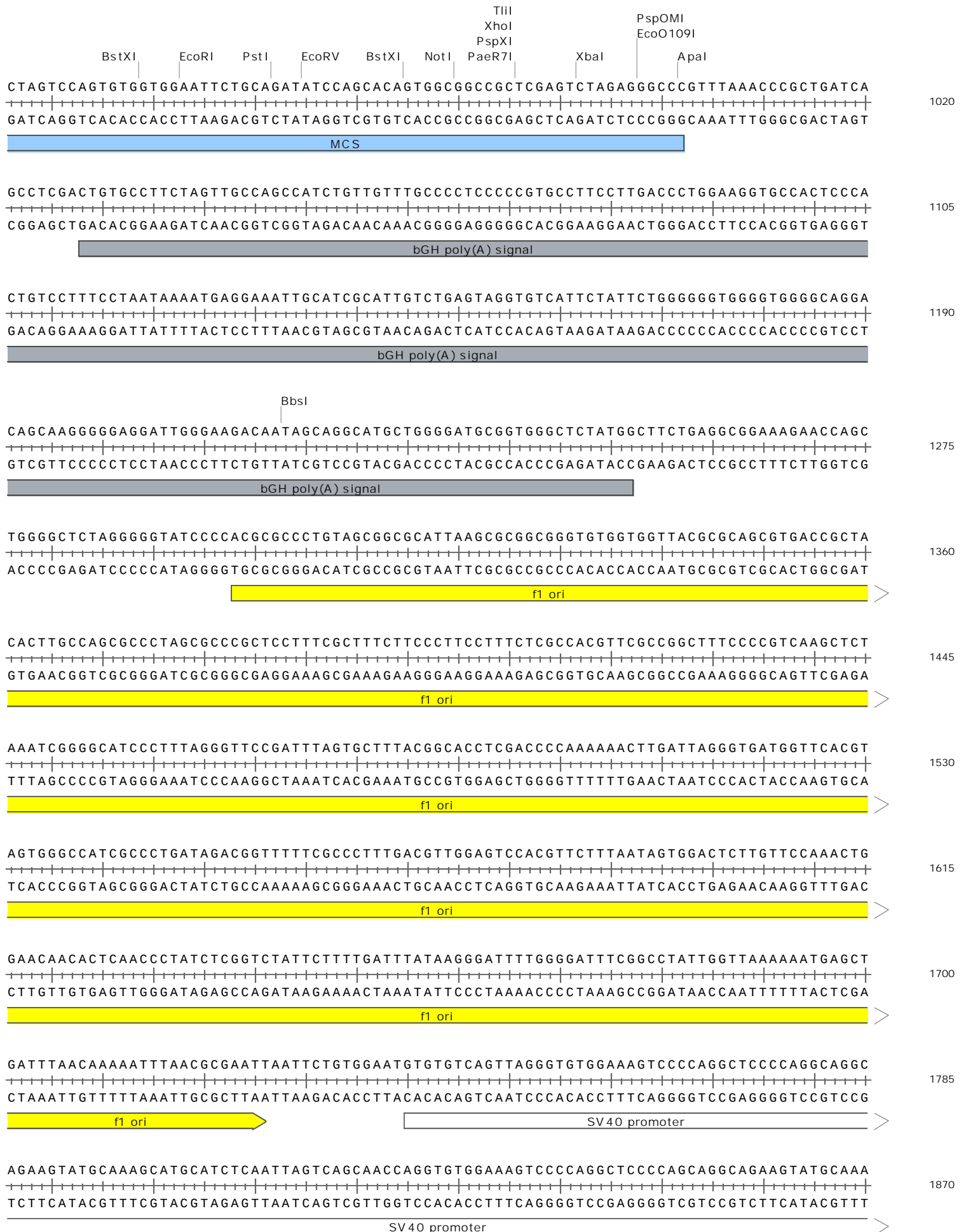


Mammalian expression vector with the CMV promoter. The MCS is in the forward (+) orientation.



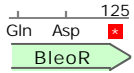






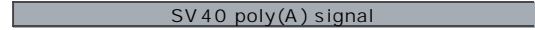
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2635



CTGGATGATCCTCCAGCGCGGGGATCTCATGCTGGAGTTCCTCGCCACCCCAACTTGTTTATTGCAGCTTATAATGGTTACAAA
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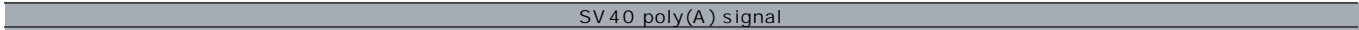
2720



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2805

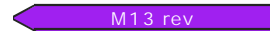
BsmI



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2890

BstZ17I



SV40 poly(A) signal

GCTCACAAATCCACACAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATT
 CGAGTGTTAAGGTGTGTTGTATGCTCGGCCCTTCGTATTTACATTTTCGGACCCACGGATTACTCACTCGATTGAGTGTAATTA

2975

GCGTTGCGCTCACTGCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTGCATTAATGAATCGGCCAACGCGGGGAGAGGGCG
 CGCAACGCGAGTGACGGGCGAAAGGTCAGCCCTTTGGACAGCACGGTCGACGTAATTACTTAGCCGGTTGCGCGCCCTCTCCGC

3060

SapI
BspQI

GTTTGCATATTGGGCGCTCTTCCGCTTCCTCGCTCACTGACTCGCTGCGCTCGGTCGTTTCGGCTGCGGGCAGCGGTATCAGCTCA
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3145

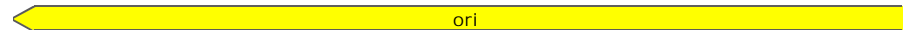
PciI

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3230

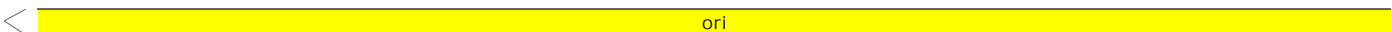
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3315



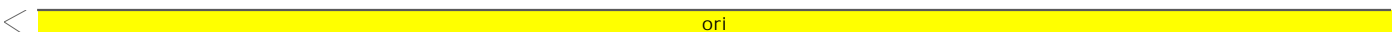
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3400



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3485



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3570

ori

AGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGC
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3655

ori

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3740

ori

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3825

ori

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3910

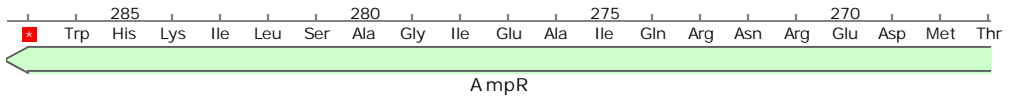
ori

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3995

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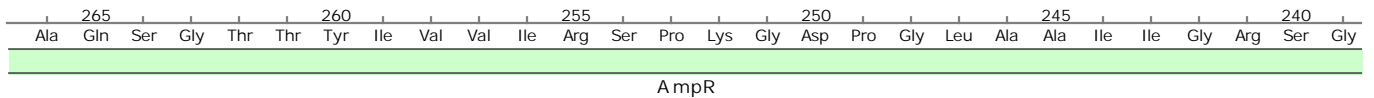
4080



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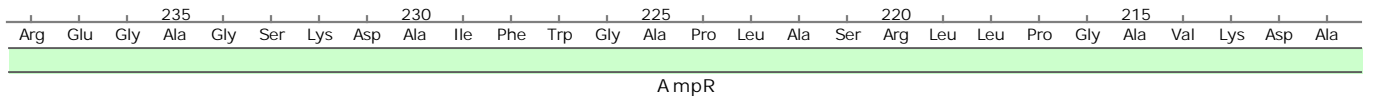
4165

AhdI



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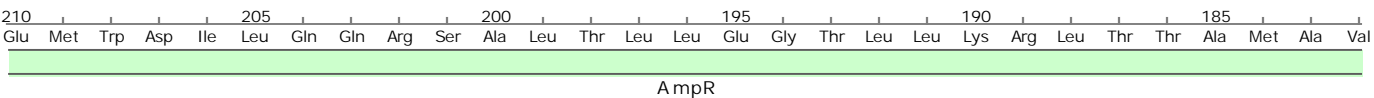
4250



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4335

FspI



CAGGCATCGTGGTGTACGCTCGTCGTTTGGTATGGCTTCATTCAGCTCCGGTTCCCAACGATCAAGGCGAGTTACATGATCCCC
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4420

180 175 170 165 160 155
Pro Met Thr Thr Asp Arg Glu Asp Asn Pro Ile Ala Glu Asn Leu Glu Pro Glu Trp Arg Asp Leu Arg Thr Val His Asp Gly

AmpR

PvuI

CATGTTGTGCAAAAAAGCGTTAGCTCCTTCGGTCTCCGATCGTTGTCAGAAGTAAGTTGGCCGCGAGTGTATCACTCATGGTT
GTACAACACGTTTTTTTCGCCAATCGAGGAAGCCAGGAGGCTAGCAACAGTCTTCATTC AACCGGCGTCACAATAGTGAGTACCAA

4505

150 145 140 135 130
Met Asn His Leu Phe Ala Thr Leu Glu Lys Pro Gly Gly Ile Thr Thr Leu Leu Leu Asn Ala Ala Thr Asn Asp Ser Met Thr

AmpR

ScaI

ATGGCAGCACTGCATAATTCTCTTACTGTCATGCCATCCGTAAGATGCTTTTCTGTGACTGGTGAGTACTCAACCAAGTCATTCT
TACCGTCGTGACGTATTAAGAGAATGACAGTACGGTAGGCATTCTACGAAAAGACACTGACCACTCATGAGTTGGTTTCAGTAAGA

4590

125 120 115 110 105 100
Ile Ala Ala Ser Cys Leu Glu Arg Val Thr Met Gly Asp Thr Leu His Lys Glu Thr Val Pro Ser Tyr Glu Val Leu Asp Asn Glu

AmpR

GAGAATAGTGTATGCGGCGACCGAGTTGCTCTTGCCCGGCGTCAATACGGGATAATACCGCGCCACATAGCAGAACTTTAAAAGT
CTCTTATCACATACGCCGCTGGCTCAACGAGAACGGGCGCAGTTATGCCCTATTATGGCGCGGTGTATCGTCTTGAAATTTTCA

4675

95 90 85 80 75 70
Ser Tyr His Ile Arg Arg Gly Leu Gln Glu Gln Gly Ala Asp Ile Arg Ser Leu Val Ala Gly Cys Leu Leu Val Lys Phe Thr

AmpR

GCTCATCATTGGAAAACGTTCTTCGGGGCGAAAACCTCTCAAGGATCTTACCCTGTTGAGATCCAGTTTCGATGTAACCCACTCGT
CGAGTAGTAACCTTTTGAAGAAGCCCCGCTTTTGAGAGTTCCTAGAATGGCGACAACCTCTAGGTC AAGCTACATTGGGTGAGCA

4760

65 60 55 50 45
Ser Met Met Pro Phe Arg Glu Glu Pro Arg Phe Ser Glu Leu Ile Lys Gly Ser Asn Leu Asp Leu Glu Ile Tyr Gly Val Arg

AmpR

GCACCCAACCTGATCTTCAGCATCTTTTACTTTTACCAGCGTTTTCTGGGTGAGCAAAAACAGGAAGGCAAAAATGCCGCAAAAAAGG
CGTGGGTTGACTAGAAGTCGTAGAAAATGAAAAGTGGTCGCAAAGACCCACTCGTTTTTTGTCCTTCCGTTTTTACGGCGTTTTTTCC

4845

40 35 30 25 20 15
Ala Gly Leu Gln Asp Glu Ala Asp Lys Val Lys Val Leu Thr Glu Pro His Ala Phe Val Pro Leu Cys Phe Ala Ala Phe Phe Pro

signal sequence

AmpR

SspI

GAATAAGGGCGACACGGAAATGTTGAATACTCATACTCTTCTTTTCAATATTATTGAAGCATTATCAGGGTTATTGTCTCAT
CTTATTCGGCTGTGCCTTTACAACCTATGAGTATGAGAAGGAAAAAGTTATAATAACTTCGTA AATAGTCCCAATAACAGAGTA

4930

10 5 1
Ile Leu Ala Val Arg Phe His Gln Ile Ser Met

signal sequence

AmpR promoter

AmpR

SgrDI

GAGCGGATACATATTTGAATGTATTTAGAAAAATAAACAAATAGGGGTTCCGCGCACATTTCCCCGAAAAGTGCCACCTGACGTC
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3'







5015

5'

AmpR promoter

Enzymes	Sites	
Acc65I	1	917
AfII	1	908
AhdI	1	4092
ApaI	1	1001
AvrII	1	2055
BamHI	1	929
BbsI	1	1217
BglII	1	12
BmgBI	1	2318
BmtI	1	899
Bpu10I	1	180
BsmI	1	2768
BspQI	1	3083
BssHII	1	2220
BstXI	2	948 974
BstZ17I	1	2820
EcoO109I	1	997
EcoRI	1	952
EcoRV	1	964
FseI	1	2460
FspI	1	4314
HindIII	1	911
KpnI	1	921
MauBI	1	2220
MfeI	1	161
MluI	1	228
MscI	1	2187
NdeI	1	484
NheI	1	895
NotI	1	979
NruI	1	208
PaeR7I	1	985
PciI	1	3199
PspOMI	1	997
PspXI	1	985
PstI	1	961
PvuI	1	4462
SapI	1	3083
ScaI	1	4572
SgrAI	1	2298
SgrDI	1	5013
SnaBI	1	590
SspI	1	4896
StuI	1	2054
TliI	1	985
XbaI	1	991
XhoI	1	985

Feature	Location	Size (bp)			Type
✓ CMV enhancer /note = human cytomegalovirus immediate early enhancer	235 .. 614	380			enhancer
✓ CMV promoter /note = human cytomegalovirus (CMV) immediate early promoter	615 .. 818	204			promoter
✓ T7 promoter /note = promoter for bacteriophage T7 RNA polymerase	863 .. 881	19			promoter
✓ MCS /note = multiple cloning site	895 .. 1002	108			misc_feature
✓ bGH poly(A) signal /note = bovine growth hormone polyadenylation signal	1028 .. 1252	225			polyA_signal
✓ f1 ori /direction = RIGHT /note = f1 bacteriophage origin of replication; arrow indicates direction of (+) strand synthesis	1298 .. 1726	429			rep_origin
✓ SV40 promoter /note = SV40 enhancer and early promoter	1740 .. 2070	331			promoter
✓ SV40 ori /note = SV40 origin of replication	1921 .. 2056	136			rep_origin
✓ EM7 promoter /note = synthetic bacterial promoter	2118 .. 2165	48			promoter
✓ BleoR /gene = Sh ble from Streptoalloteichus hindustanus /product = antibiotic-binding protein /note = confers resistance to bleomycin, phleomycin, and Zeocin™ /translation = MAKLTSAVPVLTARDVAGAVEFWTDRLGFSRDFVEDDFAGVVRDDVTLFISAVQDQVVPDNTLAWVWVWRGLDELYAEWSEVVST NFRDASGPAMTEIGEQPWGREFALRDPAGNCVHFVAEEQD* 124 amino acids = 13.8 kDa	2184 .. 2558	375			CDS
✓ SV40 poly(A) signal /note = SV40 polyadenylation signal	2688 .. 2809	122			polyA_signal
✓ M13 rev /note = common sequencing primer, one of multiple similar variants	2858 .. 2874	17			primer_bind
✓ ori /direction = LEFT /note = high-copy-number CoIE1/pMB1/pBR322/pUC origin of replication	3260 .. 3848	589			rep_origin

Feature	Location	Size (bp)			Type
✓ AmpR	4019 .. 4879	861			CDS
▶ 2 segments					
/gene	= bla				
/product	= -lactamase				
/note	= confers resistance to ampicillin, carbenicillin, and related antibiotics				
/translation	= MSIQHFRVALIPFFAAFCLPVFA,HPETLVKVKDAEDQLGARVGYIELDLSNGKILESFRPEERFPM MSTFKVLLCGAVLSRIDAGQE QLGRRIHYSQNDLVEYSPVTEKHLTDGMTVRELC SAAITMSDNTAANLLTTIGGPKELTAF LHNMGDHSVTR LDRWEPELNEAIPN DERD TTMPVAMATTLRKLTTGELLTASRQQLIDWMEADKVAGPLLR SALPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIY TTGSOATMDFRNROI AFIGASIKHW* 286 amino acids = 31.6 kDa				
✓ AmpR promoter	4880 .. 4984	105			promoter
/gene	= bla				

Description: Mammalian expression vector with the CMV promoter. The MCS is in the forward (+) orientation.

Created: Tuesday, Jul 31, 2012

Last Modified: Sunday, Mar 3, 2013

Accession Number:

Code Number:

Sequence Author: Invitrogen (Life Technologies)

DNA Type: Synthetic DNA

Laboratory Host Organism: Mammalian Cells

Bacterial Transformation Strain: Unspecified

Dam⁺ Dcm⁺ EcoKI⁺

Comments: The cloned gene must include a Kozak sequence and start codon.

References: