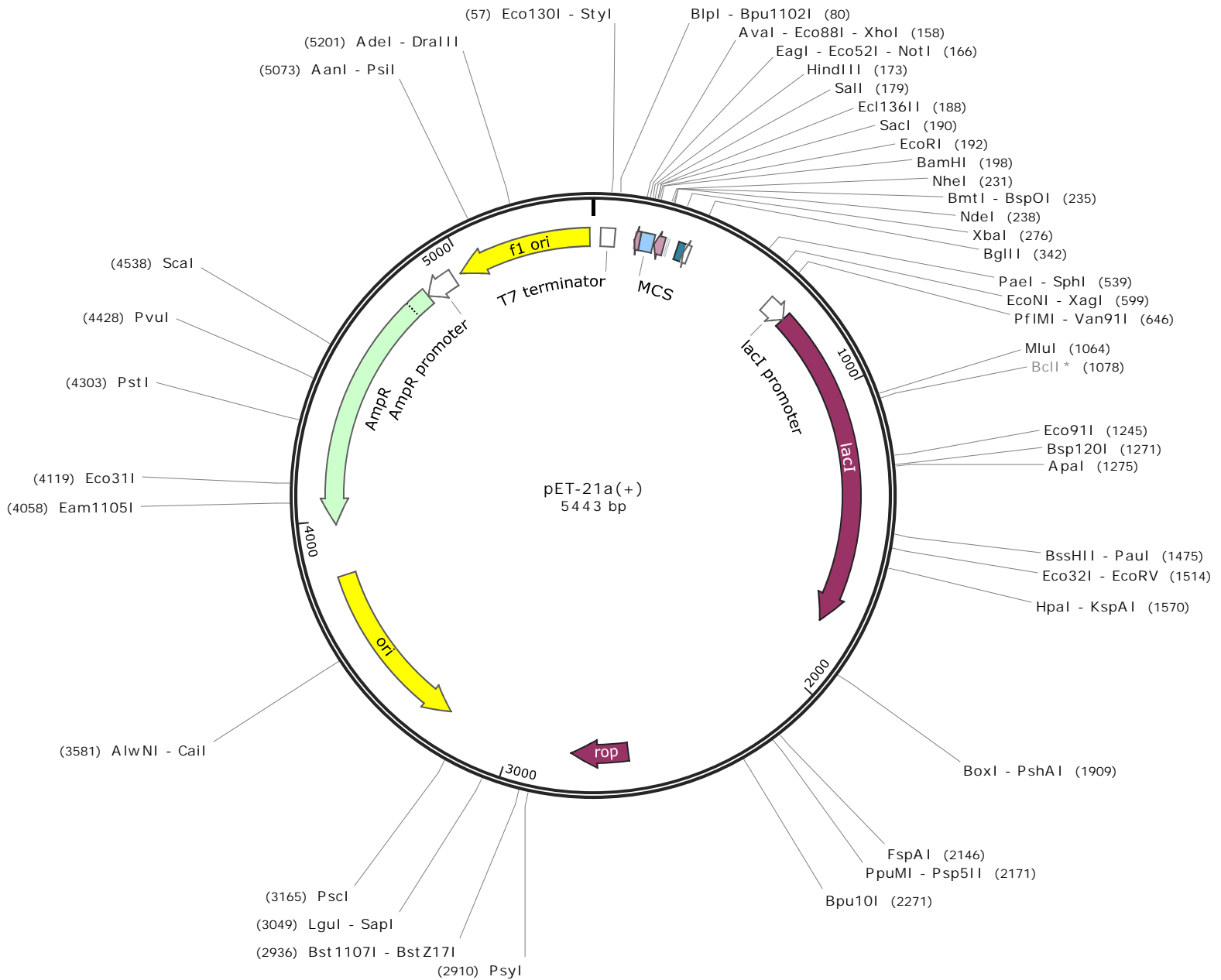
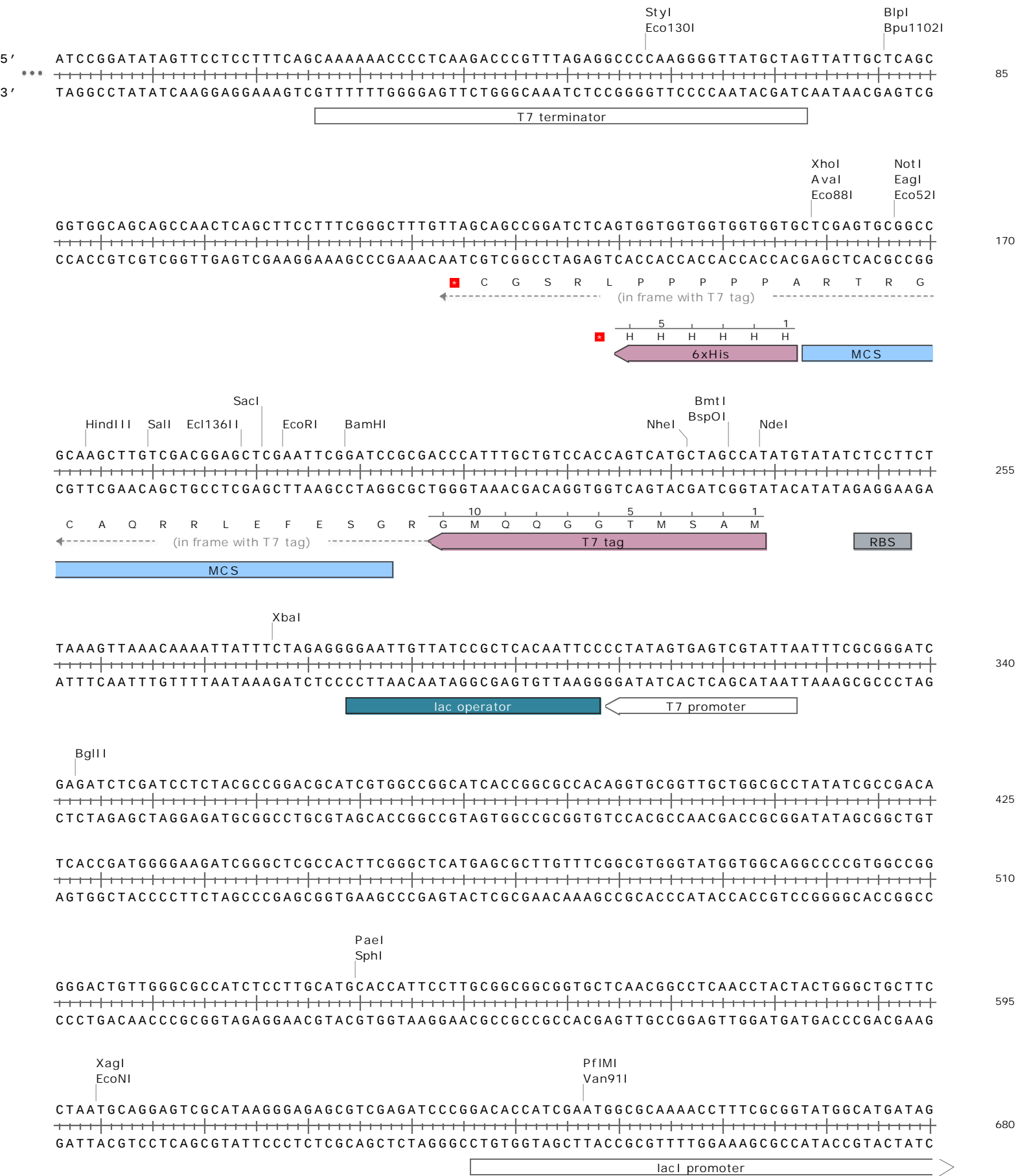
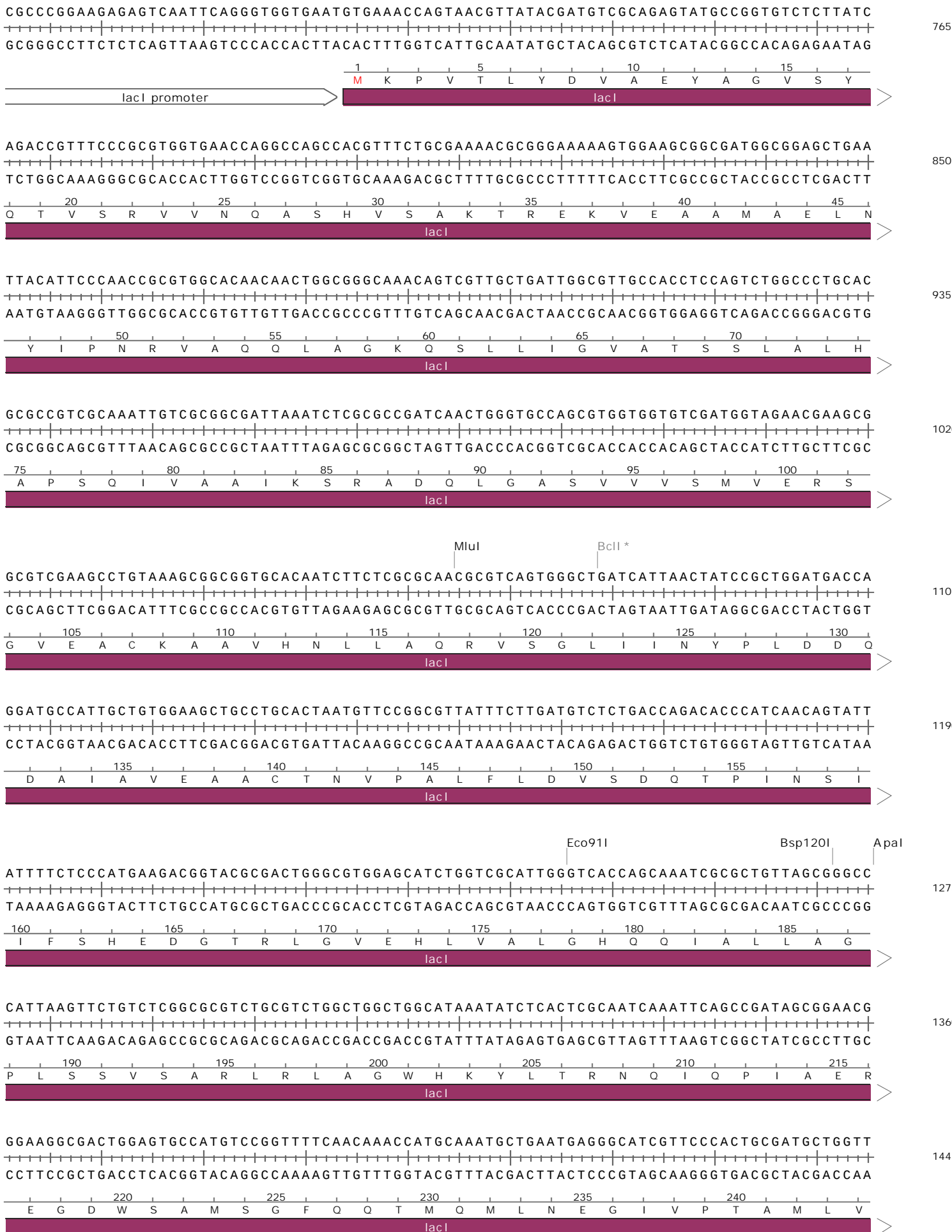


Bacterial vector for inducible expression of N-terminally T7-tagged proteins. For other reading frames, use pET-21b(+) or pET-21c(+).







Paul
BssHI I

EcoRV
Eco32I

GCCAACGATCAGATGGCGCTGGGCGCAATGCGCGCCATTACCGAGTCCGGGCTGCGCGTTGGTGCGGATATCTCGGTAGTGGGAT
 CGGTTGCTAGTCTACCGCGACCCGCGTTACGCGCGGTAATGGCTCAGGCCCGACGCGCAACCACGCCTATAGAGCCATCACCCTA

245 250 255 260 265 270
 A N D Q M A L G A M R A I T E S G L R V G A D I S V V G

lacI

HpaI
KspAI

ACGACGATACCGAAGACAGCTCATGTTATATCCCGCCGTTAACCACCATCAAACAGGATTTTCGCCTGCTGGGGCAAACCAGCGT
 TGCTGCTATGGCTTCTGTGCGAGTACAATATAGGGCGGCAATTGGTGGTAGTTTGTCTAAAAGCGGACGACCCCGTTTGGTTCGCA

275 280 285 290 295 300
 Y D D T E D S S C Y I P P L T T I K Q D F R L L G Q T S V

lacI

GGACCGCTTGCTGCAACTCTCTCAGGGCCAGGCGGTGAAGGGCAATCAGCTGTTGCCCGTCTCACTGGTGAAAAGAAAAACCACC
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305 310 315 320 325
 D R L L Q L S Q Q A V K G N Q L L P V S L V K R K T T

lacI

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330 335 340 345 350 355
 L A P N T Q T A S P R A L A D S L M Q L A R Q V S R L E

lacI

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360
 S G Q

lacI

BoxI
PshAI

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FspAI

PpuMI
Psp5I I

Bpu10I

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2380

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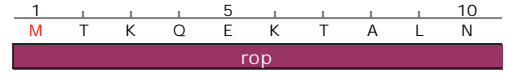
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2550

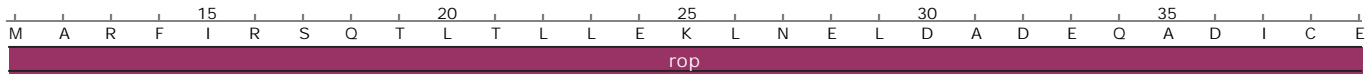
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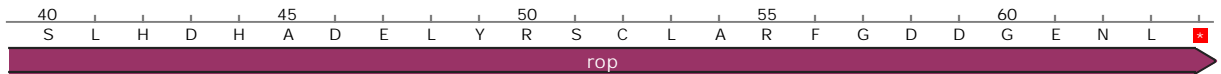
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2720



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2805



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2890

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2975



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3060

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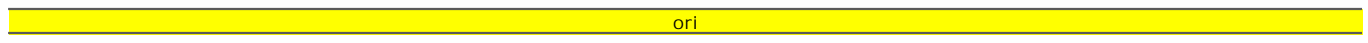
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3230



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3315



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3400

ori

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3485

ori

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3570

ori

CaiI
AlwNI

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3655

ori

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3740

ori

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3825

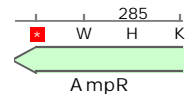
ori

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3910

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3995



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4080

AmpR

Eam1105I

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4165

AmpR

R S P K G D P G L A A I I G R S G R E G A G S K D A I F

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 225 220 215 210 205 200
 W G A P L A S R L L P G A V K D A E M W D I L Q Q R S A L
 AmpR

4250

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 195 190 185 180 175
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 AmpR

4335

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 AmpR

4420

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 140 135 130 125 120 115
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 AmpR

4505

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 AmpR

4590

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 G A D I R S L V A G C L L V K F T S M M P F R E E P R F
 AmpR

4675

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 S E L I K G S N L D L E I Y G V R A G L Q D E A D K V K V
 AmpR

4760

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 AmpR
 signal sequence

4845

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4930

AmpR promoter

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5015

AmpR promoter

f1 ori

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TAAAAACAATTTAGTCGAGTAAAAAATTGGTTATCCGGCTTTAGCCGTTTTAGGGAATATTTAGTTTTCTTATCTGGCTCTATCC

5100

f1 ori

GTTGAGTGTGTTCCAGTTTGAACAAGAGTCCACTATTAAGAACGTGGACTCCAACGTCAAAGGGCGAAAAACCGTCTATCAG
CAACTCACAACAAGGTCAAACCTTGTTCTCAGGTGATAATTTCTTGCACCTGAGGTTGCAGTTTCCCGCTTTTTGGCAGATAGTC

5185

f1 ori

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5270

f1 ori

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CCTCGGGGGCTAAATCTCGAACTGCCCTTTTCGGCCGCTTGCACCGCTCTTTCCTTCCCTTCTTTTCGCTTTCCTCGCCCGCGATC

5355

f1 ori

























GGCGCTGGCAAGTGTAGCGGTCACGCTGCGCGTAACCACCACACCCGCCGCGCTTAATGCGCCGCTACAGGGCGCGTCCCATTCCG
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







5440

f1 ori

CCA 3'
+++ *** 5443
GGT 5'

Enzymes	Sites	
AanI	1	5073
Adel	1	5201
AlwNI	1	3581
ApaI	1	1275
AvaI	1	158
BamHI	1	198
BclI	1*	1078*
BglII	1	342
BipI	1	80
BmtI	1	235
BoxI	1	1909
Bpu10I	1	2271
Bpu1102I	1	80
Bsp120I	1	1271
BspOI	1	235
BssHII	1	1475
Bst1107I	1	2936
BstZ17I	1	2936
CaiI	1	3581
DraIII	1	5201
EagI	1	166
Eam1105I	1	4058
Ecl136II	1	188
Eco31I	1	4119
Eco32I	1	1514
Eco52I	1	166
Eco88I	1	158
Eco91I	1	1245
Eco130I	1	57
EcoNI	1	599
EcoRI	1	192
EcoRV	1	1514
FspAI	1	2146
HindIII	1	173
HpaI	1	1570
KspAI	1	1570
LguI	1	3049
MluI	1	1064
NdeI	1	238
NheI	1	231
NotI	1	166
PaeI	1	539
Paul	1	1475
PfIMI	1	646
PpuMI	1	2171
PstI	1	3165
PshAI	1	1909
PsiI	1	5073
Psp5II	1	2171
PstI	1	4303
PsyI	1	2910
PvuI	1	4428
SacI	1	190
Sall	1	179
SapI	1	3049
ScaI	1	4538
SphI	1	539
StyI	1	57
Van91I	1	646
XagI	1	599
XbaI	1	276
XhoI	1	158

Feature	Location	Size (bp)			Type
✓ T7 terminator	26 .. 73	48			terminator
/note	= transcription terminator for bacteriophage T7 RNA polymerase				
✓ 6xHis	140 .. 157	18			CDS
/product	= 6xHis affinity tag				
/translation	= HHHHHH 6 amino acids = 840.9 Da				
✓ MCS	158 .. 203	46			misc_feature
/note	= multiple cloning site				
✓ T7 tag	207 .. 239	33			CDS
/product	= epitope tag from a T7 major capsid protein				
/translation	= MASMTGGQQMG 11 amino acids = 1.1 kDa				
✓ RBS	248 .. 253	6			RBS
/note	= ribosome binding site				
✓ lac operator	284 .. 308	25			protein_bind
/bound_moiety	= lac repressor encoded by lacI				
/note	= The lac repressor binds to the lac operator to inhibit transcription in <i>E. coli</i> . This inhibition can be relieved by adding lactose or isopropyl- β -D-thiogalactopyranoside (IPTG).				
✓ T7 promoter	309 .. 327	19			promoter
/note	= promoter for bacteriophage T7 RNA polymerase				
✓ lacI promoter	636 .. 713	78			promoter
/gene	= lacI				
✓ lacI	714 .. 1796	1083			CDS
/gene	= lacI				
/product	= lac repressor				
/note	= The lac repressor binds to the lac operator to inhibit transcription in <i>E. coli</i> . This inhibition can be relieved by adding lactose or isopropyl- β -D-thiogalactopyranoside (IPTG).				
/translation	= VKPVTLYDVAEYAGVSYQTVSRVFNQASHVSAKTRKVEAAMAELNYIPNRVAQQLAGKQSLIGVATSSSLALHAPSQIVAAIKS RADQLGASVVVSMVERSGVEACKAAVHLLAQRVSGLIINYP LDDQDAIAVEAACTNVPALFLDVSDQTPINSIIFSHEDGTRLG VEHLVALGHQOIALLAGPLSSVSARLRLAGWHKYLTRNQIQPIAEREGDWSAMSGFQOTMQMLNEGIVPTAMLVANDQMALGAM RAITESGLRVGADISVVGYYDDTEDSSCYIPPLTTIKQDFRLLGQTSVDRLQLSQGQAVKGNQLLPVSLVKRKTTLPNTQTASPR IADSI MOI AROVSRI FSGQ* 360 amino acids = 38.6 kDa				
✓ rop	2605 .. 2796	192			CDS
/gene	= rop				
/product	= Rop protein				
/translation	= VTKQEKALNMARFIRSQTLTLEKLNELDADEQADICESLHDHADELYRSCALARFGDDGENL* 63 amino acids = 7.2 kDa				
✓ ori	3226 .. 3814	589			rep_origin
/direction	= LEFT				
/note	= high-copy-number ColE1/pMB1/pBR322/pUC origin of replication				

Feature	Location	Size (bp)			Type
✓ AmpR	3985 .. 4845	861			CDS
▶ 2 segments					
/gene	= bla				
/product	= -lactamase				
/note	= confers resistance to ampicillin, carbenicillin, and related antibiotics				
/translation	= MSIQHFRVALIPFFAAFCLPVFA,HPETLVKVKDAEDQLGARVGYIELDLNSGKILESFRPEERFPM MSTFKVLLCGAVLSRIDAGQE QLGRRRIHYSQNDLVEYSPVTEKHLTDGMTVRELC SAAITMSDNTAANLLTTIIGGPKELT AFLHNMGDHSVTRLDRWEP ELNEAIPN DERDTTMPAAMATTLRKLTLGELLTLASRQQLIDWMEADK VAGPLLR SALPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVV IY TTGSOATMDFERNROI AFIGAS I KHW* 286 amino acids = 31.5 kDa				
✓ AmpR promoter	4846 .. 4950	105			promoter
/gene	= bla				
✓ f1 ori	4977 .. 5432	456			rep_origin
/direction	= LEFT				
/note	= f1 bacteriophage origin of replication; arrow indicates direction of (+) strand synthesis				

Description: Bacterial vector for inducible expression of N-terminally T7-tagged proteins. For other reading frames, use pET-21b(+) or pET-21c(+).

Created: Saturday, May 12, 2012

Last Modified: Monday, Dec 2, 2013

Accession Number:

Code Number:

Sequence Author: Novagen (EMD Millipore)

DNA Type: Synthetic DNA

Laboratory Host Organism: Escherichia coli

Bacterial Transformation Strain: Unspecified
Dam⁺ Dcm⁺ EcoKI⁺

Comments:

References: