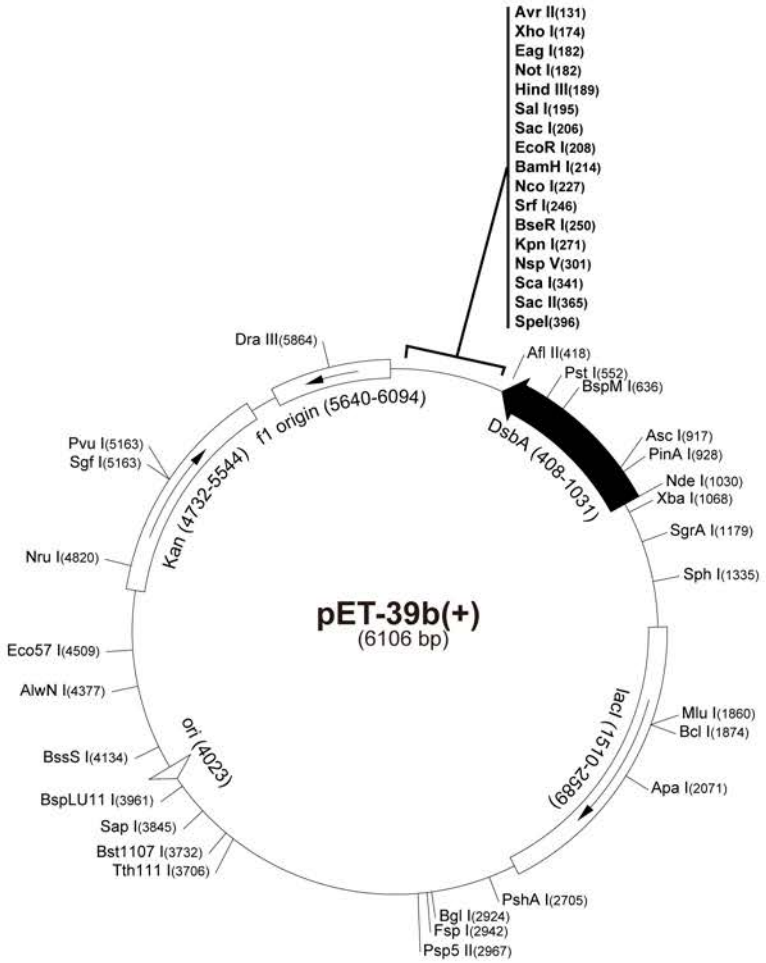
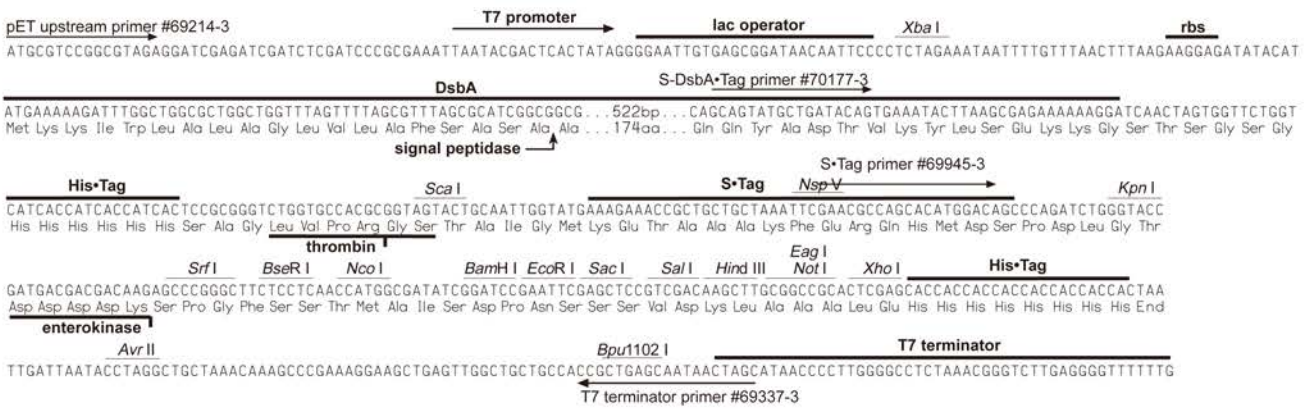
pET-39b(+) Vector

The pET-39b(+) vector (Cat. No. 70090-3) is designed for expression of DsbA fusion proteins. Unique sites are shown on the circle map. Note that the sequence is numbered by the pBR322 convention, so the T7 expression region is reversed on the circle map. The cloning/expression region of the coding strand transcribed by T7 RNA polymerase is shown below. The f1 origin is oriented so that infection with helper phage will produce virions containing single stranded DNA that corresponds to the coding strand. Therefore, single stranded sequencing should be performed using the T7 terminator primer (Cat. No. 69337-3).

pET-39b(+) sequence landmarks

T7 promoter	1103-1119
T7 transcription start	1102
DsbA•Tag™ coding seq.	408-1031
His•Tag® coding sequence	369-386
S•Tag™ coding sequence	282-326
Multiple cloning sites	
(*Srf* I - *Xho* I)	174-250
His•Tag coding sequence	150-173
T7 terminator	26-72
lacI coding sequence	1510-2589
pBR322 origin	4023
Kan coding sequence	4732-5544
f1 origin	5640-6094





pET-39b(+) cloning/expression regions

pET-39b(+) Restriction Sites

Enzyme	# Sites	Locations
AccI	2	196 3731
AciI	84	
AflII	1	418
AflIII	2	1860 3961
AluI	27	
AlwI	13	
Alw26I	6	1557 1962 2088 2475 3602 5179
AlwNI	1	4377
ApaI	1	2071
ApaLI	3	1840 3775 4275
ApoI	7	208 303 2135 4776 4960 5666 5677
AscI	1	917
AvaI	3	174 244 5035
AvaII	5	2412 2788 2876 2967 3246
AvrII	1	131
BamHI	1	214
BanI	10	267 352 1182 1203 1317 1780 2499 2629 2755 5901
BanII	7	206 251 1244 1258 2071 4818 5939
BbsI	5	710 2006 2345 2719 3079
BbvI	27	
BcgI	4	210 2152 2720 3572
BcgI*	4	176 2186 2686 3538
BclI	1	1874
BfaI	8	70 132 397 1069 2975 4456 4763 6015
BglI	1	2924
BglII	2	274 760
BpmI	5	888 1698 2187 2821 3488
Bpu10I	2	3067 5180
Bpu1102I	2	80 564
BsaAI	2	3713 5864
BsaBI	3	1133 1143 3158
BsaHI	5	1183 1204 1318 1817 2500
BsaJI	15	
BsaWI	8	2 928 2179 2682 3150 4167 4314 5298
BseRI	1	250
BsgI	3	1711 1911 3121
BsiEI	5	185 2645 3877 4301 5163
BsiHKAI	7	175 206 1360 1844 2955 3779 4279
BsiI	27	
BsmI	2	5047 5124
BsmBI	3	2475 3602 5179
BsmFI	4	1321 2862 3232 6079
Bsp1286I	13	
BspEI	2	2 3150
BspLU11I	1	3961
BspMI	1	636
BsrI	21	
BsrBI	4	1089 3894 5562 6008
BsrDI	2	1907 2273
BsrFI	8	928 1170 1179 1546 2758 2918 5117 5965
BssHII	2	917 2271
BssSI	1	4134
Bst1107I	1	3732
BstEII	2	773 2041
BstXI	4	468 1662 1791 1914
BstYI	9	214 274 760 1424 2636 3153 4602 4613 5412
Cac8I	45	
ClaI	2	1137 4854
CviJI	93	
DdeI	12	
DpnI	24	
DraIII	1	5864
DrdI	3	3654 4069 5819

Enzyme	# Sites	Locations
DsaI	4	227 362 1297 2933
EaeI	4	182 1168 1300 2534
EagI	1	182
EarI	4	618 1478 3845 4976
Eco47III	3	1265 2766 3215
Eco57I	1	4509
EcoNI	2	1395 5075
EcoO109I	3	53 1293 2967
EcoRI	1	208
EcoRII	11	
EcoRV	2	222 653
FauI	19	
Fnu4HI	48	
FokI	10	444 1906 1915 3180 3242 3320 3506 3647 4801 5407
FspI	1	2942
HaeII	16	
HaeIII	23	
HgaI	12	
HhaI	52	
HincII	4	197 509 791 2366
HindIII	1	189
HinfI	20	
HpaI	2	509 2366
HphI	21	
KpnI	1	271
MaeIII	18	
MboII	19	
MluI	1	1860
MnlI	26	
MseI	29	
MslI	6	1912 2200 2230 2948 3143 3534
MspI	32	
MspA1I	13	
MunI	2	332 534
MwoI	43	
NarI	4	1183 1204 1318 2500
NciI	14	
NcoI	1	227
NdeI	1	1030
NgoAIV	4	1170 2758 2918 5965
NlaIII	28	
NlaIV	23	
NotI	1	182
NruI	1	4820
NsiI	2	5013 5279
NspI	4	1335 3306 3598 3965
NspV	1	301
PflMI	3	293 1442 5426
PinAI	1	928
PleI	10	763 1117 1409 1496 2292 3855 4340 5395 5799 5807
PshAI	1	2705
Psp1406I	4	1522 2890 3286 5649
Psp5II	1	2967
PstI	1	552
PvuI	1	5163
PvuII	5	494 547 2460 2553 3552
RcaI	3	1258 4681 5556
RsaI	8	269 341 610 687 949 2007 3767 4998
SacI	1	206
SacII	1	365
SalI	1	195
SapI	1	3845
Sau3AI	24	
Sau96I	14	
ScaI	1	341
ScrFI	25	
SfaNI	24	
SfcI	5	548 1102 4226 4417 6083

Enzyme	# Sites	Locations
SgfI	1	5163
SgrAI	1	1179
SmaI	2	246 5037
SpeI	1	396
SphI	1	1335
SrfI	1	246
SspI	2	5088 5656
StyI	3	57 131 227
TaiI	16	
TaqI	17	
TfiI	10	488 2539 2841 3011 3515 3936 5074 5130 5302 5393
ThaI	40	
TseI	27	
Tsp45I	9	708 773 2041 2869 3400 3613 3708 5310 6037
Tsp509I	24	
TspRI	14	
Tth111I	1	3706
VspI	6	139 1117 2545 2604 5362 5551
XbaI	1	1068
XcmI	3	1716 2232 2250
XhoI	1	174
XmnI	4	592 861 3519 5552

Enzymes that do not cut pET-39b(+):

AatII	AhdI	BsaI	BsrGI	Bsu36I
DraI FseI	MscI	NheI	PacI	PmeI
PmlI RsrII	SanDI	SexAI	SfiI	SnaBI
Sse8387I	StuI	SunI	SwaI	UbaEI