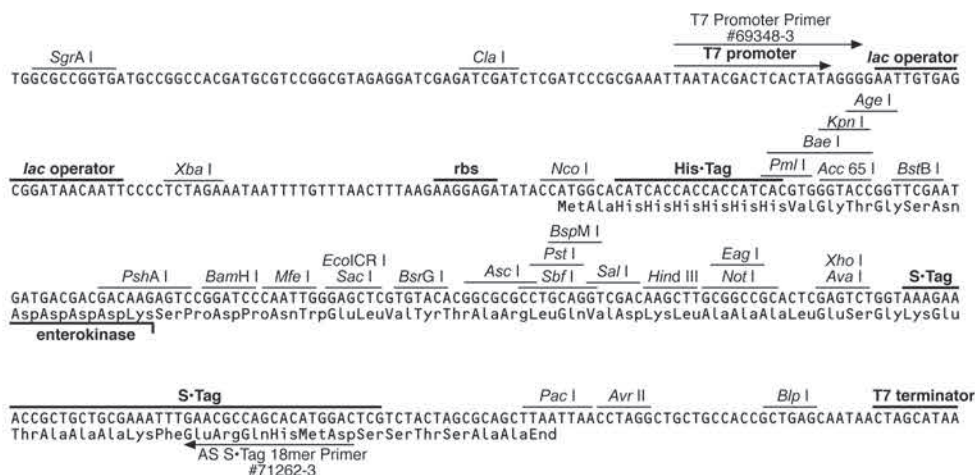
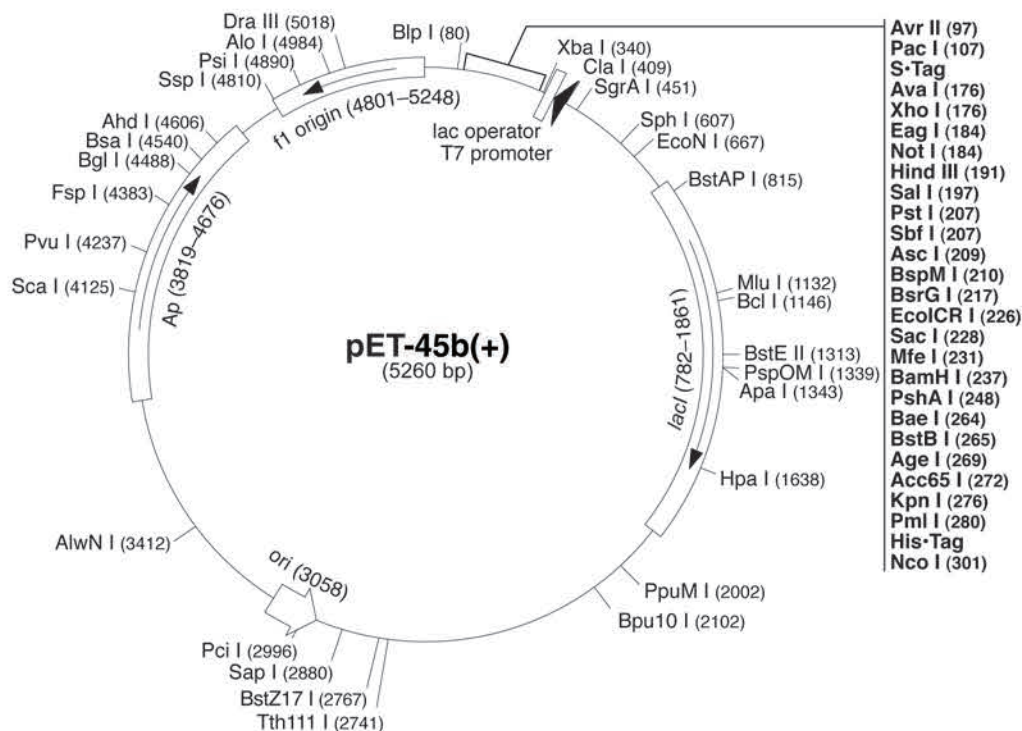


pET-45b(+)⁺ Vector

	Cat. No.
pET-45b(+) ⁺ DNA	71327-3
pET-45b(+)⁺ sequence landmarks	
T7 promoter	375-391
T7 transcription start	374
His•Tag [®] coding sequence	281-298
Multiple cloning sites	
(<i>Nco</i> I- <i>Avr</i> II)	97-306
S•Tag [™] coding sequence	125-169
T7 terminator	26-73
<i>lac</i> I coding sequence	782-1861
pBR322 origin	3058
<i>bla</i> (Ap ^R) coding sequence	3819-4676
f1 origin	4801-5248

The pET-45b(+)⁺ vector carries an N-terminal His•Tag[®] coding sequence followed by an enterokinase cleavage site and an optional C-terminal S•Tag[™] sequence. 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 vector map. 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-45b(+)⁺ cloning/expression region

pET-45b(+) Restriction Sites

Enzyme	# Sites	Locations
Acc65I	1	4984
AccI	3	2492 5060 5137
AccII	5	455 881 1254 2937 4464
AfeI	2	3010 4723
AflIII	2	2260 4124
AgeI	1	4987
AhdI	1	655
Alol	1	281
AlwNI	1	1851
Apal	1	3921
ApaLI	4	1322 1946 2446 4144
AscI	1	5047
Asel	4	827 3382 3441 4869
AvaI	1	5080
AvrII	1	5159
BaeI	1	5001
BamHI	1	5019
BanI	9	201 603 3355 3485 4204 4667 4781 4802 4984
BanII	5	171 3921 4734 4748 5036
BbeI	4	3489 4671 4785 4806
BbsI	3	3142 3639 3978
BceAI	6	215 1760 3640 4267 4607 5060
BcgI	4	1194 2689 3804 5084
BciVI	3	1493 2062 3672
BclI	1	4110
BglI	1	775
BlpI	1	5177
BmeI580I	5	1326 1950 2450 3921 4148
BmrI	6	695 2526 3326 3966 4203 4600
BpmI	4	725 2739 3803 4292
Bpu10I	1	3155
BpuEI	6	1260 1636 1877 2175 3316 5241
BsaAI	3	242 2512 4980
BsaBI	3	3067 4845 4855
BsaHI	6	1192 3486 4169 4668 4782 4803
Bsal	1	716
BsaWI	9	946 1907 2054 3071 3302 3805 4987 5016 5254
BsaXI	3	281 3456 5023
BseYI	3	1956 3590 3725
BsgI	3	3106 4079 4279
BsiEI	6	1025 1174 1926 2350 3345 5075
BsiHKA I	8	1241 1326 1950 2450 3274 4148 4632 5036
BsmAI	7	716 1493 2619 3509 3896 4022 4427
BsmBI	2	2619 3509
BsmFI	3	23 2989 4663
Bsp1286I	12	
BspCNI	9	625 1144 1569 1978 2466 3006 3168 3545 5169
BspEI	3	3071 5016 5254
BspHI	4	1459 1491 1540 4726
BspLU11I	1	2260
BspMI	1	5046
BsrBI	4	98 1497 2331 4899
BsrDI	4	716 890 3717 4083
BsrFI	6	137 735 4438 4805 4814 4987
BsrGI	1	5039
BssHII	2	3713 5047
BssSI	3	1319 2087 5035
Bst1107I	1	2493
BstAPI	1	4448
BstBI	1	4993
BstEII	1	3942

Enzyme	# Sites	Locations
BstXI	3	4078 4201 4330
BstYI	10	500 512 1280 1297 1608 1619 3068 3348 4560 5019
BstZ17I	1	2493
BtgI	2	4687 4955
BtsI	4	1055 1075 3397 3765
ClaI	1	4849
DraI	3	521 540 1232
DrallI	1	245
DrdI	3	289 2158 2573
EaeI	5	1043 3450 4684 4816 5072
EagI	1	5072
EarI	3	1450 2377 4507
Ecil	4	798 2058 2204 4339
Ecl136II	1	5034
Eco57I	2	1322 1718
Eco57MI	6	725 1322 1718 2739 3803 4292
EcoCR I	1	5034
EcoNI	1	4592
EcoO109I	3	3255 4692 5204
FspI	1	877
HaeII	13	
HincII	2	3622 5061
HindIII	1	5065
HpaI	1	3622
KasI	4	3485 4667 4781 4802
KpnI	1	4988
MfeI	1	5025
MluI	1	4124
MslI	9	907 1066 1425 2691 3082 3277 3758 3788 4076
NaeI	2	139 4816
NarI	4	3486 4668 4782 4803
NcoI	1	4955
NgoMIV	2	137 4814
NotI	1	5072
NspI	4	2264 2631 2923 4657
NspV	1	4993
Pacl	1	5155
PciI	1	2260
PfIMI	3	4549 4980 5127
PfoI	2	2617 4556
PinAI	1	4987
PmlI	1	4980
Ppil	3	281 1287 1554
PpuMI	1	3255
PshAI	1	5012
Psil	1	370
PspOMI	1	3917
PstI	1	5057
PvuI	1	1025
PvuII	3	2673 3435 3528
SacI	1	5036
Sall	1	5059
SapI	1	2377
SbfI	1	5057
Scal	1	1135
SclI	6	19 896 1804 1995 4882 5053
StoI	4	3487 4669 4783 4804
SgrAI	1	4805
SmlI	7	1275 1615 1892 2154 3331 5080 5220
SphI	1	4657
Sse8387I	1	5057
Sspl	1	450
StyI	3	4955 5159 5199
TaqII	5	340 1003 1188 2364 3331
TatI	3	1133 2456 5039
TspGWI	4	1095 1437 2823 3141
Th111I	1	2518

Enzyme	# Sites	Locations
XbaI	1	4916
XcmI	3	3739 3757 4273
XhoI	1	5080
XmnI	2	1254 2706

Enzymes that do not cut pET-45b(+):

AarI	AatII	AIII	AleI	AsiSI
BbvCI	BfrBI	BglII	BmgBI	BmtI
BpII	BseRI	BsiWI	BsmI	Bsu36I
BtrI	EcoRI	EcoRV	FalI	FseI
FspAI	MscI	NdeI	NheI	NruI
NsiI	PmeI	PsrI	RsrII	SacII
SanDI	SexAI	SfiI	Smal	SnaBI
SpeI	SrfI	StuI	Swal	XmaI
ZraI				