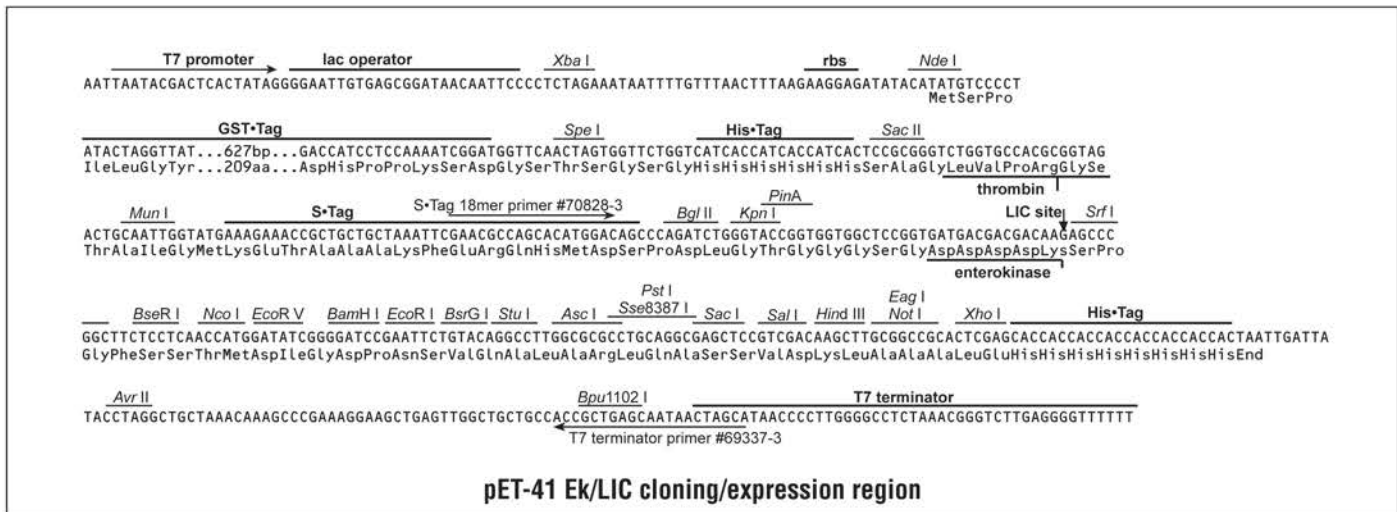
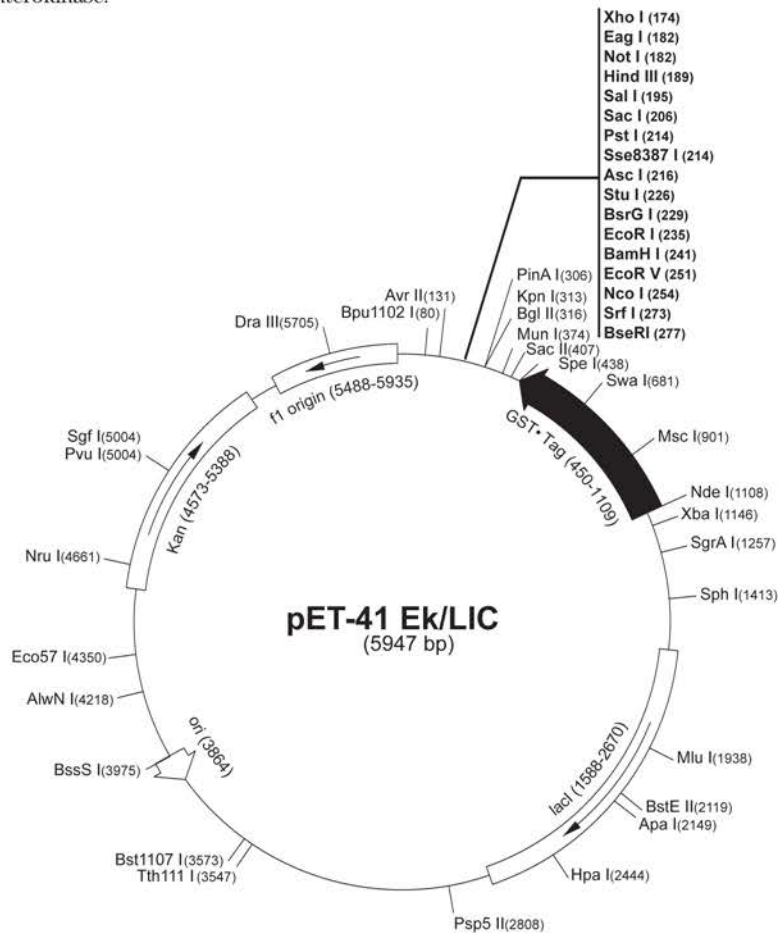
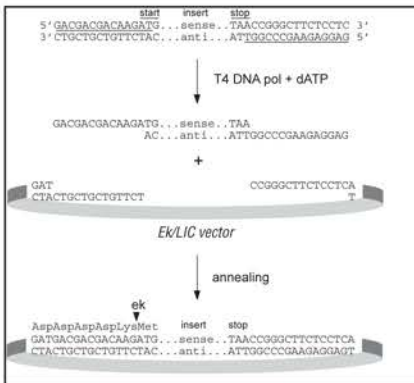


pET-41 Ek/LIC Vector

pET-41 Ek/LIC sequence landmarks

T7 promoter	1181-1197
T7 transcription start	1180
GST•Tag coding sequence	450-1109
His•Tag coding sequence	411-428
S•Tag coding sequence	324-368
Multiple cloning sites (<i>BseR</i> I- <i>Xho</i> I)	174-277
His•Tag coding sequence	150-173
T7 terminator	26-72
<i>lacI</i> coding sequence	1588-2670
pBR322 origin	3864
Kan coding sequence	4573-5388
f1 origin	5935-5488

The pET-41 Ek/LIC vector is prepared for rapid, directional cloning of PCR-amplified DNA for high-level expression of polypeptides fused with N-terminal GST•Tag™, His•Tag® and S•Tag™ sequences. Using specifically designed primers for amplification and the pET-41 Ek/LIC Vector Kit (Cat. No. 71071-3), inserts can be efficiently cloned without the need for restriction digestion or ligation. 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). Vector encoded sequence can be completely removed when cloning into the Ek/LIC site (as shown below left) by cleaving the fusion protein with enterokinase.



pET-41 Ek/LIC cloning/expression region

pET-41 Ek/LIC Restriction Sites

Enzyme	# Sites	Locations
AccI	2	196 3572
AccI	73	
AflIII	3	866 1938 3802
AluI	25	
Alw26I	6	1635 2040 2166 2553 3443 5020
AlwI	12	
AlwNI	1	4218
ApaI	1	2149
ApaLI	3	1918 3616 4116
ApoI	7	235 345 2213 4617 4801 5507 5518
AscI	1	216
AvaI	3	174 271 4876
Avall	4	611 2490 2808 3087
AvrII	1	131
BamHI	1	241
BanI	9	309 394 1260 1281 1395 1858 2577 2707 5742
BanII	7	206 278 1322 1336 2149 4659 5780
BbsI	3	2084 2423 2920
BbvI	24	
BcgI	4	176 1080 2264 3379
BclI	2	670 1952
BfaI	10	70 132 439 1094 1147 2781 2816 4297 4604 5856
BglII	1	316
BpmI	3	1776 2265 3329
Bpu10I	2	2908 5021
Bpu1102I	1	80
BsaAI	2	3554 5705
BsaBI	3	1211 1221 2999
BsaHI	5	1261 1282 1396 1895 2578
BsaJI	13	
BsaWI	8	2 306 2257 2760 2991 4008 4155 5139
BseRI	1	277
BsgI	4	824 1789 1989 2962
BsiEI	5	185 2723 3718 4142 5004
BsiHKA1	7	175 206 1438 1922 2796 3620 4120
BstII	28	
BsmBI	3	2553 3443 5020
BsmFI	4	1117 1399 3073 5920
BsmI	2	4888 4965
Bsp1286I	13	
BspEI	2	2 2991
BspLU111	2	866 3802
BsrBI	5	817 1167 3735 5403 5849
BsrDI	2	1985 2351
BsrFI	6	306 1248 1257 1624 4958 5806
BsrGI	1	229
BsrI	20	
BssHII	2	216 2349
BssSI	1	3975
Bst1107I	1	3573
BstEII	1	2119
BstXI	3	1740 1869 1992
BstYI	8	241 316 1502 2714 2994 4443 4454 5253
Cac8I	43	
Clal	2	1215 4695
CviJI	90	
Ddel	11	
DpnI	23	
DraI	2	572 681
DraIII	1	5705
DrdI	3	3495 3910 5660
Dsal	3	254 404 1375
EaeI	5	182 899 1246 1378 2612
EagI	1	182

Enzyme	# Sites	Locations
EarI	4	1026 1556 3686 4817
Ecl136II	1	204
Eco47III	2	1343 3056
Eco57I	1	4350
EcoNI	3	1097 1473 4916
EcoO109I	4	53 1073 1371 2808
EcoRI	1	235
EcoRII	10	598 1661 1976 2516 2573 3828 3949 3962 4892 5249
EcoRV	1	251
EheI	4	1262 1283 1397 2579
FauI	17	
Fnu4HI	40	
FokI	13	
HaeII	13	
HaeIII	24	
HgaI	12	
HhaI	46	
HincII	2	197 2444
HindIII	1	189
HinfI	17	
HpaI	1	2444
HphI	22	
KpnI	1	313
MaeIII	16	
MboII	15	
MluI	1	1938
MnlI	25	
MscI	1	901
MseI	31	
MsiI	7	1014 1990 2278 2308 2789 2984 3375
MspA1I	10	84 358 406 1968 2538 2631 3393 3512 4144 4389
MspI	28	
MunI	1	374
MwoI	36	
NarI	4	1261 1282 1396 2578
NciI	14	
NcoI	1	254
NdeI	1	1108
NgoAIV	2	1248 5806
NlaIII	29	
NlaIV	21	
NotI	1	182
NruI	1	4661
NsiI	2	4854 5120
NspI	5	870 1413 3147 3439 3806
NspV	2	343 709
PIIMI	3	335 1520 5267
PinAI	1	306
PleI	9	1195 1487 1574 2370 3696 4181 5236 5640 5648
Psp1406I	3	1600 3127 5490
Psp5II	1	2808
PstI	1	214
PvuI	1	5004
PvuII	3	2538 2631 3393
RcaI	3	1336 4522 5397
RsaI	7	231 311 383 535 2085 3608 4839
SacI	1	206
SacII	1	407
SalI	1	195
SapI	2	1026 3686
Sau3AI	23	
Sau96I	13	
Scal	2	383 535
ScrFI	24	
StaN1	24	
StcI	5	210 1180 4067 4258 5924
SgfI	1	5004
SgrAI	1	1257

Enzyme	# Sites	Locations
SmaI	2	273 4878
SpeI	1	438
SphI	1	1413
SrfI	1	273
Sse8387I	1	214
SspI	2	4929 5497
StuI	1	226
StyI	4	57 131 221 254
Swal	1	681
TalI	16	
TaqI	19	
TfiI	8	2617 2852 3356 3777 4915 4971 5143 5234
ThaI	38	
TseI	24	
Tsp45I	6	2119 3241 3454 3549 5151 5878
Tsp509I	29	
TspRI	11	
Tth111I	1	3547
VspI	6	139 1195 2623 2682 5203 5392
XbaI	1	1146
XcmI	3	1794 2310 2328
XhoI	1	174
XmnI	3	715 3360 5393

Enzymes that do not cut pET41 Ek/LIC:

AatII	AflIII	AhdI	BglI	BsaI	BspMI
Bsu36I	FseI	FspI	NheI	Pacl	PmeI
PmlI	PshAI	RsrII	SanDI	SexAI	StiI
SnaBI	SunI				