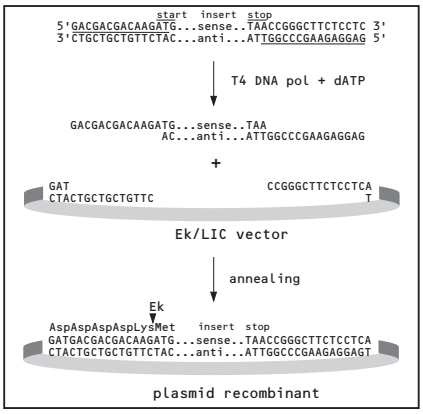
pET-41 Ek/LIC Vector

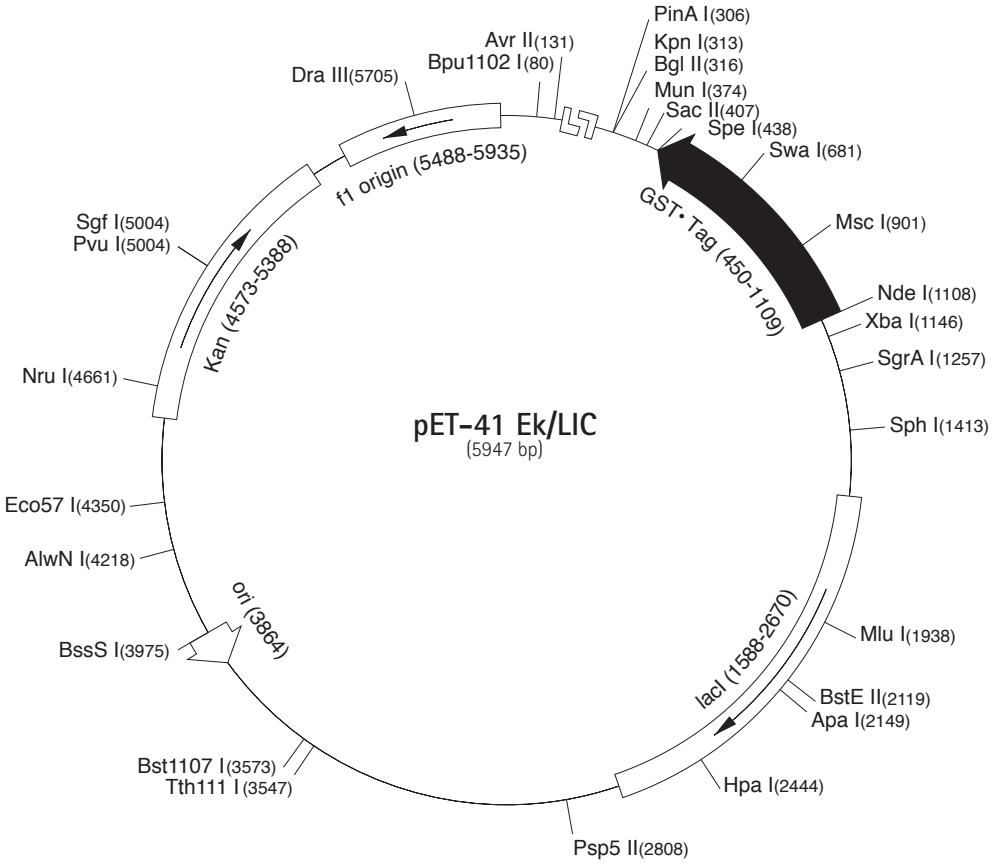
TB317 0806

	Cat No.
pET-41 Ek/LIC Vector Kit	71071-3

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 (*Bse*R I-Xho I)	174–277
His•Tag coding sequence	150–173
T7 terminator	26–72
lacI 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 regions

pET-41 Ek/LIC Restriction Sites

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Enzyme	# Sites	Locations				
AccI	2	196	3572			
AciI	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		
AvaII	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
BsiHKAI	7	175	206	1438	1922	2796
		3620	4120			
BsiI	28					
BsmBI	3	2553	3443	5020		
BsmFI	4	1117	1399	3073	5920	
BsmI	2	4888	4965			
Bsp1286I	13					
BspEI	2	2	2991			
BspLU11I	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					
ClaI	2	1215	4695			
CviJI	90					
DdeI	11					
DpnI	23					
DraI	2	572	681			
DraIII	1	5705				
DrdI	3	3495	3910	5660		
DsaI	3	254	404	1375		
EaeI	5	182	899	1246	1378	2612

Enzyme	# Sites	Locations				
EagI	1	182				
EarI	4	1026	1556	3686	4817	
Ecl136II	1	204				
Eco47III	2	1343	3056			
Eco57I	1	4350				
EcoNI	3	1097	1473	4916		
Eco0109I	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					
MslI	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			
PflMI	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					
ScaI	2	383	535			
ScrFI	24					
SfaNI	24					
SfcI	5	210	1180	4067	4258	5924

Enzyme	# Sites	Locations				
SgfI	1	5004				
SgrAI	1	1257				
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	
SwaI	1	681				
TaiI	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	AflII	AhdI	BglI	BsaI	BspMI
Bsu36I	FseI	FspI	NheI	PacI	PmeI
PmlI	PshAI	RsrII	SanDI	SexAI	SfiI
SnaBI	SunI				