

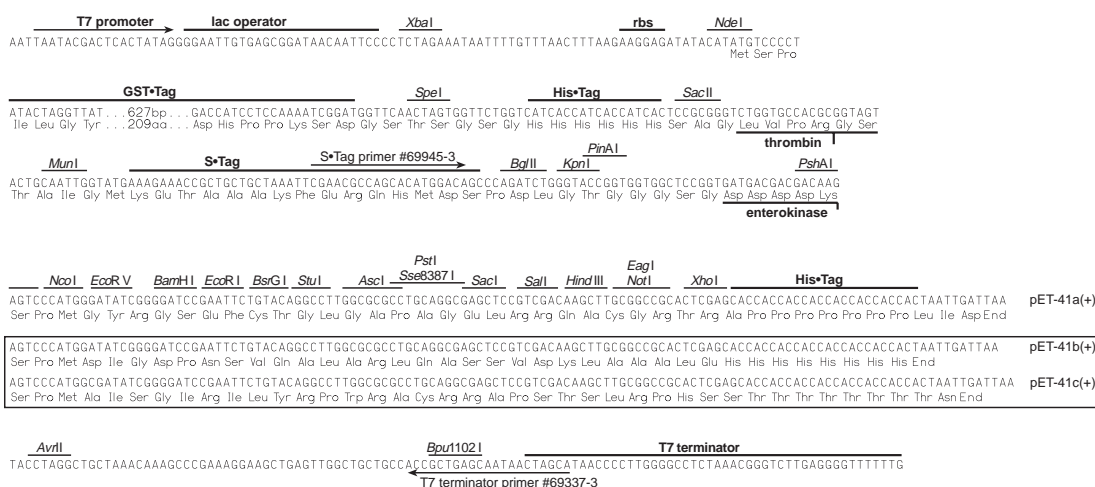
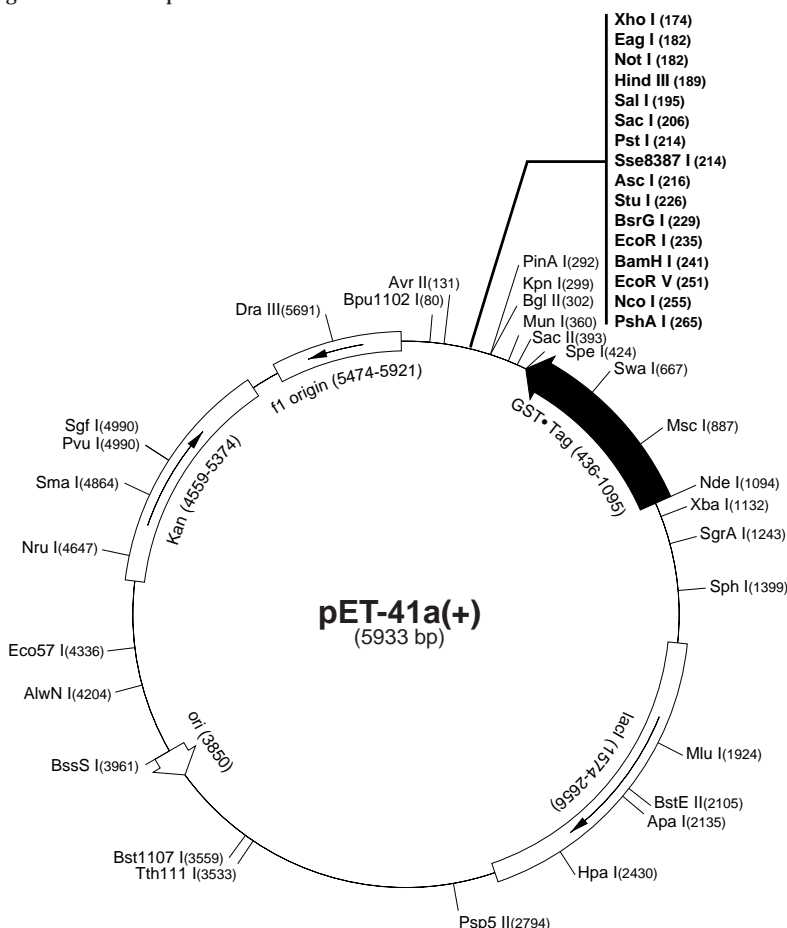
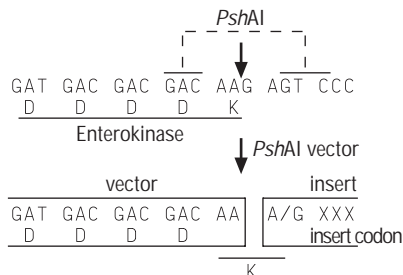
pET-41a-c(+) Vector

	Cat. No.
pET-41a(+) DNA	70556-3
pET-41b(+) DNA	70557-3
pET-41c(+) DNA	70558-3

The pET-41 series is designed for cloning and high-level expression of peptide sequences fused with the 220 aa GST•Tag™ protein. 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 *PshAI* site (as shown below) and then cleaving the GST fusion protein with Enterokinase.

pET-41a(+) sequence landmarks	
T7 promoter	1167-1183
T7 transcription start	1166
GST•Tag coding sequence	436-1095
His•Tag coding sequence	397-414
S•Tag coding sequence	310-354
Multiple cloning sites (<i>PshAI</i> - <i>XhoI</i>)	
His•Tag coding sequence	174-265
T7 terminator	26-72
<i>lac</i> coding sequence	1574-2656
pBR322 origin	3850
Kan coding sequence	4559-5374
F1 origin	5474-5921

PshAI Blunt Cloning Site



pET-41a(+) cloning/expression regions

pET-41a(+) Restriction Sites

Enzyme	# Sites	Locations			
AccI	2	196	3558		
AcII	73				
AflIII	3	852	1924	3788	
AluI	25				
AlwI	12				
Alw26I	6	1621	2026	2152	2539
		3429	5006		
AlwNI	1	4204			
ApaI	1	2135			
ApaLI	3	1904	3602	4102	
ApoI	7	235	331	2199	4603
		4787	5493	5504	
AscI	1	216			
AvaI	2	174	4862		
AvaII	4	597	2476	2794	3073
AvrII	1	131			
BamHI	1	241			
BanI	9	295	380	1246	1267
		1381	1844	2563	2693
		5728			
BanII	6	206	1308	1322	2135
		4645	5766		
BbsI	3	2070	2409		
BbvI	24				
BcgI	4	210	1032	2216	3399
BcgI'	4	176	1066	2250	3365
BclI	2	656	1938		
Bfal	10	70	132	425	1080
		1133	2767	2802	4283
		4590	5842		
BglII	1	302			
BpmI	3	1762	2251	3315	
Bpu10I	2	2894	5007		
Bpu1102I	1	80			
BsaAI	2	3540	5691		
BsaBI	3	1197	1207	2985	
BsaHI	5	1247	1268	1382	1881
		2564			
BsaJI	12				
BsaWI	9	2	280	292	2243
		2746	2977	3994	4141
		5125			
BsgI	4	810	1775	1975	2948
BsiEI	5	185	2709	3704	4128
		4990			
BsiHKAI	7	175	206	1424	1908
		2782	3606	4106	
BsII	28				
BsmI	2	4874	4951		
BsmBI	3	2539	3429	5006	
BsmFI	5	273	1103	1385	3059
		5906			
Bsp1286I	12				
BspEI	2	2	2977		
BspLU11I	2	852	3788		
BsrI	20				
BsrBI	5	803	1153	3721	5389
		5835			
BsrDI	2	1971	2337		
BsrFI	6	292	1234	1243	1610
		4944	5792		
BsrGI	1	229			
BssHII	2	216	2335		
BssSI	1	3961			
Bst1107I	1	3559			
BstEII	1	2105			
BstXI	3	1726	1855	1978	
BstYI	8	241	302	1488	2700
		2980	4429	4440	5239
Cac8I	43				
Clal	2	1201	4681		
CviJI	89				
Ddel	11				

Enzyme	# Sites	Locations			
DpnI	23				
DraI	2	558	667		
DraIII	1	5691			
DrdI	3	3481	3896	5646	
Dsal	3	255	390	1361	
EaeI	5	182	885	1232	1364
		2598			
EagI	1	182			
EarI	4	1012	1542	3672	4803
Eco47III	2	1329	3042		
Eco57I	1	4336			
EcoNI	3	1083	1459	4902	
EcoO109I	4	53	1059	1357	2794
EcoRI	1	235			
EcoRII	10	584	1647	1962	2502
		2559	3814	3935	3948
		4878	5235		
EcoRV	1	251			
FauI	17				
Fnu4HI	40				
FokI	13				
HaeII	13				
HaeIII	24				
HgaI	12				
HhaI	46				
HincII	2	197	2430		
HindIII	1	189			
HinfI	18				
HpaI	1	2430			
HphI	22				
KpnI	1	299			
MaeIII	16				
MbolI	15				
MluI	1	1924			
MnlI	24				
MscI	1	887			
MseI	31				
MsiI	7	1000	1976	2264	2294
		2775	2970	3361	
MspI	28				
MspA1I	10	84	344	392	1954
		2524	2617	3379	3498
		4130	4375		
MunI	1	360			
MwoI	36				
NarI	4	1247	1268	1382	2564
NciI	12				
NcoI	1	255			
NdeI	1	1094			
NgoAIV	2	1234	5792		
NlaIII	29				
NlaIV	22				
NottI	1	182			
NruI	1	4647			
NsiI	2	4840	5106		
NspI	5	856	1399	3133	3425
		3792			
NspV	2	329	695		
PfiMI	3	321	1506	5253	
PinAI	1	292			
PleI	10	255	1181	1473	1560
		2356	3682	4167	5222
		5626	5634		
PshAI	1	265			
Psp1406I	3	1586	3113	5476	
Psp5II	1	2794			
PstI	1	214			
PvuI	1	4990			
PvuII	3	2524	2617	3379	
RcaI	3	1322	4508	5383	
RsaI	7	231	297	369	521
		2071	3594	4825	
SacI	1	206			

Enzyme	# Sites	Locations			
SacII	1	393			
Sall	1	195			
SapI	2	1012	3672		
Sau3AI	23				
Sau96I	13				
Scal	2	369	521		
ScrFI	22				
SfaNI	24				
Sfcl	5	210	1166	4053	4244
		5910			
Sgfi	1	4990			
SgrAI	1	1243			
SmaI	1	4864			
SpeI	1	424			
SphI	1	1399			
Sse8387I	1	214			
Sspl	2	4915	5483		
StuI	1	226			
StyI	4	57	131	221	255
Swal	1	667			
TaiI	16				
TaqI	19				
TfiI	8	2603	2838	3342	3763
		4901	4957	5129	5220
Thal	38				
Tsel	24				
Tsp45I	6	2105	3227	3440	3535
		5137	5864		
Tsp509I	29				
TspRI	11				
Tth111I	1	3533			
VspI	6	139	1181	2609	2668
		5189	5378		
XbaI	1	1132			
XcmI	3	1780	2296	2314	
XhoI	1	174			
XmnI	3	701	3346	5379	

Enzymes that do not cut pET41a(+):

AatII	AflII	AhdI	BglI	BsaI	BseRI
BspMI	Bsu36I	FseI	FspI	NheI	PacI
PmeI	PmlI	RsrII	SanDI	SexAI	SfiI
SnaBI	SrfI	SunI	UbaEI		