

pET-41a-c(+) Vector

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

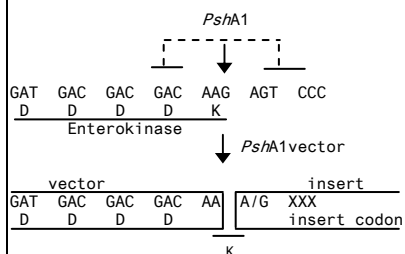
pET-41a(+) sequence landmarks

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	
(PshA I - Xho I)	175-266
His•Tag coding sequence	150-173
T7 terminator	26-72
lacI coding sequence	1574-2656
pBR322 origin	3850
kan coding sequence	4556-5371
F1 origin	5470-5917

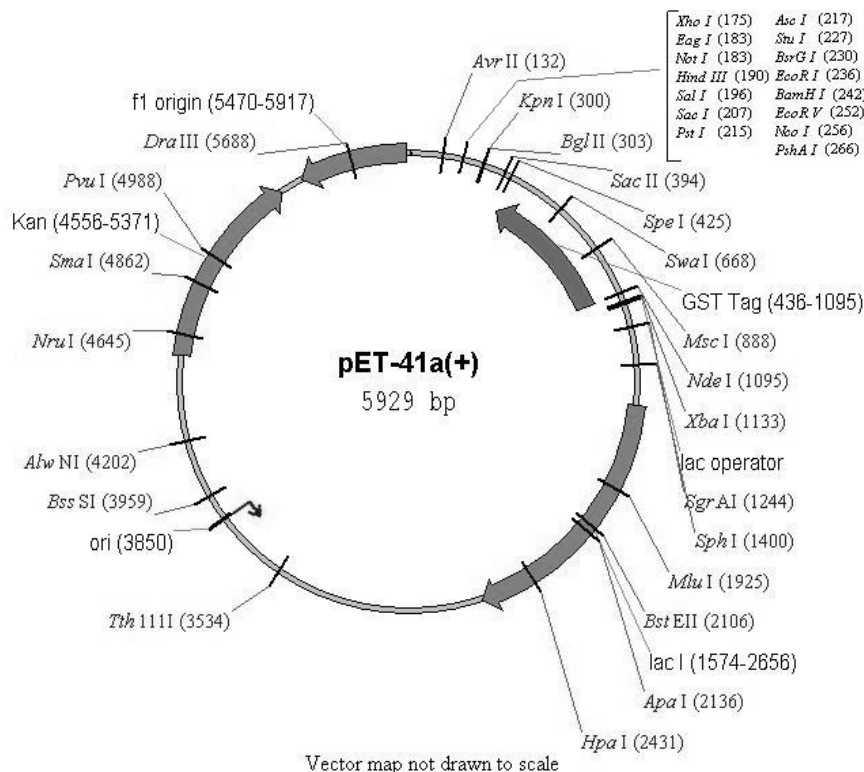
Notes

All corresponding maps and tables are generated using VectorNTI® software. Restriction sites are numbered in accordance with the conventions of the respective software.

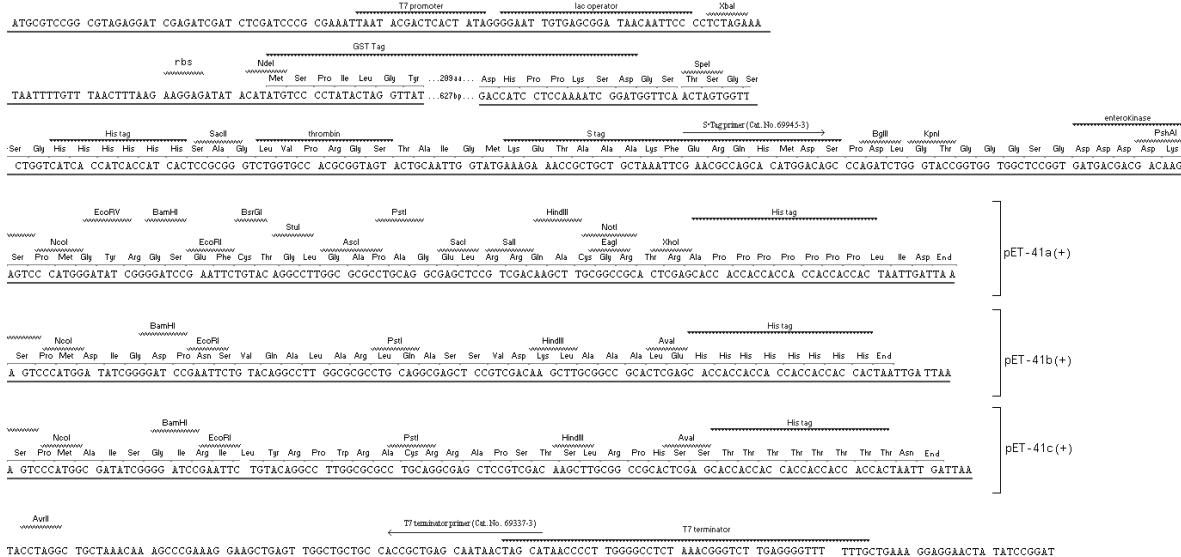
PshA1 Blunt Cloning Site



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-c(+) cloning/expression regions



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Enzyme	#	Locations					Enzyme	#	Locations					Enzyme	#	Locations				
AccI	2	197	3559				BstYI	8	242	303	1489	2701	2981	PstI	1	215				
Acil	73								4427	4438	5237			PvuI	1	4988				
AfIII	3	853	1925	3786			Cac8I	43						PvuII	3	2525	2618	3380		
AluI	25						ClaI	2	1202	4679				RsaI	7	232	298	370 522 2072		
AlwI	12						CviJI	89								3595	4823			
AlwNI	1	4202					DdeI	11						SacI	1	207				
ApaI	1	2136					DpnI	23						SacII	1	394				
ApaLI	3	1905	3603	4100			DraI	2	559	668				SaII	1	196				
ApoI	7	236	332	2200	4601		DraIII	1	5688					SapI	2	1013	3670			
		4785	5490	5501			DrdI	3	3482	3894	5643			Sau3AI	23					
AscI	1	217					EaeI	5	183	886	1233	1365	2599	Sau96I	13					
AvaI	2	175	4860				EagI	1	183					Scal	2	370	522			
AvaII	4	598	2477	2795	3074		EarI	4	1013	*1543	3670	4900		ScrFI	22					
AvrII	1	132					EcoNI	3	1084	1060	4900			SfaNI	24					
BamHI	1	242					EcoO109I	4	54	1060	1358	2795		Sfcl	5	211	1167	4051 4242 5907		
BanI	9	296	381	1247	1268	1382	EcoRI	1	236					SgrAI	1	1244				
		1845	2564	2694	5725		EcoRV	1	252					SmaI	1	4862				
BanII	6	207	1309	1323	2136	4643	FauI	17						SpeI	1	425				
		5763					Fnu4HI	40						SphI	1	1400				
BbsI	3	2071	2410	*2907			FokI	13						Sspl	2	4913	5480			
BbvI	24						HaeII	13						StuI	1	227				
BcgI	4	*177	1067	2251	*3366		HaeIII	24						StyI	4	58	132	222 256		
BclI	2	657	1939				HgaI	12						Swal	1	668				
Bfal	10	71	133	426	1081	1134	HhaI	46						TaiI	15					
		2768	2803	4281	4588	5839	HincII	2	198	2431				TaqI	19					
BglII	1	303					HindIII	1	190					TfiI	8	2604	2839	3343 3761 4899		
BpmI	3	*1763	2252	3316			HinfI	18								4955	5127	5218		
Bpu10I	2	2895	*5005				HpaI	1	2431					TseI	24					
BsaAI	2	3541	5688				HphI	22						Tsp45I	6	2106	3228	3441 3536 5135		
BsaBI	3	1198	1208	2986			KpnI	1	300							5861				
BsaHI	5	1248	1269	1383	1882	2565	MaeIII	16						Tsp509I	29					
BsaJI	12						MbolI	15						TspRI	11					
BsaWI	9	3	281	293	2244	2747	MluI	1	1925					Tth111I	1	3534				
		2978	3992	4139	5123		MnlI	24						XbaI	1	1133				
BsgI	4	*811	*1776	*1976	*2949		MscI	1	888					XcmI	3	1781	2297	2315		
BsiEI	5	186	2710	3702	4126	4988	MseI	31						XhoI	1	175				
BsiHKAI	7	176	207	1425	1909	2783	MslI	8	1001	1977	2265	2295	2776	Xmnl	3	702	3347	5377		
		3607	4104						3362	3613										
BslI	28						MspA1I	10	85	345	393	1955	2525							
BsmBI	3	2540	*3430	5004					2618	3380	3499	4128	4373							
BsmFI	5	274	1104	1386	*3060	*5903	MwoI	36												
Bsp1286I	12						NarI	4	1248	1269	1383	2565								
BspEI	2	3	2978				NciI	12												
BsrI	20						NcoI	1	256											
BsrBI	5	804	1154	*3719	*5387	*5832	NdeI	1	1095											
BsrDI	3	*1972	2338	*3608			NlaIII	29												
BsrFI	6	293	1235	1244	1611	4942	NlaIV	22												
		5789					NotI	1	183											
BsrGI	1	230					NruI	1	4645											
BssHII	2	217	2336				NsiI	2	4838	5104										
BssSI	1	*3959					NspI	5	857	1400	3134	3426	3790							
Bst1107I	1	3559					PfiMI	3	322	1507	5251									
BstEII	1	2106					PleI	10												
BstXI	3	1727	1856	1979			PshAI	1	266											

Enzymes that do not cut pET-41a(+):

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

*On complementary strand.

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