

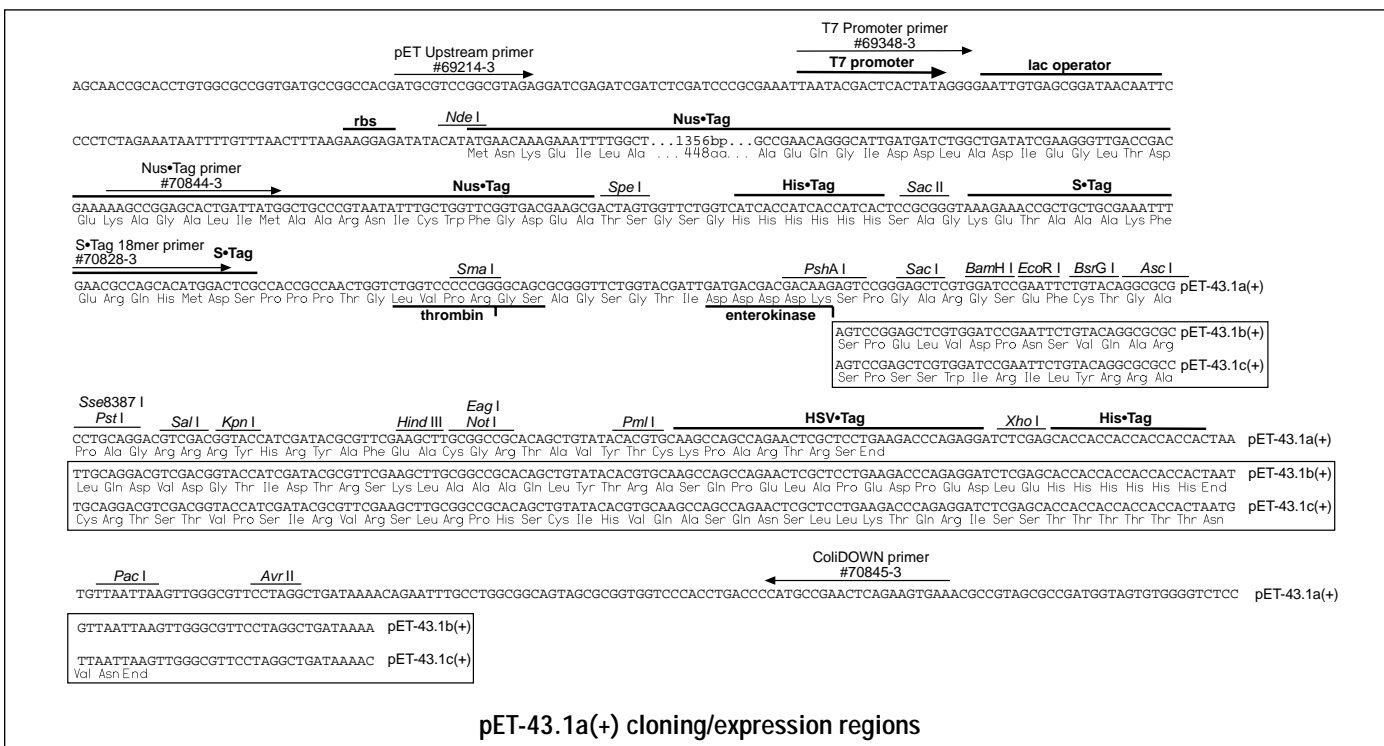
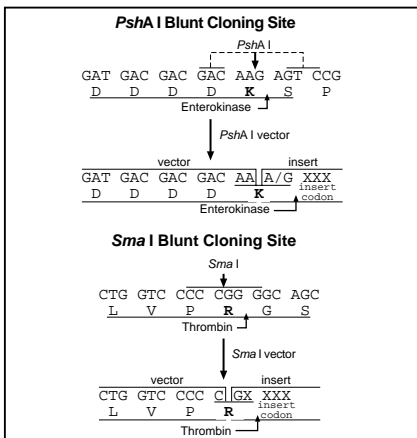
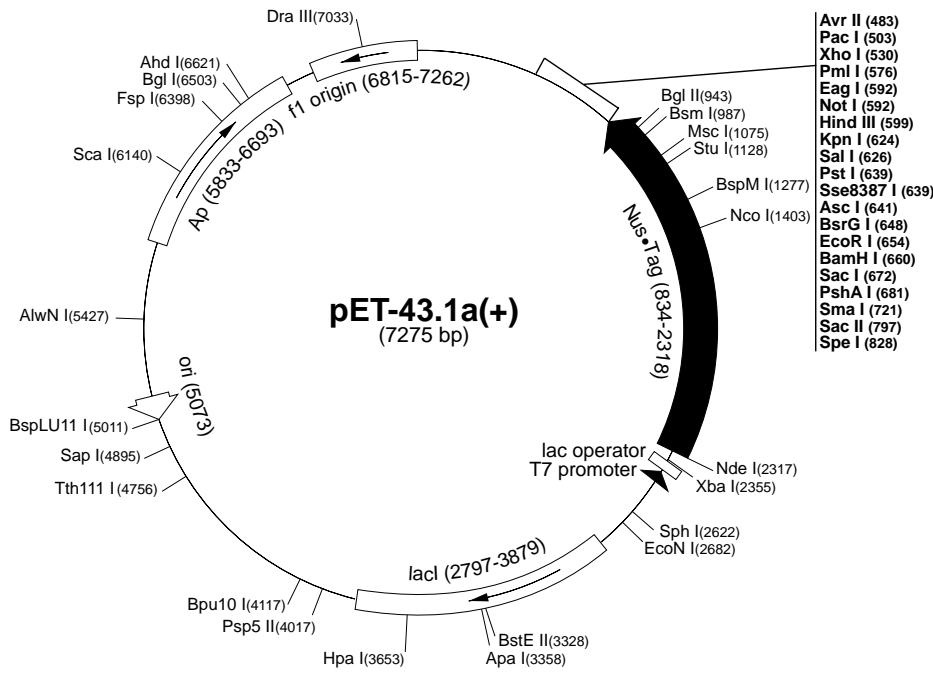
pET-43.1a-c(+) Vector

	Cat. No.
pET-43.1a(+) DNA	70939-3
pET-43.1b(+) DNA	70940-3
pET-43.1c(+) DNA	70941-3

pET-43.1a(+) sequence landmarks

T7 promoter	2390-2406
T7 transcription start	2390
Nus•Tag™ coding sequence	834-2318
His•Tag® coding sequence	801-818
S•Tag™ coding sequence	747-791
Multiple cloning sites	
(<i>Sma</i> I- <i>Xho</i> I)	721-686
HSV•Tag® coding sequence	537-572
His•Tag® coding sequence	513-530
T7 terminator	27-73
<i>lac</i> D coding sequence	2797-3879
pBR322 origin	5073
<i>bla</i> (Ap) coding sequence	5833-6693
f1 origin	6815-7262

The pET-43.1 series of vectors are designed for cloning and high-level expression of peptide sequences fused with the 491 aa Nus•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 ColiDOWN primer (cat. no. 70845-3). Vector encoded sequence can be completely removed when cloning into the *Psh*A I or *Sma* I sites (as shown below) by cleaving the Nus•Tag fusion protein with enterokinase or thrombin, respectively.



pET-43.1a(+) cloning/expression regions

pET-43.1a(+) Restriction Sites

Enzyme	# Sites	Locations	Enzyme	# Sites	Locations	Enzyme	# Sites	Locations				
AatII	2	633 2188	DdeI	14		Sau3AI	42					
AccI	4	580 627 1529 4781	DpnI	42		Sau96I	20					
AcI	99		DraI	3	6043 6735 6754	Scal	1	6140				
AflIII	4	575 608 3147 5011	DraIII	1	7033	ScrFI	33					
AhdI	1	6621	DrdI	3	4704 5119 6988	SfaNI	23					
AluI	27		Dsal	4	794 964 1403 2584	SfcI	7	635 2294 2389 5276 5467				
Alw26I	8	371 2844 3249 3375 3762 4652 5778 6555	EaeI	8	592 971 1073 1360 2455 2587 3821 6228			6375 7252				
AlwI	20		EagI	1	592	SgrAI	2	1899 2466				
AlwNI	1	5427	EarI	3	2765 4895 5822	SmaI	1	721				
ApaI	1	3358	Ecl136II	1	670	SpeI	1	828				
ApaLI	4	3127 4825 5325 5949	Eco47III	2	2552 4265	SphI	1	2622				
ApoI	7	466 654 768 2303 3422 6835 6846	Eco57I	4	532 1826 5559 5955	Sse8387I	1	639				
AscI	1	641	EcoNI	1	2682	SspI	2	857 6825				
AvaI	2	530 719	EcoO109I	3	53 2580 4017	StuI	1	1128				
Avall	7	440 725 3699 4017 4296 6257 6479	EcoRI	1	654	StyI	4	57 483 1403 2099				
AvrII	1	483	EcoRII	13		TaiI	25					
BamHI	1	660	EcoRV	2	911 1502	TaqI	28					
BanI	10	620 1450 2469 2490 2604 3067 3786 3916 6668 7070	EheI	4	2471 2492 2606 3788	TfiI	4	3826 4061 4565 4986				
BanII	5	672 2531 2545 3358 7108	FauI	20		ThaI	52					
BbsI	5	538 1208 3293 3632 4129	Fnu4HI	52		TseI	28					
BbvI	28		FokI	14		Tsp45I	10	839 1725 2112 3328 4450 4663 4758 6148 6359 7206				
Bcgl	3	3473 4588 6083	FspI	1	6398	Tsp509I	23					
BclI	2	1933 3161	HaeII	15		TspRI	16					
Bfal	10	70 484 829 2356 3990 4025 5506 6428 6763 7184	HaeIII	31		Tth111I	1	4756				
BglI	1	6503	HgaI	15		VspI	4	2404 3832 3891 6446				
BglII	1	943	HhaI	59		XbaI	1	2355				
BpmI	4	2985 3474 4538 6552	HincII	4	628 900 1295 3653	XcmI	3	3003 3519 3537				
Bpu10I	1	4117	HindIII	1	599	XhoI	1	530				
Bpu1102I	2	80 1278	HinfI	16		XmnI	3	2251 4569 6021				
Bsal	2	371 6555	HpaI	1	3653	Enzymes that do not cut pET-43.1a(+):						
BsaAI	3	576 4763 7033	HphI	29		AflIII	BseRI	Bsu36I	FseI	MunI	NheI	NsiI
BsaBI	3	2420 2430 4208	KpnI	1	624	PinAI	PmeI	RsrII	SanDI	SexAI	SfiI	SgfI
BsaHI	9	200 630 2185 2470 2491 2605 3104 3787 6081	MaeIII	22		SnaBI	SrfI	SunI	Swal	UbaEI		
BsaJI	17		MbolI	25								
BsaWI	8	2 1576 3466 3969 4200 5217 5364 6325	MluI	2	608 3147							
BsgI	4	1956 2998 3198 4171	MnII	28								
BsiEI	10	595 1115 1253 1789 2170 3932 4927 5351 6103 6252	MscI	1	1075							
BsiHKAI	11		MseI	33								
BsII	26		MslI	11								
BsmBI	2	3762 4652	MspA1I	13								
BsmFI	5	453 738 2608 4282 7248	MspI	42								
BsmI	1	987	Mwol	47								
Bsp1286I	15		NarI	4	2470 2491 2605 3787							
BspEI	2	2 4200	NciI	20								
BspLU11I	1	5011	NcoI	1	1403							
BspMI	1	1277	NdeI	1	2317							
BsrI	29		NgoAIV	2	2457 7134							
BsrBI	6	249 1323 2376 4944 5778 7177	NlaII	28								
BsrDI	6	1073 1454 3194 3560 6387 6561	NlaIV	25								
BsrFI	9	1027 1383 1447 1899 2457 2466 2833 6536 7134	NotI	1	592							
BsrGI	1	648	Nrul	3	1210 1635 2259							
BssHII	5	641 1547 1739 2228 3558	NspI	4	2622 4356 4648 5015							
BssSI	4	665 1619 5184 5952	NspV	2	604 2245							
Bst1107I	2	581 4782	Pacl	1	503							
BstEII	1	3328	PfIMI	2	758 2729							
BstXI	3	2949 3078 3201	PleI	12								
BstYI	13		PmlI	1	576							
Cac8I	52		PshAI	1	681							
Clal	5	615 1504 1582 2170 2424	Psp1406I	6	237 2809 4336 6019 6392 6818							
CviJI	112		Psp5II	1	4017							
			PstI	1	639							
			PvuI	3	1253 2170 6252							
			PvuII	4	586 3747 3840 4602							
			RcaI	4	2545 5731 5780 5812							
			RsaI	8	622 650 701 956 2178 3294 4817 6140							
			SacI	1	672							
			SacII	1	797							
			SallI	1	626							
			SapI	1	4895							