

pET-24a-d(+) Vectors

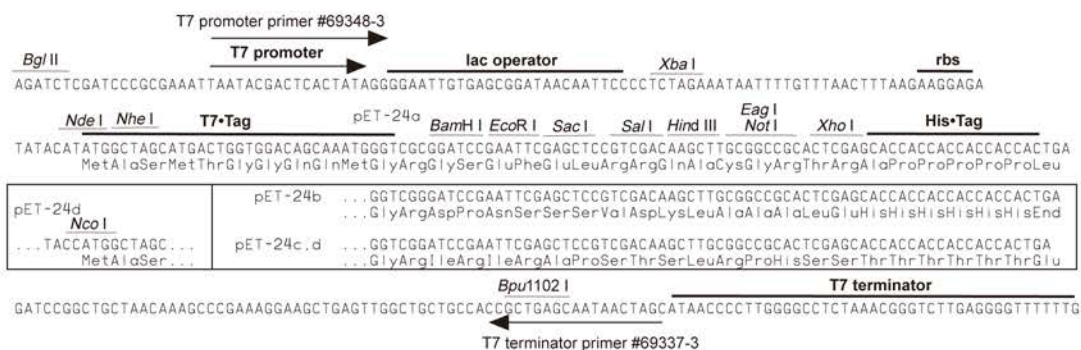
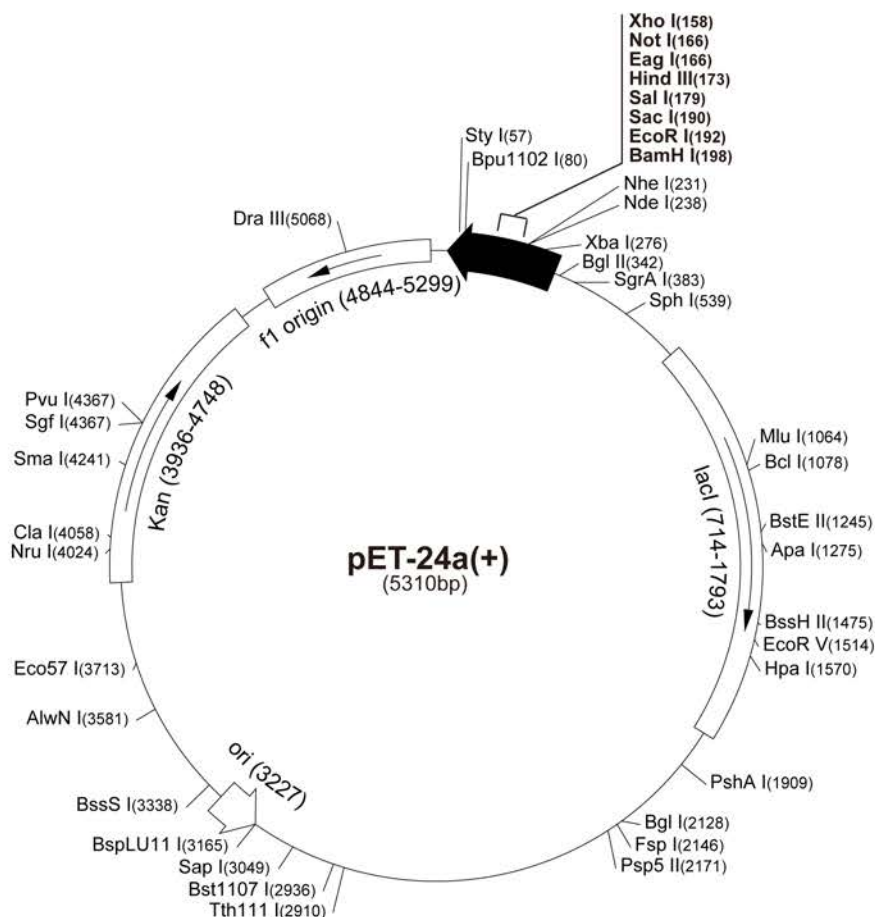
	Cat. No.
pET-24a DNA	69749-3
pET-24b DNA	69750-3
pET-24c DNA	69751-3
pET-24d DNA	69752-3

The pET-24a-d(+) vectors carry an N-terminal T7•Tag[®] sequence plus an optional C-terminal His•Tag[®] sequence. These vectors differ from pET-21a-d(+) only by their selectable marker (kanamycin *vs.* ampicillin resistance). 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 circular 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).

pET-24a(+) sequence landmarks

T7 promoter	311-327
T7 transcription start	310
T7•Tag coding sequence	207-239
Multiple cloning sites (<i>Bam</i> H I - <i>Xho</i> I)	158-203
His•Tag coding sequence	140-157
T7 terminator	26-72
<i>lac</i> I coding sequence	714-1793
pBR322 origin	3227
Kan coding sequence	3936-4748
f1 origin	4844-5299

The maps for pET-24b(+), pET-24c(+) and pET-24d(+) are the same as pET-24a(+) (shown) with the following exceptions: pET-24b(+) is a 5309bp plasmid; subtract 1bp from each site beyond *Bam*H I at 198. pET-24c(+) is a 5308bp plasmid; subtract 2bp from each site beyond *Bam*H I at 198. pET-24d(+) is a 5307bp plasmid; the *Bam*H I site is in the same reading frame as in pET-24c(+). An *Nco* I site is substituted for the *Nde* I site with a net 1bp deletion at position 238 of pET-24c(+). As a result, *Nco* I cuts pET24d(+) at 234, and *Nhe* I cuts at 229. For the rest of the sites, subtract 3bp from each site beyond position 239 in pET-24a(+). *Nde* I does not cut pET-24d(+). Note also that *Sty* I is not unique in pET-24d(+).



pET-24a-d(+) cloning/expression region

pET-24a(+) Restriction Sites

Enzyme	# Sites	Locations	Enzyme	# Sites	Locations	Enzyme	# Sites	Locations
AccI	2	180 2935	BstEII	1	1245	PilMI	2	646 4630
AccIII	7	831 1559 1890 2674 2815	BstXI	3	866 995 1118	PleI	9	325 613 700 1496 3059
		3117 4908	BstYI	9	132 198 342 628 1840			3544 4599 5003 5011
Acil	74				2357 3806 3817 4616	PshAI	1	1909
AlfIII	2	1064 3165	Cac8I	40		Psp5II	1	2171
AluI	22		CjeI	26		Psp1406I	4	726 2094 2490 4853
AlwI	13		CjePI	20		PvuI	1	4367
Alw21I	7	159 190 564 1048 2159	Clal	1	4058	PvuII	3	1664 1757 2756
		2983 3483	CviJI	83		RcaI	3	462 3885 4760
Alw44I	3	1044 2979 3479	CviRI	22		RsaI	3	1211 2971 4202
AlwNI	1	3581	DdeI	11		SacI	1	190
Apal	1	1275	DpnI	21		Sall	1	179
ApaBI	1	748	DraIII	1	5068	SapI	1	3049
ApoI	6	192 1339 3980 4164 4870	DrdI	3	2858 3273 5023	Sau96I	14	
		4881	DrdII	2	787 5073	Sau3AI	21	
AvaI	2	158 4239	Dsal	2	501 2137	ScrFI	21	
AvaII	5	1616 1992 2080 2171 2450	EaeI	4	166 372 504 1738	SfaNI	23	
BamHI	1	198	EagI	1	166	Sfcl	4	310 3430 3621 5287
BanI	8	386 407 521 984 1703	EarI	3	682 3049 4180	SgfI	1	4367
		1833 1959 5105	Ecil	3	841 3239 3385	SgrAI	1	383
BanII	6	190 448 462 1275 4022	Eco47III	3	469 1970 2419	SmaI	1	4241
		5143	Eco57I	1	3713 3713	SphI	1	539
BbsI	4	1210 1549 1923 2283	EcoNI	2	599 4279	SspI	2	4292 4860
BbvI	23		EcoO109I	3	53 497 2171	StyI	1	57
BccI	13		EcoRI	1	192	TaqI	15	
Bce83I	6	21 1878 2048 3256 3554	EcoRII	9	787 1102 1642 1699 3191	TaqII	6	972 1190 1863 3067 4621
		3795			3312 3325 4255 4612			4972
BceII	6	583 924 1551 3667 4686	EcoRV	1	1514	TfiI	9	1743 2045 2215 2719 3140
		5094	FauI	17				4278 4334 4506 4597
BcgI	9	160 194 228 1356 1390	FokI	9	1110 1119 2384 2446 2524	ThaI	36	
		1890 1924 2742 2776			2710 2851 4005 4611	TseI	23	
BclI	1	1078	FspI	1	2146	Tsp45I	7	1245 2073 2604 2817 2912
Bfal	7	70 232 277 2179 3660	GdIII	4	166 372 504 1738			4514 5241
		3967 5219	HaeI	6	792 2113 3180 3191 3643	Tsp509I	20	
BglI	1	2128			4454	Tth111I	1	2910
BglII	1	342	HaeII	14		Tth111II	8	903 1596 2626 3755 3762
BmgI	1	1273	HaeIII	23				3794 4203 4330
BpmI	4	902 1391 2025 2692	HgaI	11		UbaJI	18	
Bpu10I	2	2271 4384	HgiEII	2	662 3751	VspI	5	325 1749 1808 4566 4755
Bpu1102I	1	80	HhaI	46		XbaI	1	276
BsaAI	2	2917 5068	Hin4I	3	963 4053 4595	XcmI	3	920 1436 1454
BsaBI	3	341 347 2362	HincII	2	181 1570	XhoI	1	158
BsaHI	5	387 408 522 1021 1704	HindIII	1	173	XmnI	2	2723 4756
BsaJI	9	57 501 507 1699 2137	HinfI	18				
		3325 4238 4239 4640	HpaI	1	1570			
BsaWI	7	2 1383 1886 2354 3371	HphI	16				
		3518 4502	Maell	14				
BsaXI	2	1723 5016	MaellI	16				
Bsbl	2	2881 4975	MbolI	12				
BscGI	11		MluI	1	1064			
BsgI	3	915 1115 2325	MmeI	7	3380 3564 4009 4203 4565			
Bsil	1	3338			4574 5045			
BsiEI	5	169 1849 3081 3505 4367	MnII	25				
BsII	23		MseI	25				
BsmI	2	4251 4328	MslI	6	1116 1404 1434 2152 2347			
BsmAI	6	761 1166 1292 1679 2806			2738			
		4383	MspI	29				
BsmBI	3	1679 2806 4383	MspA1I	8	84 1094 1664 1757 2756			
BsmFI	4	525 2066 2436 5283			2875 3507 3752			
BsoFI	41		MwoI	39				
Bsp24I	12		NarI	4	387 408 522 1704			
Bsp1286I	12		NciI	12				
BspEI	2	2 2354	NdeI	1	238			
BspGI	1	2691	NgoAIV	4	374 1962 2122 5169			
BspLU11I	1	3165	NheI	1	231			
BsrI	22		NlaIII	25				
BsrBI	4	297 3098 4766 5212	NlaIV	21				
BsrDI	2	1111 1477	NotI	1	166			
BsrFI	7	374 383 750 1962 2122	NruI	1	4024			
		4321 5169	NsiI	2	4217 4483			
BssHII	1	1475	NspI	4	539 2510 2802 3169			
Bst1107I	1	2936	Pil1108I	1	1951			

Enzymes that do not cut pET-24a(+):

AatII	AlfII	AgeI	AscI	AvrII
BaeI	BsaI	BseRI	BspMI	BsrGI
Bsu36I	DraI	Eam1105I	FseI	KpnI
MscI	MunI	NcoI	NspV	PacI
PmeI	PmlI	PstI	RleAI	RsrII
SacII	SalI	SexAI	SfiI	SnaBI
SpeI	SrfI	Sse8387I	StuI	SunI
Swal				