

pET-24a-d(+) Vectors

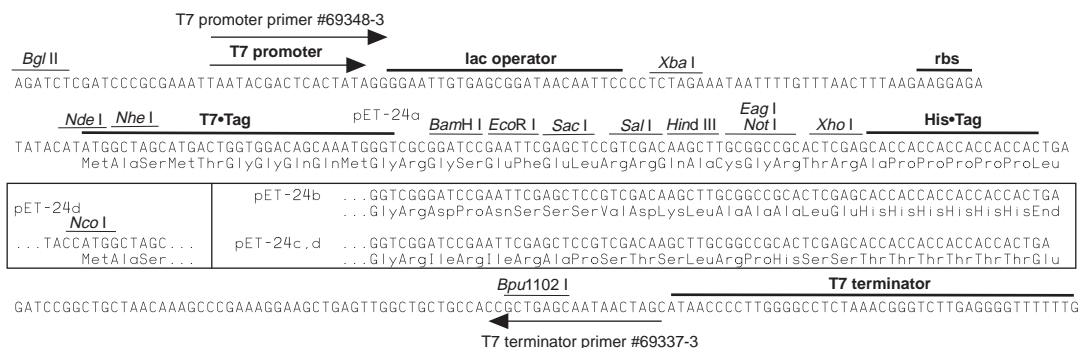
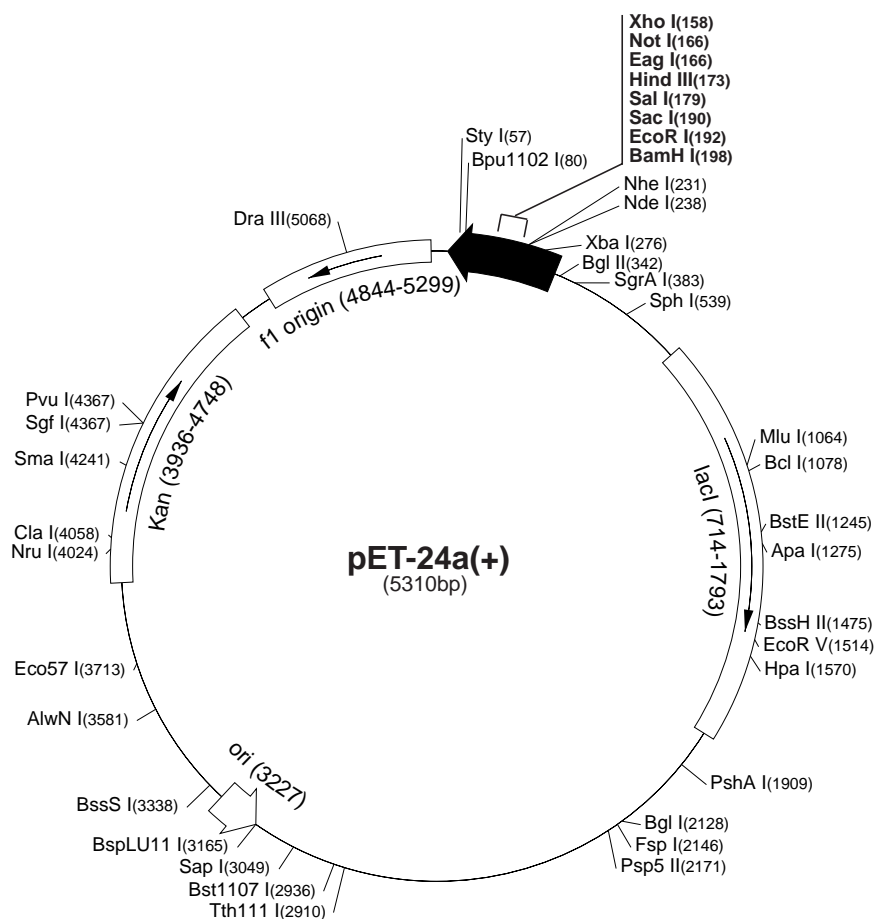
	Cat. No.
pET-24a DNA	69749-3
pET-24b DNA	69750-3
pET-24c DNA	69751-3
pET-24d DNA	69752-3

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
AccI	2	180 2935
AccIII	7	831 1559 1890 2674 2815 3117 4908
Acil	74	
AfIII	2	1064 3165
AluI	22	
AlwI	13	
Alw21I	7	159 190 564 1048 2159 2983 3483
Alw44I	3	1044 2979 3479
AlwNI	1	3581
ApaI	1	1275
ApaBI	1	748
ApoI	6	192 1339 3980 4164 4870 4881
AvaI	2	158 4239
AvaII	5	1616 1992 2080 2171 2450
BamHI	1	198
BanI	8	386 407 521 984 1703 1833 1959 5105
BanII	6	190 448 462 1275 4022 5143
BbsI	4	1210 1549 1923 2283
BbvI	23	
BccI	13	
Bce83I	6	21 1878 2048 3256 3554 3795
BceII	6	583 924 1551 3667 4686 5094
BcgI	9	160 194 228 1356 1390 1890 1924 2742 2776
BclI	1	1078
Bfal	7	70 232 277 2179 3660 3967 5219
BglI	1	2128
BglII	1	342
BmgI	1	1273
BpmI	4	902 1391 2025 2692
Bpu10I	2	2271 4384
Bpu1102I	1	80
BsaAI	2	2917 5068
BsaBI	3	341 347 2362
BsaHI	5	387 408 522 1021 1704
BsaJI	9	57 501 507 1699 2137 3325 4238 4239 4640
BsaWI	7	2 1383 1886 2354 3371 3518 4502
BsaXI	2	1723 5016
Bsbl	2	2881 4975
BscGI	11	
BsgrI	3	915 1115 2325
Bsil	1	3338
BsiEI	5	169 1849 3081 3505 4367
BsII	23	
BsmI	2	4251 4328
BsmAI	6	761 1166 1292 1679 2806 4383
BsmBI	3	1679 2806 4383
BsmFI	4	525 2066 2436 5283
BsoFI	41	
Bsp24I	12	
Bsp1286I	12	
BspEI	2	2 2354
BspGI	1	2691
BspLU11I	1	3165
BsrI	22	
BsrBI	4	297 3098 4766 5212
BsrDI	2	1111 1477
BsrFI	7	374 383 750 1962 2122 4321 5169
BssHII	1	1475
Bst1107I	1	2936

Enzyme	# Sites	Locations
BstEII	1	1245
BstXI	3	866 995 1118
BstYI	9	132 198 342 628 1840 2357 3806 3817 4616
Cac8I	40	
CjeI	26	
CjePI	20	
Clal	1	4058
CviJI	83	
CviRI	22	
DdeI	11	
DpnI	21	
DraIII	1	5068
DrdI	3	2858 3273 5023
DrdII	2	787 5073
Dsal	2	501 2137
EaeI	4	166 372 504 1738
EagI	1	166
EarI	3	682 3049 4180
Ecil	3	841 3239 3385
Eco47III	3	469 1970 2419
Eco57I	1	3713 3713
EcoNI	2	599 4279
EcoO109I	3	53 497 2171
EcoRI	1	192
EcoRII	9	787 1102 1642 1699 3191 3312 3325 4255 4612
EcoRV	1	1514
FauI	17	
FokI	9	1110 1119 2384 2446 2524 2710 2851 4005 4611
FspI	1	2146
GdIII	4	166 372 504 1738
HaeI	6	792 2113 3180 3191 3643 4454
HaeII	14	
HaeIII	23	
Hgal	11	
HgiEI	2	662 3751
HhaI	46	
Hin4I	3	963 4053 4595
HincII	2	181 1570
HindIII	1	173
Hinfl	18	
HpaI	1	1570
HphI	16	
Maell	14	
MaellI	16	
MbolI	12	
MluI	1	1064
MmeI	7	3380 3564 4009 4203 4565 4574 5045
MnlI	25	
MseI	25	
Msil	6	1116 1404 1434 2152 2347 2738
MspI	29	
MspA1I	8	84 1094 1664 1757 2756 2875 3507 3752
MwoI	39	
NarI	4	387 408 522 1704
NciI	12	
NdeI	1	238
NgoAIV	4	374 1962 2122 5169
NheI	1	231
NlaIII	25	
NlaIV	21	
NotI	1	166
NruI	1	4024
Nsil	2	4217 4483
NspI	4	539 2510 2802 3169
Pfi1108I	1	1951

Enzyme	# Sites	Locations
PfiMI	2	646 4630
PleI	9	325 613 700 1496 3059 3544 4599 5003 5011
PshAI	1	1909
Psp5II	1	2171
Psp1406I	4	726 2094 2490 4853
PvuI	1	4367
PvuII	3	1664 1757 2756
RcaI	3	462 3885 4760
RsaI	3	1211 2971 4202
SacI	1	190
Sall	1	179
SapI	1	3049
Sau96I	14	
Sau3AI	21	
ScrFI	21	
SfaNI	23	
Sfcl	4	310 3430 3621 5287
SgfI	1	4367
SgrAI	1	383
SmaI	1	4241
SphI	1	539
Sspl	2	4292 4860
StyI	1	57
TaqI	15	
TaqII	6	972 1190 1863 3067 4621 4972
TfiI	9	1743 2045 2215 2719 3140 4278 4334 4506 4597
ThaI	36	
TseI	23	
Tsp45I	7	1245 2073 2604 2817 2912 4514 5241
Tsp509I	20	
Tth111I	1	2910
Tth111II	8	903 1596 2626 3755 3762 3794 4203 4330
UbaJI	18	
VspI	5	325 1749 1808 4566 4755
XbaI	1	276
XcmI	3	920 1436 1454
XhoI	1	158
XmnI	2	2723 4756

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

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