pET-12a-c Vectors

TB043 12/98

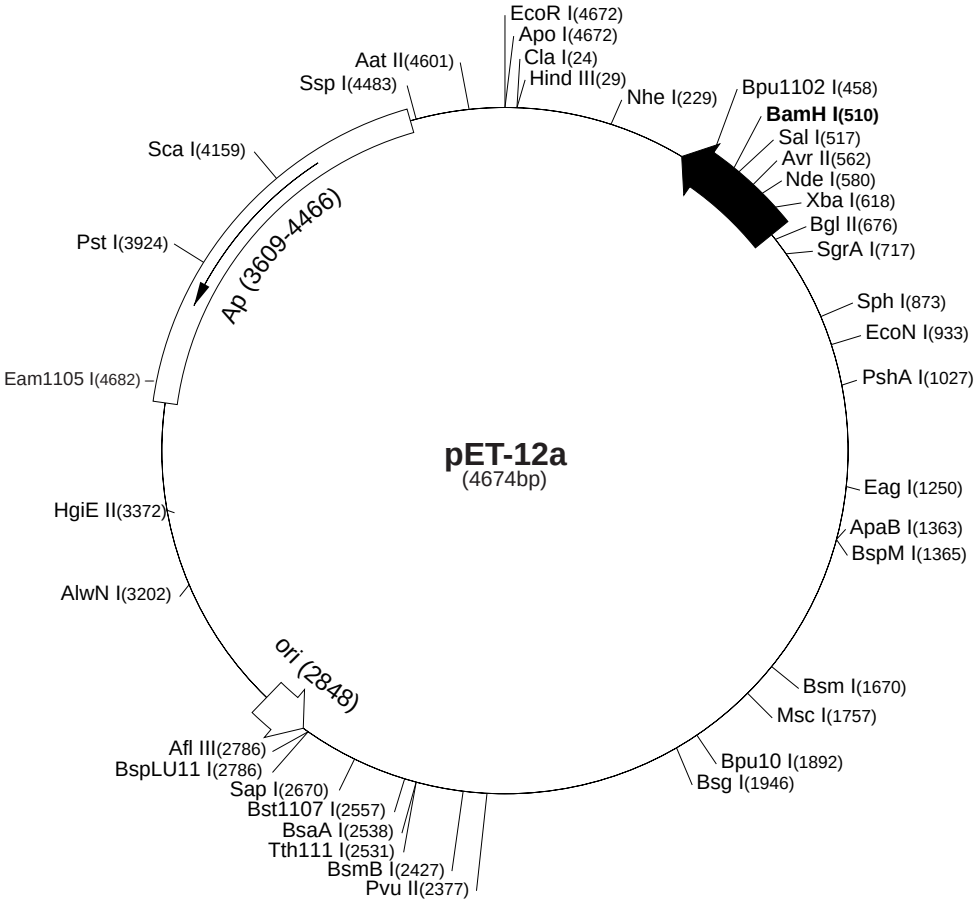
	Cat. No.
pET-12a DNA	69440-3
pET-12b DNA	69441-3
pET-12c DNA	69442-3

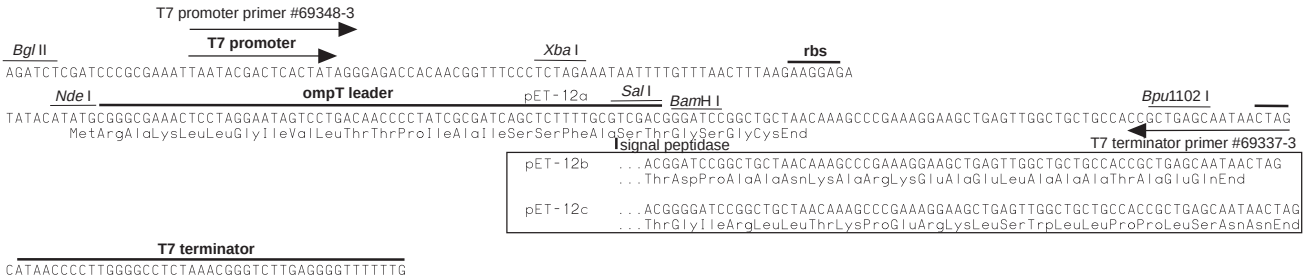
The pET-12a-c vectors carry an N-terminal *ompT* sequence for potential periplasmic export of target proteins. Unique sites are shown on the circle map. Note that the sequence is numbered by the pBR322 convention, so the T7 expression region is reversed on the circular map. The cloning/expression region of the coding strand transcribed by T7 RNA polymerase is shown below.

pET-12a sequence landmarks

T7 promoter	645-661
T7 transcription start	644
ompT coding sequence	516-578
T7 terminator	404-450
pBR322 origin	2848
bla coding sequence	3609-4466

The maps for pET-12b and pET-12c are the same as pET-12a (shown) with the following exceptions: pET-12b is a 4673bp plasmid; subtract 1bp from each site beyond *Bam*H I at 510. pET-12c is a 4675bp plasmid; add 1bp to each site beyond *Bam*H I at 510.





pET-12a-c cloning/expression region

pET-12a Restriction Sites

Enzyme	# Sites	Locations
AatII	1	4601
AccI	2	518 2556
AceIII	6	517 1008 2295 2436 2738 3978
AciI	70	
AflIII	1	2786
AluI	19	
AlwI	14	
Alw21I	8	280 898 1489 1780 2604 3104 4265 4350
Alw44I	3	2600 3100 4346
AlwNI	1	3202
ApaBI	1	1363
ApoI	1	4672
AvaI		1736
AvaII	8	1110 1198 1447 1750 1792 2071 3817 4039
AvrII	1	562
BamHI	1	510
BanI	9	76 119 720 741 855 1077 1516 1600 3627
BanII	2	782 796
BbsI	3	1041 1904 4657
BbvI	24	
BccI	9	767 860 1301 1390 1697 1709 3716 3840 4127
Bce83I	7	399 996 1166 2877 3175 3416 4284
BcefI	3	917 1478 3288
BcgI	6	1008 1042 2363 2397 4184 4218
BfaI	8	230 448 563 619 1800 3281 3534 3869
BglI	3	1246 1480 3799
BglII	1	676
BpmI	4	1143 1697 2313 3749
Bpu10I	1	1892
Bpu1102I	1	458
BsaI	2	643 3740
BsaAI	1	2538
BsaBI	3	675 681 1983
BsaHI	6	721 742 856 1517 4216 4598
BsaJI	10	115 129 435 562 835 841 1478 1680 1758 2946
BsaWI	6	380 1004 1975 2992 3139 3970
BsbI	2	2502 4222
BscGI	14	
BsgI	1	1946
BsiI	3	2959 4343 4650
BsiEI	8	289 963 967 1253 2702 3126 4049 4198
BsII	21	
BsmI	1	1670
BsmAI	4	643 2427 3740 4516
BsmBI	1	2427
BsmFI	4	859 1184 1409 2057
BsoFI	45	
Bsp24I	8	688 720 3279 3311 3457 3489 4583 4615
Bsp1286I	10	280 782 796 898 1489 1780 2604 3104 4265 4350
BspEI	2	380 1975
BspGI	3	1370 1447 2312
BspLU11I	1	2786
BspMI	1	1365
BsrI	19	
BsrBI	2	2719 4520
BsrDI	2	3740 3914
BsrFI	7	160 708 717 1080 1240 1594 3759

Enzyme	# Sites	Locations
Bst1107I	1	2557
BstYI	9	510 676 1978 3427 3438 3524 3536 4304
Cac8I	32	
CjeI	16	
CjePI	20	
ClaI	1	24
CviJI	79	
CviRI	21	
DdeI	10	458 479 1892 2054 2594 3061 3470 3636 4176 4602
DpnI	35	
DraI	3	3545 3564 4256
DrdI	2	2479 2894
DsaI	2	835 1758
EaeI	6	295 706 838 1250 1755 4067
EagI	1	1250
Eam1105I	1	3679
EarI	2	2670 4474
EciI	4	1706 2860 3006 3834
Eco47III	4	234 803 1088 2040
Eco57I	2	3334 4346
EcoNI	1	933
EcoO109I	5	431 831 1750 1792 4655
EcoRI	1	4672
EcoRII	6	129 1369 1752 2812 2933 2946
EcoRV	2	187 378
FauI	12	
FokI	12	
FspI	4	262 1669 1767 3901
GdiII	5	295 706 838 1250 4067
HaeI	7	1231 1303 1360 1757 2801 2812 3264
HaeII	11	
HaeIII	23	
HgaI	12	
HgiEII	1	3372
HhaI	33	
Hin4I	6	16 334 958 1452 3678 3752
HincII	2	519 4220
HindIII	1	29
HinfI	11	
HphI	12	
MaeII	10	1212 1268 1857 1881 2111 2537 3489 3905 4278 4598
MaeIII	17	
MboII	11	
MmeI	4	222 309 3001 3185
MnlI	30	
MscI	1	1757
MseI	18	
MslI	7	1342 1773 1968 2359 3931 4090 4449
MspI	28	
MspA1I	7	462 1452 2377 2496 3128 3373 4314
MwoI	36	
NarI	4	721 742 856 1517
NciI	10	171 842 1570 1796 2124 2430 2465 3166 3862 4213
NdeI	1	580
NgoAIV	4	708 1080 1240 1594
NheI	1	229
NlaIII	26	
NlaIV	25	
NruI	2	538 1285
NspI	4	873 2131 2423 2790
Pfl1108I	2	1069 3697
PflMI	2	1632 1681

Enzyme	# Sites	Locations
PleI	5	659 947 2680 3165 3668
PshAI	1	1027
Psp5II	2	1750 1792
Psp1406I	4	1212 2111 3905 4278
PstI	1	3924
PvuI	2	963 4049
PvuII	1	2377
RcaI	4	796 3506 4514 4619
RsaI	3	165 2592 4159 165
SalI	1	517
SapI	1	2670
Sau96I	16	
Sau3AI	27	
ScaI	1	4159
ScrFI	16	
SfaNI	22	
SfcI	5	138 644 3051 3242 3920
SgrAI	1	717
SphI	1	873
SspI	1	4483
StyI	3	435 562 1680
TaqI	11	
TaqII	6	981 2688 4027 4212 4365 4382
TfiI	6	1163 1317 1615 1836 2340 2761
ThaI	25	
TseI	24	
Tsp45I	9	124 212 1191 1458 2225 2438 2533 3935 4146
Tsp509I	10	58 251 610 660 1630 1644 3546 3852 4107 4672
Tth111I	1	2531
Tth111II	5	2247 3376 3383 3415 4671
UbaJI	21	
VspI	2	659 3851
XbaI	1	618
XmnI	2	2344 4278

Enzymes that do not cut pET-12a:

AflII	AgeI	ApaI	AscI	BaeI
BclI	BmgI	BsaXI	BseRI	BsrGI
BssHII	BstEII	BstXI	Bsu36I	DraIII
DrdII	FseI	HpaI	KpnI	MluI
MunI	NcoI	NotI	NsiI	NspV
PacI	PmeI	PmlI	RleAI	RsrII
SacI	SacII	SexAI	SfiI	SgfI
SmaI	SnaBI	SpeI	SrfI	Sse8387I
StuI	SunI	SwaI	XcmI	XhoI