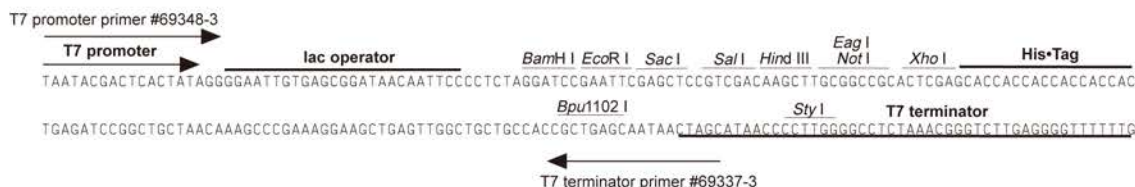
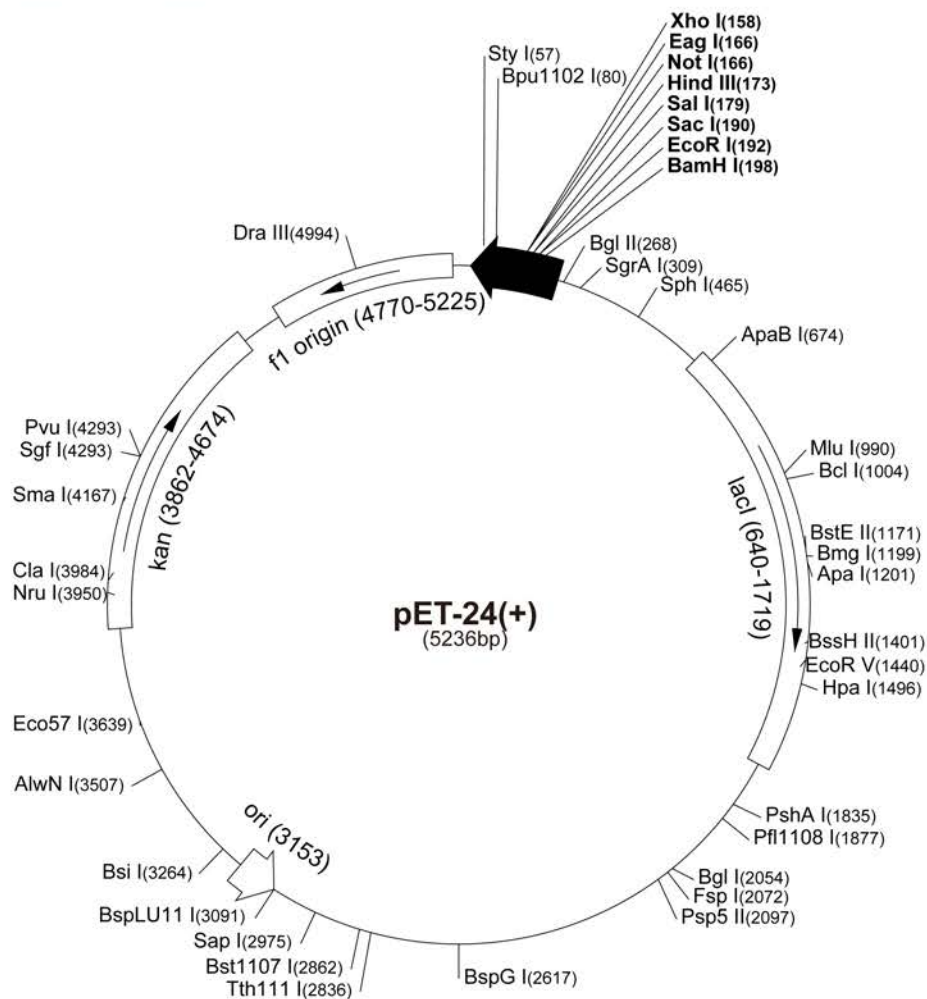


pET-24(+) Vector

pET-24(+) (Cat. No. 69772-3) is a transcription vector designed for expression from bacterial translation signals carried within a cloned insert. It therefore lacks the ribosome binding site and ATG start codon present on the pET translation vectors. A C-terminal His•Tag® sequence is available. 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-24(+) sequence landmarks

T7 promoter	237-253
T7 transcription start	236
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>lacI</i> coding sequence	640-1719
pBR322 origin	3153
Kan coding sequence	3862-4674
f1 origin	4770-5225



pET-24(+) cloning/expression region

pET-24(+) Restriction Sites

Enzyme	# Sites	Locations
AccI	2	180 2861
AccII	7	757 1485 1816 2600 2741
		3043 4834
Acil	73	
AlfIII	2	990 3091
AluI	22	
AlwI	13	
Alw21I	7	159 190 490 974 2085
		2909 3409
Alw44I	3	970 2905 3405
AlwNI	1	3507
Apal	1	1201
ApaBI	1	674
ApoI	6	192 1265 3906 4090 4796
		4807
AvaI	2	158 4165
Avall	5	1542 1918 2006 2097 2376
BamHI	1	198
BanI	8	312 333 447 910 1629
		1759 1885 5031
BanII	6	190 374 388 1201 3948
		5069
BbsI	4	1136 1475 1849 2209
BbvI	23	
BccI	13	
Bce83I	6	21 1804 1974 3182 3480
		3721
BceII	6	509 850 1477 3593 4612
		5020
BcgI	8	160 194 1282 1316 1816
		1850 2668 2702
BclI	1	1004
Bfal	6	70 203 2105 3586 3893
		5145
BglI	1	2054
BglII	1	268
BmgI	1	1199
BpmI	4	828 1317 1951 2618
Bpu10I	2	2197 4310
Bpu1102I	1	80
BsaAI	2	2843 4994
BsaBI	3	267 273 2288
BsaHI	5	313 334 448 947 1630
BsaJI	9	57 427 433 1625 2063
		3251 4164 4165 4566
BsaWI	7	2 1309 1812 2280 3297
		3444 4428
BsaXI	2	1649 4942
Bsbl	2	2807 4901
BscGI	11	
BsgI	3	841 1041 2251
Bsil	1	3264
BsiEI	5	169 1775 3007 3431 4293
BsII	23	
BsmI	2	4177 4254
BsmAI	6	687 1092 1218 1605 2732
		4309
BsmBI	3	1605 2732 4309
BsmFI	4	451 1992 2362 5209
BsoFI	41	
Bsp24I	10	280 312 831 863 1133
		1165 3584 3616 3762 3794
Bsp1286I	12	
BspEI	2	2 2280
BspGI	1	2617
BspLU11I	1	3091
BsrI	21	
BsrBI	4	223 3024 4692 5138
BsrDI	2	1037 1403
BsrFI	7	300 309 676 1888 2048
		4247 5095
BssHII	1	1401

Enzyme	# Sites	Locations
Bst1107I	1	2862
BstEII	1	1171
BstXI	3	792 921 1044
BstYI	9	132 198 268 554 1766
		2283 3732 3743 4542
Cac8I	39	
CjeI	24	
CjePI	18	
Clal	1	3984
CviJI	82	
CviRI	22	
Ddel	11	
DpnI	21	
DraIII	1	4994
DrdI	3	2784 3199 4949
DrdII	2	713 4999
Dsal	2	427 2063
EaeI	4	166 298 430 1664
EagI	1	166
EarI	3	608 2975 4106
Ecil	3	767 3165 3311
Eco47III	3	395 1896 2345
Eco57I	1	3639
EcoNI	2	525 4205
EcoO109I	3	53 423 2097
EcoRI	1	192
EcoRII	9	713 1028 1568 1625 3117
		3238 3251 4181 4538
EcoRV	1	1440
FauI	17	
FokI	9	1036 1045 2310 2372 2450
		2636 2777 3931 4537
FspI	1	2072
GdIII	4	166 298 430 1664
HaeI	6	718 2039 3106 3117 3569
		4380
HaeII	14	
HaeIII	23	
Hgal	11	
HgiEI	2	588 3677
Hhal	46	
Hin4I	3	889 3979 4521
HincII	2	181 1496
HindIII	1	173
HinfI	18	
HpaI	1	1496
HphI	16	
MaeII	14	
MaeIII	16	
MbolI	12	
MluI	1	990
MmeI	7	3306 3490 3935 4129 4491
		4500 4971
MnII	25	
MseI	23	
MsiI	6	1042 1330 1360 2078 2273
		2664
MspI	29	
MspA1I	8	84 1020 1590 1683 2682
		2801 3433 3678
MwoI	39	
NarI	4	313 334 448 1630
NciI	12	
NgoAIV	4	300 1888 2048 5095
NlaIII	24	
NlaIV	21	
NotI	1	166
NruI	1	3950
NsiI	2	4143 4409
Nspl	4	465 2436 2728 3095
Pfl1108I	1	1877
PfIMI	2	572 4556

Enzyme	# Sites	Locations
PleI	9	251 539 626 1422 2985
		3470 4525 4929 4937
PshAI	1	1835
Psp5II	1	2097
Psp1406I	4	652 2020 2416 4779
PvuI	1	4293
PvuII	3	1590 1683 2682
RcaI	3	388 3811 4686
RsaI	3	1137 2897 4128
SacI	1	190
Sall	1	179
SapI	1	2975
Sau96I	14	
Sau3AI	21	
ScrFI	21	
SfaNI	23	
SfcI	4	236 3356 3547 5213
SgfI	1	4293
SgrAI	1	309
SmaI	1	4167
SphI	1	465
SspI	2	4218 4786
StyI	1	57
TaqI	15	
TaqII	6	898 1116 1789 2993 4547
		4898
TfiI	9	1669 1971 2141 2645 3066
		4204 4260 4432 4523
ThaI	35	
TseI	23	
Tsp45I	7	1171 1999 2530 2743 2838
		4440 5167
Tsp509I	19	
Tth111I	1	2836
Tth111II	8	829 1522 2552 3681 3688
		3720 4129 4256
UbaII	18	
VspI	5	251 1675 1734 4492 4681
XcmI	3	846 1362 1380
XhoI	1	158
XmnI	2	2649 4682

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

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