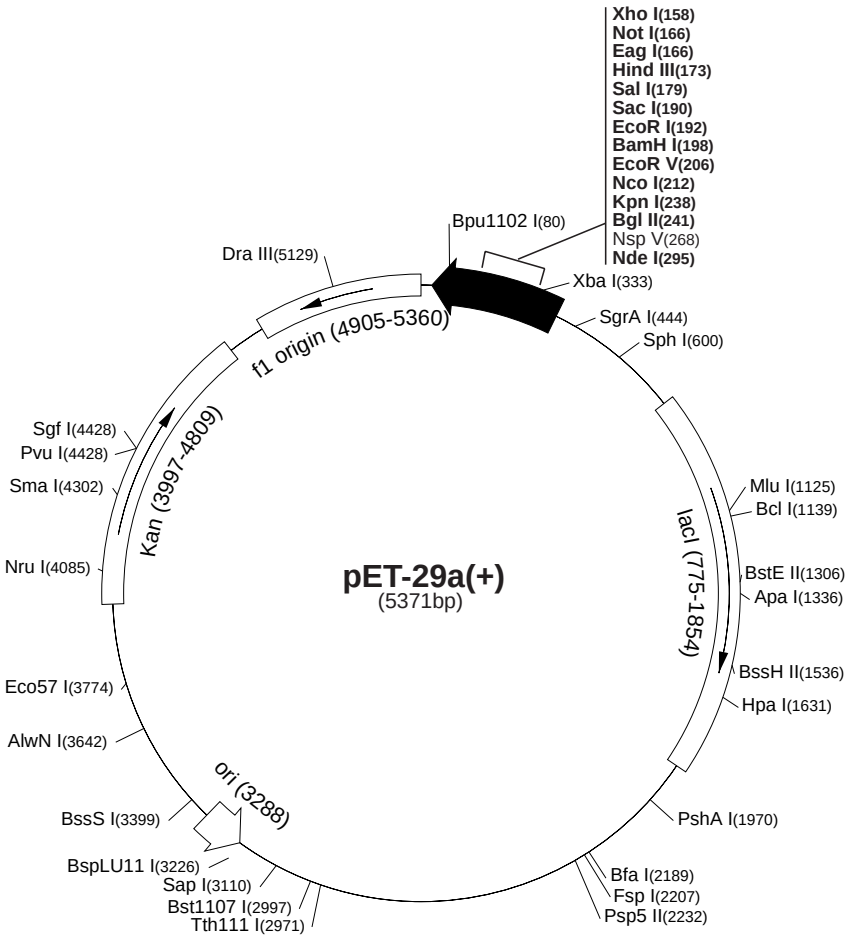
pET-29a-c(+) Vectors

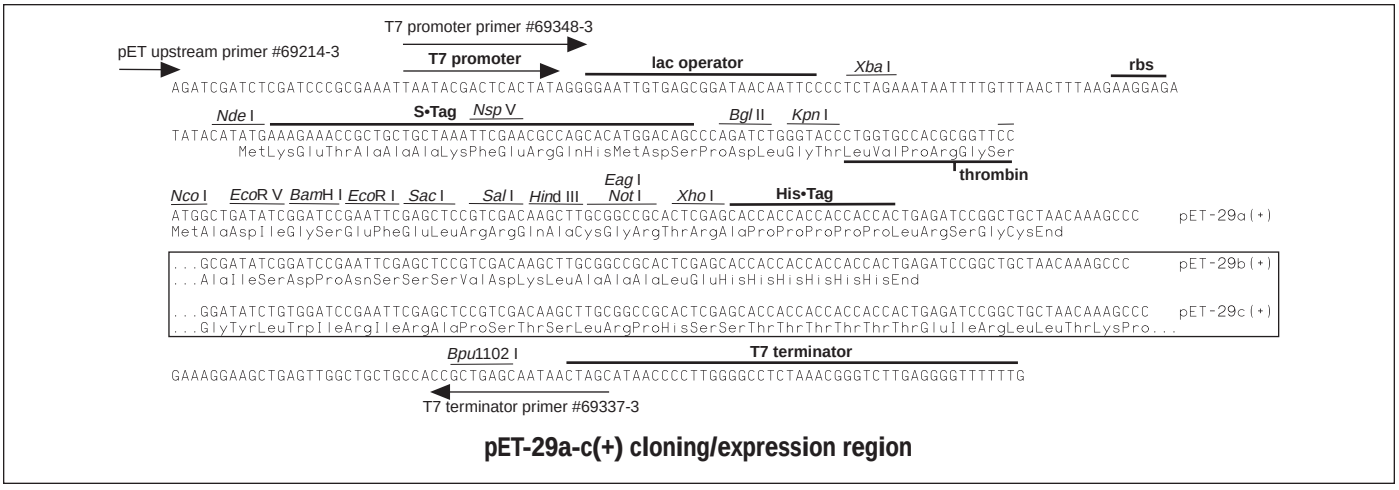
	Cat. No.
pET-29a DNA	69871-3
pET-29b DNA	69872-3
pET-29c DNA	69873-3

The pET-29a-c(+) vectors carry an N-terminal S•Tag™/thrombin configuration plus an optional C-terminal His•Tag® sequence. 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-29a(+) sequence landmarks	
T7 promoter	368-384
T7 transcription start	367
S•Tag coding sequence	249-293
Multiple cloning sites	
(*Nco* I - *Xho* I)	158-217
His•Tag coding sequence	140-157
T7 terminator	26-72
lacI coding sequence	775-1854
pBR322 origin	3288
Kan coding sequence	3997-4809
f1 origin	4905-5360

The maps for pET-29b(+) and pET-29c(+) are the same as pET-29a(+) (shown) with the following exceptions: pET-29b(+) is a 5370bp plasmid; subtract 1bp from each site beyond *Bam*H I at 198. pET-29c(+) is a 5372bp plasmid; add 1bp to each site beyond *Bam*H I at 198.





pET-29a-c(+) cloning/expression region

pET-29a(+) Restriction Sites

Enzyme	# Sites	Locations
AccI	2	180 2996
AceIII	7	892 1620 1951 2735 2876 3178 4969
AciI	75	
AflIII	2	1125 3226
AluI	22	
AlwI	13	
Alw21I	7	159 190 625 1109 2220 3044 3544
Alw44I	3	1105 3040 3540
AlwNI	1	3642
ApaI	1	1336
ApaBI	1	809
ApoI	7	192 270 1400 4041 4225 4931 4942
AvaI	2	158 4300
AvaII	5	1677 2053 2141 2232 2511
BaeI	1	233
BamHI	1	198
BanI	10	226 234 447 468 582 1045 1764 1894 2020 5166
BanII	6	190 509 523 1336 4083 5204
BbsI	4	1271 1610 1984 2344
BbvI	25	
BccI	13	
Bce83I	6	21 1939 2109 3317 3615 3856
BcefI	6	644 985 1612 3728 4747 5155
BcgI	8	160 194 1417 1451 1951 1985 2803 2837
BclI	1	1139
BfaI	1	2189
BglII	1	241
BmgI	1	1334
BpmI	4	963 1452 2086 2753
Bpu10I	2	2332 4445
Bpu1102I	1	80
BsaAI	2	2978 5129
BsaBI	3	398 408 2423
BsaHI	5	448 469 583 1082 1765
BsaJI	11	
BsaWI	7	2 1444 1947 2415 3432 3579 4563
BsaXI	2	1784 5077
BsbI	2	2942 5036
BscGI	11	
BsgI	3	976 1176 2386
BsiI	1	3399
BsiEI	5	169 1910 3142 3566 4428
BsII	26	
BsmI	2	4312 4389
BsmAI	6	822 1227 1353 1740 2867 4444
BsmBI	3	1740 2867 4444
BsmFI	4	586 2127 2497 5344
BsoFI	43	
Bsp24I	10	415 447 966 998 1268 1300 3719 3751 3897 3929
Bsp1286I	12	
BspEI	2	2 2415
BspGI	1	2752
BspLU11I	1	3226
BsrI	21	
BsrBI	4	354 3159 4827 5273
BsrDI	2	1172 1538
BsrFI	7	435 444 811 2023 2183 4382 5230
BssHII	1	1536
Bst1107I	1	2997
BstEII	1	1306

Enzyme	# Sites	Locations
BstXI	3	927 1056 1179
BstYI	9	132 198 241 689 1901 2418 3867 3878 4677
Cac8I	40	
CjeI	24	
CjePI	18	
ClaI	2	402 4119
CviJI	84	
CviRI	22	
DdeI	11	
DpnI	23	
DraIII	1	5129
DrdI	3	2919 3334 5084
DrdII	2	848 5134
DsaI	3	212 562 2198
EaeI	4	166 433 565 1799
EagI	1	166
EarI	3	743 3110 4241
EciI	3	902 3300 3446
Eco47III	3	530 2031 2480
Eco57I	1	3774
EcoNI	2	660 4340
EcoO109I	3	53 558 2232
EcoRI	1	192
EcoRII	10	229 848 1163 1703 1760 3252 3373 3386 4316 4673
EcoRV	1	206
FauI	17	
FokI	9	1171 1180 2445 2507 2585 2771 2912 4066 4672
FspI	1	2207
GdiII	4	166 433 565 1799
HaeI	6	853 2174 3241 3252 3704 4515
HaeII	14	
HaeIII	23	
HgaI	11	
HgiEII	2	723 3812
HhaI	46	
Hin4I	4	203 1024 4114 4656
HincII	2	181 1631
HindIII	1	173
HinfI	18	
HpaI	1	1631
HphI	16	
KpnI	1	238
MaeII	14	
MaeIII	16	
MboII	12	
MluI	1	1125
MmeI	7	3441 3625 4070 4264 4626 4635 5106
MnlI	25	
MseI	25	
MslI	6	1177 1465 1495 2213 2408 2799
MspI	29	
MspA1I	9	84 283 1155 1725 1818 2817 2936 3568 3813
MwoI	39	
NarI	4	448 469 583 1765
NciI	12	
NcoI	1	212
NdeI	1	295
NgoAIV	4	435 2023 2183 5230
NlaIII	26	
NlaIV	24	
NotI	1	166
NruI	1	4085
NsiI	2	4278 4544
NspI	4	600 2571 2863 3230
NspV	1	268

Enzyme	# Sites	Locations
Pfl1108I	1	2012
PflMI	3	260 707 4691
PleI	9	382 674 761 1557 3120 3605 4660 5064 5072
PshAI	1	1970
Psp5II	1	2232
Psp1406I	4	787 2155 2551 4914
PvuI	1	4428
PvuII	3	1725 1818 2817
RcaI	3	523 3946 4821
RsaI	4	236 1272 3032 4263
SacI	1	190
SalI	1	179
SapI	1	3110
Sau96I	14	
Sau3AI	23	
ScrFI	22	
SfaNI	23	
SfcI	4	367 3491 3682 5348
SgfI	1	4428
SgrAI	1	444
SmaI	1	4302
SphI	1	600
SspI	2	4353 4921
StyI	2	57 212
TaqI	17	
TaqII	6	1033 1251 1924 3128 4682 5033
TfiI	9	1804 2106 2276 2780 3201 4339 4395 4567 4658
ThaI	36	
TseI	25	
Tsp45I	7	1306 2134 2665 2878 2973 4575 5302
Tsp509I	21	
Tth111I	1	2971
Tth111II	8	964 1657 2687 3816 3823 3855 4264 4391
UbaJI	18	
VspI	5	382 1810 1869 4627 4816
XbaI	1	333
XcmI	3	981 1497 1515
XhoI	1	158
XmnI	2	2784 4817

Enzymes that do not cut pET-29a(+):

AatII	AflII	AgeI	AscI	AvrII
BsaI	BseRI	BspMI	BsrGI	Bsu36I
DraI	Eam1105I	FseI	MscI	MunI
NheI	PacI	PmeI	PmlI	PstI
RleAI	RsrII	SacII	ScaI	SexAI
SfiI	SnaBI	SpeI	SrfI	Sse8387I
StuI	SunI	SwaI		