

pBR322

pBR322 is an *E. coli* plasmid cloning vector containing the origin of replication from pMB1 (a plasmid in the ColE1 compatibility group; 1–3). The *rop* gene product, which regulates plasmid replication by stabilizing the interaction between RNAI and RNAII transcripts, maintains the copy number at about 20 per cell. However, pBR322 can be amplified with chloramphenicol or spectinomycin (4).

Enzymes with unique restriction sites are shown in **bold** type and enzymes with two restriction sites are shown in regular type. Location of sites of all NEB restriction enzymes can be found on the NEB web site (choose Technical Reference > DNA Sequences and Maps). Restriction site coordinates refer to the position of the 5'–most base on the top strand in each recognition sequence.

Open reading frame (ORF) coordinates are in the form "translational start – translational stop"; numbers refer to positions on the top (clockwise) strand, regardless of the direction of transcription and include the start and stop codons.

Origin of replication coordinates include the region from the –35 promoter sequence of the RNAII transcript to the RNA/DNA switch point. *bla* (Ap^R) gene coordinates include the signal sequence.

Feature	Coordinates	Source
<i>tet</i> (Tc ^R)	86–1276	pSC101
<i>bla</i> (Ap ^R)	4153–3293	<i>Tn3</i>
<i>rop</i>	1915–2106	pMB1
origin	3122–2534	pMB1

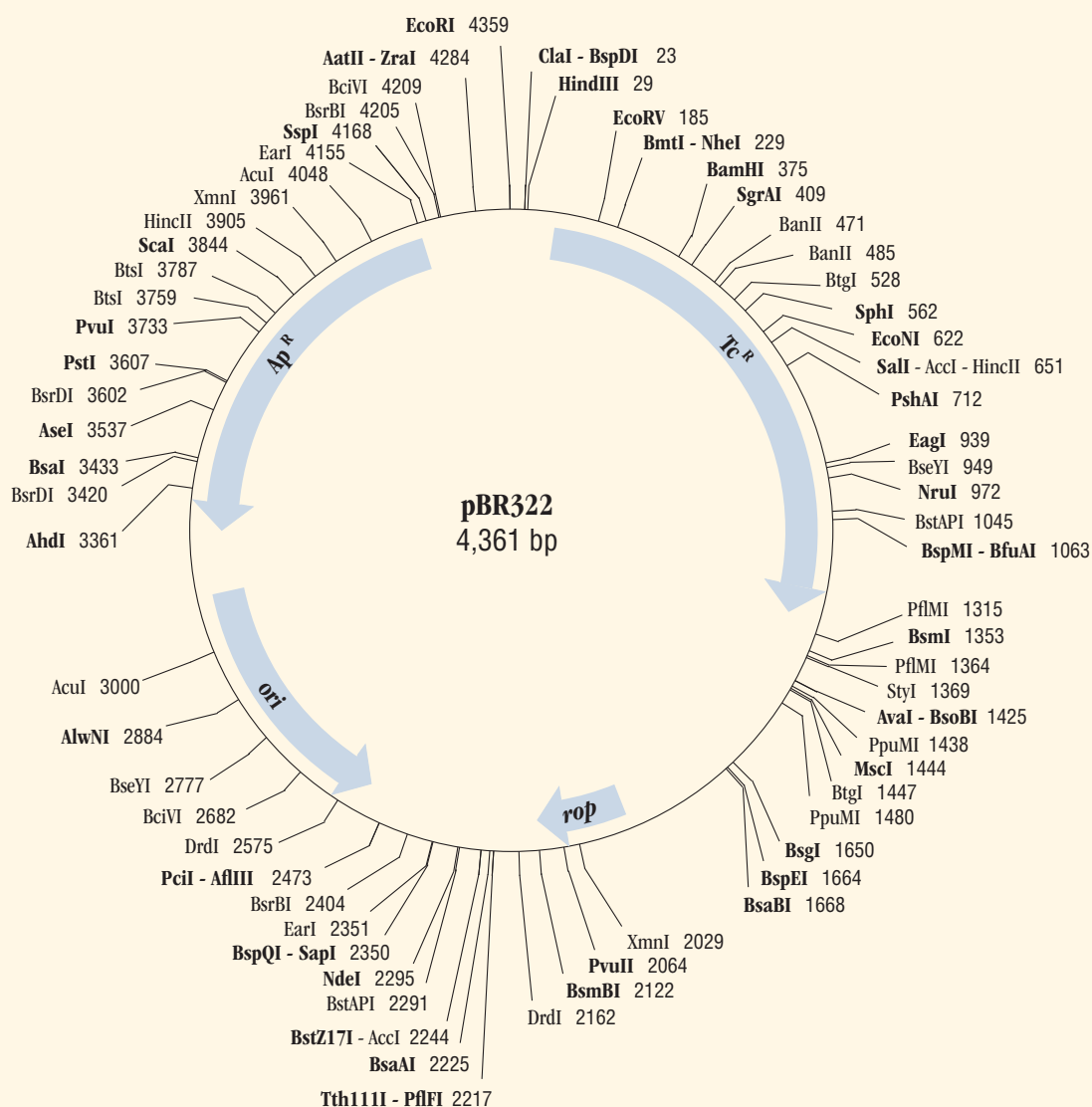
ori = origin of replication

Ap = ampicillin, Tc = tetracycline

GenBank Accession #: J01749

See page 160 for ordering information.

There are no restriction sites for the following enzymes: AarI(x), Acc65I, AfIII, AgeI, AieI, ApaI, ApuI, AscI, AsiSI, AvrII, BaeI, BbvCI, BclI, BglII, BlnI, BmgBI, BsaXI, BseRI, BsiWI, BsrGI, BssHII, BstBI, BstEII, BstXI, Bsu36I, CspCI, DraIII, Eco53KI, FseI, HpaI, I-CeuI, I-SceI, KpnI, MfeI, MluI, NcoI, NotI, NsiI, P1-PspI, PI-SceI, PacI, PaeR7I, PmeI, PmlI, PstI, PspOMI, PspXI, RsrII, SacI, SacII, SanDI(x), SbfI, SexAI, SfiI, SmaI, SnaBI, SpeI, SrfI(x), StuI, SwaI, TliI, TspMI, XbaI, XcmI, XhoI, XmaI
(x) = enzyme not available from NEB



References

- (1) Bolivar, F. et al. (1977) *Gene*, 2, 95–113.
- (2) Sutcliffe, J.G. (1979) *Cold Spring Harb. Symp. Quant. Biol.*, 43, 77–90.
- (3) Watson, N. (1988) *Gene*, 70, 399–403.
- (4) Sambrook, J., Fritsch, E.F., and Maniatis, T. (1989). *Molecular Cloning: A Laboratory Manual*, (2nd ed.), Cold Spring Harbor, Cold Spring Harbor Laboratory Press.