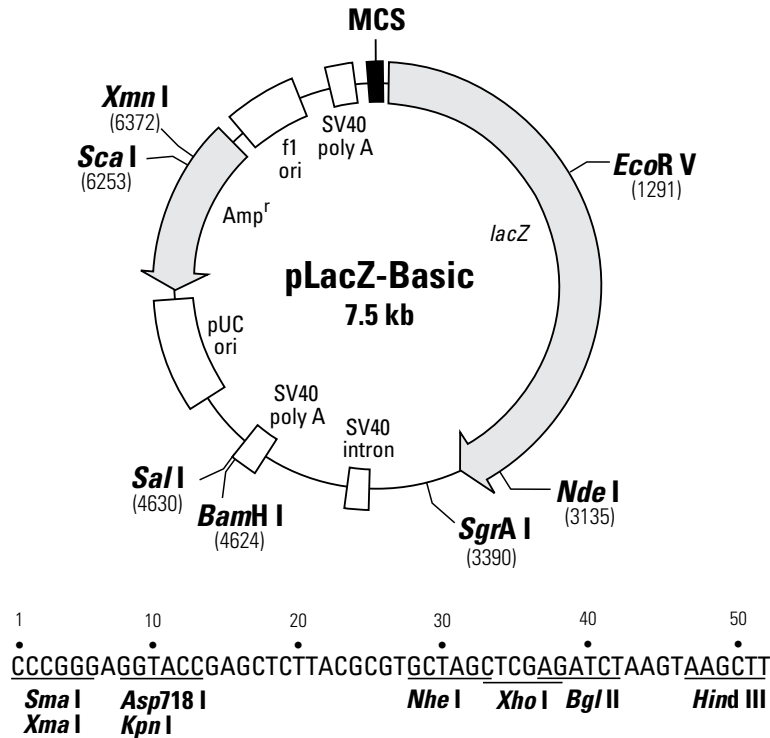


pLacZ-Basic Vector Information

GenBank Accession No. U13184

PT2109-5

Cat. No. 631707



Restriction Map and Multiple Cloning Site (MCS) of pLacZ-Basic. Unique restriction sites are in bold.

Description

pLacZ-Basic is a mammalian reporter vector designed for the analysis of the effects of *cis*-regulatory elements on gene expression in mammalian cells by assaying for β -galactosidase. pLacZ-Basic lacks eukaryotic promoter and enhancer sequences and has a polyadenylation signal upstream of the MCS to reduce background transcription; hence, it will not express significant levels of β -galactosidase. Therefore, the vector can serve as a negative control in many experiments and can also serve as a promoter-cloning vehicle for strong promoters. A pUC origin of replication and ampicillin resistance gene allow propagation and selection in *E. coli*. An f1 origin allows for single-stranded DNA production.

Clontech offers the Beta-Galactosidase Staining Kit (Cat. No. 631780) to determine the efficiency of β -galactosidase transfection and the Luminescent Beta-Galactosidase Reporter System 3 (Cat. No. 631713) to quantify β -galactosidase expression.

Location of features

- Multiple cloning site (MCS): 1–52
- β -galactosidase fusion protein
 - Start codon (ATG): 94–96; stop codon: 3235–3237
 - Amino acids from *D. melanogaster* alcohol dehydrogenase: 94–186
 - Amino acids from *E. coli* β -galactosidase (1): 190–3234
- SV40 small t antigen intron: 3853–3918
- SV40 early mRNA polyadenylation signals: 4524–4529 & 4553–4558
 - mRNA 3' ends: 4562 & 4574
- pUC plasmid origin of replication: 4908–5551



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(032712)

Location of features, *continued*

- Ampicillin resistance (β -lactamase) gene:
 - Promoter: –35 region: 6629–6624; –10 region: 6606–6601
 - Transcription start point: 6594
 - Ribosome binding site: 6571–6567
 - β -lactamase coding sequences: start codon (ATG): 6559–6557; stop codon: 5701–5699
 - β -lactamase signal peptide: 6559–6491; β -lactamase mature protein: 6490–5702
- f1 single-strand DNA origin (packages the coding strand of the *lacZ* gene): 6691–7146
- SV40 early mRNA polyadenylation signals: 7367–7372 & 7396–7401

Propagation in *E. coli*

- Suitable host strains: DH5 α and other general purpose strains. Single-stranded DNA production requires a host containing an F' episome such as JM109.
- Selectable marker: plasmid confers resistance to ampicillin (100 μ g/ml) to *E. coli* hosts.
- *E. coli* replication origin: pUC
- Copy number: ~500
- Plasmid incompatibility group: pMB1/Col E1

Reference

1. MacGregor, G. R., *et al.* (1987) *Somat. Cell Mol. Genet.* **13**: 253–265.

Note: The attached sequence file has been compiled from information in the sequence databases, published literature, and other sources, together with partial sequences obtained by Clontech. This vector has not been completely sequenced.

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This document has been reviewed and approved by the Clontech Quality Assurance Department.