pDRIVE-mB29
A plasmid with the native murine B29 promoter
Catalog # pdrive-mb29
For research use only
Version # 14F10-MM

PRODUCT INFORMATION

Content:
- 20 µg of pDRIVE-mB29 provided as lyophilized DNA
- 4 pouches of E. coli Fast-Media® Zeo (2 TB and 2 Agar)

Shipping and storage:
- Products are shipped at room temperature.
- Lyophilized DNA is stable for at least 12 months when stored at -20°C
- Resuspended DNA is stable for 6 months when stored at -20°C. Avoid repeated freeze-thaw cycles.
- Store E. coli Fast-Media® Zeo at room temperature. Fast-Media® pouches are stable 18 months when stored properly.

Quality control:
- Plasmid construct has been confirmed by restriction analysis and sequencing.

GENERAL PRODUCT USE

pDRIVE is an expression plasmid containing a native or composite promoter of interest. pDRIVE may be used to:
- Subclone a promoter of interest into another vector. Unique restriction sites are present at each end of the promoter allowing convenient excision. The 5' sites include Ssa I and Spe I. Ssa I is compatible with Nsi I and Pst I. Spe I is compatible with Aar II, Nhe I and Xho I. The 3' restriction site is Nco I, which includes the ATG start codon, and is compatible with BspH I and BspLU11 I.
- Compare the activity of different promoters in transient transfection experiments. Each pDRIVE promoter drives the expression of the LacZ reporter gene which allows for testing of the promoter’s activity in transient transfection experiments. Furthermore, the LacZ gene is flanked by unique restriction sites (Nco I and EcoR I) for easy replacement with a different gene of interest.

PROMOTER CHARACTERISTICS

Mouse B29 promoter
Complete Promoter size: 1235 bp
Specificity: B cells

B29 (Igbeta) is a B-cell-specific member of the immunoglobulin gene superfamily that is expressed throughout B-cell development. The product of the B29 gene is an essential component of the B cell receptor and plays a critical role in B cell development. The B29 gene lacks either a TATA or a CAAT box and transcription is initiated at multiple sites. The minimal promoter of the human B29 gene is contained within a <200-bp region 5' of these multiple start sites. This minimal promoter exhibits B-cell-specific activity and contains SP1, ETS, OCT, and Ikaros/Lyf-1 transcription factor motifs.

PLASMID FEATURES

- LacZ gene encodes β-galactosidase an enzyme that catalyzes the hydrolysis of X-Gal, producing a blue precipitate that can be easily visualized under a microscope.
- SV40 pAn: The Simian Virus 40 late polyadenylation signal enables efficient cleavage and polyadenylation reactions resulting in high levels of steady-state mRNA.
- pMB1 Ori is a minimal E. coli origin of replication with the same activity as the longer Ori.
- EM7 is a bacterial promoter that enables the constitutive expression of the antibiotic resistance gene in E. coli.
- Sh ble gene confers zeocin resistance therefore allowing the selection of transformed E. coli carrying a pDRIVE plasmid.

**Note:** Stable transfection of clones cannot be performed due to the absence of an eukaryotic promoter upstream of the Sh ble gene.

METHODS

Plasmid resuspension:
Quickly spin the tube containing the lyophilized plasmid to pellet the DNA. To obtain a plasmid solution at 1µg/µl, resuspend the DNA in 20µl of sterile H2O. Store resuspended plasmid at -20°C.

Plasmid amplification and cloning:
Plasmid amplification and cloning can be performed in E. coli GT116 or other commonly used laboratory E. coli strains, such as DH5α.

Selection of bacteria with E. coli Fast-Media Zeo:
E. coli Fast-Media® Zeo is a fast and convenient way to prepare liquid and solid media for bacterial culture by using only a microwave. E. coli Fast-Media® Zeo is a TB (liquid) or LB (solid) based medium with zeocin, and contains stabilizers. E. coli Fast-Media® Zeo can be ordered separately (catalog code # fas-zn-l, fas-zn-s).

**Method:**
1- Pour the contents of a pouch into a clean borosilicate glass bottle or closed container. Do not autoclave Fast-Media® as the antibiotic will be permanently destroyed by the procedure.

TECHNICAL SUPPORT
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