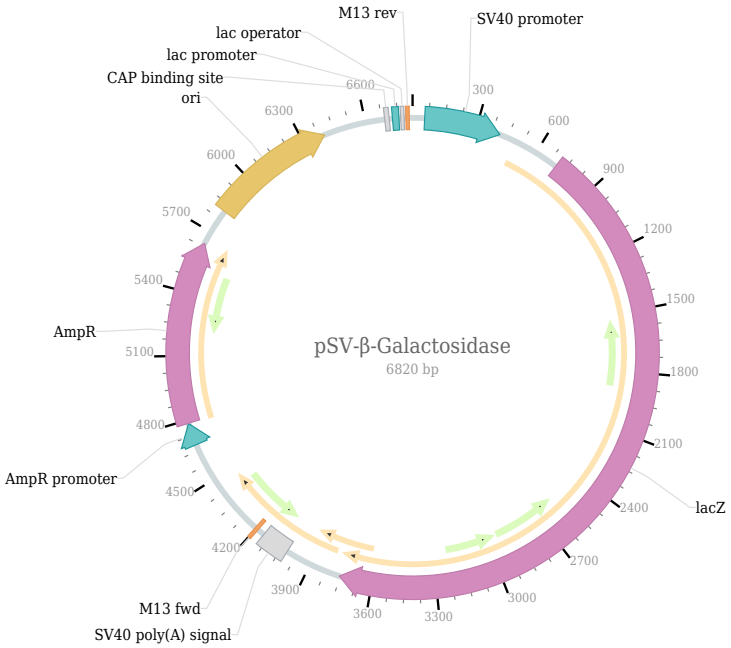
pSV-β-Galactosidase

Vector ID	V011652
Antibiotic Resistance	Ampicillin
Length	6820 bp
Vector Type	Mammalian Cell Expression Vectors

Product Information

Replication Origin	ori
Cloning Method	Enzyme digestion and ligation
Growth Strain(s)	DH10B
Comment	The pSV-β-Galactosidase Control Vector(a) is designed as a positive control vector for monitoring transfection efficiencies of mammalian cells. The SV40 early promoter and enhancer drive transcription of the bacterial lacZ gene, which in turn, is translated into the β-galactosidase enzyme. β-galactosidase is an excellent reporter enzyme (1,2), that can be assayed quickly and directly in cell extracts using spectrophotometric, fluorescent or chemiluminescent assays (3,4). This reporter enzyme is also widely used for in situ histochemical analysis using the substrate X-Gal (5).The pSV-β-Galactosidase Control Vector can be co-transfected with your DNA of interest. For example, co-transfection with firefly luciferase gene vectors (pGL3 Vectors) provide cell extracts that can be assayed for both luciferase and β-galactosidase activities. In this manner, the pSV-β-Galactosidase Vector acts as an internal control for transient expression assays. A negative control extract, prepared from mock-transfected cells, should also be assayed for the presence of endogenous β-galactosidase activity in cultured cells (2). In addition, co-transfection with chloramphenicol acetyltransferse reporter gene vectors (pCAT3 Vectors) permits assaying for both CAT and β-galactosidase activities.The pSV-β-Galactosidase Vector is a modification of pRSV-βGAL (6) with SV40 and pUC18 sequences substituted for RSV and pBR322 sequences. The pSV-β-Galactosidase Vector will express β-galactosidase in E. coli due to the presence of the E. coli gpt promoter located upstream of the lacZ gene (1). Colonies of E. coli containing the pSV-β-Galactosidase Vector will appear blue when plated on media containing X-gal.

Vector Map



Plasmid Resuspension Protocol

1. Centrifuge at 5,000×g for 5 min.
2. Carefully open the tube and add sterile water to dissolve the DNA: add 20 µl for 5 µg plasmid, and 100 µl for 100 µg plasmid.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin to concentrate the liquid at the bottom. Speed is less than 5000×g.
5. Store the plasmid at -20 ℃.