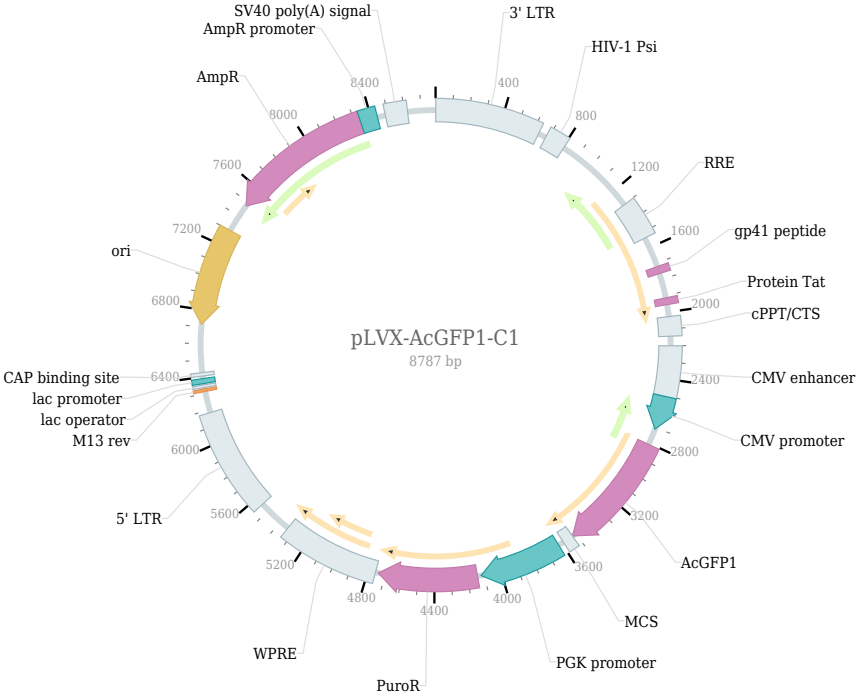
pLVX-AcGFP1-C1

Vector ID	V012690
Antibiotic Resistance	Ampicillin
Length	8787 bp
Vector Type	Viral Expression & Packaging Vectors

Product Information

Replication Origin	ori
Source/Author	Clontech Laboratories Inc
Selection Marker	Puromycin
Copy Number	High copy number
Promoter	mPGK
Cloning Method	Enzyme Cut
Fusion Tag	AcGFP1
Expression Method	Constiutive, Stable / Transient
Comment	pLVX-AcGFP1-C1 is an HIV-1-based, lentiviral expression vector that allows you to express your gene of interest fused to AcGFP1, a green fl uorescent protein derived from Aequorea coerulescens. Genes cloned into the multiple cloning site (MCS), located at the C-terminal end of the AcGFP1 coding sequence, are expressed as C-terminal fusions of the AcGFP1 protein. Expression of the fusion protein is driven by the constitutively active human cytomegalovirus immediate early promoter (PCMV IE) located just upstream of the AcGFP1 coding sequence. Lentiviral particles derived from the vector allow the expression of AcGFP1 fusion proteins in virtually any cell type, including primary cells. The unmodified vector expresses AcGFP1, and may be used to produce marker virus to optimize infection protocols. pLVX-AcGFP1-C1 contains all of the viral processing elements necessary for the production of replication-incompetent lentivirus, as well as elements to improve viral titer, transgene expression, and overall vector function. The woodchuck hepatitis virus posttranscriptional regulatory element (WPRE) promotes RNA processing events and enhances nuclear export of viral and transgene RNA (1), leading to increased viral titers from packaging cells, and enhanced expression of your gene of interest in target cells. In addition, the vector includes a Rev-response element (RRE), which further increases viral titers by enhancing the transport of unspliced viral RNA out of the nucleus (2). Finally, pLVX-AcGFP1-C1 also contains a central polypurine tract (cPPT) element that increases nuclear importation of the viral genome during target cell infection, resulting in improved vector integration and more efficient transduction (3). In addition to lentiviral elements, pLVX-AcGFP1-C1 contains a puromycin resistance gene (Puromycin resistance) under the control of the murine phosphoglycerate kinase (PGK) promoter (PPGK) for the selection of stable transductants. The vector also contains a pUC origin of replication and an E. coli ampicillin resistance gene (Ampr) for propagation and selection in bacteria. pLVX-AcGFP1-C1 constitutively expresses your gene of interest from PCMV IE when transduced into target cells. Before the vector can be transduced into cells, however, it must be transfected into 293T packaging cells with our Lenti-X™ HT Packaging System (Cat. Nos. 632160 and 632161). This packaging system allows you to safely produce high titer, infectious, replication-incompetent, VSV-G pseudotyped lentiviral particles that can infect a wide range of cell types, including non-dividing and primary cells (4).

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 ℃.