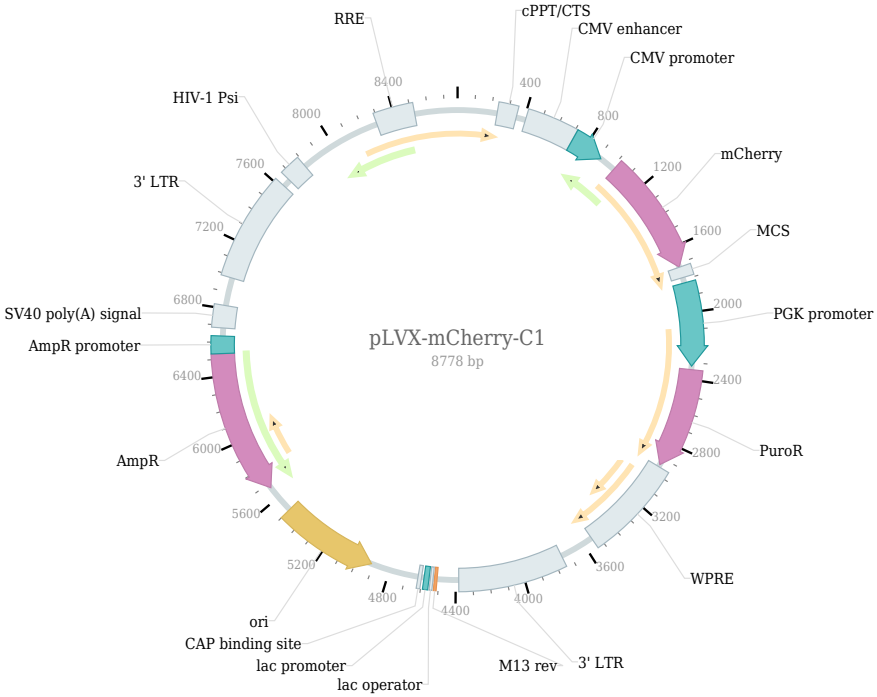
pLVX-mCherry-C1

Vector ID	V012718
Antibiotic Resistance	Ampicillin
Length	8778 bp
Vector Type	Viral Expression & Packaging Vectors

Product Information

Replication Origin	ori
Source/Author	Clontech
Selection Marker	Puromycin
Copy Number	High copy number
Promoter	mPGK
Cloning Method	Enzyme Cut
Fusion Tag	mCherry
Expression Method	Constiutive, Stable
Comment	pLVX-mCherry-C1 is an HIV-1-based, lentiviral expression vector that allows you to express your gene of interest fused to mCherry, a mutant fluorescent protein derived from the tetrameric Discosoma sp. red fluorescent protein, DsRed (1). The excitation and emission maxima of the native mCherry protein are 587 nm and 610 nm, respectively. Genes cloned into the multiple cloning site (MCS), located at the C-terminal end of the mCherry coding sequence, are expressed as C-terminal mCherry fusion proteins. Expression of the fusion protein is driven by the constitutively active human cytomegalovirus immediate early promoter (PCMV IE), located just upstream of the mCherry coding sequence. Lentiviral particles derived from the vector allow the expression of mCherry fusion proteins in virtually any cell type, including primary cells. The unmodified vector expresses mCherry, and may be used to produce marker virus to optimize infection protocols. pLVX-mCherry-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 (2), 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 (3). Finally, pLVX-mCherry-C1 also contains a central polypurine tract/central termination sequence element (cPPT/CTS). During target cell infection, this element creates a central DNA flap that increases nuclear import of the viral genome, resulting in improved vector integration and more efficient transduction (4). In addition to lentiviral elements, pLVX-mCherry-C1 contains a puromycin resistance gene (Puror) 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.

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 ℃.