

## pMXs-EF1-GFP Retroviral Vector

CATALOG NUMBER: RTV-061

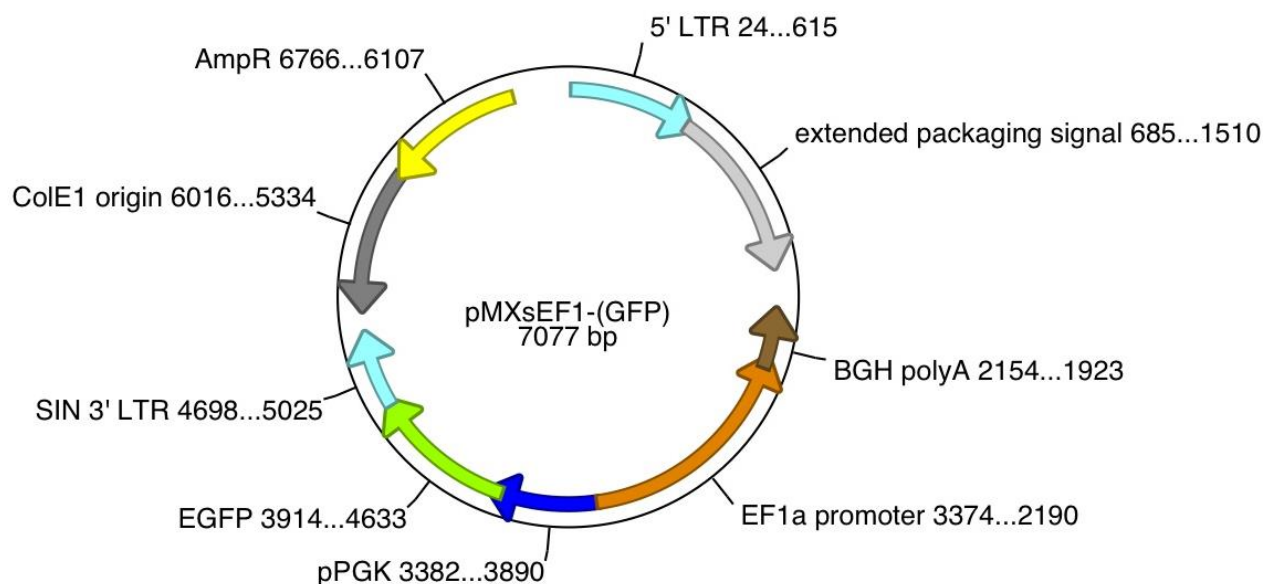
STORAGE: -20°C

QUANTITY AND CONCENTRATION: 10 µg at 0.25 µg/µL in TE

### Background

Retroviruses are efficient tools for delivering heritable genes into the genome of dividing cells. Cell Biolabs' pMXs-EF1-GFP retroviral vector is based on Moloney murine leukemia virus (MMLV). The vector provides the viral package signal, transcription and processing elements, and MCS for cloning of your gene of interest after the EF-1a promoter. The viral *env* gene, produced by the packaging cell line, encodes the envelope protein, which determines the viral infectivity range. Transfection into a packaging cell line produces high-titer, replication-incompetent viruses. In addition to transfer and expression of exogenous genes in mammalian cells, recently, retroviruses have been used to express silencing RNAs (siRNA) to decrease the expression of target genes both *in vitro* and *in vivo*.

The vector contains the ampicillin-resistance gene, MMLV LTRs, package signal and MCS for cloning of your gene of interest including miRNA precursor after the EF-1a promoter (Figure 1). For cloning of miRNA precursor, we recommend cloning a miRNA precursor sequence that includes the stem loop plus its native 50-100 bases upstream and downstream.



**Figure 1.** Schematic representation of pMXs-EF1-GFP retroviral vector.

### MCS:

- Enzyme Sites: 5' - BamHI, EcoRI, SalI, NotI -3'
- MCS Sequence:  
---EF-1a---TGAAGGATCCAACGAATTCAACGTCGACAACGCGGCCGCCTAG---BGH  
PolyA---

### **Safety Consideration**

Remember that you will be working with samples containing infectious virus. Follow the recommended NIH guidelines for all materials containing BSL-2 organisms. Always wear gloves, use filtered tips and work under a biosafety hood.

### **References**

1. Kitamura T., *et al.*, (2003) *Exp. Hematol.* **31**, 1007-1014.

### **License Information**

This product is licensed from Dr. Toshio Kitamura.

### **Warranty**

These products are warranted to perform as described in their labeling and in Cell Biolabs literature when used in accordance with their instructions. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THIS EXPRESSED WARRANTY AND CELL BIOLABS DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR PARTICULAR PURPOSE. CELL BIOLABS's sole obligation and purchaser's exclusive remedy for breach of this warranty shall be, at the option of CELL BIOLABS, to repair or replace the products. In no event shall CELL BIOLABS be liable for any proximate, incidental or consequential damages in connection with the products.

***This product is for RESEARCH USE ONLY; not for use in diagnostic procedures.***

### **Contact Information**

Cell Biolabs, Inc.  
5628 Copley Drive  
San Diego, CA 92111  
Worldwide: +1 858 271-6500  
USA Toll-Free: 1-888-CBL-0505  
E-mail: [tech@cellbiolabs.com](mailto:tech@cellbiolabs.com)  
[www.cellbiolabs.com](http://www.cellbiolabs.com)

©2012-2023: Cell Biolabs, Inc. - All rights reserved. No part of these works may be reproduced in any form without permissions in writing.