

## pMYs-IRES-Puro Retroviral Vector

**CATALOG NUMBER:** RTV-022

**STORAGE:** -20°C

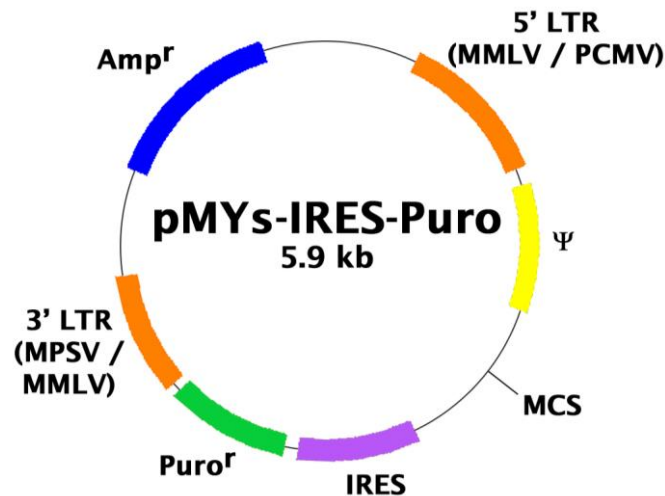
**QUANTITY AND CONCENTRATION:** 10 µg at 0.25 µg/µL in TE

### Background

Retroviruses are efficient tools for delivering heritable genes into the genome of dividing cells. Most retrovirus vectors including pBABE and pMXs are based on Moloney murine leukemia virus (MMLV). MMLV-based vectors usually are silenced in immature cells including embryonic carcinoma (EC) cells and embryonic stem (ES) cells, and possibly hematopoietic stem cells. Myeloproliferative sarcoma virus (MPSV) and PCC4-cell-passaged myeloproliferative sarcoma virus (PCMV) are mutants of MMLV and can stably express genes in immature cells including ES cells.

Cell Biolabs' pMYs-IRES-Puro retroviral vector (also known as pMYs-IP) includes hybrid LTRs containing elements from both MMLV and MPSV/PCMV, and it's capable of expressing genes in hematopoietic stem cells. The vector provides the viral package signal, transcription and processing elements, and MCS for cloning of a target gene. The viral *env* gene, produced by the package cell line, encodes the envelope protein, which determines the viral infectivity range. Transfection into a package 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, LTRs, package signal and MCS for cloning of your gene of interest (Figure 1).



**Figure 1.** Schematic representation of pMYs-IRES-Puro retroviral vector.

MCS:

- Enzyme Sites: 5'-BamHI, EcoRI, XhoI, NotI, SnaBI-3'

- MCS Sequence:  
TTAAGGATCCCAGTGTGGTGGTACGGGAATTCCTGCAGGCCTCGAGGGCCGGCGCGC  
CGCGGCCGCTACGTAAATT---IRES---puro---

### **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.

### **Recent Product Citations**

1. Meng, Y. *et al.* (2022). The NCF1 variant p.R90H aggravates autoimmunity by facilitating the activation of plasmacytoid dendritic cells. *J Clin Invest.* **132**(16):e153619. doi: 10.1172/JCI153619.
2. Takemori, T. *et al.* (2022). Establishment of a monoclonal antibody against human NTCP that blocks HBV infection. *J Virol.* doi: 10.1128/JVI.01686-21.

### **License Information**

This product is licensed from the University of Tokyo.

### **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.  
7758 Arjons Drive  
San Diego, CA 92126  
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.