

## pBABEhygro-p38 $\delta$ Retroviral Vector

CATALOG NUMBER: RTV-128

STORAGE: -80°C

QUANTITY AND CONCENTRATION: 100  $\mu$ L of bacterial glycerol stock

### **Background**

Retroviruses are efficient tools for delivering heritable genes into the genome of dividing cells. Cell Biolabs' retrovirus vector is based on the pBABE vector system, which is derived from Moloney murine leukemia virus (MMLV). The vector provides the viral package signal, transcription and processing elements, and a target gene. The viral *env* gene, produced by the package cell line, encodes the envelop 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 bacterial origin of replication, ampicillin-resistance gene, and hygromycin-resistance gene for the growth of infected mammalian cells to select stable cell lines (Figure 1).

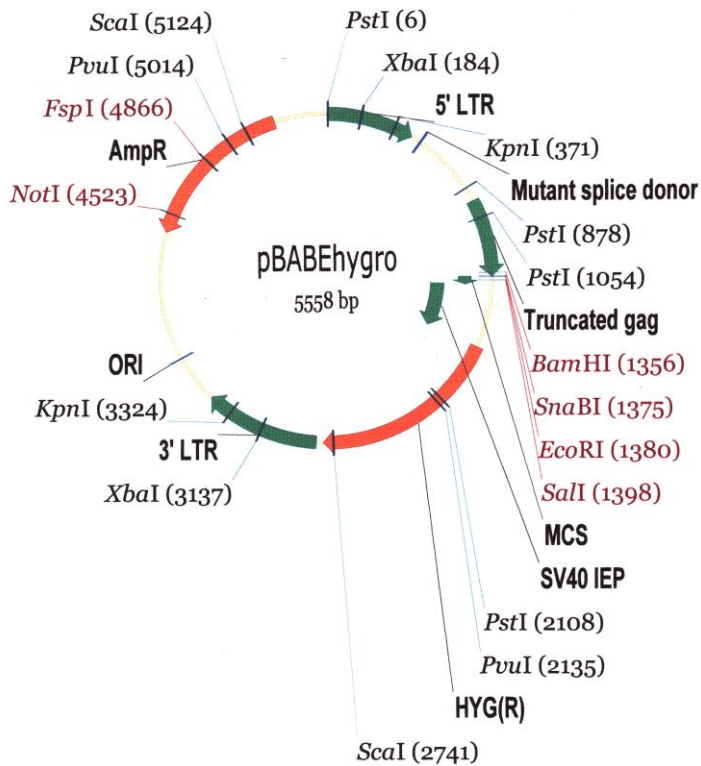
Mitogen-activated protein kinases (MAPK), including ERK1/2, p38, and JNK1/2, are important regulators of cell function. The ERK MAPKs are most frequently activated by mitogens, whereas the JNK and p38 MAPKs are strongly responsive to stress and inflammatory signals. The p38 MAPK family includes the p38 $\alpha$ ,  $\beta$ ,  $\delta$ , and  $\gamma$  isoforms. A human p38 $\delta$  sequence is cloned into the retroviral vector pBABEhygro at the *Sna*B I site.

### **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. Morgenstern, J. P. and H Land. (1990) *Nuc. Acid Res.* 18, 3587-3596.
2. Coffin, J. M. and H. E. Varmus, *Retroviruses*, Cold Spring Harbor Press, NY.
3. Schuck S, Manninen A, Honsho M, Fullekrug J and Simons K. (2004) *Proc Natl Acad Sci U S A.* 101, 4912-4917.
4. New L and Han J. (1998) *Trends Cardiovasc Med.* 8(5):220-8.



**Figure 1. Retroviral Vector Map**

**Warranty**

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**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)

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