

## pBABE-Hygro Retroviral Vector

**CATALOG NUMBER:** RTV-001-HYGRO

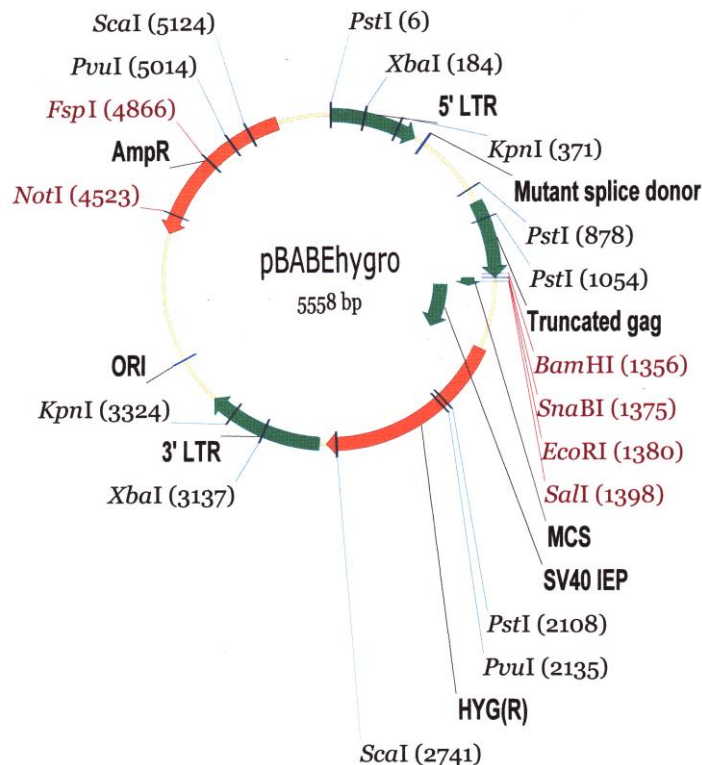
**STORAGE:** -20°C

**QUANTITY AND CONCENTRATION:** 10 µg at 0.5 µg/µL in TE

### 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 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 are 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).



**Figure 1.** pBABE-Hygro Retroviral Vector Map

### **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.

### **Recent Product Citations**

1. Zhao, J. et al. (2015). Death-associated protein kinase 1 promotes growth of p53-mutant cancers. *The Journal of Clinical Investigation* **125**:2707-2720.
2. Duran, P.P. et al. (2012) UNG shapes the specificity of AID-induced somatic hypermutation. *J. Exp. Med.* **209**: 1379-1389.
3. Ding, J. et al. (2010). Bcl-2 and Bax interact via the BH1-3 groove-BH3 motif interface and a novel interface involving the BH4 motif. *J. Biol. Chem.* **285**:28749-28763.

### **Warranty**

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

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