

pBABEpuro-hnRNP-A2 Retroviral Vector

CATALOG NUMBER: RTV-340

STORAGE: -80°C

QUANTITY AND CONCENTRATION: 100 µL of bacterial glycerol stock

Background

Retroviruses are efficient tools for delivering heritable genes into the genome of dividing cells. Cell Biolabs' hnRNP-A2 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*.

Heterogeneous nuclear ribonucleoproteins (hnRNPs) are a family of RNA-binding proteins involved in various aspects of mRNA biogenesis. hnRNP-A2 has been characterized as an early marker of lung cancer. A human hnRNP-A2 is cloned into the retroviral vector pBABEpuro at the *Sna*B I site.

The vector contains the bacterial origin of replication, ampicillin-resistance gene, and puromycin-resistance gene for the growth of infected mammalian cells to select stable cell lines (Figure 1).

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. Marshall C. J., Lloyd A. C., Morris J. D., Paterson H., Price B and Hall A. (1989) *Int J Cancer Suppl.* 4:29-31.

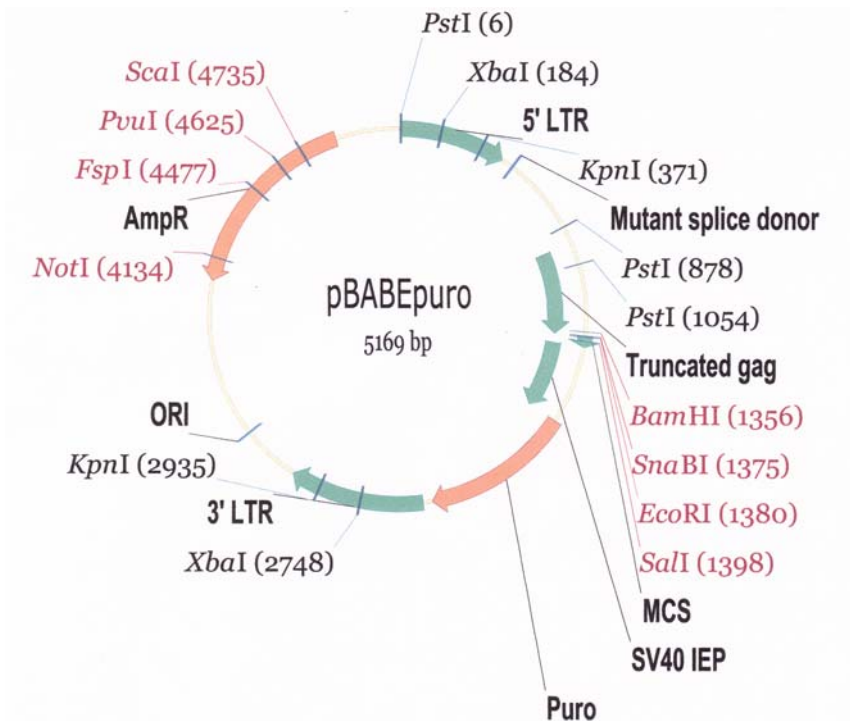


Figure 1. Retroviral Vector Map

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