pWZL-Neo Retroviral Vector

CATALOG NUMBER: RTV-001-NEO **STORAGE:** -20ºC

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 vectors are 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 neomycin-resistance gene for the grwoth of infected mammalian cells to select stable cell lines (Figure 1).

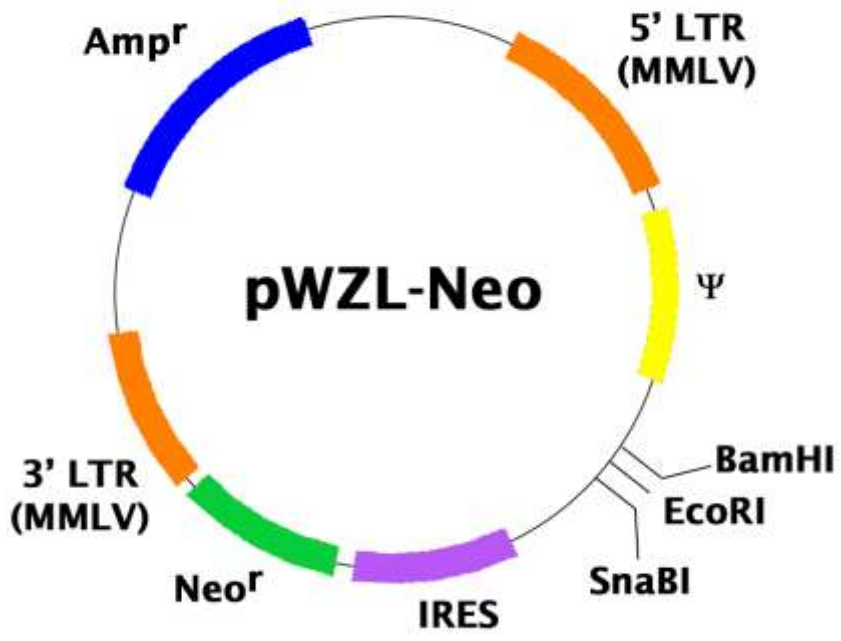

Figure 1. Schematic representation of pWZLneo retroviral vector.

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. Adhikari, H. et al. (2021). Oncogenic KRAS is dependent upon an EFR3A-PI4KA signaling axis for potent tumorigenic activity. *Nat Commun*. **12**(1):5248. doi: 10.1038/s41467-021-25523-5.
2. Iida, Y. et al. (2020). Local injection of CCL19-expressing mesenchymal stem cells augments the therapeutic efficacy of anti-PD-L1 antibody by promoting infiltration of immune cells. *J Immunother Cancer*. **8**(2):e000582. doi: 10.1136/jitc-2020-000582.
3. Chen, B. et al. (2019). Upregulation of DLC-1 inhibits pancreatic cancer progression: Studies with clinical samples and a pancreatic cancer model. *Oncology Letters*. doi: 10.3892/ol.2019.10871.
4. Ochi A., et al. (2017). MIF-2/D-DT Enhances Proximal Tubular Cell Regeneration Through SLPI and ATF4-dependent Mechanisms. *Am J Physiol Renal Physiol.* doi: 10.1152/ajprenal.00683.2016.

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