

RFP Lentivirus Control

CATALOG NUMBER: LTV-301 **STORAGE:** -80 °C, Avoid repeat freeze/thaw cycles

QUANTITY AND CONCENTRATION: 200 µL, >1 x 10⁶ TU/mL in DMEM, 10% FBS, Pen-Strep

Background

Lentivirus vector based on the human immunodeficiency virus-1 (HIV-1) has become a promising vector for gene transfer studies. The advantageous feature of lentivirus vector is the ability of gene transfer and integration into dividing and non-dividing cells. The pseudotyped envelope with vesicular stomatitis virus envelope G (VSV-G) protein broadens the target cell range. Lentiviral vectors have been shown to deliver genes to neurons, lymphocytes and macrophages, cell types that previous retrovirus vectors could not be used. Lentiviral vectors have also proven to be effective in transducing brain, liver, muscle, and retina *in vivo* without toxicity or immune responses. Recently, the lentivirus system is widely used to integrate siRNA efficiently in a wide variety of cell lines and primary cells both *in vitro* and *in vivo*.

The provided RFP lentivirus control is a VSVG-pseudotyped pantropic virus capable of infecting both dividing and non-dividing cells. The virus contains RFP and Puromycin resistant genes (Figure 1), it provides a useful control for transduction. This control virus can also be used to generate RFP stable cell lines, and stable clones can be selected by either red fluorescence sorting or Puromycin resistance in 1 to 2 µg/mL Puromycin-containing medium.

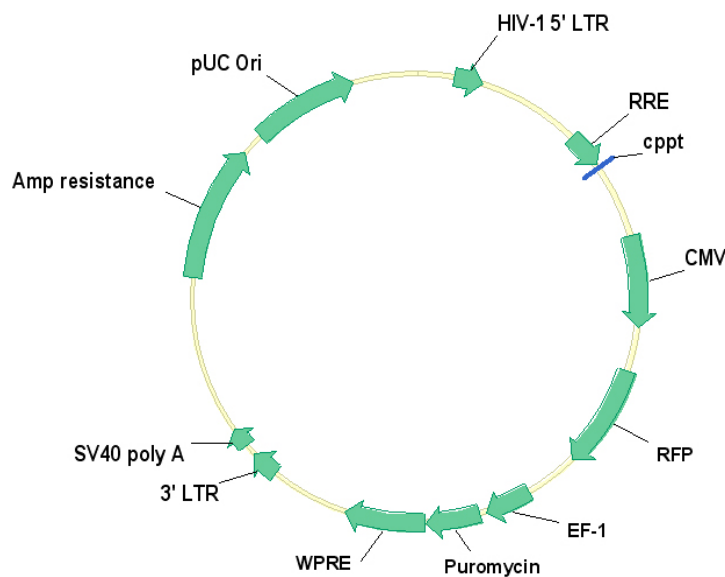


Figure 1. Schematic representation of RFP lentivirus expression vector.

Quality Control

This vial contains 200 μ L of control RFP supernatant with p24 level of 1 μ g/mL (particle titer) as determined by a p24 ELISA kit (Cat.# VPK-108-HIV p24) and at least 1.0×10^6 TU/mL (infectious titer) as determined by red fluorescence of infected 293 cells (Figure 2).

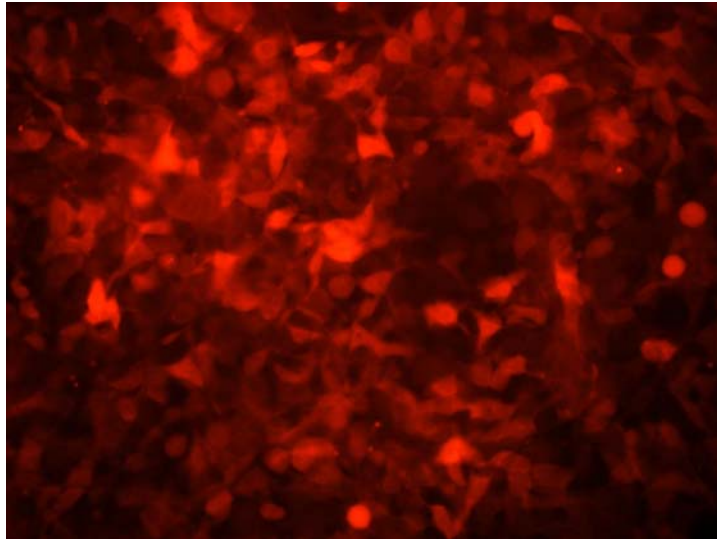


Figure 2: RFP Expression in 293 cells: 293 cells are seeded at 100,000 cells/well in a 6-well plate overnight. Cells were infected with RFP lentivirus in the presence of 8 μ g/mL Polybrene for 72 hrs.

Safety Considerations

Remember that you will be working with samples containing infectious virus. Follow the recommended NIH guidelines for all materials containing BSL-2 organisms. Precautions must be taken to avoid direct contact with viral supernatants.

References

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3. Kahl C. A., Marsh J., Fyffe J., Sanders D. A., and K. Cornetta (2004) *J Virol.* **78**:1421-30.
4. White S. M., Renda M., Nam N. Y., Klimatcheva E., Zhu Y., Fisk J., Halterman M., Rimel B. J., Federoff H., Pandya S., Rosenblatt J. D., and V. Planelles (1999) *J Virol.* **73**:2832-40.
5. Kafri T., van Praag H., Ouyang L., Gage F. H., and I. M. Verma (1999) *J Virol.* **73**:576-84.

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