

# RediFect Lentiviral Particles

Research use only. Not for use in diagnostic procedures.

**Name: RediFect Red-FLuc-Puro**

**Product Number: CLS960002**

**We recommend using this product to transduce human cell lines, or murine cell lines that will be used in Nude and SCID mouse models only. An immune response may occur in syngeneic mouse models.**

## DESCRIPTION

*RediFect Red-FLuc-Puro Lentiviral Particles* are self-inactivating, recombination incompetent lentiviral particles carrying red-shifted *Luciola Italica* luciferase transgene under control of the stable UbC promoter. The luciferase transgene is fused to the puromycin resistance gene via T2A "self-cleaving" linker peptide for efficient co-expression with selection marker. The lentiviral particles are pseudotyped with G glycoprotein from Vesicular Stomatitis Virus (VSVG), allowing efficient transduction of a wide variety of mammalian cells including most cancer cell lines, primary, stem and non-dividing cells.

## CONTENTS

- Each vial contains  $1 \times 10^7$  units/ml of lentiviral particles resuspended in 200 ul of phosphate buffered saline.
- The packaged material provides sufficient number of lentiviral particles for transduction of at least one cell line.

## STORAGE & HANDLING

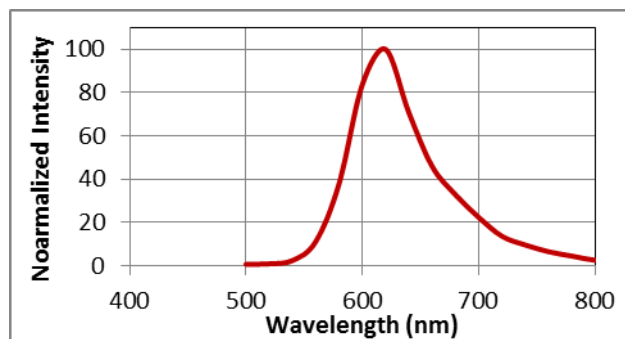
- Upon receipt, *RediFect Red-FLuc-Puro Lentiviral Particles* should be **IMMEDIATELY STORED AT -80 °C**.
- When stored and handled properly, *RediFect Red-FLuc-Puro Lentiviral Particles* are stable for three months.
- After thawing the vial, gently spin down the solution and place it on ice. Avoid repeated freeze-thawing as this will reduce viral titer.

## APPLICATIONS

- *In vitro* labeling of mammalian tumor cells for non-invasive *in vivo* monitoring of tumor growth in subcutaneous and orthotopic deep tissue mouse models
- *In vitro* labeling of stem cells for non-invasive *in vivo* monitoring of survival and growth of implanted cells.

## NOTES

- For laboratory use only. This product is intended for animal research only and not for use in humans. It must be used by or directly under the supervision of a technically qualified individual experienced in handling potentially hazardous materials. Please read the Material Safety Data Sheet (MSDS) provided for this product.
- Several of *PerkinElmer's* products and product applications are covered by U.S and foreign patents and patents pending. Our products are not available for resale or other commercial uses without a specific agreement from *PerkinElmer*.



Normalized bioluminescence emission spectra of MDA-MB231 cell line transduced with red-shifted luciferase from *Luciola Italica*

## PROTOCOL\* FOR THE USE OF REDIFECT RED-FLUC-PURO LENTIVIRAL PARTICLES

- 1) **Day 1.** Plate 20,000-50,000 of mammalian cells in complete medium into 1 well of a 24 well-plate. Incubate cells for 12-24hr.
- 2) **Day 2.** Thaw a vial with lentiviral particles, gently spin down the solution and place it on ice. Replace the medium with 500ul of fresh complete medium containing hexadimethrine bromide (polybrene) at a final concentration of 4 ug/ml. Add the appropriate amount of viral particles at a suitable multiplicity of infection (MOI) directly to cells. Incubate cells with the viral particles for 24 hr.
  - a. Polybrene enhances transduction of most cell lines. However, some cells such as mesenchymal stem cells or primary neurons are known to be sensitive to polybrene. If the cells are sensitive, do not add polybrene and the cells should still be transduced.
  - b. If the optimal MOI is unknown for the cell line of choice, it is recommended to use a range of MOIs (20-100).
- 3) **Day 3.** Replace the virus containing medium with 1ml of fresh pre-warmed complete culture medium and incubate cells for 24hr.
- 4) **Day 4.** Split the cells if necessary; add fresh complete culture medium with the appropriate amount of puromycin to select the transduced cells. A kill curve experiment is recommended when the appropriate amount of puromycin is unknown for the cell line.
- 5) **Day 6 and forward.** Expand puromycin resistant cells to assay for expression of luciferase.

*\*For a more detailed transfection protocol, please see our "RediFect Lentiviral Particles Transfection Protocol" available on our website or by contacting our Global Technical Support team: [global.techsupport@perkinelmer.com](mailto:global.techsupport@perkinelmer.com)*

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