

Description

The Firefly Luciferase-eGFP Lentivirus are replication incompetent, HIV-based, VSV-G pseudotyped lentiviral particles that are ready to infect almost all types of mammalian cells, including primary and non-dividing cells. These viruses contain a firefly luciferase and eGFP cassette (Luc-P2A-eGFP) driven by a CMV promoter (Figure 1). The luciferase and eGFP proteins are coexpressed under the CMV promoter in the infected cells, allowing greater flexibility for detection of transduced cells.

Application

Ideal as a positive control for transduction; useful for transduction optimization.

Formulation

The lentiviruses were produced from HEK293T cells. Supplied in medium containing 90% DMEM + 10% FBS.

Titer

Two vials (500 μ l x 2) of Firefly Luciferase-eGFP lentivirus at a titer $\geq 1 \times 10^7$ TU/ml. The titer will vary with each lot; the exact value is provided with each shipment.

Storage

Lentiviruses are shipped with dry ice. For long term storage, it is recommended to store the virus at -80°C. Avoid repeated freeze-thaw cycles. Titers can drop significantly with each freeze-thaw cycle.

Biosafety

None of the HIV genes (gag, pol, rev) will be expressed in the transduced cells, as they are expressed from packaging plasmids lacking the packing signal. Although the pseudotyped lentiviruses are replication-incompetent, they require the use of a Biosafety Level 2 facility. BPS recommends following all local federal, state, and institutional regulations and using all appropriate safety precautions.

Materials Required but Not Supplied

These materials are not supplied with this lentivirus but are necessary to follow the designed protocol. BPS Bioscience media, reagents, and luciferase assay systems are all validated and optimized for use with this lentivirus and are highly recommended for best results.

Name	Ordering Information
HEK293 growth medium or Thaw Medium 1	BPS Bioscience #60187
96-well tissue culture treated white clear-bottom assay plate	Corning #3610
ONE-Step™ Luciferase Assay System	BPS Bioscience #60690
Luminometer	

License Disclosure

Visit bpsbioscience.com/license for the label license and other key information about this product.

Troubleshooting Guide

Visit bpsbioscience.com/lentivirus-faq for detailed troubleshooting instructions. For all further questions, please email support@bpsbioscience.com.

Figures and Validation Data

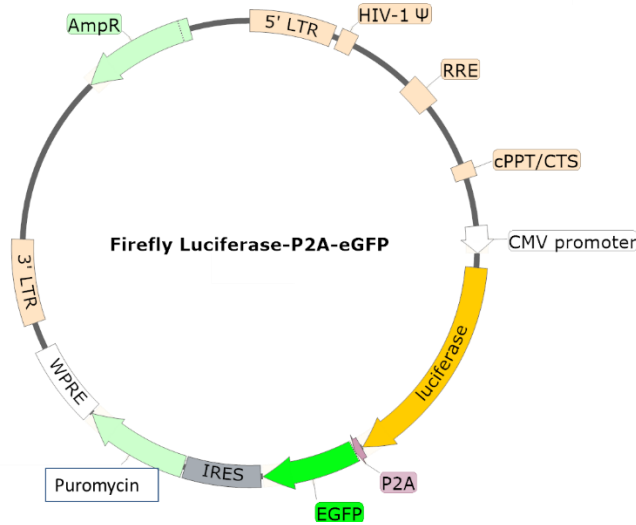


Figure 1. Schematic of lenti-vector used to generate the firefly luciferase-eGFP lentivirus

Important Notes



To generate a Firefly Luciferase-eGFP stable cell line, on day 4 remove HEK growth medium and replace it with fresh growth medium containing the appropriate amount of puromycin for antibiotic selection of transduced cells.

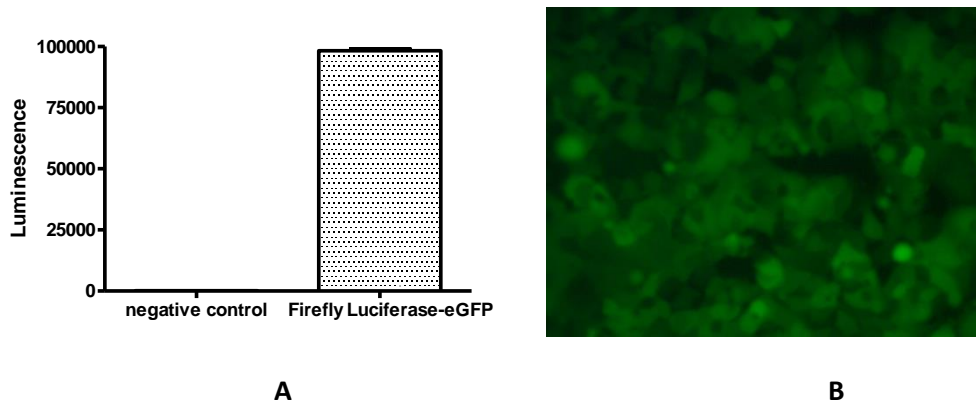


Figure 2. Transduction of HEK293 Cells Monitored by Luciferase Activity and eGFP expression.

A. Approximately 10,000 cells/well of HEK293 cells were infected with 5 μ l/well of Firefly Luciferase-eGFP lentivirus or expression negative control lentivirus (BPS Bioscience #79902-P). After 48 hours of transduction, ONE-Step™ Luciferase reagent (BPS Bioscience, #60690) was added to cells to measure the luciferase activity.

B. Approximately 10,000 cells/well of HEK293 cells were infected with 5 μ l/well of Firefly Luciferase-eGFP lentivirus. After 48 hours of transduction, the expression of eGFP in the target cells was examined using fluorescence microscopy.

Related Products

<i>Products</i>	<i>Catalog #</i>	<i>Size</i>
Firefly Luciferase-eGFP Lentivirus (G418)	79980-G	500 µl x 2
eGFP Lentivirus	79979	500 µl x 2
Renilla Luciferase (Rluc) Lentivirus	79565	500 µl x 2
Firefly Luciferase (Fluc) Lentivirus (G418)	79692-G	500 µl x 2
Firefly Luciferase (Fluc) Lentivirus (Hygromycin)	79692-H	500 µl x 2
Firefly Luciferase (Fluc) Lentivirus (Puromycin)	79692-P	500 µl x 2
Negative Control Lentivirus	79578	500 µl x 2
Expression Negative Control Lentivirus	79902	500 µl x 2
NFAT eGFP Reporter Lentivirus	79922	500 µl x 2
Bald Lentiviral Pseudoviron (Luciferase-eGFP dual Reporter)	79988	500 µl x 2
Bald Lentiviral Pseudoviron (eGFP Reporter)	79987	500 µl x 2
Bald Lentiviral Pseudovirion (Luciferase Reporter)	79943	500 µl x 2
SARS-CoV-2 Spike Pseudotyped Lentivirus (Luciferase e-GFP Reporter)	79982	500 µl x 2
SARS-CoV-2 Spike Pseudotyped Lentivirus (eGFP Reporter)	79981	500 µl x 2
SARS-CoV-2 Spike Pseudotyped Lentivirus (Luciferase Reporter)	79942	500 µl x 2