

## Data Sheet

### *Renilla Luciferase Lentivirus*

**Catalog #: 79565-P**

#### Product Description

The Renilla Luciferase Lentivirus are replication incompetent, HIV-based, VSV-G pseudotyped lentiviral particles that are ready to be transduced into almost all types of mammalian cells, including primary and non-dividing cells. The particles constitutively express Renilla luciferase under a CMV promoter (Figure 1).

#### Applications

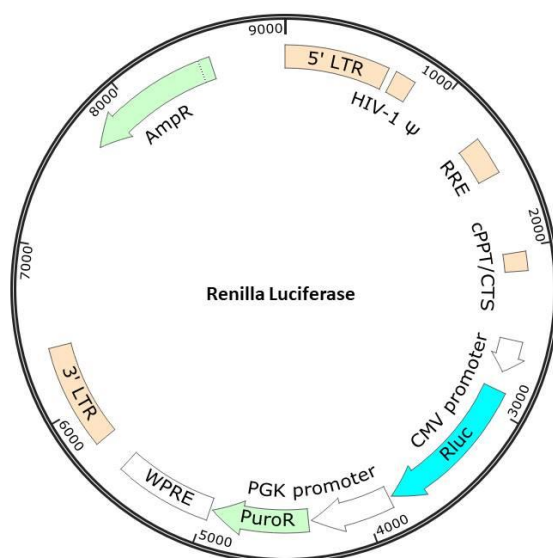
1. Useful as an internal control when performing dual-luciferase reporter assays to overcome sample-to-sample variability.
2. Generation of stable cell line expressing Renilla Luciferase with puromycin selection.

#### Formulation

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

#### Titer

Two vials (500 µl x 2) of Renilla luciferase lentivirus at a titer  $\geq 5 \times 10^6$  TU/ml. The titer will vary with each lot; the exact value is provided with each shipment.



**Figure 1. Schematic of the lenti-vector used to generate the Renilla lentivirus**

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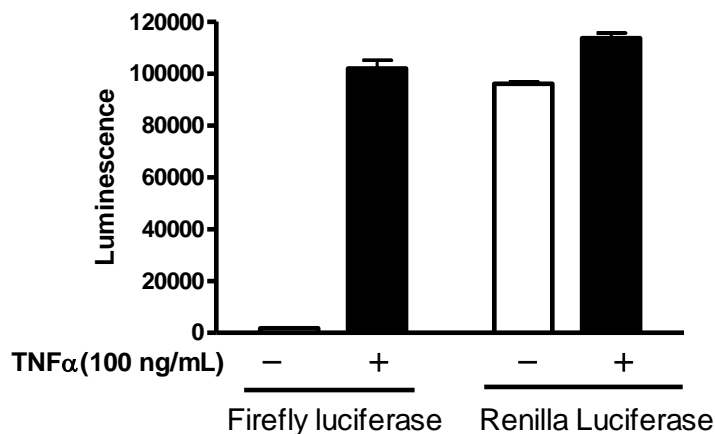
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**Storage**

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.



**Figure 2. NF-κB luciferase reporter activity stimulated by TNFα in HEK293 cells.** 10,000 HEK293 cells/well were transduced with 50,000 TU/well NF-κB luciferase reporter lentivirus and 50,000 TU/well RLuc lentivirus. After 48 hours of transduction, medium was changed to HEK growth medium. After 66 hours of transduction, cells were treated with 100 ng/mL of TNFα for ~6 hours. Dual luciferase assay was performed according to the recommended protocol (BPS Bioscience, #60683). The results are shown as the raw luminescence reading of Firefly luciferase and Renilla luciferase, respectively. The normalized luciferase activity for the reporter was calculated as the ratio of Firefly luciferase luminescence to Renilla luciferase luminescence.

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## Related Products

<u>Product</u>	<u>Cat. #</u>	<u>Size</u>
NF- $\kappa$ B Luciferase Reporter Lentivirus	79564	500 $\mu$ l x2
CRE Luciferase Reporter Lentivirus	79580	500 $\mu$ l x2
Reporter Negative Control Lentivirus (Firefly Luciferase)	79578	500 $\mu$ l x2
ONE-Step™ Luciferase Assay System	60690-1	10 ml
ONE-Step™ Luciferase Assay System	60690-2	100 ml
Dual Luciferase (Firefly-Renilla) Assay System	60683	10 ml

## References

1. Pessara, U., Koch, N. (1990) Tumor necrosis factor alpha regulates expression of the major histocompatibility complex class II-associated invariant chain by binding of an NF- $\kappa$ B-like factor to a promoter element. *Mol Cell Biol.* **10(8)**:4146-4154.
2. Baeuerle, P.A. (1998) Pro-inflammatory signaling: last pieces in the NF- $\kappa$ B puzzle? *Curr Biol.* **8(1)**:R19-R22.

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