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# Data Sheet

## *Negative Control Luciferase Lentivirus*

### *Catalog #: 79578*

**Product Description**
The Negative Control Lentivirus (Firefly Luciferase) are replication incompetent, HIV-based, VSV-G pseudo typed lentiviral particles that are ready to be transduced into almost all types of mammalian cells, including primary and non-dividing cells. The particles contain a firefly luciferase gene under the control of a minimal TATA promoter, without any additional transcriptional response elements (Figure 1).

**Application**
Useful to determine the background reporter activity and establish the specificity of any treatment effects for the Lenti reporter system

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

**Titer**
Two vials (500 µl x 2) of negative control lentivirus at a titer 1 x $10^7$ 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**
The lentiviruses are produced with the third generation SIN (self-inactivation) lentivector which ensures self-inactivation of the lentiviral construct after transduction and integration into the genomic DNA of the target cells. 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.

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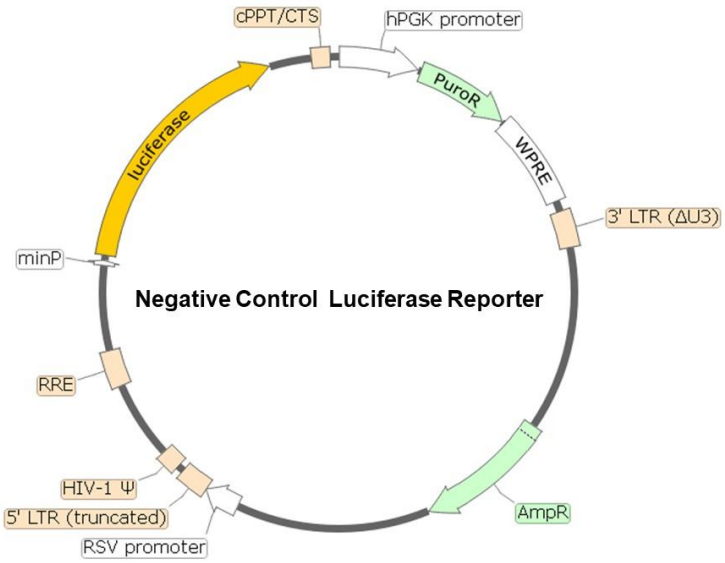


**Figure 1. Schematic of the lenti-vector used to generate the negative control lentivirus**

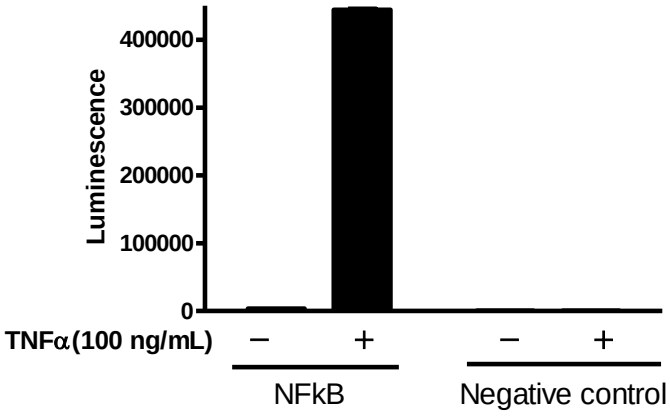


**Figure 2. NF-κB luciferase reporter activity stimulated by TNFα in HEK293 cells.** 10,000 HEK293 cells/well were transduced with 100,000 TU/well NF-κB luciferase reporter lentivirus or 100,000 TU/well negative control virus. After 48 hours of transduction, medium was changed to HEK growth medium. After 66 hours of transduction, cells were treated with 100 ng/mL of TNFα for ~6 hours. The results are shown as the raw luminescence reading.

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## Related Products

| Product | Cat. # | Size |
|---|---|---|
| NF-κB Luciferase Reporter Lentivirus | 79564 | 500 µl x2 |
| CRE Luciferase Reporter Lentivirus | 79580 | 500 µl x2 |
| NFAT Luciferase Reporter Lentivirus | 79579 | 500 µl x2 |
| STAT3 Luciferase Reporter Lentivirus | 79744 | 500 µl x2 |
| STAT5 Luciferase Reporter Lentivirus | 79745 | 500 µl x2 |
| TCF/LEF Luciferase Reporter Lentivirus | 79787 | 500 µl x2 |
| Negative Control Lentivirus | 79578 | 500 µl x2 |
| Firefly Luciferase (Fluc) Lentivirus (G418) | 79692-G | 500 µl x2 |
| Firefly Luciferase (Fluc) Lentivirus (Hygromycin) | 79692-H | 500 µl x2 |
| Firefly Luciferase (Fluc) Lentivirus (Puromycin) | 79692-P | 500 µl 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-κB-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-κB puzzle? *Curr Biol*. **8(1):**R19-R22.

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