Description

The Negative Control Dual-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 contain a firefly luciferase reporter under the control of a minimal TATA promoter, without any additional transcriptional response elements (Figure 1). This construct also includes a Renilla luciferase-P2A-puromycin sequence downstream of the TATA-Luciferase cassette, driven by a hPGK promotor, to facilitate signal normalization and antibiotic selection.

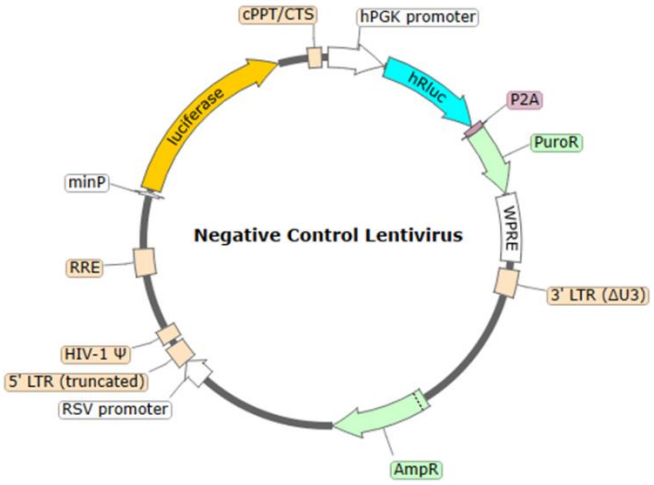

Figure 1. Schematic of the lenti-vector used to generate the Negative Control Dual-Luciferase Lentivirus.

Application(s)

- Transduce control firefly luciferase and renilla luciferase reporters in mammalian cells.
- Use as a negative control in experiments performed with dual reporter lentiviruses (firefly/Renilla systems).

Formulation

The lentivirus particles were produced from HEK293T cells. They are supplied in cell culture medium containing 90% DMEM + 10% FBS. Virus particles can be packaged in custom formulations by special request, for an additional fee.

Size and Titer

Two vials (500 µl x 2) of lentivirus at a titer ≥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 lentiviruses at -80°C for up to 12 months from date of receipt. Avoid repeated freeze-thaw cycles. Titers can drop significantly with each freeze-thaw cycle.

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Biosafety

The lentiviruses are produced with a SIN (self-inactivation) lentivector which ensures self-inactivation of the lentiviral construct after transduction and after 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 and are not present in the lentivirus particle. Although the pseudotyped lentiviruses are replication-incompetent, they require the use of a Biosafety Level 2 facility. BPS Bioscience recommends following all local federal, state, and institutional regulations and using all appropriate safety precautions.

Validation Data

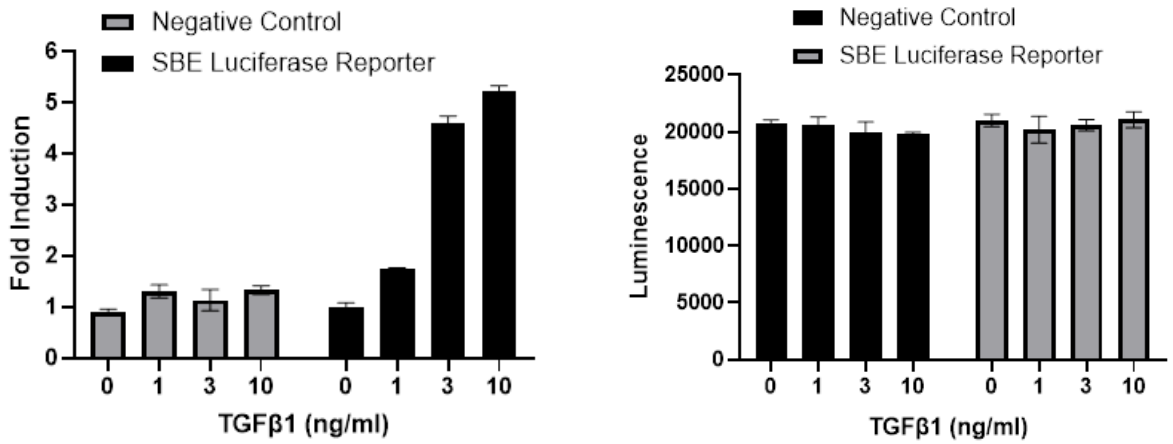

Figure 2. SBE dual-luciferase reporter activity stimulated by human TGFβ1 in HEK293 cells transduced with Negative Control Dual-Luciferase Lentivirus .
Approximately 10,000 HEK293 cells/well were transduced with 100,000 TU/well of SBE Dual-Luciferase Reporter Lentivirus (TGFβ/SMAD Signaling Pathway) (#83059) or Negative Control Dual-Luciferase Lentivirus. 48 hours post-transduction, the medium was changed to Assay Medium 1B. 54 hours post-transduction, cells were treated with TGFβ1 for 18 hours. Left panel: Fold induction of firefly luciferase reporter expression. Fold induction was determined by comparing values against the mean value for control cells without TGFβ1 treatment. Right Panel: Renilla luciferase reporter expression was determined in the same batch of samples.

Data shown is representative.

Troubleshooting Guide

Visit bpsbioscience.com/lentivirus-faq for detailed troubleshooting instructions. For lot-specific information and all other questions, please visit https://bpsbioscience.com/contact.

Related Products

Products	*Catalog #*	*Size*
TGFβ/Activin A/Myostatin-Responsive Reporter HEK293 Cell Line	60653	2 vials
Transfection Collection™ : SBE Transient Pack (TGFβ/SMAD Signaling Pathway)	79272	500 µl x 2
SBE Luciferase Reporter Lentivirus (TGFβ/SMAD Pathway)	79806	500 µl x 2

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