Description

The CRE/CREB eGFP Reporter Lentiviruses 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 an eGFP gene driven by a multimerized cAMP response element (CRE) located upstream of the minimal TATA promoter (Figure 1). After transduction, activation of the cAMP/PKA signaling pathway in the target cells can be monitored by examining eGFP expression.

Application

- Screen for activators or inhibitors of cAMP/PKA signaling pathway in the transduced target cells
- Generation of CRE/CREB eGFP reporter stable cell line

Formulation

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

Titer

Two vials (500 µl x 2) of firefly luciferase lentivirus at a titer ≥5 x 10^6 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 and reagents are all validated and optimized for use with this lentivirus and are highly recommended for best results.

Name	Ordering Information
Forskolin	Sigma, #F3917
Thaw Medium 9	BPS Bioscience, #79665
Polybrene	Millipore, #TR-1003-G
96-well tissue culture treated white clear-bottom assay plate	Corning, #3610

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Troubleshooting Guide

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

Figures and Validation Data

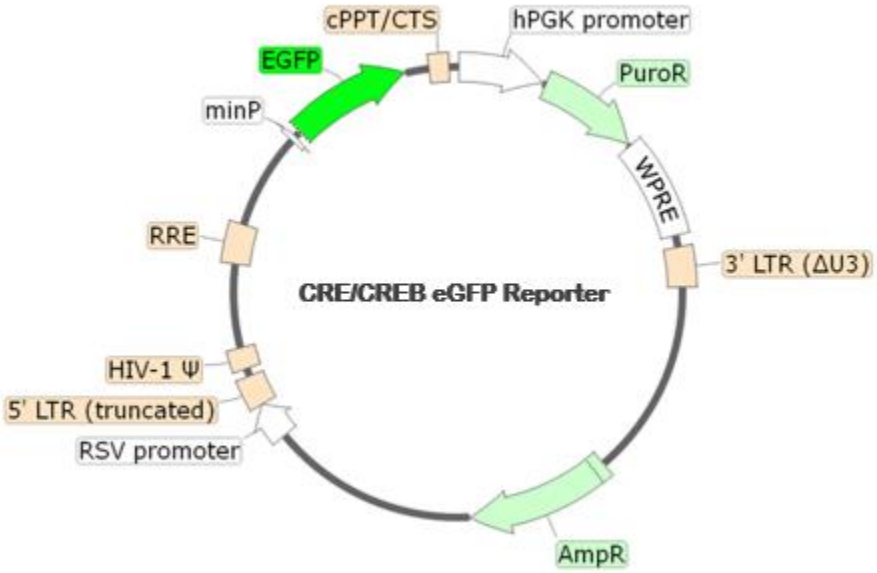

Figure 1. Schematic of the lenti-vector used to generate the CRE/CREB eGFP reporter lentivirus

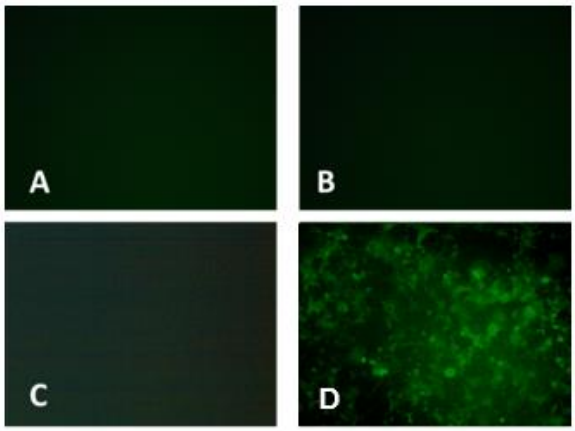

Figure 2. CRE/CREB eGFP reporter activity stimulated by Forskolin in HEK293 cells. Approximately 5,000 HEK293 cells/well were seeded and transduced on the same day with 100,000 TU/well CRE/CREB eGFP reporter lentivirus. After 48 hours of transduction, medium was changed to fresh Thaw Medium 9, and the cells were treated with 30 µM Forskolin for 24 hours. The expression of eGFP in the target cells was observed under a fluorescence microscope. A, HEK293 Parental control without Forskolin treatment; B, HEK293 Parental control treated with Forskolin; C, HEK293 cells transduced with CRE/CREB eGFP reporter, without Forskolin treatment; D, HEK293 cells transduced with CRE/CREB eGFP reporter and treated with Forskolin.

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Related Products

Products	*Catalog #*	*Size*
Negative control eGFP Reporter Lentivirus	79927	500 µl x 2
NF-κB eGFP Reporter Lentivirus	79926	500 µl x 2
NFAT eGFP Reporter Lentivirus	79922	500 µl x 2
eGFP Lentivirus	79979	500 µl x 2
Firefly Luciferase-eGFP Lentivirus	79980	500 µl x 2
Thaw Medium 9	79665	100mL

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