

Data Sheet

Secreted Gaussia Luciferase Lentivirus (EF1A Promoter)

Catalog #: 79892-E

Product Description

The Secreted Gaussia 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 secreted Gaussia luciferase under an EF1A promoter (Figure 1).

Application

1. Useful as a sensitive reporter to monitor important biological processes;
2. Generation of stable cell line expressing secreted Gaussia luciferase with puromycin selection.

Formulation

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

Titer

Two vials (500 μ l x 2) of Secreted Gaussia 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.

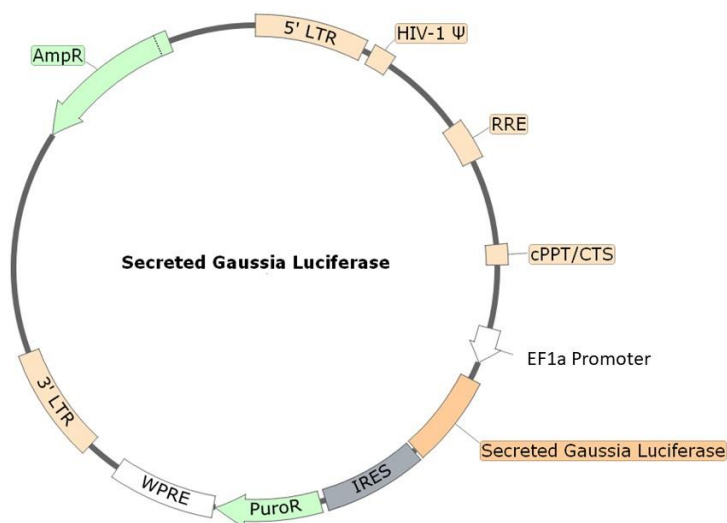


Figure 1. Schematic of the lenti-vector used to generate the Secreted Gaussia Luciferase Lentivirus

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.
To place your order, please contact us by Phone **1.858.202.1401** Fax **1.858.481.8694**

Or you can Email us at: info@bpsbioscience.com

Please visit our website at: www.bpsbioscience.com



6042 Cornerstone Court W, Ste B
San Diego, CA 92121
Tel: 1.858.202.1401
Fax: 1.858.481.8694
Email: info@bpsbioscience.com

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

- CHO-K1 cells (ATCC #CCL-61)
- CHO growth medium or use BPS Thaw Medium 3 (BPS Bioscience #60186)
- Polybrene (Millipore, #TR-1003-G)
- 96-well tissue culture treated white clear-bottom assay plate (Corning, #3610)
- Coelenterazine native (NanoLight Technology, #303-500): Make a 2 mM stock in Ethanol
- CHO lysis buffer: PBS+1% Triton X-100
- Luminometer

Assay Protocol

The following protocol is a general guideline for transducing CHO-K1 cells using Secreted Gaussia Luciferase Lentivirus. The optimal transduction conditions (e.g. MOI, concentration of polybrene, time of assay development) should be optimized according to the cell type and the assay requirements. In most cell types, the expression of Gaussia luciferase can be measured approximately 72 hours after transduction. For cell types with low transduction efficacy, it may be necessary to select the cells stably expressing Gaussia luciferase with puromycin prior to carrying out the reporter assays.

1. Day 1: Harvest CHO-K1 cells from culture and seed cells at a density of 5,000-10,000 cells per well into white opaque 96-well microplate in 50 µl of CHO growth medium. Incubate cells at 37°C with 5% CO₂ overnight.
2. Day 2: To each well add 5 µl of Secreted Gaussia Luciferase Lentivirus or Expression Negative Control Lentivirus (BPS Bioscience #79902-P). Add polybrene to each well at a final concentration of 5 µg/ml. Gently swirl the plate to mix. Incubate the plate at 37°C with 5% CO₂ for 18-24 hours.
Alternatively, seeding cells and the transduction can be performed on the same day.
3. Day 3: Remove the medium containing the lentivirus from the wells. Add 100 µl of fresh CHO growth medium to each well.

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

To place your order, please contact us by Phone **1.858.202.1401** Fax **1.858.481.8694**

Or you can Email us at: info@bpsbioscience.com

Please visit our website at: www.bpsbioscience.com

4. On the morning of Day 5, transfer the medium from each well to a new well. Gently wash the cells once with PBS, and then lyse in 50 μ l of CHO lysis buffer (PBS+1% TritonX-100) for 15 minutes.
5. Dilute Coelenterazine stock to 25 μ M with PBS. Transfer 10 μ l of medium or cell lysate into a new well. Add 40 μ l of 25 μ M Coelenterazine into each well., and measure the luminescence IMMEDIATELY using a luminometer.

Important Notes:

To generate a secreted Gaussia luciferase stable cell line, on day 4 remove CHO growth medium and replace it with fresh growth medium containing the appropriate amount of puromycin for antibiotic selection of transduced cells.

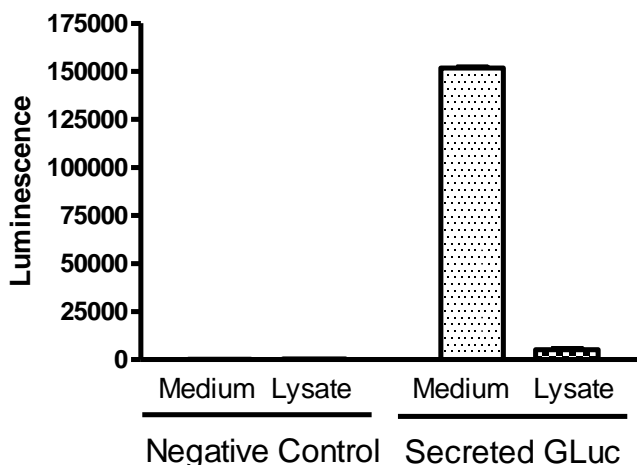


Figure 2. Gaussia luciferase activity in CHO-K1 cells transduced with Secreted Gaussia Luciferase Lentivirus. 10,000 CHO cells/well were transduced with 50,000 TU/well Secreted Gaussia Luciferase Lentivirus or Expression Negative Control Lentivirus in CHO growth medium. After 18 hours of transduction, medium was changed to fresh CHO growth medium. After 66 hours of transduction, cells were lysed and both the medium and cell lysate were assayed for Gaussia luciferase activity.

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.
 To place your order, please contact us by Phone **1.858.202.1401** Fax **1.858.481.8694**
 Or you can Email us at: info@bpsbioscience.com
 Please visit our website at: www.bpsbioscience.com



6042 Cornerstone Court W, Ste B
San Diego, CA 92121
Tel: 1.858.202.1401
Fax: 1.858.481.8694
Email: info@bpsbioscience.com

Related Products

| <u>Product</u> | <u>Cat. #</u> | <u>Size</u> |
|---|----------------------|--------------------|
| NFκB 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 |
| ISRE Luciferase Reporter Lentivirus | 79824 | 500 µl x2 |
| IL-2 Promoter Luciferase Reporter Lentivirus | 79825 | 500 µl x2 |
| IL-8 Promoter Luciferase Reporter Lentivirus | 79827 | 500 µl x2 |
| AP-1 Luciferase Reporter Lentivirus | 79823 | 500 µl x2 |
| SBE Luciferase Reporter Lentivirus | 79806 | 500 µl x2 |
| TEAD Luciferase Reporter Lentivirus | 79833 | 500 µl x2 |
| ARE Luciferase Reporter Lentivirus | 79869 | 500 µl x2 |
| Negative Control Lentivirus | 79578 | 500 µl x2 |
| Renilla Luciferase (Rluc) Lentivirus | 79565 | 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 |
| FcGR11A Lentivirus | 79876 | 500 µl x2 |
| FcGR11B Lentivirus | 79877 | 500 µl x2 |
| FcER1G Lentivirus | 79878 | 500 µl x2 |
| Expression negative Control Lentivirus | 79902 | 500 µl x2 |
| TCR Activator Lentivirus | 79894 | 500 µl x2 |
| Non-Secreted Gaussia Luciferase Lentivirus | 79893 | 500 µl x2 |

OUR PRODUCTS ARE FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

To place your order, please contact us by Phone **1.858.202.1401** Fax **1.858.481.8694**

Or you can Email us at: info@bpsbioscience.com

Please visit our website at: www.bpsbioscience.com