Lenti-Luciferase-P2A-Neo Plasmid

Catalog number: 12553
Unit size: 1 ug

Component	Storage	Amount (Cat No. 12553)
Lenti-Luciferase-P2A-Neo Plasmid	Freeze (< -15 °C)	1 ug

OVERVIEW

Lenti-Luciferase-P2A-Neo Plasmid is a lentiviral expression vector designed for reporter-based studies in mammalian cells. The plasmid encodes firefly luciferase followed by a neomycin resistance gene separated by a P2A self-cleaving peptide. During translation, the P2A sequence mediates ribosomal skipping, allowing production of two separate proteins from a single mRNA transcript. Luciferase expression provides a luminescent reporter signal that can be measured using standard luciferase assay reagents. Following lentiviral packaging and transduction, cells expressing the construct can be selected using neomycin (G418). This system allows establishment of stable cell populations while enabling quantitative monitoring of luciferase activity. Lentiviral vectors are commonly used for efficient gene delivery and stable integration in dividing and non-dividing mammalian cells.

AT A GLANCE

Specifications:

Concentration: 0.02 µg/µL in TE
Volume: 50 µL
Backbone size: 8833 bp
Vector type: Cloning vector
Promoter: EF-1α
Bacterial Resistance(s): Ampicillin
Copy number: High Copy

SAMPLE EXPERIMENTAL PROTOCOL

1. Plate mammalian cells in appropriate culture medium and allow them to reach the recommended confluency (typically 60–80%) prior to transfection or transduction.
2. Introduce the plasmid into cells using a suitable transfection reagent according to the manufacturer's instructions for the chosen method.
   AAT Bioquest offers a range of Transfectamine reagents that can be used for plasmid delivery into mammalian cells.
3. Incubate cells under standard culture conditions to allow reporter expression. For constructs containing a selectable marker (e.g., neomycin resistance), apply the appropriate antibiotic to enrich for successfully transfected or transduced cells.
4. Measure luciferase activity using a compatible luciferase assay reagent and a luminometer or plate reader capable of detecting bioluminescence.

Note: Avoid multiple freeze-thaw cycles and exposure to frequent temperature changes. Concentration gradients may form in frozen products and should be dispersed upon thawing. Mix well prior to use.

EXAMPLE DATA ANALYSIS AND FIGURES

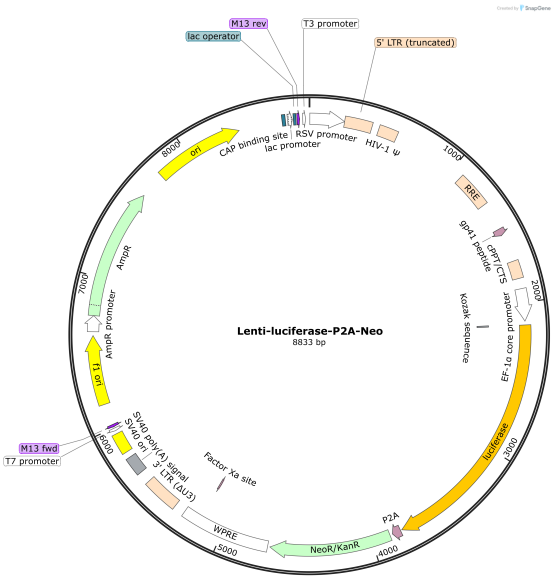

Figure 1. Schematic map of the Lenti-Luciferase-P2A-Neo plasmid (8833 bp).

DISCLAIMER

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