

## pIRES-Luciferase-hRluc Plasmid

Catalog number: 12554  
Unit size: 1 ug

| Component                      | Storage           | Amount (Cat No. 12554) |
|--------------------------------|-------------------|------------------------|
| pIRES-Luciferase-hRluc Plasmid | Freeze (< -15 °C) | 1 ug                   |

### OVERVIEW

pIRES-Luciferase-hRluc Plasmid is a bicistronic expression vector designed for dual-reporter assays in mammalian cells. The construct contains a firefly luciferase gene followed by an internal ribosome entry site (IRES) that drives cap-independent translation of a humanized Renilla luciferase (hRluc) reporter. This configuration allows expression of two reporter proteins from a single transcript while enabling independent measurement of their luminescent signals. Dual-luciferase systems are commonly used to normalize reporter activity and to evaluate transcriptional or translational regulation in cell-based assays. Firefly luciferase activity is typically measured using luciferin-based reagents, while Renilla luciferase activity is measured using coelenterazine substrates. The bicistronic IRES format provides a convenient approach for co-expression studies and internal control normalization in reporter experiments.

### AT A GLANCE

#### Specifications:

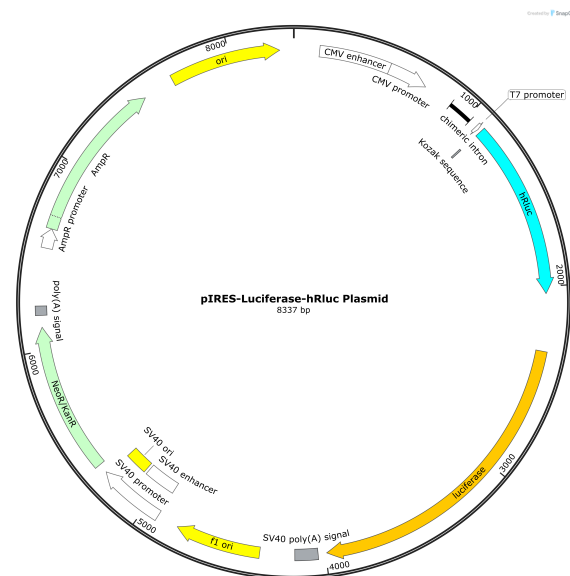
Concentration: 0.02 µg/µL in TE  
Volume: 50 µL  
Backbone size: 8337 bp  
Vector type: Cloning vector  
Promoter: CMV  
Bacterial Resistance(s): Ampicillin  
Copy number: High Copy

### 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 or lentiviral transduction system 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 pIRES-Luciferase-hRluc plasmid (8337 bp).

### DISCLAIMER

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