# LEADING LIGHT® Wnt Reporter Assay Starter Kit

## Chemiluminescent cell-based assay for discovering Wnt pathway modulators

The LEADING LIGHT® Wnt Reporter Assay Starter Kit is a cell-based luciferase activity test suitable for 96 well plate format. The system contains an engineered 3T3 mouse fibroblast cell line, which expresses the firefly luciferase reporter gene under the control of Wnt-responsive promoters (TCF/LEF). The luciferase activity from the reporter gene in this cell line can be up-regulated in a dose-dependent manner upon the addition of exogenous Wnt protein/Wnt agonist or down-regulated by a further addition of a Wnt antagonist to the cell culture medium. This system can be used to elucidate the functions/activities of different Wnt-related ligands such as Wnt, DKK, etc. This system can also be used for screening small molecules and antibodies for their ability to act as Wnt inhibitors or Wnt agonists.

The assay has been used successfully in different assay formats (including HTS applications) to identify several distinct categories of small molecule compounds that modulate the Wnt signaling pathway.

Wnt ligands bind to Frizzled (Fz) and LRP5/6 receptors to trigger a signaling cascade that leads to stabilization of beta-catenin, which can enter into the nucleus to form a complex with T cell transcription factor (TCF/LEF) to activate Wnt target gene expression. Canonical Wnt signaling is required for embryo-genesis and adult tissue maintenance and is involved in tumorigenesis and development of many human degenerative diseases. Studies relating to Wnt signaling have advanced research in molecular embryology, stem cell biology, tumorigenesis, regenerative medicine, and rational drug discovery.

**Citations:** 8 View Online »

## Ordering Information

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| | |
|---|---|
| **ENZ-61001-0001** | 96 wells |

## Manuals, SDS & CofA

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- No-transfection required - cell line, media, reagents and controls all included
- True End-point detection system - Intact pathway, allowing investigation of the complete pathway
- High sensitivity - Wnt3a $EC_{50}$ = 45.9ng/mL
- Excellent reproducibility - Z'-factor of 0.74
- High signal-to-noise ratio without the need for Lithium Chloride to boost the signal
- High-throughput screening applications

## Handling & Storage

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|---|---|
| **Use/Stability** | Upon receipt, remove the vial of reporter cell line from the box and store in liquid nitrogen. Store the remaining reagents at -80°C. When stored properly, these reagents are stable for one year from date received. |
| **Short Term Storage** | -80°C |
| **Long Term Storage** | -80°C |
| **Shipping** | Dry Ice |

## Regulatory Status

RUO - Research Use Only

## Product Details

| | |
|---|---|
| **Alternative Name** | Wnt reporter assay |
| **Application** | Chemiluminescence, FUNC, HTS |
| **Contents** | LEADING LIGHT® Wnt Reporter Cell Line, Cell Assay and Growth Medium Concentrate, Cell Freezing Medium, Luciferase Substrate and Assay buffer, HEPES, Wnt3a Protein (positive control), and Dkk-1 Protein |
| **Quality Control** | The luciferase activity in Wnt3a (100ng/ml, in-well concentration) treated cells is at least 5-fold higher than that in untreated cells. |
| **Technical Info / Product Notes** | **Application Note:** Cell-Based Screening of Focused Bioactive Compound Libraries: Assessing Small Molecule Modulators of the Canonical Wnt Signaling and Autophagy-Lysosome Pathways. |

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