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.

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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

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.

ENZO LIFE SCIENCES, INC.
Phone: 800.942.0430
info-usa@enzolifesciences.com

European Sales Office
ENZO LIFE SCIENCES (ELS) AG
Phone: +41 61 926 8989
info-eu@enzolifesciences.com

Belgium, The Netherlands & Luxembourg
Phone: +32 3 466 0420
info-be@enzolifesciences.com

France
Phone: +33 472 440 655
info-fr@enzolifesciences.com

Germany
Phone: +49 7621 5500 526
info-de@enzolifesciences.com

UK & Ireland
Phone (UK customers): 0845 601 1488
Phone: +44 1392 825900
info-uk@enzolifesciences.com