Recombinant Wnt/β-Catenin Ligand

Catalog Number: RWL003

OrganRegen, INC.
Creating Solutions for Organoid Cultures

DESCRIPTION

Background:

The Wnt signal transduction is essential for cell proliferation and differentiation and the self-renewal of stem cells. Wnt ligands heterodimerize Frizzled (Fz) family receptors and their co-receptors Lrp5/6, triggering downstream signaling pathways including the canonical β-catenin cascade, and resulting in expression of genes regulating cell fate determination. is a 59.6kDa protein that dimerizes Fz and Lrp5/6 and activates canonical Wnt/β-Catenin signaling. Recombinant Wnt/β-Catenin Ligand potently supports different types of organoid growth, including hepatocyte, cholangiocyte, alveoli, breast, colon, pancreas, esophagus and ovarian.

Source:

Chinese Hamster Ovary cell line

Protein Construction:

Recombinant Wnt/β-Catenin Ligand is a Fc-tagged recombinant protein that dimerizes Fz and Lrp5/6 and activates canonical Wnt/β-Catenin signaling. Protein Construction is confidential.

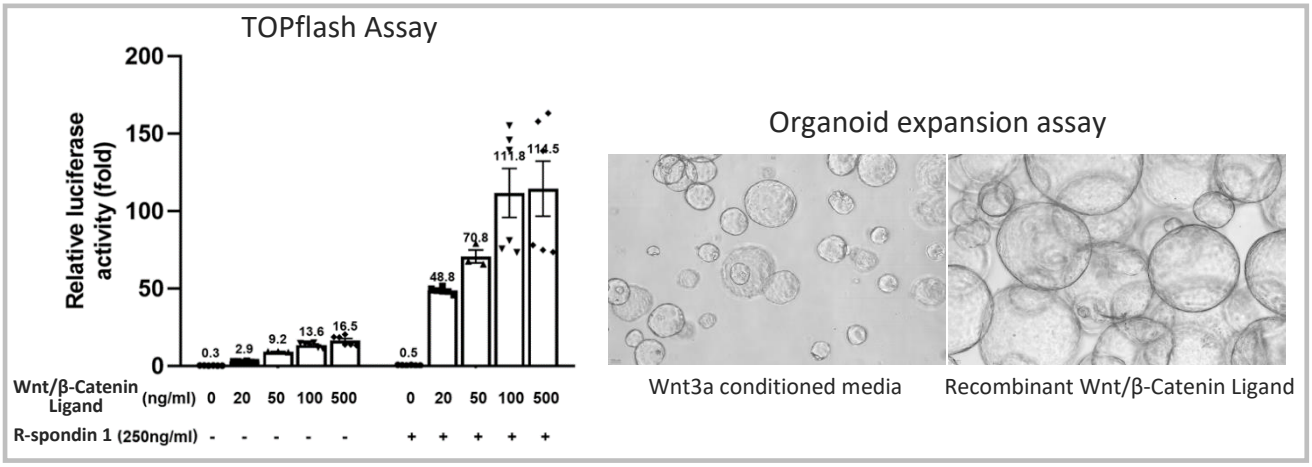
SPECIFICATIONS

Purity:

≥ 98%, by SDS-PAGE visualized with quantitative densitometry by Coomassie® Blue Staining.

Biological Activity:

Measured by its ability to induce TOPflash reporter activity in HEK293T human embryonic kidney cells. The ED50 for this effect is <50ng/mL. Measured its activity in organoid expansion assay using human liver ductal organoids.



Endotoxin Level:

<0.10 EU per 1 μg of the protein by the LAL method

Calculated Molecular Weight:

59.6 kDa

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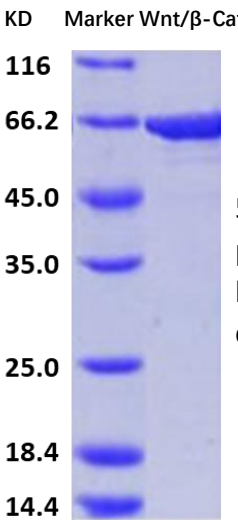
SDS-PAGE:

64.0 kDa, reducing condition

DATA



SDS-PAGE

5 μg/lane of Recombinant Wnt/β-Catenin Ligand protein was resolved with SDS-PAGE and visualized by Coomassie® Blue Staining under reducing conditions, showing a single band at 64.0 kDa.

FORMULATION AND STORAGE

Formulation:

The product is Lyophilized from a 0.25 μm filtered solution in PBS.

Shipping:

The product is shipped on ice. Upon receipt, store it immediately as methods recommended below.

Reconstitution:

Reconstitute in sterile PBS buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL.

Stability & Storage:

24 months, -20 to -70 °C, under powder state;
12 months, -20 to -70 °C, under sterile conditions after reconstitution;
2 month, 2 to 8 °C under sterile conditions after reconstitution;
avoid repeated freeze-thaw cycles.

References:

1. Nusse R, Clevers H. Wnt/β-Catenin Signaling, Disease, and Emerging Therapeutic Modalities. Cell. 2017 Jun 1;169(6):985-999.
2. Clevers H, Nusse R. Wnt/β-catenin signaling and disease. Cell. 2012 Jun 8;149(6):1192-205.