

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived
Arg31-Ala263
Accession # Q2MKA7

N-terminal Sequence Analysis Arg31

Structure / Form Biotinylated protein via sugars

Predicted Molecular Mass 26 kDa (unlabeled)

SPECIFICATIONS

Activity Measured by its ability to induce Topflash reporter activity in HEK293T human embryonic kidney cells. The ED₅₀ for this effect is typically 5-30 ng/mL in the presence of 5 ng/mL recombinant mouse Wnt-3a.

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

Purity >90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS and NaCl with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in PBS containing at least 0.1% human or bovine serum albumin.

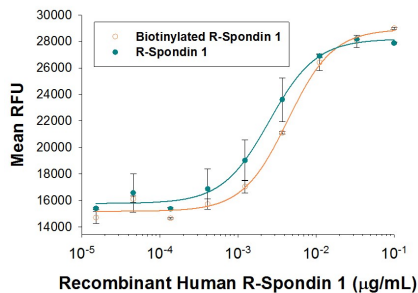
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Bioactivity



Both Biotinylated Recombinant Human R-Spondin 1 (Catalog # BT4645) and unlabeled Recombinant Human R-Spondin 1 (Catalog # 4645-RS) induces activation of β-catenin response in Topflash Luciferase assay using HEK293T human embryonic kidney cells. The ED₅₀ for this effect is typically 5-30 ng/mL in the presence of 5 ng/mL Recombinant Mouse Wnt-3a (Catalog # 1324-WN). The similarity in activity highlights that the biotinylated protein is fully functional.

BACKGROUND

R-Spondin 1 (RSPO1), also known as Cristin 3, is a 27 kDa secreted protein in the R-Spondin family of Wnt/ β -catenin signaling regulators (1). These proteins contain two adjacent cysteine-rich furin-like domains followed by a thrombospondin (TSP-1) motif and a region rich in basic residues. Mature human R-Spondin 1 shares 87% amino acid sequence identity with mouse and rat R-Spondin 1 (2). Alternative splicing generates additional isoforms that have a substituted N-terminus or lack the TSP-1 domain. R-Spondin 1 enhances canonical Wnt/ β -catenin signaling by competing with the Wnt antagonist Dkk-1, binding to Frizzled-8, Kremen, LRP-6, Lgr4, Lgr5, and Lgr6, and enhancing cell surface availability of Wnt receptors (3-11). R-Spondin 1 functions in dorsal neural tube development (12) as well as male and female germ cell development (7, 10, 13). It also induces bone formation (6), intestinal crypt cell proliferation (14), angiogenesis (7, 15), and insulin secretion from pancreatic beta cells (11).

References:

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