

DESCRIPTION

Source Human embryonic kidney cell, HEK293-derived cynomolgus monkey R-Spondin 3 protein
Met33-His273
Accession # XP_005551811.1

N-terminal Sequence Analysis Met33

Predicted Molecular Mass 27 kDa

SPECIFICATIONS

SDS-PAGE 34-44 kDa, under reducing conditions.

Activity Measured by its ability to activate TCF reporter activity in HEK293 human embryonic kidney cells. The ED₅₀ for this effect is 0.4-10 ng/mL.

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

Purity >95%, 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 with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 250 µg/mL in PBS.

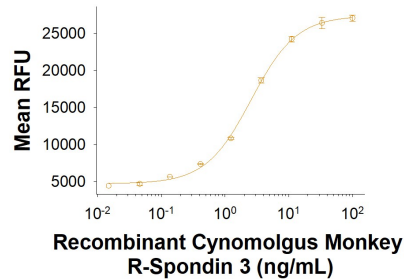
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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.

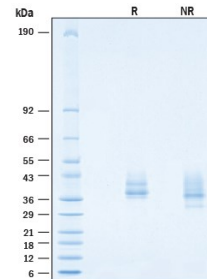
DATA

Binding Activity



Recombinant Cynomolgus Monkey R-Spondin 3 Protein Binding Activity. Recombinant Cynomolgus Monkey R-Spondin 3 (Catalog # 10948-RS) activates TCF reporter activity in HEK293 human embryonic kidney cells. The ED₅₀ for this effect is 0.4-10 ng/mL.

SDS-PAGE



Recombinant Cynomolgus Monkey R-Spondin 3 Protein SDS-PAGE. 2 µg/lane of Recombinant Cynomolgus Monkey R-Spondin 3 Protein (Catalog # 10948-RS) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 34-44 kDa.

BACKGROUND

Roof plate-specific spondin 3 (RSPO3), also called cysteine-rich and single thrombospondin domain containing-1 (Cristin1), is member of the R-Spondin family of proteins which are involved in the activation and regulation of Wnt signaling pathway. The R-Spondin family, consisting of 4 members, are extracellular glycoproteins which share ~60% amino acid (aa) homology and a conserved protein structure (1). Similar to other R-Spondins, RSPO3 contains two adjacent cysteine-rich furin-like domains with one potential N-glycosylation site, followed by a thrombospondin (TSP1) motif and a C-terminal tail rich in basic residues. The furin-like domains are needed for beta -catenin stabilization (2, 3). Cynomolgus RSPO3 shares 97% and 88% aa sequence identity with human and mouse RSPO3, respectively. While every member of the R-Spondin family positive modulators of Wnt/ beta -catenin signaling, each one has a distinct expression pattern (1 - 5). In mouse, RSPO3 is critical for development of the placental labyrinthine layer, probably by promoting VEGF expression and thus vascular development (6, 7). It is found in the roof plate, tail, somites, otic vesicles, cephalic mesoderm, truncus arteriosus, atrioventricular canal of the developing heart, and strongly but transiently in developing limbs (5, 7). R-Spondins regulate Wnt/ beta -catenin by competing with the Wnt antagonist DKK-1 for binding to the Wnt co-receptors LRP-6 and Kremen, reducing their DKK-1-mediated internalization (8, 9). Reports differ on whether R-Spondins bind LRP-6 directly (10). RSPO3 has also been identified as an oncogene (11).

References:

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6. Kazanskaya, O. *et al.* (2008) *Development* **135**:3655.
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