

Human R-Spondin 1 / RSPO1 Protein (aa 1-146, His Tag)

Catalog Number: 11083-H08H1



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CRISTIN3; R-Spondin 1; RSPO

Protein Construction:

A DNA sequence encoding the amino acids (Met 1-Ala 146) of human RSPO1 (NP_001033722.1) was expressed, fused with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 98 % as determined by SDS-PAGE

Bio Activity:

1. Measured by its ability to bind recombinant mouse CD36 in a functional ELISA.
2. Measured by its ability to induce activation of β -catenin response in a Topflash Luciferase assay using HEK293T human embryonic kidney cells. The ED₅₀ for this effect is typically 0.1-0.5 μ g/mL in the presence of 5 ng/mL recombinant mouse Wnt3a.

Endotoxin:

< 1.0 EU per μ g of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Ser 21

Molecular Mass:

The secreted recombinant human RSPO1 (aa 1-146) comprises 137 amino acids and has a predicted molecular mass of 14 kDa. As a result of glycosylation, rhRSPO1 migrates as an approximately 23 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

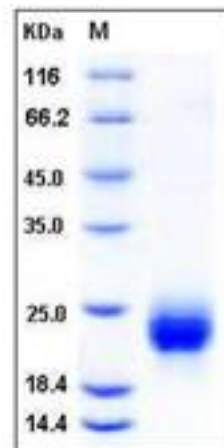
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

RSPO1 gene is a member of the R-spondin family. It encodes RSPO1 which is known as a secreted activator protein with two cystein-rich, furin-like domains and one thrombospondin type 1 domain. In mice, RSPO1 induces the rapid onset of crypt cell proliferation and increases intestinal epithelial healing, providing a protective effect against chemotherapy-induced adverse effects. This protein is an activator of the beta-catenin signaling cascade, leading to TCF-dependent gene activation. RSPO1 acts both in the canonical Wnt/beta-catenin-dependent pathway and in non-canonical Wnt signaling pathway, probably by acting as an inhibitor of ZNRF3, an important regulator of the Wnt signaling pathway. It also acts as a ligand for frizzled FZD8 and LRP6.

References

1. Kamata T, *et al.* (2004) R-spondin, a novel gene with thrombospondin type 1 domain, was expressed in the dorsal neural tube and affected in Wnts mutants. *Biochim Biophys Acta.* 1676(1):51-62.
2. Ota T, *et al.* (2004) Complete sequencing and characterization of 21,243 full-length human cDNAs. *Nat Genet.* 36(1):40-5.
3. Strausberg RL, *et al.* (2003) Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. *Proc Natl Acad Sci.* 99(26):16899-903.

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