

RP00071

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Recombinant Human R-spondin-1/RSPO1 Protein

Catalog No.: RP00071 **Recombinant**

Sequence Information

Species	Gene ID	Swiss Prot
HEK293 cells	284654	Q2MKA7

Tags

C-His

Synonyms

RSPO1;CRISTIN3;RSPO

Product Information

Source	Purification
	> 95% by SDS-PAGE.

Endotoxin

< 0.1 EU/μg of the protein by LAL method.

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Contact us for customized product form or formulation.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Contact



www.abclonal.com

Background

This protein is a secreted activator protein with two cysteine-rich, furin-like domains and one thrombospondin type 1 domain. The encoded protein is a ligand for leucine-rich repeat-containing G-protein coupled receptors (LGR proteins) and positively regulates the Wnt signaling pathway. In mice, the protein induces the rapid onset of crypt cell proliferation and increases intestinal epithelial healing, providing a protective effect against chemotherapy-induced adverse effects.

Basic Information

Description

Recombinant Human R-spondin-1/RSPO1 Protein is produced by HEK293 expression system. The target protein is expressed with sequence (Arg31-Ala263) of human R-Spondin1 (Accession #NP_001033722.1) fused with a 6×His tag at the C-terminus.

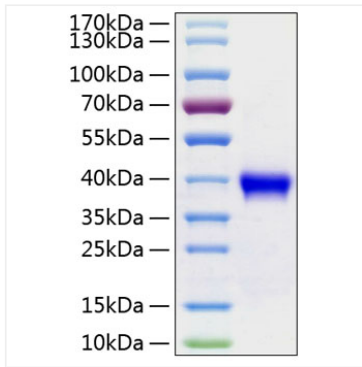
Bio-Activity

1. Measured by its ability to enhance Cyclin D1 expression in HCT116 human colon adenocarcinoma cells. 0.1-10ng/mL of Recombinant Human RSPO1 can effectively enhance Cyclin D1 expression. 2. The intestinal crypts of mice were cultured in organoid culture medium containing factor combinations (100 ng/mL Noggin, Cat. RP01237 + 500 ng/mL R-spondin-1, Cat. RP00071) derived from ABclonal for 144 hours, intestinal organoids were formed. (Customer Feedback Data) 3. Recombinant Human R-Spondin 1 protein stimulated Wnt signal pathway with Wnt-3a protein in HEK293T cells. After 6 hours, the stimulation when adding 300 ng/mL of R-Spondin-1 reached highest effect. Compared with only Wnt-3a stimulation, the Wnt signaling pathway was enhanced 3.1-fold after adding 300 ng/mL R-Spondin 1.

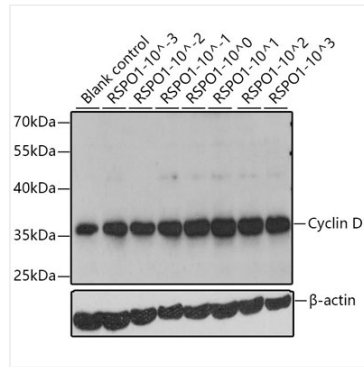
Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt. After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week. Avoid repeated freeze/thaw cycles.

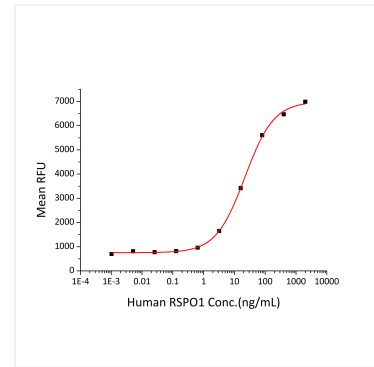
Validation Data



Recombinant Human R-spondin-1/RSPO1 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



Recombinant Human R-Spondin1 enhances Cyclin D1 expression in HCT116 human colon adenocarcinoma cells. 0.1-10ng/mL of Recombinant Human RSPO1 can effectively enhance Cyclin D1 expression.



Recombinant Human R-spondin-1/RSPO1 Protein induce Topflash reporter activity in HEK293T human embryonic kidney cells. The ED50 for this effect is 6.61~26.44 ng/mL in the presence of 5 ng/mL Wnt Surrogate Protein, corresponding to a specific activity of $3.78 \times 10^4 \sim 1.51 \times 10^5$ units/mg.