

# Recombinant Human R-spondin-1/RSPO1 Protein

Catalog No.: RP00071 **Recombinant**

## Sequence Information

Species	Gene ID	Swiss Prot
Human	284654	Q2MKA7

### Tags

C-His

### Synonyms

RSPO1;CRISTIN3;RSPO

## Product Information

Source	Purification
HEK293 cells	≥ 95 % as determined by SDS-PAGE; ≥ 90 % as determined by HPLC.

Calculated MW	Observed MW
26.44 kDa	39 kDa

### 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

☎	400-999-6126
✉	cn.market@abclonal.com.cn

## 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.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)|2.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.

### Shipping

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

### 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.

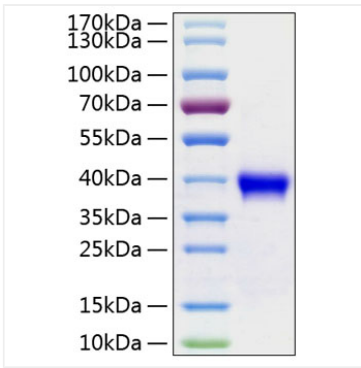
Avoid repeated freeze/thaw cycles.

### Operational Notes

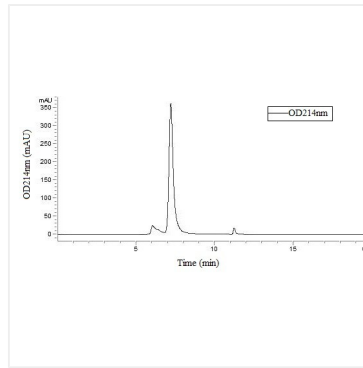
For your safety and health, please wear a lab coat and disposable gloves for handling.



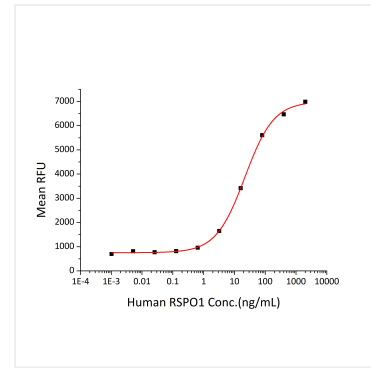
## Validation Data



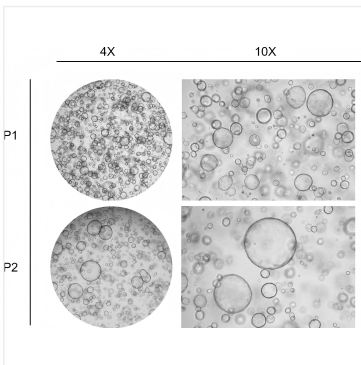
Recombinant Human R-spondin-1/RSPO1 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



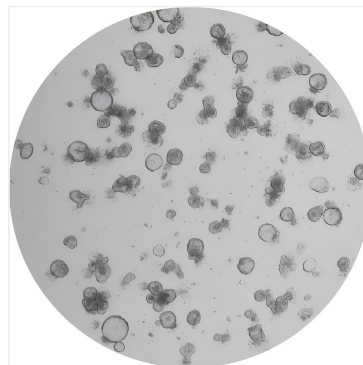
The purity of Recombinant Human R-spondin-1/RSPO1 Protein is greater than 90% as determined by SEC-HPLC.



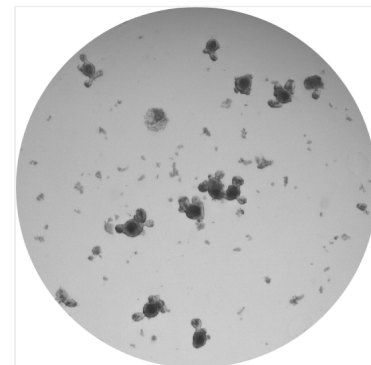
Recombinant Human R-spondin-1/RSPO1 Protein induce Topflash reporter activity in HEK293T human embryonic kidney cells. The ED50 for this effect is 6.61~26.44 ng/mL in the presence of 5 ng/mL Wnt Surrogate Protein, corresponding to a specific activity of  $3.78 \times 10^4 \sim 1.51 \times 10^5$  units/mg.



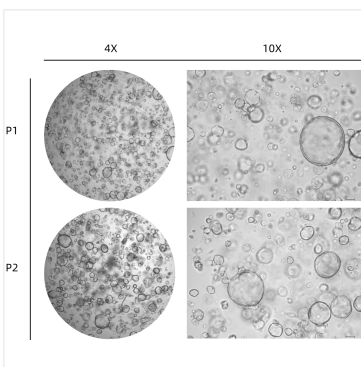
Human stomach organoids were cultured with EGF(Cat. RP03287), FGF10(Cat. RP01140), NOG(Cat. RP01237), RSPO1(Cat. RP00071), WNT-3a(Cat. RP01618SLQ).



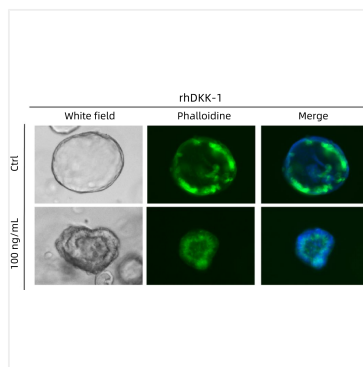
Mouse large intestinal organoids were cultured with EGF(Cat. RP03287), NOG(Cat. RP01237), RSPO1(Cat. RP00071), WNT-3a(Cat. RP01618SLQ)



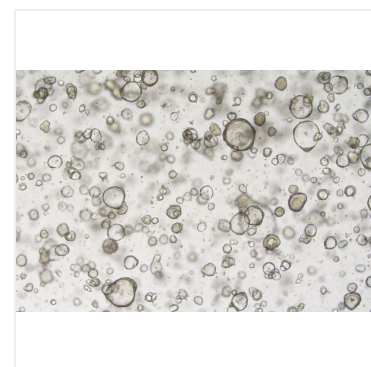
Mouse small intestinal organoids were cultured with EGF(Cat. RP03287), NOG(Cat. RP01237), RSPO1(Cat. RP00071).



Human liver organoids were cultured with EGF(Cat. RP03287), HGF(Cat. RP01602), FGF2(Cat. RP01042), FGF10(Cat. RP01140), NOG(Cat. RP01237), RSPO1(Cat. RP00071), WNT-3a(Cat. RP01618SLQ).

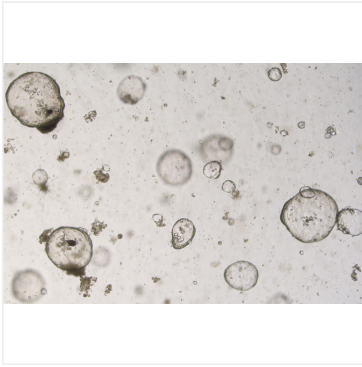


Human kidney organoids were cultured with EGF(Cat. RP03287), FGF2(Cat. RP01042), FGF7(Cat. RP01717), FGF9(Cat. RP01710), FGF10(Cat. RP01140), IGF-(Cat. RP00996), NOG(Cat. RP01237), RSPO1(Cat. RP00071), WNT-3a(Cat. RP01618SLQ). And further, DKK-1(RP01343) was used to induce the establishment of cell polarity.

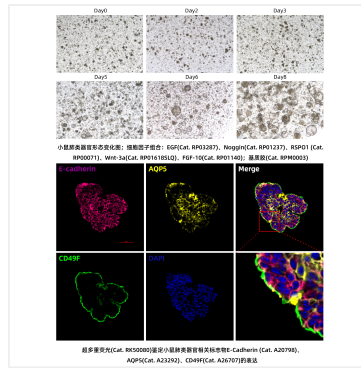


Human colorectal cancer organoid were cultured with EGF(Cat. RP03287), NOG(Cat. RP01237) FGF10(Cat. RP01140), RSPO1(Cat. RP00071), HGF(Cat. RP01602).

## Validation Data



Human gastric cancer organoids were cultured with EGF (Cat. RP03287), NOG (Cat. RP01237), FGF10 (Cat. RP01140), RSP01 (Cat. RP00071), Wnt-3a Surrogate (Cat. RP01618SLQ).



Mouse lung organoids were cultured in Matrigel (Cat. RPM0003) with medium supplemented with EGF (Cat. RP03287), Noggin (Cat. RP01237), RSP01 (Cat. RP00071), Wnt-3a (Cat. RP01618SLQ), and FGF-10 (Cat. RP01140).