

Recombinant Human R-spondin-1/RSP01 Protein

Catalog No.: RP00071 **Recombinant**

Sequence Information

| Species | Gene ID | Swiss Prot |
|---------|---------|------------|
| Human | 284654 | Q2MKA7 |

Tags

C-His

Synonyms

RSP01;CRISTIN3;RSP0

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.

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/RSP01 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. 0.1-10 ng/mL of Recombinant Human RSP01 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.

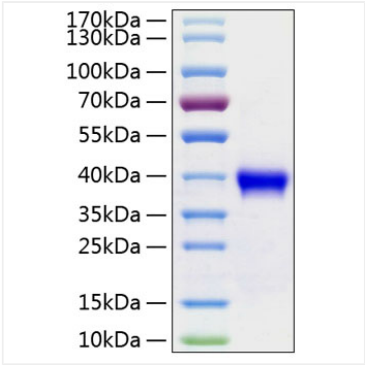
Contact

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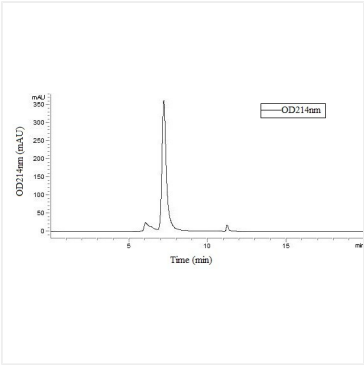
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| ✉ | cn.market@abclonal.com.cn |
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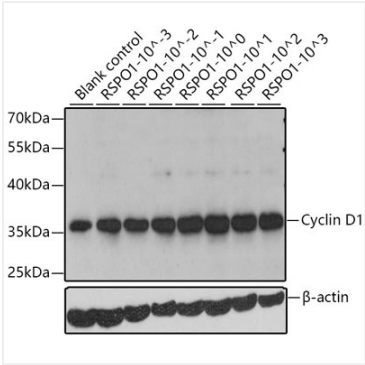
Validation Data



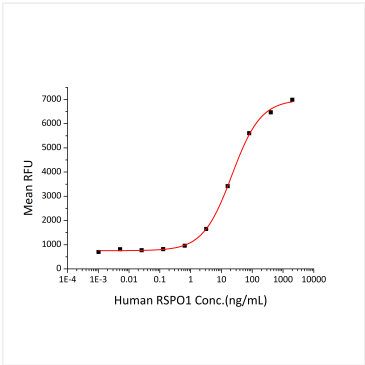
Recombinant Human R-spondin-1/RSP01 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



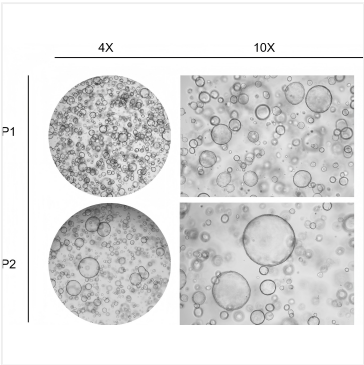
The purity of Recombinant Human R-spondin-1/RSP01 Protein is greater than 90% as determined by SEC-HPLC.



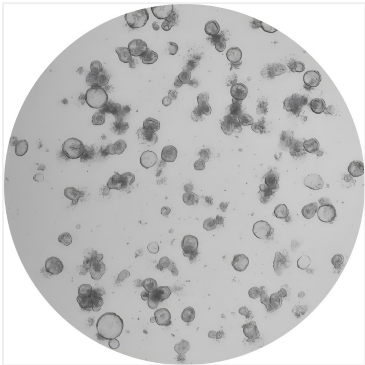
Recombinant Human R-Spondin1 enhances Cyclin D1 expression in HCT116 human colon adenocarcinoma cells. 0.1-10ng/mL of Recombinant Human RSP01 can effectively enhance Cyclin D1 expression.



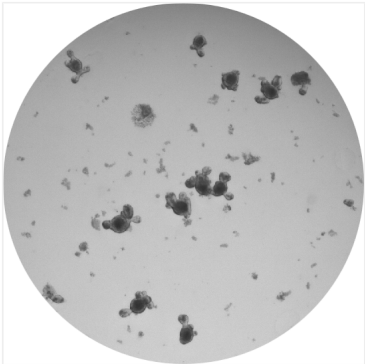
Recombinant Human R-spondin-1/RSP01 Protein induce Topflash reporter activity in HEK293T human embryonic kidney cells. The ED50 for this effect is 6.61~26.44 ng/mL in the presence of 5 ng/mL Wnt Surrogate Protein, corresponding to a specific activity of $3.78 \times 10^4 \sim 1.51 \times 10^5$ units/mg.



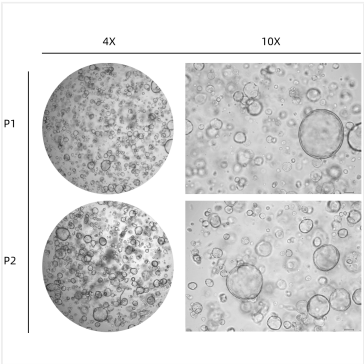
Human stomach organoids were cultured with EGF(Cat. RP03287), FGF10(Cat. RP01140), NOG(Cat. RP01237), RSP01(Cat. RP00071), WNT-3a(Cat. RP01618SLQ).



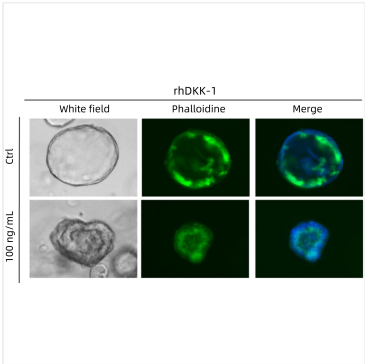
Mouse large intestinal organoids were cultured with EGF(Cat. RP03287), NOG(Cat. RP01237), RSP01(Cat. RP00071), WNT-3a(Cat. RP01618SLQ)



Mouse small intestinal organoids were cultured with EGF(Cat. RP03287), NOG(Cat. RP01237), RSP01(Cat. RP00071).



Human liver organoids were cultured with EGF(Cat. RP03287), HGF(Cat. RP01602), FGF2(Cat. RP01042), FGF10(Cat. RP01140), NOG(Cat. RP01237), RSP01(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), RSP01(Cat. RP00071), WNT-3a(Cat. RP01618SLQ). And further, DKK-1(RP01343) was used to induce the establishment of cell polarity.