Recombinant Human R-spondin-1/RSPO1 Protein

Catalog No.: RP00071

www.abclonal.com

Sequence Information

Species
Human

Gene ID
284654

Swiss Prot
Q2MKA7

Tags
C-His

Synonyms
RSPO1,CRISTIN3,RSPO

Product Information

Source
HEK293 cells

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

Calculated MW
26.44 kDa

Observed MW
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 stablizer (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/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.

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-spindin-1, Cat. RP00071) derived from ABclonal for144 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
Lyophilized proteins are shipped at ambient temperature.
Liquid proteins are shipped at frozen temperature with dry ice.
Upon receipt, store it immediately at the temperature recommended below.

Storage
Store at -20℃

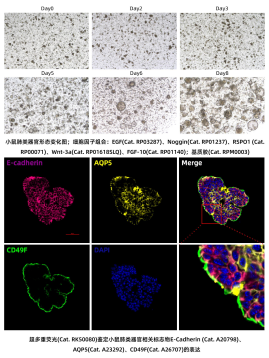
Operational Notes
For your safety and health, please wear a lab coat and disposable gloves for handling.

Contact

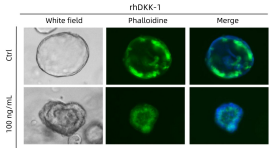
400-999-6126
cn.market@abclonal.com.cn
www.abclonal.com.cn

For research use only. Not for therapeutic or diagnostic purposes.
Please visit http://abclonal.com for a complete listing of recommended products.

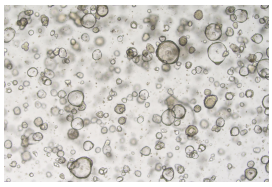
Validation Data



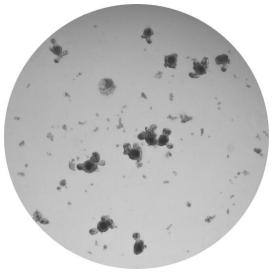
Mouse lung organoids were cultured in Matrigel (Cat. RPM0003) with medium supplemented with EGF (Cat. RP03287), Noggin (Cat. RP01237), RSPO1 (Cat. RP00071), Wnt-3a (Cat. RP01618SLQ), and FGF-10 (Cat. RP01140).



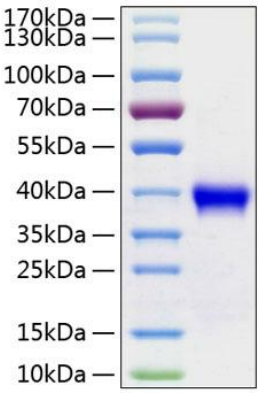
Human kidney organoids were cultured with EGF(Cat. RP03287), FGF2(Cat. RP01042), FGF7(Cat. RP01717), FGF9(Cat. RP01710), FGF10(Cat. RP01140), IGF-(Cat. RP00996), NOG(Cat. RP01237), RSPO1(Cat. RP00071), WNT-3a(Cat. RP01618SLQ). And further, DKK-1(RP01343) was used to induce the establishment of cell polarity.



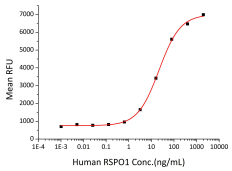
Human colorectal cancer organoid were cultured with EGF(Cat. RP03287), NOG(Cat. RP01237), FGF10(Cat. RP01140), RSPO1(Cat. RP00071), HGF(Cat. RP01602).



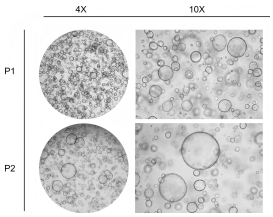
Mouse small intestinal organoids were cultured with EGF(Cat. RP03287), NOG(Cat. RP01237), RSPO1(Cat. RP00071).



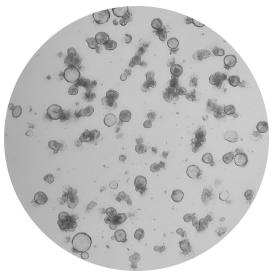
Recombinant Human R-spondin-1/RSPO1 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



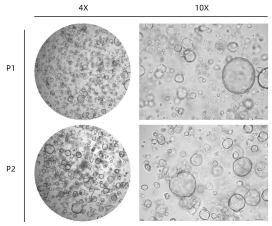
Recombinant Human R-spondin-1/RSPO1 Protein induce Topflash reporter activity in HEK293T human embryonic kidney cells. The ED50 for this effect is 6.61~26.44 ng /mL in the presence of 5 ng/mL Wnt Surrogate Protein, corresponding to a specific activity of 3.78×10^4~1.51×10^5 units/mg.



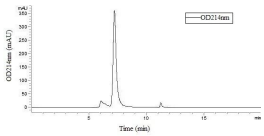
Human stomach organoids were cultured with EGF(Cat. RP03287), FGF10(Cat. RP01140), NOG(Cat. RP01237), RSPO1(Cat. RP00071), WNT-3a(Cat. RP01618SLQ).



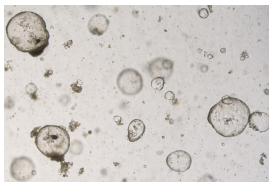
Mouse large intestinal organoids were cultured with EGF(Cat. RP03287), NOG(Cat. RP01237), RSPO1(Cat. RP00071), WNT-3a(Cat. RP01618SLQ)



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).



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



Human gastric cancer organoid were cultured with EGF(Cat. RP03287), NOG(Cat. RP01237), FGF10(Cat. RP01140), RSPO1(Cat. RP00071), Wnt-3a Surrogate(Cat. RP01618SLQ).