Cytokines

Human Recombinant R-Spondin-3

R-Spondin-3, His tag

Catalog #100-0934

50 µg

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TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
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Product Description

R-Spondin-3 is a member of thrombospondin type 1 repeat (TSR-1) superfamily that is involved in the canonical Wnt/β-catenin signaling pathway (de Lau et al.). R-spondin proteins are characterized by two furin-like repeats at the amino terminus and thrombospondin domain located near the carboxyl terminus (de Lau et al.). R-spondin-3 expression is associated with ovarian cancer (Gu et al.), prostate cancer (Mesci et al.), and differentiation of intestinal epithelial cells in diabetes mellitus (Shan et al.). In a transgenic mice model, the expression of R-Spondin-3 induces the expansion of Lgr5+ stem cells, Paneth cells, and Lgr4+ cells, promoting the intestinal stem cell compartment (Hilkens et al.). This protein contains a His-residue tag at the carboxyl end of the polypeptide chain.

Product Information

Alternative Names:	Cristin 1, hRspo3, PWTSR, R-Spondin 3, Roof plate-specific spondin-3, RSPO3, RSpondin 3, Thrombospondin type-1 domain-containing protein 2, THSD2
Accession Number:	Q9BXY4-1 (Gln22-Ala147) was expressed with a polyhistidine tag at the C-terminus
Amino Acid Sequence:	QNASRGRRQR RMHPNVSQGC QGGCATCSDY NGCLSCKPRL FFALERIGMK QIGVCLSSCP SGYYGTRYPD INKCTKCKAD CDTCFNKNFC TKCKSGFYLH LGKCLDNCPE GLEANNHTME CVSIVAHHHH HHHHHH
Predicted Molecular Mass:	15.3 kDa
Species:	Human
Formulation:	Lyophilized from sterile PBS, pH 7.4. Trehalose (5% - 8%), mannitol, and 0.01% TWEEN® 80 are normally added as protectants before lyophilization.
Source:	HEK293

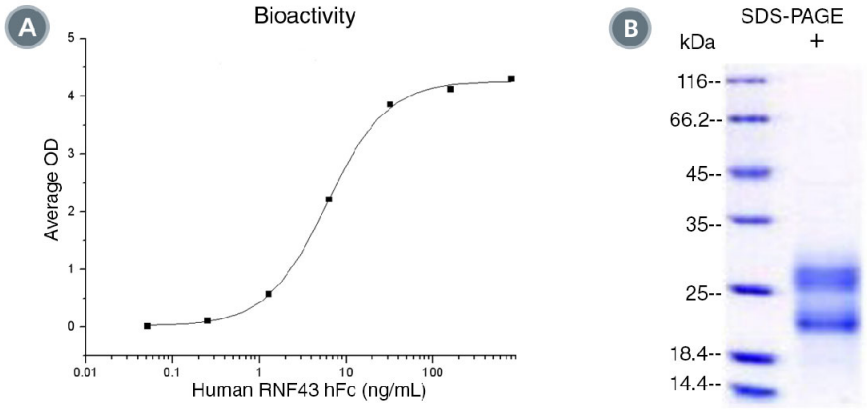
Specifications

Activity:	Binding ability was measured in a functional ELISA. Immobilized Human Recombinant R-Spondin-3 at 2000 ng/mL can bind human RNF43 hFc with a linear range of 3 - 12 ng/mL.
Purity:	≥ 93%
Endotoxin Level:	Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1.0 EU/µg protein.

Preparation and Storage

Storage:	Store at -20°C to -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The binding activity of Human Recombinant R-Spondin-3 was tested by functional ELISA with immobilized Human Recombinant R-Spondin-3 at 2000 ng/mL. Immobilized Human Recombinant R-Spondin-3 can bind human RNF43 hFc with a linear range of 3 - 12 ng/mL.

(B) Human Recombinant R-Spondin-3 was resolved with SDS-PAGE under reducing (+) conditions and visualized by Coomassie Blue staining. Human Recombinant R-Spondin-3 has a predicted molecular mass of 15.3 kDa, but the apparent molecular mass is approximately 22 kDa to 27 kDa due to different glycosylation.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

Gu H et al. (2020) RSPO3 is a marker candidate for predicting tumor aggressiveness in ovarian cancer. Ann Transl Med 8(21): 1351.

Hilkens J et al. (2017) RSPO3 expands intestinal stem cell and niche compartments and drives tumorigenesis. Gut 66(6): 1095–105.

de Lau WBM et al. (2012) The R-spondin protein family. Genome Biol 13(242).

Mesci A et al. (2019) RSPO3 is a prognostic biomarker and mediator of invasiveness in prostate cancer. J Transl Med 17(1): 1–11.

Shan TD et al. (2021) RSPO3 regulates the abnormal differentiation of small intestinal epithelial cells in diabetic state. Stem Cell Res Ther 12(1): 1–11.