10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Human CellExp R spondin-1, human recombinant protein

RSPO1, RSPO-1, CRISTIN3, CRISTIN-3, FLJ40906, RP11-566C13.1, RSPO, R-spondin-1, Rspondin-1, Rspondin

Catalog # PBV11103r

Specification

Human CellExp R spondin-1, human recombinant protein - Product info

Primary Accession	Q2MKA7
Calculated MW	**This protein is fused with a 6×his tag at C-terminal, and has a calculated molecular mass of 27.6 kDa. The predicted N-terminal is Ser 21. In SDS-PAGE under reducing conditions, the apparent molecular mass of rhRSPO1 is approximately 40 kDa due to the glycosylation. KDa**

Human CellExp R spondin-1, human recombinant protein - Additional Info

Gene ID	**284654**
Gene Symbol	**RSPO1**

Other Names

RSPO1, RSPO-1, CRISTIN3, CRISTIN-3, FLJ40906, RP11-566C13.1, RSPO, R-spondin-1, Rspondin-1, Rspondin1, Rspondin.

Gene Source	**Human**
Source	**HEK293 cells**
Assay&Purity	**SDS-PAGE; ≥98%**
Assay2&Purity2	**N/A;**
Recombinant	**Yes**
Results	**Measured by its binding ability in a functional ELISA. Immobilized human RSPO1 at 20 µg/ml (100 µl/well) can bind human LIMPII with a linear ranger of 31.25 - 1000 ng/ml.**

Target/Specificity

R spondin-1

Application Notes

Centrifuge the vial prior to opening. Reconstitute in sterile PBS, pH 7.4 to a concentration of 50 µg/ml. Do not vortex. This solution can be stored at 2-8°C for up to 1 month. For extended storage, it is recommended to store at -20°C.

Format

Lyophilized

Storage

-20°C; Lyophilized from 0.22 µm filtered solution in PBS, pH 7.4. Normally Mannitol or Trehalose is added as protectants before lyophilization.

Human CellExp R spondin-1, human recombinant protein - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Human CellExp R spondin-1, human recombinant protein - Images

Human CellExp R spondin-1, human recombinant protein - Background

R-spondin-1, also known as Roof plate-specific Spondin 1 (RSPO1) and cysteine rich and single thrombospondin domain containing protein 3 (Cristin 3), is a secreted protein which belongs to the R-Spondin family and encodes a secreted activator protein with two cysteine-rich, furin-like domains and one thrombospondin type 1 domain. All R spondins regulate Wnt/β-catenin signaling, but have distinct expression patterns. Like other R-Spondins, R-Spondin-1 contains two adjacent cysteine rich furin like domains (aa 34-135) with one potential N-glycosylation site, followed by a thrombospondin (TSP1) motif (aa 147-207) and a region rich in basic residues (aa 211-263). Only the furin like domains are needed for β-catenin stabilization. A putative nuclear localization signal at the C-terminus may allow some expression in the nucleus. Potential isoforms of 200 and 236 aa have an alternate, shorter N-terminus or are missing aa 146-208, respectively. R-Spondin-1 is expressed in early development at the roof plate boundary and is thought to contribute to dorsal neural tube development. Human RSPO1 disruption results in a recessive syndrome characterized by XX sex reversal, palmoplantar hyperkeratosis and predisposition to squamous cell carcinoma of the skin. It has been shown that the complete female-to-male sex reversal is due to the absence of the testis-determining gene, SRY. R-Spondin-1 regulates Wnt/β-catenin by competing with the Wnt antagonist DKK1 for binding to the Wnt co receptors, Kremen and LRP6, reducing their DKK1 mediated internalization. Reports differ on whether R-spondin 1 binds LRP6 directly.

Human CellExp R spondin-1, human recombinant protein - References

Kim K.-A.,et al.Science 309:1256-1259(2005).
Parma P.,et al.Nat. Genet. 38:1304-1309(2006).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Gregory S.G.,et al.Nature 441:315-321(2006).
Hao H.X.,et al.Nature 485:195-200(2012).