

Human CellExp™ R spondin-1, human recombinant

CATALOG #: 7482-10 10 µg

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

SOURCE: HEK 293 cells (Ser 21 – Ala 263)

PURITY: ≥ 98% by SDS-PAGE gel

MOL. WEIGHT: This protein is fused with a 6xhis 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.

ENDOTOXIN LEVEL: <1 EU/µg by LAL method

FORM: Lyophilized

FORMULATION: Lyophilized from 0.22 µm filtered solution in PBS, pH 7.4. Normally Mannitol or Trehalose is added as protectants before lyophilization.

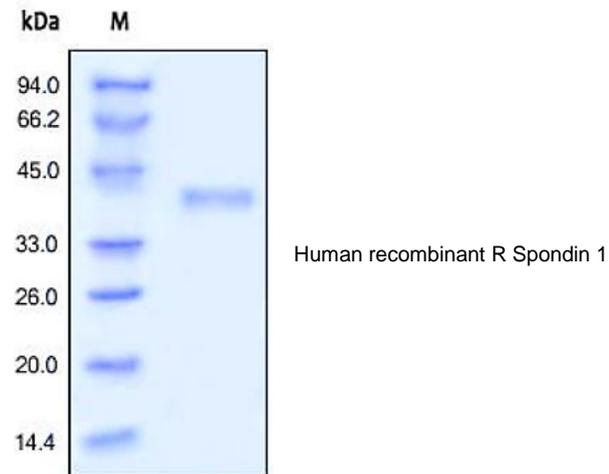
STORAGE CONDITIONS: Store at -20°C. After reconstitution, aliquot and store at -20°C and use within 3 months. Avoid repeated freezing and thawing cycles.

RECONSTITUTION: 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.

DESCRIPTION: 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.

BIOLOGICAL ACTIVITY: 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.



RELATED PRODUCTS:

- R-Spondin-1, human recombinant (Cat. No. 7189-10, -50)
- R-Spondin-2, human recombinant (Cat. No. 7190-10, -50)
- R-Spondin-3, human recombinant (Cat. No. 7191-10, -50)
- Thrombospondin, human (Cat. No. 4806-25)
- Thrombospondin, human recombinant (Cat. No. 4805-10, -50, -1000)

FOR RESEARCH USE ONLY! Not to be used in humans.