**General Information**

**Gene Name Synonym:**
CRISTIN3; R-Spondin 1; RSPO

**Protein Construction:**
A DNA sequence encoding the human RSPO1 (NP_001033722.1) (Met 1-Ala 263) was expressed, fused with a polyhistidine tag at the C-terminus.

**Source:** Human

**Expression Host:** HEK293 Cells

**QC Testing**

**Purity:** > 95% as determined by SDS-PAGE

**Bio Activity:**

1. 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 range of 32-800 ng/ml.
2. Measured by its binding ability in a functional ELISA. Immobilized human RSPO1 at 20 μg/ml (100 μl/well) can bind mouse CD36 with a linear range of 6.4-800 ng/ml.
3. Measured by its ability to induce activation of βcatenin response in a Topflash Luciferase assay using HEK293T human embryonic kidney cells. The ED50 for this effect is typically 0.1-0.9 μg/mL in the presence of 5 ng/mL recombinant mouse Wnt3a.

**Endotoxin:**
< 1.0 EU per μg of the protein as determined by the LAL method

**Predicted N terminal:** Ser 21

**Molecular Mass:**
The secreted recombinant human RSPO1 comprises 254 amino acids with a predicted molecular mass of 28.2 kDa. As a result of glycosylation, rhRSPO1 migrates as an approximately 42 kDa band in SDS-PAGE under reducing conditions.

**Formulation:**
Lyophilized from sterile PBS, pH 7.4

Normally 5% - 8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

**Usage Guide**

**Stability & Storage:**
Samples are stable for twelve months from date of receipt at -20°C to -80°C.

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

**Reconstitution:**
Detailed reconstitution instructions are sent along with the products.

---

**SDS-PAGE:**

![SDS-PAGE Image]

**Protein Description**

RSPO1 gene is a member of the R-spondin family. It encodes RSPO1 which is known as a secreted activator protein with two cystein-rich, furin-like domains and one thrombospondin type 1 domain. In mice, RSPO1 induces the rapid onset of crypt cell proliferation and increases intestinal epithelial healing, providing a protective effect against chemotherapy-induced adverse effects. This protein is an activator of the beta-catenin signaling cascade, leading to TCF-dependent gene activation. RSPO1 acts both in the canonical Wnt/beta-catenin-dependent pathway and in non-canonical Wnt signaling pathway, probably by acting as an inhibitor of ZNRF3, an important regulator of the Wnt signaling pathway. It also acts as a ligand for frizzled FZD8 and LRP6.

**References**