

# Recombinant Human RSPO1 Protein

**Cat. No.** RSPO1-34H    **Lot. No.** (See product label)

## SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | <p>Recombinant human R-spondin 1 protein without tag was expressed in E. coli.</p> <p>Animal-free (AOF) and carrier protein-free.</p> <p>Mass spectrometry: single species with expected mass.</p> <p>Analytical reversed-phase: single sharp peak.</p> <p>Recovery from stock vial: &gt;95%</p>                                                                                                                                                                                                                                                                         |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Source</b>           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Description</b>      | <p>This gene encodes 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. Alternative splicing results in multiple transcript variants.</p> |
| <b>Molecular Mass</b>   | 13 kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Endotoxin</b>        | <0.005 EU/μg protein (below level of detection)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Applications</b>     | Neuronal Differentiation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Storage</b>          | Resuspend in 10mM HCl at >100 μg/mL, prepare single use aliquots, add carrier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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protein if desired and store frozen at -20 or -80 centigrade

**Storage Buffer** Lyophilized from acetonitrile, TFA

## GENE INFORMATION

**Gene Name** RSPO1 R-spondin 1 [ Homo sapiens (human) ]

**Official Symbol** RSPO1

**Synonyms** RSPO1; R-spondin 1; RSPO; CRISTIN3; R-spondin-1; R-spondin homolog; roof plate-specific spondin-1

**Gene ID** 284654

**mRNA Refseq** NM\_001038633

**Protein Refseq** NP\_001033722

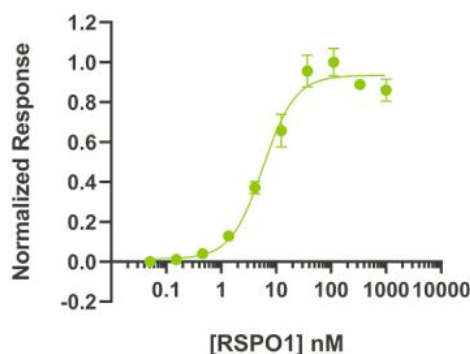
**MIM** 609595

**UniProt ID** Q2MKA7

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### Bioactivity

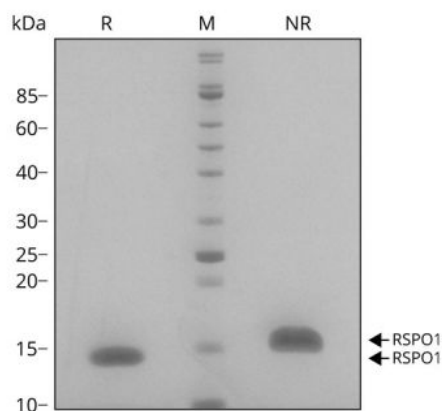
RSPO 1 enhances Wnt signalling in TOP-Flash reporter assay in Wnt reporter assay. HEK293T cells transfected with Wnt-responsive firefly luciferase reporter TOP-FLASH are treated with increasing concentration of R-spondin 1 (diluted in DMEM with 0.5 % of FCS), in the presence of Wnt-conditioned media (1: 8 dilution), in triplicate. Cells are grown overnight and luciferase activity measured by luminescence. RSP1 enhances Wnt- $\beta$  catenin signaling in HEK239T cells. EC50 = 72.4ng/mL (5.8 nM).

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## Purity



RSP01 migrates as a single band at 16 kDa in non-reducing and 13 kDa in reducing conditions. Purified recombinant protein was resolved using 15% w/v SDS-PAGE in reduced and non-reduced conditions and stained with Coomassie Brilliant Blue R250.

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