

# Product Sheet

## R-Spondin-1, human recombinant

**Catalog #** RSPO-005; RSPO-025; RSPO-100

**Description** R-spondin-1 is a natural enhancer of the canonical WNT pathway. When used together with WNT proteins that activate the beta-catenin pathway, R-spondin-1 enhances the activity of canonical WNT proteins by binding to LGR5 and LGR4 (refs.)

Injection of recombinant R-Spondin-1 into mouse causes activation of the  $\beta$ -catenin pathway and proliferation of intestinal crypt cells, which forms the basis for a clinical trial in amelioration of chemotherapy-induced colitis.

The Predicted MW of full-length R-Spondin-1 is 25.6 kDa, and due to glycosylation it runs on SDS-PAGE at ~39 kDa under reducing conditions. StemRD's R-Spondin-1 is produced in human 293 cells as a secreted protein (without tag) and purified by a series of chromatography.

*Refs: de Lau, et al, LGR5 homologues associate with Wnt receptors and mediate R-spondin signaling. Nature. 2011 July 4; 476: 293; Carmon, et al, R-spondins function as ligands for the orphan receptors LGR4 and LGR5 to regulate Wnt/beta-catenin signaling. PNAS. 2011 Jul 12; 108: 11452.*

**Formulation** Lyophilized in sterile filtered solution of PBS.

**Reconstitution** Before reconstitution, a brief spin is recommend to drive down any material dislodged from the bottom of the tube. The lyophilized protein should be reconstituted in sterile H<sub>2</sub>O to a desired concentration.

**Stability** The lyophilized protein is stable for at least one year if stored at -80 degree C. Reconstituted protein is stable for at least four weeks at 4 degree C, but should be stored in aliquots at -80 degree C for longer term. Avoid repeated freeze and thaw.

**Purity** Greater than 90% as determined by SDS-PAGE analysis

**Biological Activity** The activity was determined by using a TCF reporter gene assay in cultured human cells. The EC50 ranges from 5 - 20 ng/ml in the presence of 10 ng/mL human WNT-3a. Activity in other assays should be determined by each individual setting.

**Country of Origin** USA

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