



# Recombinant Protein Technical Manual

## Recombinant Human R-Spondin 1/RSP01 Protein (His Tag)(Active) RPES3999

### Product Data:

**Product SKU:** RPES3999

**Size:** 10µg

**Species:** Human

**Expression host:** Human Cells

**Uniprot:** Q2MKA7

### Protein Information:

**Molecular Mass:** 26.6 kDa

**AP Molecular Mass:** 40 kDa

**Tag:** C-6His

**Bio-activity:** Measured by its ability to induce Topflash reporter activity in HEK293T human embryonic kidney cells. The ED50 for this effect is 1-5 ng/ml.

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

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

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from a 0.2 µm filtered solution of PBS, pH7.4.

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** RSP01; R-spondin1; RP11-566C13.1; CRISTIN3; FLJ40906; RSP0 Rspo1; R-spondin; Rspodin; RP23-325M14.2; Roof plate-specific spondin

## Immunogen Information:

**Sequence:** Arg31-Ala263

## Background:

RSPO1 is a secreted protein, containing 2 FU(furin-like) repeats and 1 TSP type domain and belonging to the R-spondin family. RSPO1 is required for the early development of gonads, regardless of sex. It has been found in mice only eleven days after fertilization. To induce cell proliferation, it acts synergistically with WNT4. They help stabilize  $\beta$  catenin, which activates downstream targets. RSPO1 is necessary in female sex development. It augments the WNT/ $\beta$  catenin pathway to oppose male sex development. In critical gonadal stages, between six and nine weeks after fertilization, the ovaries upregulate it while the testes downregulate it. RSPO1 can potentially aid in the treatment of mucositis, which is characterized by inflammation of the oral cavity. This unfortunate condition often accompanies chemotherapy and radiation in cancer patients with head and neck tumors.