

## Recombinant Human RSPO1 (C-6His)

Catalog No.: RP0001

### Basic Information

#### Information

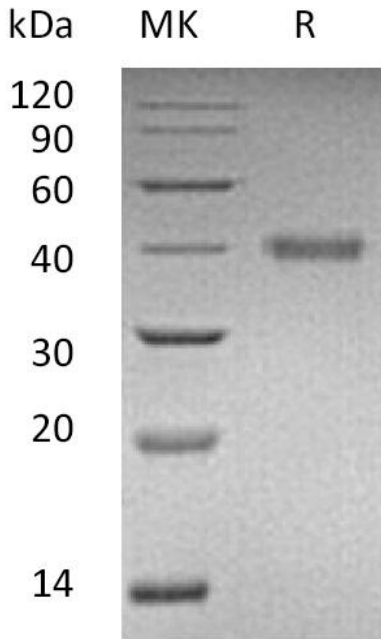
<b>Source</b>	<i>Human Cells</i>
<b>Description</b>	Recombinant Human R-spondin-1 is produced by our Mammalian expression system and the target gene encoding Ser21-Ala263 is expressed with a 6His tag at the C-terminus.
<b>Accession</b>	Q2MKA7
<b>Known As</b>	RSPO1; R-spondin1; RP11-566C13.1; CRISTIN3; FLJ40906; RSPO Rspol1; R-spondin; Rspondin; RP23-325M14.2; Roof plate-specific spondin-1
<b>Predicted Mol Mass</b>	27.8 KDa
<b>Apparent Mol Mass</b>	40 KDa, reducing conditions

#### Properties

<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
<b>Storage</b>	Lyophilized protein should be stored at ≤ -20°C, stable for one year after receipt. Reconstituted protein solution can be stored at 2-8°C for 2-7 days. Aliquots of reconstituted samples are stable at ≤ -20°C for 3 months.
<b>Endotoxin</b>	< 0.01 EU/µg as determined by LAL test.
<b>Reconstitution</b>	Always centrifuge tubes before opening. Do not mix by vortex or pipetting. It is not recommended to reconstitute to a concentration less than 100µg/ml. Dissolve the lyophilized protein in distilled water. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature listed below.

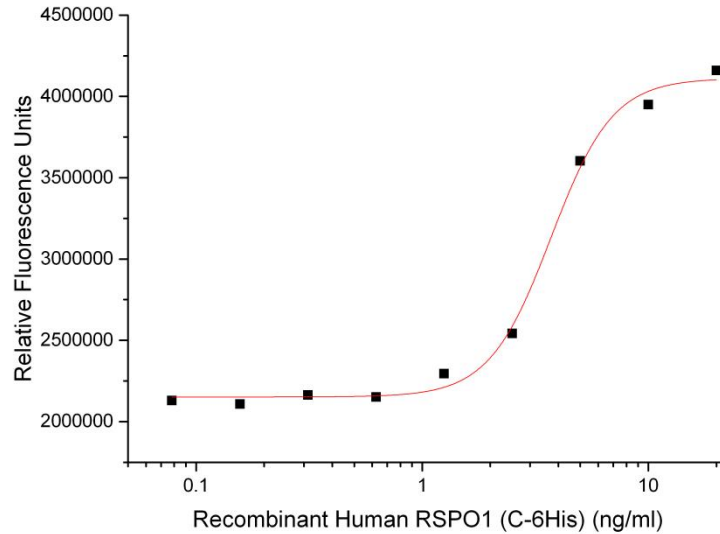
## Experimental Data

### Purity-SDS-PAGE



Greater than 95% as determined by reducing SDS-PAGE.

### Bioactivity-Cell Based Assay



Measured by its ability to induce Topflash reporter activity in HEK293T human embryonic kidney cells. The ED50 for this effect is 1-10ng/ml (QC verified).

## Background

RSPO1 is a secreted protein, containing 2 FU(furin-like) repeats and 1 TSP type-1 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.