

RSPO1
Catalog # PVGS1542**Specification**

RSPO1 - Product Information

Primary Accession [Q2MKA7](#)
Species
Human

Sequence
Ser21-Ala263

Purity
> 95% as analyzed by SDS-PAGE

Endotoxin Level
< 1 EU/ µg of protein by LAL method

Expression System
Human Cells

Formulation **Lyophilized from a 0.2 µm filtered solution in PBS.**

Reconstitution
It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH₂O up to 100 µg/ml.

Storage & Stability
Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

RSPO1 - Additional Information

Gene ID 284654

Other Names
R-spondin-1, Roof plate-specific spondin-1, hRspo1, RSPO1

Target 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 β catenin, which activates downstream targets. RSPO1 is necessary in female sex development. It augments the WNT/β 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.

RSPO1 - Protein Information

Name RSPO1

Function

Activator of the canonical Wnt signaling pathway by acting as a ligand for LGR4-6 receptors (PubMed:29769720). Upon binding to LGR4-6 (LGR4, LGR5 or LGR6), LGR4-6 associate with phosphorylated LRP6 and frizzled receptors that are activated by extracellular Wnt receptors, triggering the canonical Wnt signaling pathway to increase expression of target genes. Also regulates the canonical Wnt/beta-catenin- dependent pathway and non-canonical Wnt signaling by acting as an inhibitor of ZNRF3, an important regulator of the Wnt signaling pathway. Acts as a ligand for frizzled FZD8 and LRP6. May negatively regulate the TGF-beta pathway. Has a essential roles in ovary determination. Regulates Wnt signaling by antagonizing DKK1/KREM1- mediated internalization of LRP6 through an interaction with KREM1 (PubMed:17804805).

Cellular Location

Secreted. Nucleus {ECO:0000250|UniProtKB:Q9Z132} Note=Seems to mainly localize to nucleoli {ECO:0000250|UniProtKB:Q9Z132}

Tissue Location

Abundantly expressed in adrenal glands, ovary, testis, thyroid and trachea but not in bone marrow, spinal cord, stomach, leukocytes colon, small intestine, prostate, thymus and spleen.

RSPO1 - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

RSPO1 - Images