

Recombinant Human R-Spondin-1 Protein,His (Human RSPO1,His)

Product Information

Product Name	Cat#	Size
Recombinant Human R-Spondin-1 Protein,His (Human RSPO1,His)	92274ES60	100 µg
	92274ES80	1 mg

Product Description

R-Spondin 1 (RSPO1, Roof plate-specific Spondin 1), also known as cysteine-rich and single thrombospondin domain containing protein 3, is a 27 kDa secreted protein that shares ~40% aa identity with three other R-Spondin family members . All R-Spondins regulate Wnt/ beta-Catenin signaling but have distinct expression patterns. In humans, rare disruptions of the R-Spondin 1 gene are associated with tendencies for XX sex reversal (phenotypic male) or hermaphroditism, indicating a role for R-Spondin 1 in gender. Injection of recombinant R-Spondin 1 in mice causes activation of beta-catenin and proliferation of intestinal crypt epithelial cells, and ameliorates experimental colitis. Interest in R-Spondin 1 as a cell culture supplement has grown with the expansion of the organoid field. R-Spondin 1 is widely used in organoid cell culture workflows as a vital component that promotes both growth and survival of 3D organoids .

Product Properties

Synonyms	R-Spondin 1 ; Roof Plate-specific Spondin 1
Accession	Q2MKA7
Source	HEK293 Cells-derived human RSPO1 protein, Met1-Ala 263 with His tag at the C-terminus.
Molecular Weight	Approximately 28.2 kDa. As a result of glycosylation, RSPO1 migrates as an approximately 42 kDa band in SDS-PAGE under reducing conditions.
AA Sequence	MRLGLCVVAL VLSWHLTIS SRGIKGRQR RISAEGSQAC AKGCELCSEV NGCLKCSPKL FILLERNDIR QVGVCLPSCP PGYFDARNPD MNKCIKCKIE HCEACFSHF CTKCKEGLYL HKGRCYPACP EGSSAANGTM ECSSPAQCEM SEWSPWGPCS KKQQLCGFRR GSEERTRRVL HAPVGDHAAC SDTKETRRCT VRRVPCPEGQ KRRKGGQGR ENANRNLARK ESKEAGAGSR RRRKGQQQQQ QGTVGPLTSA GPA
Tag	His
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	> 95% by SDS-PAGE.
Biological Activity	1. Measured by its ability to induce activation of β-catenin response in a Topflash Luciferase assay using HEK293T human embryonic kidney cells. The ED ₅₀ for this effect is typically 0.1-0.9 µg/mL in the presence of 5 ng/mL recombinant mouse Wnt3a. 2. Measured by its binding ability in a functional ELISA. Immobilized human RSPO1 at 20 µg/ml (100 µl/well) can bind human LIMPII with a linear range of 32-800 ng/ml. 3. Measured by its binding ability in a functional ELISA. Immobilized human RSPO1 at 20 µg/ml (100 µl/well) can bind mouse CD36 with a linear range of 6.4-800 ng/ml.
Endotoxin	< 1.0 EU per 1µg of the protein by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at $\leq -20^{\circ}\text{C}$. Further dilutions should be made in appropriate buffered solutions.
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Shipping and Storage

The products are shipped with ice pack and can be stored at -20°C to -80°C for 1 year.

Recommend to aliquot the protein into smaller quantities when first used and avoid repeated freeze-thaw cycles.

Cautions

1. Avoid repeated freeze-thaw cycles.
2. For your safety and health, please wear lab coats and disposable gloves for operation.
3. For research use only.