RSPO1/R-spondin-1 Protein, Mouse (HEK293, His)

Cat. No.:	HY-P78344
Synonyms:	R-spondin-1; RSPO1; CRISTIN3; FLJ40906; RP11-566C13.1; RSPO
Species:	Mouse
Source:	HEK293
Accession:	Q9Z132 (S21-Q265)
Gene ID:	192199
Molecular Weight:	40-50 kDa

PROPERTIES

Biological Activity	1.Immobilized Mouse R spondin 1, His Tag at 2 μg/mL (100 μL/Well) on the plate. Dose response curve for Mouse RNF43, hFc Tag with the EC_{50} of 0.21-0.40 μg/mL determined by ELISA. 2.Measured by its ability to induce Topflash reporter activity in HEK293T human embryonic kidney cells. The ED_{50} for this effect is ≤10.0 ng/mL in the presence of 5 ng/mL recombinant Human Wnt Surrogate-Fc Fusion.
Appearance	Solution
Formulation	Supplied as a 0.22 μm filtered solution of 20 mM MES, 150 mM NaCl, 200 mM Arginine, 10% glycerol, pH 5.5.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background	RSPO1, or R-spondin-1 protein, functions as an activator of the canonical Wnt signaling pathway by acting as a ligand for LGR4-6 receptors. Upon binding to LGR4-6, RSPO1 associates with phosphorylated LRP6 and frizzled receptors, which are activated by extracellular Wnt receptors. This association triggers the canonical Wnt signaling pathway, leading to increased expression of target genes. RSPO1 also plays a role in regulating the canonical Wnt/beta-catenin-dependent pathway and non-canonical Wnt signaling by inhibiting ZNRF3, an important regulator of the Wnt signaling pathway. Additionally, RSPO1 acts as a ligand for frizzled FZD8 and LRP6, and may negatively regulate the TGF-beta pathway. It has essential roles in ovary determination and regulates Wnt signaling by antagonizing DKK1/KREM1-mediated internalization of LRP6 through an interaction with KREM1. RSPO1 interacts with ZNRF3, promoting indirect interaction between ZNRF3 and LGR4 and facilitating membrane clearance of ZNRF3. It is also identified in a complex composed of RNF43, LGR5, and RSPO1. RSPO1 interacts with the extracellular domain of FZD8 and LRP6, but does not form a ternary complex with them. Additionally, RSPO1 interacts with WNT1, binds heparin, and interacts with LGR4, LGR5, and LGR6.

Caution: Product has not been fully validated for medical applications. For research use only.

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