

RSPO1/R-spondin-1 Protein, Mouse (189aa, His)

Cat. No.:	HY-P700255
Synonyms:	
Species:	Mouse
Source:	E. coli
Accession:	Q9Z132 (S21-G209)
Gene ID:	192199
Molecular Weight:	Approximately 23 kDa

PROPERTIES

AA Sequence	<p> S R G I K G K R Q R R I S A E G S Q A C A K G C E L C S E V N G C L K C S P K L F I L L E R N D I R Q V G V C L P S C P P G Y F D A R N P D M N K C I K C K I E H C E A C F S H N F C T K C Q E A L Y L H K G R C Y P A C P E G S T A A N S T M E C G S P A Q C E M S E W S P W G P C S K K R K L C G F R K G S E E R T R R V L H A P G G D H T T C S D T K E T R K C T V R R T P C P E G </p>
Biological Activity	Measured by its ability to induce alkaline phosphatase production by MC3T3-E1. The ED ₅₀ for this effect is 72.8 ng/mL, corresponding to a specific activity is 1.3736×10 ⁴ units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 50 mM Tris-HCL, 300 mM NaCl, 200 mM arginine, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

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
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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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