

## Product datasheet for **TP728281M**

### Recombinant R-spondin 1, Human, HEK293

#### Product data:

Product Type:	Recombinant Proteins
Description:	Recombinant R-spondin 1, Human, HEK293
Species:	Human
Expression Host:	HEK293
Expression cDNA Clone or AA Sequence:	A DNA sequence encoding Human R-Spondin 1 Protein (#Q2MKA7) (Ser21 - Ala263) was expressed with polyhistidine-SUMO tag at the N-terminus.
Tag:	His-SUMO Tag (N-term)
Predicted MW:	The protein has a calculated MW of 46.8 kDa. The protein migrates as 62-68 kDa under reducing condition (SDS-PAGE analysis).
Purity:	>95% as determined by SDS-PAGE.
Buffer:	Liquid (1X PBS, pH 7.4)
Bioactivity:	R-Spondin-1 enhances BMP-2-mediated differentiation of MC3T3-E1 cells. The ED <sub>50</sub> for this effect is 1-3 µg/mL.
Endotoxin:	<1 EU per 1 µg of the protein by the LAL method.
Reconstitution Method:	Centrifuge at 3000 rpm for 5 mins before opening. Do Not Vortex! Vigorous shaking may impair the biological activity of the protein.
Applications:	Cell culture
Storage:	Store at 2°C to 8°C for up to 2 weeks, -20°C or -80°C for 6 months. Further dilute in a buffer containing a carrier protein or stabilizer (e.g. 0.1% BSA, 10%FBS, 5%HSA or 5% trehalose solution), protein aliquots should be stored at -20°C or -80°C for 3-6 months. Avoid repeated freeze/thaw cycles.
UniProt ID:	<u><a href="#">Q2MKA7</a></u>
Synonyms:	RSPO1, Roof plate-specific spondin-1



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**Summary:**

R-spondin 1 (RSPO1, Roof plate-specific Spondin 1) is a cysteine-rich secreted glycoprotein that belongs to the R-Spondin family. Structurally, R-spondin 1 harbors an N-terminal signal peptide, two cysteine-rich furin-like (FU1-FU2) domains, a thrombospondin (TSP) domain, and a basic amino acid-rich (BR) C-terminal domain. R-spondin 1 acts as a ligand for the leucine-rich repeat-containing G-protein coupled receptor (LGR) family (LGR4/5/6), subsequent clearing negative regulators ZNRF3/RNF43 from the membrane, leading to the availability of Wnt receptor and activating Wnt/ $\beta$ -catenin signaling. The signal cascade is essential for regulating stem cell proliferation, embryonic development, and tissue homeostasis.