

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse R-Spondin 4 in direct ELISAs.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant mouse R-Spondin 4 Tyr21-Pro197 Accession # Q8BJ73
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.	

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

Neutralization Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

R-Spondin 4 (RSPO4, roof plate-specific spondin 4), also called cysteine-rich and single thrombospondin domain containing-4 (Cristin 4), is an ~33 kDa secreted heparin-binding protein that shares ~35% amino acid (aa) identity with three other R-Spondin family members (1-3). All are positive modulators of Wnt/β-catenin signaling, but R-Spondin 4 may be somewhat weaker than other R-Spondins (2). R-Spondins regulate Wnt/β-catenin by competing with the Wnt antagonist DKK-1 for binding to the Wnt co-receptors LRP-6 and Kremen, reducing their DKK-1-mediated internalization (1, 4). Like other R-Spondins, mouse R-Spondin 4 (234 aa) contains a signal sequence (aa 1-19), two adjacent cysteine-rich furin-like domains (aa 85-128) with one potential tyrosine phosphorylation site (aa 114), followed by a thrombospondin (TSP-1) motif (aa 137-197) and a region rich in basic residues (aa 199-234). The furin-like domains are sufficient for β-catenin stabilization (2). Mature mouse R-Spondin 4 shares 81%, 97%, 79%, 77% and 76% aa identity with human, rat, bovine, equine and canine R-Spondin 4, respectively. There is one potential isoform where Arg substitutes for the C-terminal 82 amino acids (5). Each R-Spondin has a distinct expression pattern (6). In the mouse, R-Spondin 4 mRNA is found during development of limb bud mesenchyme, nail beds, heart and teeth (6-8). In humans, mutations of R-Spondin 4 have been found to cause anonychia, a condition in which fingernails and toenails are absent (8-10).

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