

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse R-Spondin 4 in direct ELISAs and Western blots. In Western blots, 50-100% cross-reactivity with recombinant human (rh) R-Spondin 4 is observed and no cross-reactivity with recombinant mouse (rm) R-Spondin 1, rmR
Source	Monoclonal Rat IgG _{2B} Clone # 435203
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant mouse R-Spondin 4 Tyr21-Pro197 Accession # Q8BJ73
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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.

Western Blot 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).

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.