Mouse R-Spondin 4 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF4106

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse R-Spondin 4 in direct ELISAs.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant mouse R-Spondin 4 Tyr21-Pro197 Accession # Q8BJ73
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

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	Measured by its ability to neutralize R–Spondin 4-induced activation of β–Catenin response in the HEK293T human embryonic kidney cell line in a Topflash Luciferase assay. The Neutralization Dose (ND_{50}) is typically 5.0-20 µg/mL in the presence of 1 µg/mL Recombinant Mouse R–Spondin 4 and 10 ng/mL Recombinant Mouse Wnt–3a.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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).

References:

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6. Nam, J.-S. *et al.* (2007) Gene Expr. Patterns **7**:306.
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