

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human R-Spondin 2 in direct ELISAs and Western blots. In these formats, less than 5% cross-reactivity with recombinant human (rh) R-Spondin 1, rhR-Spondin 3, and recombinant mouse R-Spondin 4 is observed.                                                        |
| <b>Source</b>             | Polyclonal Goat IgG                                                                                                                                                                                                                                                         |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human R-Spondin 2 isoform 1<br>Cys21-Gly205<br>Accession # Q6UXX9                                                                                                                                                                       |
| <b>Conjugate</b>          | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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

Human Roof plate-specific Spondin 2 isoform 1 (R-Spondin 2, RSPO-2), also known as cysteine-rich and single thrombospondin domain containing protein 2 (Cristin 2), is a 33 kDa secreted protein that belongs to the R-Spondin family. The four known human R-Spondins regulate  $\beta$ -catenin signaling and overlap in expression and function (1-3). Like other R-Spondins, R-Spondin 2 contains two adjacent cysteine-rich furin-like domains (aa 90-134) followed by a thrombospondin (TSP-1) motif (aa 144-204) and a C-terminal region rich in basic residues (aa 207-243). The basic region appears to mediate cell surface retention but not to influence function (1). R-Spondin 2 contains one potential N-glycosylation site. Of the three reported splice isoforms of human R-Spondin 2, isoform 2 lacks residues 1-67 of isoform 1, while isoform 3 has a glycine substitution for residues 32-95 of isoform 1. Human R-Spondin 2 is expressed in organs of endodermal origin in adults, including intestine and lung, and is downregulated in tumors of these tissues (1). In the embryonic mouse, R-Spondin 2 is expressed most highly in the hippocampus and in developing teeth and bones (4). Studies in *Xenopus* and mouse embryos indicate that R-Spondin 2 is an extracellular activator of Wnt/ $\beta$ -catenin signaling and is required for myogenesis (1). Mouse R-Spondin proteins bind both LRP-6 and Frizzled-8 but do not appear to form a ternary complex (3). R-Spondin 2 over-expression in *Xenopus* also blocks signaling of TGF- $\beta$  ligands, activin, nodal and BMP-4 (1). Human R-Spondin 2 is highly conserved across species, sharing 97-98% aa identity with mouse, rat, canine, bovine, and opossum R-Spondin 2 and 86% aa identity with *Xenopus* R-Spondin 2 within aa 22-205. Mature R-Spondin 2 shares ~40% aa identity with R-Spondin 1, R-Spondin 3, and R-Spondin 4.

## PRODUCT SPECIFIC NOTICES

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