

DESCRIPTION

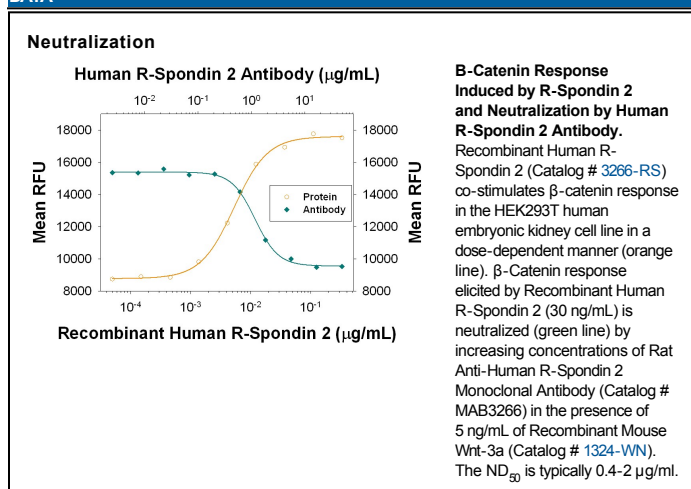
Species Reactivity	Human
Specificity	Detects human R-Spondin 2 in direct ELISAs.
Source	Monoclonal Rat IgG ₁ Clone # 879709
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human R-Spondin 2 Met1-Gly205 Accession # Q6UXX9
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 2-induced β-catenin response in the HEK293T human embryonic kidney cell line. The Neutralization Dose (ND₅₀) is typically 0.4-2 µg/ml in the presence of 30 ng/mL Recombinant Human R-Spondin 2 and 5 ng/mL Recombinant Mouse Wnt-3a.

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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. <ul style="list-style-type: none"> ● 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

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 β -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/ β -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- β 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.

References:

1. Kazanskaya, O. *et al.* (2004) *Dev. Cell* 7:525.
2. Kim, K-A. *et al.* (2006) *Cell Cycle* 5:23.
3. Nam, J-S. *et al.* (2006) *J. Biol. Chem.* 281:13247.
4. Nam, J-S. *et al.* (2007) *Gene Expr.* 281:13247.