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RSPO3 Antibody

Catalog # ASC11915

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q9BXY4
Other Accession	NP_116173, 18490982
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	30929
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	RSPO3 antibody can be used for detection of RSPO3 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunocytochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	84870
Other Names	R-spondin-3, Protein with TSP type-1 repeat, hPWTSR, Roof plate-specific spondin-3, hRspo3, Thrombospondin type-1 domain-containing protein 2, RSPO3, PWTSR, THSD2
Target/Specificity	RSPO3; RSPO3 antibody is human and mouse reactive. At least three isoforms of RSPO3 are known to exist; this antibody will detect all three.
Reconstitution & Storage	RSPO3 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	RSPO3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RSPO3
Synonyms	PWTSR, THSD2
Function	Activator of the canonical Wnt signaling pathway by acting as a ligand for LGR4-6 receptors, which acts as a key regulator of angiogenesis. Upon binding to LGR4-6 (LGR4, LGR5 or LGR6), LGR4-6 associate with phosphorylated LRP6 and frizzled receptors that are activated by extracellular Wnt receptors, triggering the canonical Wnt signaling pathway to increase expression of target genes. Also regulates the canonical Wnt/beta-catenin-dependent pathway and non- canonical Wnt signaling by acting as an inhibitor of ZNRF3,

	an important regulator of the Wnt signaling pathway. Acts as a ligand for frizzled FZD8 and LRP6. May negatively regulate the TGF-beta pathway (PubMed:21727895, PubMed:21909076, PubMed:22615920). Acts as a key regulator of angiogenesis by controlling vascular stability and pruning: acts by activating the non-canonical Wnt signaling pathway in endothelial cells (By similarity) (PubMed:21727895, PubMed:21909076, PubMed:22615920). Can also amplify Wnt signaling pathway independently of LGR4-6 receptors, possibly by acting as a direct antagonistic ligand to RNF43 and ZNRF3 (PubMed:29769720).
Cellular Location	Secreted {ECO:0000250|UniProtKB:Q2TJ95}.
Tissue Location	Ubiquitously expressed. Expressed at higher level in placenta, small intestine, fetal thymus and lymph node (PubMed:12463421). Highly expressed in endothelial cells (PubMed:26766444).

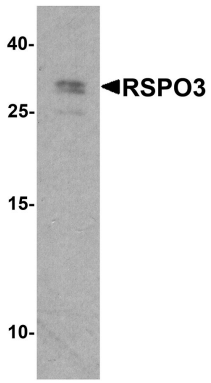
Background

RSPO3 is a member of the R-spondin family and plays a role in the regulation of Wnt (wingless-type MMTV integration site family)/beta-catenin and Wnt/planar cell polarity (PCP) signaling pathways, which are involved in development, cell growth and disease pathogenesis (1,2). RSPO3 has been shown to be involved in regulating the balance between angioblast and blood cell specification during embryonic vasculogenesis and angiogenesis and may be involved in tumor development (3,4).

References

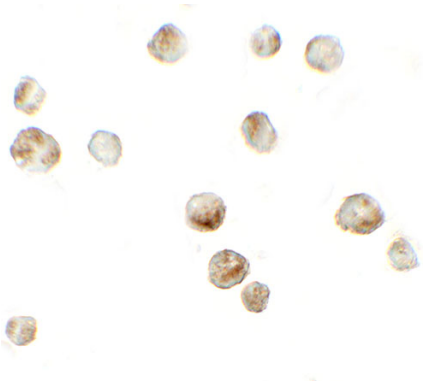
Chen JZ, Wang S, Tang R, et al. Cloning and identification of a cDNA that encodes a novel human protein with thrombospondin type I repeat domain, hPWTSR. Mol. Biol. Rep. 2002; 29:287-92.
Kim KA, Wagle M, Tran K, et al. R-Spondin family members regulate the Wnt pathway by a common mechanism. Mol. Biol. Cell 2008; 19:2588-96.
Kazanskaya O, Ohkawara B, Heroult M, et al. The Wnt signaling regulator R-spondin 3 promotes angioblast and vascular development. Development 2008; 3655-64.
Seshagiri S, Stawiski EW, Durinck S, et al. Recurrent R-spondin fusions in colon cancer. Nature 2012; 488:660-4.

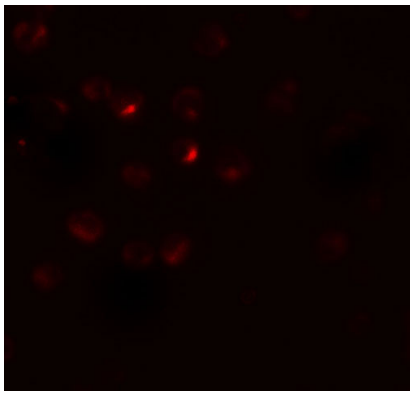
Images



Western blot analysis of RSPO3 in 293 cell lysate with RSPO3 antibody at 1 µg/ml.

Immunocytochemistry of RSPO3 in 293 cells with RSPO3 antibody at 5 µg/mL.





Immunofluorescence of RSPO3 in 293 cells with RSPO3 antibody at 20 µg/mL.