

# R-Spondin (C-13)-R: sc-49090-R

## BACKGROUND

The Thrombospondin proteins compose a family of glycoproteins that are involved in cell-to-cell and cell-to-matrix signaling. Roof plate-specific spondin (R-spondin) possesses a furin-like cysteine-rich domains and a thrombospondin repeat. This 265-amino acid member of the thrombospondin family is expressed in enteroendocrine and epithelial cells in various tissues and localizes in the boundary between the roof plate and neuroepithelium. R-spondin may contribute to the development of dorsal neural tube under the regulation of the Wnt/ $\beta$ -catenin signaling pathway which leads to T-cell factor-dependent gene activation. R-spondin exhibits a positive modulatory activity on Wnt ligands, possibly through a direct interaction. R-spondin induces a rapid onset of crypt cell proliferation involving  $\beta$ -catenin stabilization, and it acts as a mitogen in human gastrointestinal epithelium.

## REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609595. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Gonçalves-Mendes, N., Simon-Chazottes, D., Creveaux, I., Meiniel, A., Guenet, J.L. and Meiniel, R. 2003. Mouse expressed in the brain. *Gene* 312: 263-270.
3. Kamata, T., Katsube, K., Michikawa, M., Yamada, M., Takada, S. and Mizusawa, H. 2004. R-spondin, a novel gene with thrombospondin type 1 domain, was expressed in the dorsal neural tube and affected in Wnts mutants. *Biochimica Biophysica Acta* 1676: 51-62.
4. Kim, K.A., Kakitani, M., Zhao, J., Oshima, T., Tang, T., Binnerts, M., Liu, Y., Boyle, B., Park, E., Emtage, P., Funk, W.D. and Tomizuka, K. 2005. Mitogenic influence of human R-spondin1 on the intestinal epithelium. *Science* 309: 1256-1259.
5. Nam, J.S., Turcotte, T.J., Smith, P.F., Choi, S. and Yoon, J.K. 2006. Mouse cristin/R-spondin family proteins are novel ligands for the Frizzled 8 and LRP6 receptors and activate  $\beta$ -catenin-dependent gene expression. *J. Biol. Chem.* 281: 13247-13257.

## CHROMOSOMAL LOCATION

Genetic locus: RSP01 (human) mapping to 1p34.3; R-spondin (mouse) mapping to 4 D2.2.

## SOURCE

R-Spondin (C-13)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of R-Spondin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49090 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

R-Spondin (C-13)-R is recommended for detection of R-Spondin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for R-Spondin siRNA (h): sc-61429, R-Spondin siRNA (m): sc-155955, R-Spondin shRNA Plasmid (h): sc-61429-SH, R-Spondin shRNA Plasmid (m): sc-155955-SH, R-Spondin shRNA (h) Lentiviral Particles: sc-61429-V and R-Spondin shRNA (m) Lentiviral Particles: sc-155955-V.

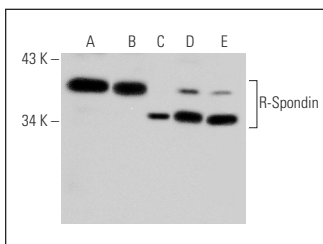
Molecular Weight of R-Spondin isoforms: 29/26 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, HL-60 whole cell lysate: sc-2209 or PC-12 cell lysate: sc-2250.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



R-Spondin (C-13)-R: sc-49090-R. Western blot analysis of R-Spondin expression in KNRK (A), PC-12 (B), Jurkat (C), K-562 (D) and HL-60 (E) whole cell lysates.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.