

Sprouty 1 (M-12): sc-31108

BACKGROUND

Members of the Sprouty family (Sprouty 1-4) are inducible negative regulators of growth factors that act through tyrosine kinase receptors. Mammalian Sprouty homologs share a well-conserved cysteine-rich C-terminal domain with their *Drosophila* counterparts. Both Sprouty 1 and 2 are anchored to membranes by palmitoylation, associate with caveolin-1 in perinuclear and vesicular structures and are phosphorylated on Serine residues. Upon stimulation, a subset is recruited to the leading edge of the plasma membrane. Sprouty 2 can associate with c-Cbl, a down regulator of RTK signaling, and inhibits the activities of several growth factors. Sprouty 2 also functions as a negative regulator of embryonic lung morphogenesis and growth. The well-conserved C-terminus of Sprouty contains two domains which are necessary for Sprouty 2 co-localization with microtubules and translocation to membrane ruffles. In addition, the C-terminus is required for the inhibition of cell migration and proliferation. In conclusion, members of Sprouty inhibit FGF and VEGF-mediated cell proliferation, suggesting that they may regulate angiogenesis in normal and disease processes.

REFERENCES

1. Lim, J., et al. 2000. Sprouty proteins are targeted to membrane ruffles upon growth factor receptor tyrosine kinase activation. Identification of a novel translocation domain. *J. Biol. Chem.* 275: 32837-32845.
2. Impagnatiello, M.A., et al. 2001. Mammalian sprouty-1 and -2 are membrane-anchored phosphoprotein inhibitors of growth factor signaling in endothelial cells. *J. Cell Biol.* 152: 1087-1098.
3. Ozaki, K., et al. 2001. Erk pathway positively regulates the expression of sprouty genes. *Biochem. Biophys. Res. Commun.* 285: 1084-1088.
4. Mailleux, A.A., et al. 2001. Evidence that SPROUTY2 functions as an inhibitor of mouse embryonic lung growth and morphogenesis. *Mech. Dev.* 102: 81-94.
6. Lee, S.H., et al. 2001. Inhibition of angiogenesis by a mouse sprouty protein. *J. Biol. Chem.* 276: 4128-4133.
5. Yigzaw, Y., et al. 2001. The C terminus of sprouty is important for modulation of cellular migration and proliferation. *J. Biol. Chem.* 276: 22742-22747.

CHROMOSOMAL LOCATION

Genetic locus: SPRY1 (human) mapping to 4q28.1, SPRY2 (human) mapping to 13q31.1; Spry1 (mouse) mapping to 3 B, Spry2 (mouse) mapping to 14 E2.3.

SOURCE

Sprouty 1 (M-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Sprouty 1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31108 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Sprouty 1 (M-12) is recommended for detection of Sprouty 1 and, to a lesser extent, Sprouty 2 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 Sprouty 1 siRNA (h): sc-41035, Sprouty 1 siRNA (m): sc-41036, Sprouty 1 shRNA Plasmid (h): sc-41035-SH, Sprouty 1 shRNA Plasmid (m): sc-41036-SH, Sprouty 1 shRNA (h) Lentiviral Particles: sc-41035-V and Sprouty 1 shRNA (m) Lentiviral Particles: sc-41036-V.

Molecular Weight of Sprouty 1: 35 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


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Try **Sprouty 1 (H-2): sc-365520**, our highly recommended monoclonal alternative to Sprouty 1 (M-12).