

Sprouty 1 (RR-15): sc-100861

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 downregulator 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

- 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.
- 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.
- Ozaki, K., et al. 2001. Erk pathway positively regulates the expression of Sprouty genes. *Biochem. Biophys. Res. Commun.* 285: 1084-1088.
- Mailleux, A.A., et al. 2001. Evidence that Sprouty 2 functions as an inhibitor of mouse embryonic lung growth and morphogenesis. *Mech. Dev.* 102: 81-94.
- Lee, S.H., et al. 2001. Inhibition of angiogenesis by a mouse Sprouty protein. *J. Biol. Chem.* 276: 4128-4133.
- 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: SPY1 (human) mapping to 4q28.1.

SOURCE

Sprouty 1 (RR-15) is a mouse monoclonal antibody raised against recombinant Sprouty 1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Sprouty 1 (RR-15) is recommended for detection of Sprouty 1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 shRNA Plasmid (h): sc-41035-SH and Sprouty 1 shRNA (h) Lentiviral Particles: sc-41035-V.

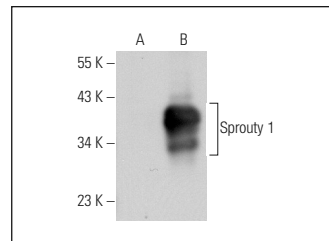
Molecular Weight of Sprouty 1: 35 kDa.

Positive Controls: Sprouty 1 (h): 293T Lysate: sc-117290 or Hep G2 cell lysate: sc-2227.

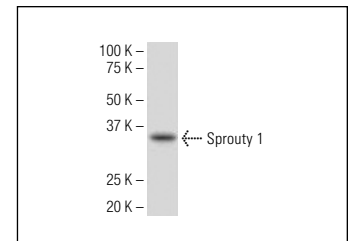
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Sprouty 1 (RR-15): sc-100861. Western blot analysis of Sprouty 1 expression in non-transfected: sc-117290 (A) and human Sprouty 1 transfected: sc-117290 (B) 293T whole cell lysates.



Sprouty 1 (RR-15): sc-100861. Western blot analysis of Sprouty 1 expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

- Terada, N., et al. 2014. Correlation of Sprouty1 and Jagged1 with aggressive prostate cancer cells with different sensitivities to androgen deprivation. *J. Cell. Biochem.* 115: 1505-1515.

RESEARCH USE

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

PROTOCOLS

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