

Sprouty 2 (SQ-5): sc-100862

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. 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: SPRY2 (human) mapping to 13q31.1.

SOURCE

Sprouty 2 (SQ-5) is a mouse monoclonal antibody raised against recombinant Sprouty 2 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ 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.

RESEARCH USE

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

APPLICATIONS

Sprouty 2 (SQ-5) is recommended for detection of Sprouty 2 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 2 siRNA (h): sc-41037, Sprouty 2 shRNA Plasmid (h): sc-41037-SH and Sprouty 2 shRNA (h) Lentiviral Particles: sc-41037-V.

Molecular Weight of Sprouty 2: 35 kDa.

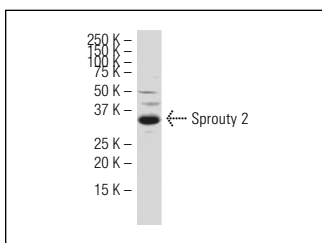
Positive Controls: C32 whole cell lysate: sc-2205.

RECOMMENDED SUPPORT REAGENTS

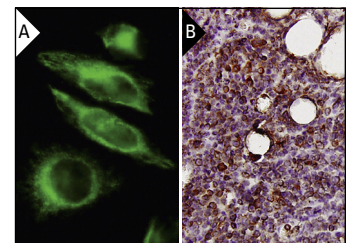
To ensure optimal results, the following support reagents are recommended:

- 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 2 (SQ-5): sc-100862. Western blot analysis of Sprouty 2 expression in C32 whole cell lysate.



Sprouty 2 (SQ-5): sc-100862. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lymphoma tissue showing cytoplasmic localization (B).

PROTOCOLS

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