SANTA CRUZ BIOTECHNOLOGY, INC.

Sprouty 1 (h): 293T Lysate: sc-117290

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

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2. Lim, J., Wong, E.S., Ong, S.H., Yusoff, P., Low, B.C. and Guy, G.R. 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.
3. Ozaki, K., Kadomoto, R., Asato, K., Tanimura, S., Itoh, N. and Kohno, M. 2001. ERK pathway positively regulates the expression of sprouty genes. Biochem. Biophys. Res. Commun. 285: 1084-1088.
4. Mailleux, A.A., Tefft, D., Ndiaye, D., Itoh, N., Thiery, J.P., Warburton, D. and Bellusci, S. 2001. Evidence that Sprouty 2 functions as an inhibitor of mouse embryonic lung growth and morphogenesis. Mech. Dev. 102: 81-94.
5. Lee, S.H., Schloss, D.J., Jarvis, L., Krasnow, M.A. and Swain, J.L. 2001. Inhibition of angiogenesis by a mouse sprouty protein. J. Biol. Chem. 276: 4128-4133.
6. Yigzaw, Y., Cartin, L., Pierre, S., Scholich, K. and Patel, T.B. 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.

PRODUCT

Sprouty 1 (h): 293T Lysate represents a lysate of human Sprouty 1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

Sprouty 1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Sprouty 1 antibodies. Recommended use: 10-20 µl per lane.

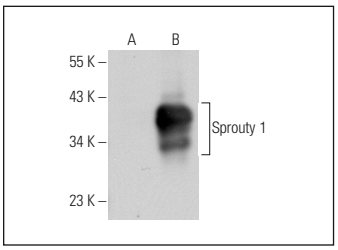
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Sprouty 1 (RR-15): sc-100861 is recommended as a positive control antibody for Western Blot analysis of enhanced human Sprouty 1 expression in Sprouty 1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Sprouty 1 (RR-15): sc-100861. Western blot analysis of Sprouty 1 expression in non-transfected: sc-117752 (**A**) and human Sprouty 1 transfected: sc-117290 (**B**) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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