SANTA CRUZ BIOTECHNOLOGY, INC.

Sprouty 3 (C-13): sc-18605

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 carboxy-terminal domain with their *Drosophila* counterparts. Sprouty proteins are cytoplasmic in unstimulated cells, but in cells stimulated by growth factors they anchor to the plasma membrane by palmitoylation. Sprouty 1 and 2 associate with caveolin-1 in perinuclear and vesicular structures and are phosphorylated on serine residues. Sprouty 2 can associate with c-Cbl, a downregulator of RTK signaling, and inhibit the activities of several growth factors. Unlike the widely expressed Sprouty members 1, 2 and 4, Sprouty 3 expression is restricted to adult brain and testis. Sprouty 4 is a target of the WNT/β-catenin signaling pathway in progenitor cells. 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.
5. Lee, S.H., et al. 2001. Inhibition of angiogenesis by a mouse sprouty protein. J. Biol. Chem. 276: 4128-4133.

CHROMOSOMAL LOCATION

Genetic locus: SPRY3 (human) mapping to Xq28/Yq12; Spry3 (mouse) mapping to X A1.1.

SOURCE

Sprouty 3 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Sprouty 3 of human 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-18605 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Sprouty 3 (C-13) is recommended for detection of sprouty 3 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Sprouty 3 siRNA (h): sc-41039, Sprouty 3 siRNA (m): sc-41040, Sprouty 3 shRNA Plasmid (h): sc-41039-SH, Sprouty 3 shRNA Plasmid (m): sc-41040-SH, Sprouty 3 shRNA (h) Lentiviral Particles: sc-41039-V and Sprouty 3 shRNA (m) Lentiviral Particles: sc-41040-V.

Molecular Weight (predicted) of Sprouty 3: 31 kDa.

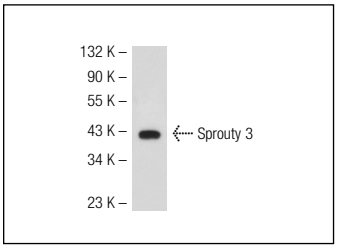
Molecular Weight (observed) of Sprouty 3: 36-43 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or JEG-3 whole cell lysate: sc-364255.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Sprouty 3 (C-13): sc-18605. Western blot analysis of Sprouty 3 expression in HeLa whole cell lysate.

RESEARCH USE

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