

Sprouty 3 (C-2): sc-374593

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

- 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.

CHROMOSOMAL LOCATION

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

SOURCE

Sprouty 3 (C-2) is a mouse monoclonal antibody raised against amino acids 1-95 mapping at the N-terminus of Sprouty 3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Sprouty 3 (C-2) is available conjugated to agarose (sc-374593 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374593 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374593 PE), fluorescein (sc-374593 FITC), Alexa Fluor[®] 488 (sc-374593 AF488), Alexa Fluor[®] 546 (sc-374593 AF546), Alexa Fluor[®] 594 (sc-374593 AF594) or Alexa Fluor[®] 647 (sc-374593 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374593 AF680) or Alexa Fluor[®] 790 (sc-374593 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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-2) is recommended for detection of Sprouty 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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

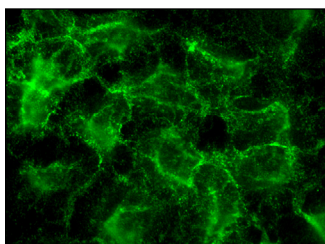
Molecular Weight (observed) of Sprouty 3: 36-43 kDa.

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

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 3 (C-2): sc-374593. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

- Cho, W., et al. 2019. The molecular chaperone HSP70 controls liver cancer initiation and progression by regulating adaptive DNA-damage and MAPK/ERK signaling pathways. *Mol. Cell. Biol.* 39: e00391-18.

RESEARCH USE

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