

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

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.

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

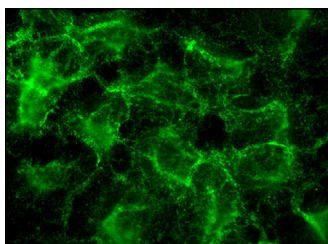
Molecular Weight (observed) of Sprouty 3: 36-43 kDa.

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

1. 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.