

Sprouty 1 (H-2): sc-365520

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

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: SPRY1 (human) mapping to 4q28.1.

SOURCE

Sprouty 1 (H-2) is a mouse monoclonal antibody raised against amino acids 61-180 mapping within an internal region of Sprouty 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Sprouty 1 (H-2) is available conjugated to agarose (sc-365520 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365520 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365520 PE), fluorescein (sc-365520 FITC), Alexa Fluor® 488 (sc-365520 AF488), Alexa Fluor® 546 (sc-365520 AF546), Alexa Fluor® 594 (sc-365520 AF594) or Alexa Fluor® 647 (sc-365520 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365520 AF680) or Alexa Fluor® 790 (sc-365520 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

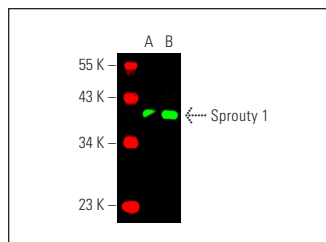
Sprouty 1 (H-2) is recommended for detection of Sprouty 1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 1 siRNA (h): sc-41035, Sprouty 1 shRNA Plasmid (h): sc-41035-SH and Sprouty 1 shRNA (h) Lentiviral Particles: sc-41035-V.

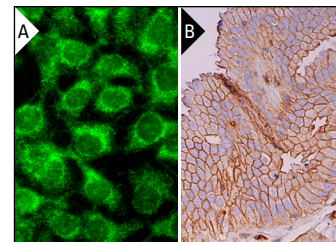
Molecular Weight of Sprouty 1: 35 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or AN3 CA cell lysate: sc-24662.

DATA



Sprouty 1 (H-2) Alexa Fluor® 680: sc-365520 AF680. Direct near-infrared western blot analysis of Sprouty 1 expression in Hep G2 (A) and AN3 CA (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker™ MW Tag-Alexa Fluor® 790: sc-516731.



Sprouty 1 (H-2): sc-365520. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing membrane staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. He, Q., et al. 2016. Suppression of Spry1 inhibits triple-negative breast cancer malignancy by decreasing EGF/EGFR mediated mesenchymal phenotype. *Sci. Rep.* 6: 23216.
2. He, Q., et al. 2017. Corrigendum: suppression of Spry1 inhibits triple-negative breast cancer malignancy by decreasing EGF/EGFR mediated mesenchymal phenotype. *Sci. Rep.* 7: 46791.
3. Rosso, V., et al. 2019. Reduced expression of Sprouty 1 contributes to the aberrant proliferation and impaired apoptosis of acute myeloid leukemia cells. *J. Clin. Med.* 8: 972.
4. Tay, J.K., et al. 2022. The microdissected gene expression landscape of nasopharyngeal cancer reveals vulnerabilities in FGF and noncanonical NFκB signaling. *Sci. Adv.* 8: eab2445.
5. Wang, J., et al. 2023. Circ_0099630 participates in SPRY1-mediated repression in periodontitis. *Int. Dent. J.* 73: 136-143.

STORAGE

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