SANTA CRUZ BIOTECHNOLOGY, INC.

SPRED2 (T-18): sc-240921

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SPRED2 (sprouty-related, EVH1 domain-containing protein 2) is a 418 amino acid protein that localizes to the peripheral membrane and contains one WH1 domain, one sprouty domain and one KBD domain. Expressed in prostate, skin, liver, salivary gland and small intestine, SPRED2 exists as a homodimer or a heterodimer (with SPRED1) that functions as a tyrosine kinase substrate and acts to inhibit growth-factor-induced MAP kinase (ERK 2) cascade activation. Human SPRED2 is subject to phosphorylation on Tyr 228 or Tyr 231, an event that leads to the ubiquitination and subsequent degradation of SPRED2 by the proteasome. Abnormal expression of SPRED2 is associated with a variety of malignant tumors, suggesting a role for SPRED2 in carcinogenesis. Additionally, disruption of the gene encoding SPRED2 that leads to an activation of the ERK 2 pathway may cause dwarfism.

REFERENCES

1. Wakioka, T., et al. 2001. SPRED is a sprouty-related suppressor of Ras signalling. Nature 412: 647-651.
2. Engelhardt, C.M., et al. 2004. Expression and subcellular localization of SPRED proteins in mouse and human tissues. Histochem. Cell Biol. 122: 527-538.
3. Nonami, A., et al. 2004. SPRED1 negatively regulates interleukin-3-mediated ERK/mitogen-activated protein (MAP) kinase activation in hematopoietic cells. J. Biol. Chem. 279: 52543-52551.
4. Nobuhisa, I., et al. 2004. SPRED2 suppresses aorta-gonad-mesonephros hematopoiesis by inhibiting MAP kinase activation. J. Exp. Med. 199: 737-742.
5. Miyoshi, K., et al. 2004. The sprouty-related protein, SPRED, inhibits cell motility, metastasis, and Rho-mediated Actin reorganization. Oncogene 23: 5567-5576.
6. King, J.A., et al. 2005. Distinct requirements for the sprouty domain for functional activity of SPRED proteins. Biochem. J. 388: 445-454.

CHROMOSOMAL LOCATION

Genetic locus: SPRED2 (human) mapping to 2p14; Spred2 (mouse) mapping to 11 A3.1.

SOURCE

SPRED2 (T-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SPRED2 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-240921 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

SPRED2 (T-18) is recommended for detection of SPRED2 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); non cross-reactive with SPRED1 or SPRED3.

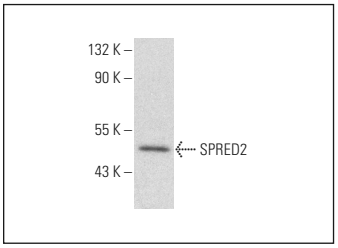
SPRED2 (T-18) is also recommended for detection of SPRED2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SPRED2 siRNA (h): sc-94969, SPRED2 siRNA (m): sc-153784, SPRED2 shRNA Plasmid (h): sc-94969-SH, SPRED2 shRNA Plasmid (m): sc-153784-SH, SPRED2 shRNA (h) Lentiviral Particles: sc-94969-V and SPRED2 shRNA (m) Lentiviral Particles: sc-153784-V.

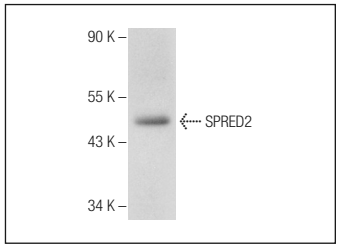
Molecular Weight of SPRED2: 48 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or human liver extract: sc-363766.

DATA



SPRED2 (T-18): sc-240921. Western blot analysis of SPRED2 expression in HeLa whole cell lysate.



SPRED2 (T-18): sc-240921. Western blot analysis of SPRED2 expression in human liver tissue extract.

RESEARCH USE

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

PROTOCOLS

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

MONOS Satisfaction Guaranteed

Try **SPRED2 (6G8): sc-517018**, our highly recommended monoclonal alternative to SPRED2 (T-18).