SANTA CRUZ BIOTECHNOLOGY, INC.

SPRED1 (462CT2.5.1): sc-517362

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The Power to Question

BACKGROUND

SPRED1 (sprouty-related, EVH1 domain containing 1), also known as NFLS, is a 444 amino acid protein that contains one KBD domain, one sprouty domain and one WH1 domain. Localized to the cell membrane and to cholesterol-rich membrane raft fractions, SPRED1 functions as a tyrosine kinase that regulates the activity of the ERK (also known as MAP kinase) cascade by inhibiting the growth-factor-mediated activation of ERK. SPRED1 can act independently as a homodimer or can function as a heterodimer with SPRED2 and, in addition to its ability to regulate ERK, is thought to negatively regulate the development of blood cells in bone marrow. Defects in the gene encoding SPRED1 are the cause of neurofibromatosis type 1-like syndrome (NFLS), an autosomal dominant disease that is characterized by multiple cafe-au-lait spots, axillary freckling and macrocephaly.

REFERENCES

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3. Nonami, A., et al. 2004. Spred-1 negatively regulates interleukin-3-mediated ERK/mitogen-activated protein (MAP) kinase activation in hematopoietic cells. J. Biol. Chem. 279: 52543-52551.
4. King, J.A., et al. 2005. Distinct requirements for the Sprouty domain for functional activity of Spred proteins. Biochem. J. 388: 445-454.
5. Nonami, A., et al. 2005. The Sprouty-related protein, Spred-1, localizes in a lipid raft/caveola and inhibits ERK activation in collaboration with caveolin-1. Genes Cells 10: 887-895.
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7. Brems, H., et al. 2007. Germline loss-of-function mutations in SPRED1 cause a neurofibromatosis 1-like phenotype. Nat. Genet. 39: 1120-1126.
8. Chandramouli, S., et al. 2008. Tesk1 interacts with Spry2 to abrogate its inhibition of ERK phosphorylation downstream of receptor tyrosine kinase signaling. J. Biol. Chem. 283: 1679-1691.
9. Johne, C., et al. 2008. Spred1 and TESK1—two new interaction partners of the kinase MARKK/TAO1 that link the microtubule and actin cytoskeleton. Mol. Biol. Cell 19: 1391-1403.

CHROMOSOMAL LOCATION

Genetic locus: SPRED1 (human) mapping to 15q14; Spred1 (mouse) mapping to 2 E5.

SOURCE

SPRED1 (462CT2.5.1) is a mouse monoclonal antibody raised against purified His-tagged SPRED1 protein fragment of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SPRED1 (462CT2.5.1) is recommended for detection of SPRED1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Suitable for use as control antibody for SPRED1 siRNA (h): sc-90024, SPRED1 siRNA (m): sc-153783, SPRED1 shRNA Plasmid (h): sc-90024-SH, SPRED1 shRNA Plasmid (m): sc-153783-SH, SPRED1 shRNA (h) Lentiviral Particles: sc-90024-V and SPRED1 shRNA (m) Lentiviral Particles: sc-153783-V.

Molecular Weight of SPRED1: 50 kDa.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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