

SPRED1 (M23-P2G3): sc-101392

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

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. 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.

CHROMOSOMAL LOCATION

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

SOURCE

SPRED1 (M23-P2G3) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 420-428 of SPRED1 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.

SPRED1 (M23-P2G3) is available conjugated to agarose (sc-101392 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101392 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101392 PE), fluorescein (sc-101392 FITC), Alexa Fluor[®] 488 (sc-101392 AF488), Alexa Fluor[®] 546 (sc-101392 AF546), Alexa Fluor[®] 594 (sc-101392 AF594) or Alexa Fluor[®] 647 (sc-101392 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-101392 AF680) or Alexa Fluor[®] 790 (sc-101392 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

SPRED1 (M23-P2G3) 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), 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).

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.

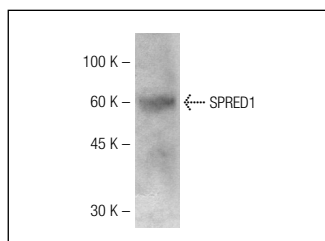
Positive Controls: HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

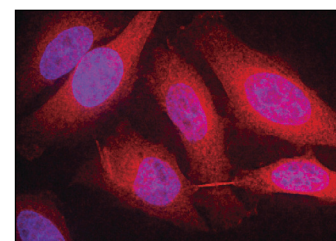
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



SPRED1 (M23-P2G3): sc-101392. Western blot analysis of SPRED1 expression in HeLa whole cell lysate.



SPRED1 (M23-P2G3): sc-101392. Immunofluorescence staining of methanol-fixed HeLa (log phase) cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. van Mil, A., et al. 2013. microRNA-1 enhances the angiogenic differentiation of human cardiomyocyte progenitor cells. *J. Mol. Med.* 91: 1001-1012.
2. Kontarakis, Z., et al. 2018. Mir-126 is a conserved modulator of lymphatic development. *Dev. Biol.* 437: 120-130.

RESEARCH USE

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

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