

Spir-1 (H-1): sc-515448

BACKGROUND

Spir-1 (spire homolog 1) is a 756 amino acid protein that localizes to the cytoskeleton, as well as to the perinuclear region of the cytoplasm, and contains one KIND domain and 2 WH2 domains. Functioning as an Actin nucleation factor, Spir-1 assists in new filament growth and is involved in vesicle transport processes, effectively providing a link between intracellular transport and Actin organization. Multiple isoforms of Spir-1 exist due to alternative splicing events. The gene encoding Spir-1 maps to human chromosome 18, which houses over 300 protein-coding genes and contains nearly 76 million bases. There are a variety of diseases associated with defects in chromosome 18-localized genes, some of which include Trisomy 18 (also known as Edwards syndrome), Niemann-Pick disease, hereditary hemorrhagic telangiectasia, erythropoietic protoporphyria and follicular lymphomas.

REFERENCES

1. Hirosawa, M., et al. 1999. Characterization of cDNA clones selected by the GeneMark analysis from size-fractionated cDNA libraries from human brain. *DNA Res.* 6: 329-336.
2. Kerkhoff, E., et al. 2001. The Spir actin organizers are involved in vesicle transport processes. *Curr. Biol.* 11: 1963-1968.
3. Schumacher, N., et al. 2004. Overlapping expression pattern of the actin organizers Spir-1 and formin-2 in the developing mouse nervous system and the adult brain. *Gene Expr. Patterns* 4: 249-255.
4. Benzinger, A., et al. 2005. Targeted proteomic analysis of 14-3-3 α , a p53 effector commonly silenced in cancer. *Mol. Cell. Proteomics* 4: 785-795.
5. Quinlan, M.E., et al. 2005. *Drosophila* Spire is an actin nucleation factor. *Nature* 433: 382-388.

CHROMOSOMAL LOCATION

Genetic locus: SPIRE1 (human) mapping to 18p11.21; Spire1 (mouse) mapping to 18 E1.

SOURCE

Spir-1 (H-1) is a mouse monoclonal antibody raised against amino acids 411-557 mapping within an internal region of Spir-1 of human origin.

PRODUCT

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

Spir-1 (H-1) is available conjugated to agarose (sc-515448 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515448 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515448 PE), fluorescein (sc-515448 FITC), Alexa Fluor[®] 488 (sc-515448 AF488), Alexa Fluor[®] 546 (sc-515448 AF546), Alexa Fluor[®] 594 (sc-515448 AF594) or Alexa Fluor[®] 647 (sc-515448 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-515448 AF680) or Alexa Fluor[®] 790 (sc-515448 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Spir-1 (H-1) is recommended for detection of Spir-1 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 Spir-1 siRNA (h): sc-76567, Spir-1 siRNA (m): sc-153771, Spir-1 shRNA Plasmid (h): sc-76567-SH, Spir-1 shRNA Plasmid (m): sc-153771-SH, Spir-1 shRNA (h) Lentiviral Particles: sc-76567-V and Spir-1 shRNA (m) Lentiviral Particles: sc-153771-V.

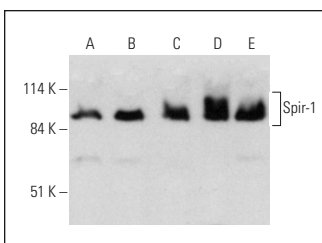
Molecular Weight of Spir-1: 86 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Jurkat whole cell lysate: sc-2204 or SK-OV-3 whole cell lysate: sc-364229.

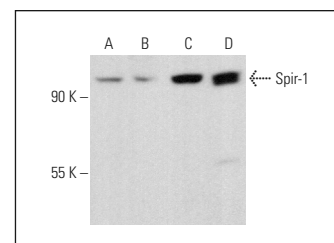
RECOMMENDED SUPPORT REAGENTS

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



Spir-1 (H-1): sc-515448. Western blot analysis of Spir-1 expression in Hep G2 (A), Jurkat (B), U-251-MG (C), RPE-J (D) and SK-OV-3 (E) whole cell lysates.



Spir-1 (H-1): sc-515448. Western blot analysis of Spir-1 expression in ALL-SIL (A), Y79 (B), F9 (C) and TK-1 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Scalzitti, S., et al. 2021. Lnc-SMaRT translational regulation of Spire1, a new player in muscle differentiation. *J. Mol. Biol.* E-published.

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.