

SID-1 (F-12): sc-390015

BACKGROUND

SID-1 and SID-2 belong to the systemic RNA interference defective-1 (SID1) family of transmembrane proteins. SID-1, originally identified in *C. elegans*, is an 827 amino acid protein. It localizes to the cell membrane and contains 11 transmembrane domains. This suggests that SID-1 possibly functions as a channel protein. The overexpression of SID-1 enhances double stranded RNA (dsRNA) uptake in pancreatic ductal adenocarcinoma cells. SID-2, also first identified in *C. elegans*, is an 832 amino acid protein with multiple transmembrane domains. At least two isoforms exist for SID-2 due to alternative splicing. Isoform 2 contains an additional 21 amino acids after residue 387 and has an alternate sequence that is 8 amino acids shorter for residues 814 to 832 of isoform 1.

REFERENCES

1. Winston, W.M., et al. 2002. Systemic RNAi in *C. elegans* requires the putative transmembrane protein SID-1. *Science* 295: 2456-2459.
2. Feinberg, E.H. and Hunter, C.P. 2003. Transport of dsRNA into cells by the transmembrane protein SID-1. *Science* 301: 1545-1547.
3. Duxbury, M.S., et al. 2005. RNA interference: a mammalian SID-1 homologue enhances siRNA uptake and gene silencing efficacy in human cells. *Biochem. Biophys. Res. Commun.* 331: 459-463.
4. Kim, J.K., et al. 2005. Functional genomic analysis of RNA interference in *C. elegans*. *Science* 308: 1164-1167.
5. Tokue, I., et al. 2005. Vibrational energies for the X1A1, A1B1, and B1A1 states of SiH₂/SiD₂ and related transition probabilities based on global potential energy surfaces. *J. Chem. Phys.* 122: 144307.

CHROMOSOMAL LOCATION

Genetic locus: SIDT1 (human) mapping to 3q13.2; Sidt1 (mouse) mapping to 16 B4.

SOURCE

SID-1 (F-12) is a mouse monoclonal antibody raised against amino acids 1-95 mapping within an N-terminal extracellular domain of SID-1 of mouse 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.

SID-1 (F-12) is available conjugated to agarose (sc-390015 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390015 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390015 PE), fluorescein (sc-390015 FITC), Alexa Fluor® 488 (sc-390015 AF488), Alexa Fluor® 546 (sc-390015 AF546), Alexa Fluor® 594 (sc-390015 AF594) or Alexa Fluor® 647 (sc-390015 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390015 AF680) or Alexa Fluor® 790 (sc-390015 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

SID-1 (F-12) is recommended for detection of SID-1 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SID-1 siRNA (h): sc-72280, SID-1 siRNA (m): sc-72281, SID-1 shRNA Plasmid (h): sc-72280-SH, SID-1 shRNA Plasmid (m): sc-72281-SH, SID-1 shRNA (h) Lentiviral Particles: sc-72280-V and SID-1 shRNA (m) Lentiviral Particles: sc-72281-V.

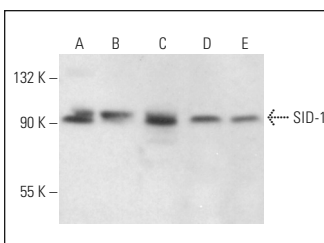
Molecular Weight of SID-1: 103 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, K-562 whole cell lysate: sc-2203 or c4 whole cell lysate: sc-364186.

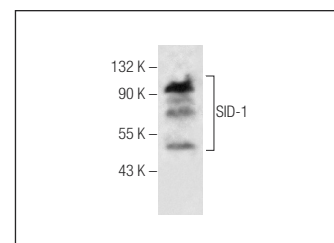
RECOMMENDED SUPPORT REAGENTS

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



SID-1 (F-12): sc-390015. Western blot analysis of SID-1 expression in MCF7 (A), Hep G2 (B), K-562 (C), RAW 264.7 (D) and C6 (E) whole cell lysates.



SID-1 (F-12): sc-390015. Western blot analysis of SID-1 expression in c4 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Morell, M., et al. 2022. SIDT1 plays a key role in type I IFN responses to nucleic acids in plasmacytoid dendritic cells and mediates the pathogenesis of an imiquimod-induced psoriasis model. *EBioMedicine* 76: 103808.

STORAGE

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

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