SANTA CRUZ BIOTECHNOLOGY, INC.

Sds22 (B-6): sc-398864

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In eukaryotes, the phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions, including division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the protein phosphatases. In general, the protein phosphatase 1 (PP1) holoenzyme is a trimeric complex composed of a regulatory subunit, a variable subunit, and a catalytic subunit. Sds22, also known as PPP1R7 (protein phosphatase 1, regulatory (inhibitor) subunit 7), is a 360 amino acid protein that localizes to the nucleus and contains ten LRR (leucine rich) repeats. Expressed in a variety of tissues, Sds22 functions as a regulatory subunit of the PP1 complex, suggesting a role in protein regulation throughout the cell. Multiple isoforms of Sds22 exist due to alternative splicing events.

REFERENCES

1. Renouf, S., et al. 1995. Molecular cloning of a human polypeptide related to yeast Sds22, a regulator of protein phosphatase-1. FEBS Lett. 375: 75-78.
2. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602877. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Ceulemans, H., et al. 1999. Structure and splice products of the human gene encoding Sds22, a putative mitotic regulator of protein phosphatase-1. Eur. J. Biochem. 262: 36-42.
4. Ceulemans, H., et al. 2002. Binding of the concave surface of the Sds22 superhelix to the α4/α5/α6-triangle of protein phosphatase-1. J. Biol. Chem. 277: 47331-47337.

CHROMOSOMAL LOCATION

Genetic locus: PPP1R7 (human) mapping to 2q37.3; Ppp1r7 (mouse) mapping to 1 D.

SOURCE

Sds22 (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 58-87 within an internal region of Sds22 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Sds22 (B-6) is available conjugated to agarose (sc-398864 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398864 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398864 PE), fluorescein (sc-398864 FITC), Alexa Fluor® 488 (sc-398864 AF488), Alexa Fluor® 546 (sc-398864 AF546), Alexa Fluor® 594 (sc-398864 AF594) or Alexa Fluor® 647 (sc-398864 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398864 AF680) or Alexa Fluor® 790 (sc-398864 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398864 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

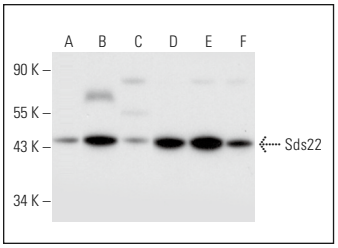
Sds22 (B-6) is recommended for detection of Sds22 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Sds22 siRNA (h): sc-94837, Sds22 siRNA (m): sc-153290, Sds22 shRNA Plasmid (h): sc-94837-SH, Sds22 shRNA Plasmid (m): sc-153290-SH, Sds22 shRNA (h) Lentiviral Particles: sc-94837-V and Sds22 shRNA (m) Lentiviral Particles: sc-153290-V.

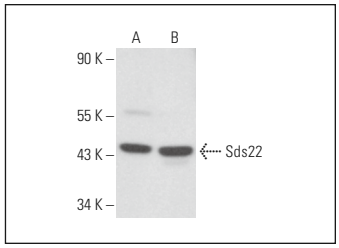
Molecular Weight of Sds22: 44 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

DATA



Sds22 (B-6): sc-398864. Western blot analysis of Sds22 expression in K-562 nuclear extract (**A**) and c4 (**B**), PC-3 (**C**), K-562 (**D**), IMR-32 (**E**) and HeLa (**F**) whole cell lysates.



Sds22 (B-6): sc-398864. Western blot analysis of Sds22 expression in IMR-32 (**A**) and Neuro-2A (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Heroes, E., et al. 2019. Structure-guided exploration of Sds22 interactions with protein phosphatase PP1 and the splicing factor BCLAF1. Structure 27: 507-518.e5.
2. Claes, Z., et al. 2023. A split-luciferase lysate-based approach to identify small-molecule modulators of phosphatase subunit interactions. Cell Chem. Biol. 30: 1666-1679.e6.
3. Van der Hoeven, G., et al. 2024. Spontaneous and chaperone-assisted metal loading in the active site of protein phosphatase-1. FEBS Lett. 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.