SANTA CRUZ BIOTECHNOLOGY, INC.

Sds22 (E-10): sc-514830

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 10 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 α 4/α 5/α 6-triangle of protein phosphatase-1. J. Biol. Chem. 277: 47331-47337.
5. Tran, H.T., et al. 2002. Detection of multiple splice variants of the nuclear protein phosphatase 1 regulator sds22 in rat liver nuclei. Biochem. Cell Biol. 80: 811-815.
6. Lesage, B., et al. 2007. A complex of catalytically inactive protein phosphatase-1 sandwiched between Sds22 and inhibitor-3. Biochemistry 46: 8909-8919.

CHROMOSOMAL LOCATION

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

SOURCE

Sds22 (E-10) is a mouse monoclonal antibody raised against amino acids 61-214 mapping within an internal region of Sds22 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Sds22 (E-10) 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.

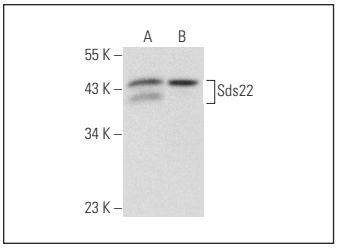
Molecular Weight of Sds22: 44 kDa.

Positive Controls: IMR-32 nuclear extract: sc-2148 or 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, TBS Blotto A Blocking Reagent: sc-2333 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



Sds22 (E-10): sc-514830. Western blot analysis of Sds22 expression in IMR-32 nuclear extract (**A**) and HeLa whole cell lysate (**B**).

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.