SANTA CRUZ BIOTECHNOLOGY, INC.

Septin 1 (B-8): sc-398586

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The septins are a family of GTPase enzymes, some of which are required for cytokinesis and others of which are associated with exocytosis. Members of the septin family can form heteropolymer complexes and also play a role in the organization of new growth in organisms. The transcriptional regulation of all septins is complex, resulting in alternatively spliced variants. At least three septins (Septin 1, 2 and 4) are associated with a Tau-based paired helical filament core and may contribute to the formation of neurofibrillary tangle as integral constituents of paired helical filaments. Septin 3 (G-Septin), a GTP-binding protein, is highly expressed in brain and is regulated by protein kinase G in neurons. The human SEPT4 (H5/PNUTL2/CDCrREL-2) gene encodes ARTS (for apoptosis-related protein in the TGFβ signaling pathway), which is expressed in many cells and acts to enhance cell death induced by TGFβ or, to a lesser extent, by other apoptotic agents. ARTS is localized to mitochondria and translocates to the nucleus when apoptosis occurs. Septin 5 is a major form of the CDCREL-1 septin in the adult neocortex of mammals. Human Septin 6 protein contains an ATP-GTP binding motif and three nuclear targeting sequences in its C-terminus. Septin 6 is the third septin member that is fused to the MLL protein, in addition to hCDCREL and MSF.

REFERENCES

1. Kinoshita, A., et al. 1998. Identification of septins in neurofibrillary tangles in Alzheimer's disease. Am. J. Pathol. 153: 1551-1560.
2. Xue, J., et al. 2000. Phosphorylation of a new brain-specific septin, G-Septin, by cGMP-dependent protein kinase. J. Biol. Chem. 275: 10047-10056.

CHROMOSOMAL LOCATION

Genetic locus: SEPT1 (human) mapping to 16p11.2; Sept1 (mouse) mapping to 7 F3.

SOURCE

Septin 1 (B-8) is a mouse monoclonal antibody raised against amino acids 281-330 of Septin 1 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.

Septin 1 (B-8) is available conjugated to agarose (sc-398586 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398586 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398586 PE), fluorescein (sc-398586 FITC), Alexa Fluor® 488 (sc-398586 AF488), Alexa Fluor® 546 (sc-398586 AF546), Alexa Fluor® 594 (sc-398586 AF594) or Alexa Fluor® 647 (sc-398586 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398586 AF680) or Alexa Fluor® 790 (sc-398586 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

Septin 1 (B-8) is recommended for detection of Septin 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 Septin 1 siRNA (h): sc-36472, Septin 1 siRNA (m): sc-36473, Septin 1 shRNA Plasmid (h): sc-36472-SH, Septin 1 shRNA Plasmid (m): sc-36473-SH, Septin 1 shRNA (h) Lentiviral Particles: sc-36472-V and Septin 1 shRNA (m) Lentiviral Particles: sc-36473-V.

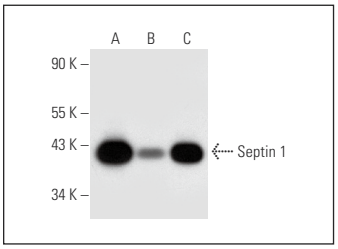
Molecular Weight of Septin 1: 46 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Raji whole cell lysate: sc-364236 or Ramos cell lysate: sc-2216.

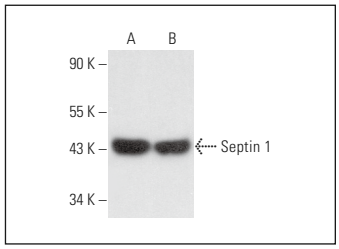
RECOMMENDED SUPPORT REAGENTS

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



Septin 1 (B-8): sc-398586. Western blot analysis of Septin 1 expression in Jurkat (**A**), HL-60 (**B**) and Raji (**C**) whole cell lysates.



Septin 1 (B-8): sc-398586. Western blot analysis of Septin 1 expression in Ramos (**A**) and SP2/0 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Song, K., et al. 2019. A SEPT1-based scaffold is required for Golgi integrity and function. J. Cell Sci. 132: jcs225557.
2. Ni, F., et al. 2019. Ptpn21 controls hematopoietic stem cell homeostasis and biomechanics. Cell Stem Cell 24: 608-620.e6.

STORAGE

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