

Septin 5 (SP18): sc-20040

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 τ -based paired helical filament core and may contribute to the formation of neurofibrillary tangle as integral constituents of paired helical filaments. The human SEPT4 (H5/PNUTL2/CDCREL-2) gene encodes ARTS (for apoptosis-related protein in the TGF- β signaling pathway), which is expressed in many cells and acts to enhance cell death induced by TGF- β 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.

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.
3. Toda, S., et al. 2000. Reciprocal expression of infant- and adult-preferring transcripts of CDCrel-1 septin gene in the rat neocortex. *Biochem. Biophys. Res. Commun.* 273: 723-728.

CHROMOSOMAL LOCATION

Genetic locus: SEPT5 (human) mapping to 22q11.21; Sept5 (mouse) mapping to 16 A3.

SOURCE

Septin 5 (SP18) is a mouse monoclonal antibody raised against immunoprecipitate of human brain.

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.

Septin 5 (SP18) is available conjugated to agarose (sc-20040 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-20040 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-20040 PE), fluorescein (sc-20040 FITC), Alexa Fluor[®] 488 (sc-20040 AF488), Alexa Fluor[®] 546 (sc-20040 AF546), Alexa Fluor[®] 594 (sc-20040 AF594) or Alexa Fluor[®] 647 (sc-20040 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-20040 AF680) or Alexa Fluor[®] 790 (sc-20040 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

Septin 5 (SP18) is recommended for detection of Septin 5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

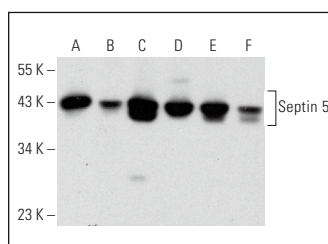
Septin 5 (SP18) is also recommended for detection of Septin 5 in additional species, including rabbit.

Suitable for use as control antibody for Septin 5 siRNA (h): sc-36478, Septin 5 siRNA (m): sc-36479, Septin 5 shRNA Plasmid (h): sc-36478-SH, Septin 5 shRNA Plasmid (m): sc-36479-SH, Septin 5 shRNA (h) Lentiviral Particles: sc-36478-V and Septin 5 shRNA (m) Lentiviral Particles: sc-36479-V.

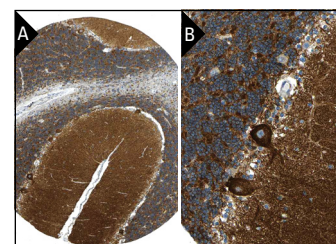
Molecular Weight of Septin 5: 40 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, Neuro-2A whole cell lysate: sc-364185 or 3T3-L1 cell lysate: sc-2243.

DATA



Septin 5 (SP18): sc-20040. Western blot analysis of Septin 5 expression in IMR-32 (A), SK-BR-3 (B), Neuro-2A (C), 3T3-L1 (D), NRK (E) and C6 (F) whole cell lysates.



Septin 5 (SP18): sc-20040. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of cells in granular and molecular layers and Purkinje cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Amin, N.D., et al. 2008. Cyclin-dependent kinase 5 phosphorylation of human Septin SEPT5 (hCDCrel-1) modulates exocytosis. *J. Neurosci.* 28: 3631-3643.
2. Cuadrado, E., et al. 2010. The proteome of human brain after ischemic stroke. *J. Neuropathol. Exp. Neurol.* 69: 1105-1115.
3. Radler, M.R., et al. 2023. Pyramidal neuron morphogenesis requires a septin network that stabilizes filopodia and suppresses lamellipodia during neurite initiation. *Curr. Biol.* 33: 434-448.e8.
4. Suber, Y., et al. 2023. Microtubule-associated septin complexes modulate kinesin and dynein motility with differential specificities. *J. Biol. Chem.* 299: 105084.

RESEARCH USE

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