

# Septin 5 (SP20): sc-65512

## 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. The human SEPT4 (H5/PNUTL2/CDCREL-2) gene encodes ARTS (for apoptosis-related protein in the TGF- $\beta$  signaling pathway), which is expressed in many cells and acts to enhance cell death induced by TGF- $\beta$  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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Septin 5 (SP20) is a mouse monoclonal antibody raised against a crude fraction of human schizophrenic brain homogenate immunoprecipitated using a SYP antibody.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Septin 5 (SP20) 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  $\mu$ g per 100-500  $\mu$ 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).

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.

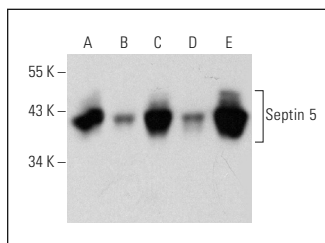
Molecular Weight of Septin 5: 40 kDa.

Positive Controls: NRK whole cell lysate: sc-364197, IMR-32 cell lysate: sc-2409 or SK-BR-3 cell lysate: sc-2218.

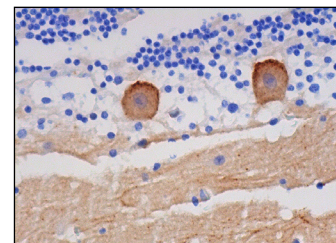
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Septin 5 (SP20): sc-65512. Western blot analysis of Septin 5 expression in IMR-32 (A), SK-BR-3 (B), NRK (C), C6 (D) and H19-7/IGF-IR (E) whole cell lysates.



Septin 5 (SP20): sc-65512. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic and membrane staining of Purkinje cells and neuropil staining.

## SELECT PRODUCT CITATIONS

1. Yang, Y.M., et al. 2010. Septins regulate developmental switching from microdomain to nanodomain coupling of Ca<sup>2+</sup> influx to neurotransmitter release at a central synapse. *Neuron* 67: 100-115.
2. Fekete, A., et al. 2019. Underpinning heterogeneity in synaptic transmission by presynaptic ensembles of distinct morphological modules. *Nat. Commun.* 10: 826.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.