

# Septin 3 (N-14): sc-20411

## 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/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. 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

- Kinoshita, A., et al. 1998. Identification of septins in neurofibrillary tangles in Alzheimer's disease. *Am. J. Pathol.* 153: 1551-1560.
- 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.
- Larisch, S., et al. 2000. A novel mitochondrial septin-like protein, ARTS, mediates apoptosis dependent on its P-loop motif. *Nat. Cell Biol.* 2: 915-921.
- 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.
- Jackisch, B.O., et al. 2000. Alternative exon usage of rat septins. *Biochem. Biophys. Res. Commun.* 275: 180-188.
- Borkhardt, A., et al. 2001. An ins(X;11)(q24;q23) fuses the MLL and the Septin 6/KIAA0128 gene in an infant with AML-M2. *Genes Chromosomes Cancer* 32: 82-88.
- Momany, M., et al. 2001. Characterization of the *Aspergillus nidulans* septin (asp) gene family. *Genetics* 157: 969-977.

## CHROMOSOMAL LOCATION

Genetic locus: SEPT3 (human) mapping to 22q13.2; Sept3 (mouse) mapping to 15 E1.

## SOURCE

Septin 3 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Septin 3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-20411 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Septin 3 (N-14) is recommended for detection of Septin 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Septin 3 (N-14) is also recommended for detection of Septin 3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Septin 3 siRNA (h): sc-36474, Septin 3 siRNA (m): sc-36475, Septin 3 shRNA Plasmid (h): sc-36474-SH, Septin 3 shRNA Plasmid (m): sc-36475-SH, Septin 3 shRNA (h) Lentiviral Particles: sc-36474-V and Septin 3 shRNA (m) Lentiviral Particles: sc-36475-V.

Molecular Weight of Septin 3: 40 kDa.

Positive Controls: rat brain extract: sc-2392, IMR-32 cell lysate: sc-2409 or Jurkat whole cell lysate: sc-2204.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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.



Try **Septin 3 (G-6): sc-74431** or **Septin 3 (41-8): sc-100848**, our highly recommended monoclonal alternatives to Septin 3 (N-14).