

# Septin 2 (N-12): sc-20408

## 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

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. 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.
4. 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: SEPT2 (human) mapping to 2q37.3; Sept2 (mouse) mapping to 1 D.

## SOURCE

Septin 2 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Septin 2 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-20408 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Septin 2 (N-12) is recommended for detection of septin 2 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

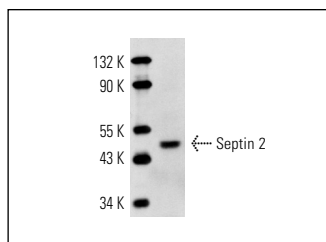
Septin 2 (N-12) is also recommended for detection of septin 2 in additional species, including canine.

Suitable for use as control antibody for Septin 2 siRNA (h): sc-40936, Septin 2 siRNA (m): sc-40937, Septin 2 shRNA Plasmid (h): sc-40936-SH, Septin 2 shRNA Plasmid (m): sc-40937-SH, Septin 2 shRNA (h) Lentiviral Particles: sc-40936-V and Septin 2 shRNA (m) Lentiviral Particles: sc-40937-V.

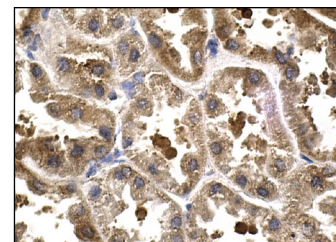
Molecular Weight of Septin 2: 45 kDa.

Positive Controls: rat brain extract: sc-2392.

## DATA



Septin 2 (N-12): sc-20408. Western blot analysis of Septin 2 expression in rat brain tissue extract.



Septin 2 (N-12): sc-20408. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

## SELECT PRODUCT CITATIONS

1. Maimaitiyiming, M., et al. 2008. Biochemical characterization of membrane-associated septin from rat brain. *J. Neurochem.* 106: 1175-1183.
2. Aminin, D.L., et al. 2009. Immunomodulatory effects of holothurian triterpene glycosides on mammalian splenocytes determined by mass spectrometric proteome analysis. *J. Proteomics* 72: 886-906.

## RESEARCH USE

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

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Try **Septin 2 (F-1): sc-514206**, our highly recommended monoclonal alternatives to Septin 2 (N-12).