

Septin 2 (F-1): sc-514206

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

SOURCE

Septin 2 (F-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 74-89 near the N-terminus of Septin 2 of human origin.

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 2 (F-1) is available conjugated to agarose (sc-514206 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514206 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514206 PE), fluorescein (sc-514206 FITC), Alexa Fluor[®] 488 (sc-514206 AF488), Alexa Fluor[®] 546 (sc-514206 AF546), Alexa Fluor[®] 594 (sc-514206 AF594) or Alexa Fluor[®] 647 (sc-514206 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514206 AF680) or Alexa Fluor[®] 790 (sc-514206 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514206 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

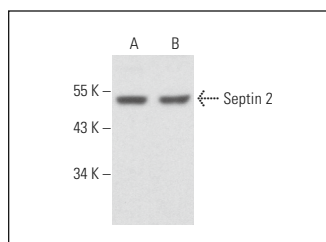
Septin 2 (F-1) is recommended for detection of Septin 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

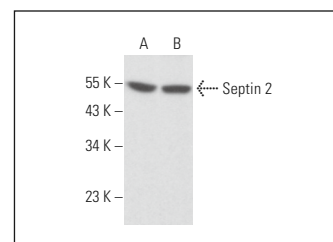
Molecular Weight of Septin 2: 45 kDa.

Positive Controls: TF-1 cell lysate: sc-2412, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

DATA



Septin 2 (F-1): sc-514206. Western blot analysis of Septin 2 expression in Jurkat (A) and K-562 (B) whole cell lysates.



Septin 2 (F-1): sc-514206. Western blot analysis of Septin 2 expression in Jurkat (A) and TF-1 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sim, H., et al. 2020. Quantitative proteomic analysis of primitive neural stem cells from LRRK2 G2019S-associated Parkinson's disease patient-derived iPSCs. *Life* 10: 331.
2. Chen, T.Y., et al. 2021. Septin 7 is a centrosomal protein that ensures S phase entry and microtubule nucleation by maintaining the abundance of p150^{glued}. *J. Cell. Physiol.* 236: 2706-2724.
3. Panagiotou, T.C., et al. 2022. An Anillin-CIN85-SEPT9 complex promotes intercellular bridge maturation required for successful cytokinesis. *Cell Rep.* 40: 111274.

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.