SANTA CRUZ BIOTECHNOLOGY, INC.

Septin 9 (2C6): sc-293291

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Septins are members of a conserved family of cytoskeletal GTPases, specifically belonging to the large superclass of P-loop GTPases. Septin proteins form homo- and hetero-oligomeric polymers that accumulate into higher-order filaments which may function as dynamic protein scaffolds. Septins play an important role in vesicle trafficking, apoptosis, cytoskeleton remodeling, infection, neurodegeneration, neoplasia and cytokinesis. Septin 9 is expressed in lymphoid tissues and has an elaborate genomic structure. There are 15 different isoforms of Septin 9, made possible by intermixing five alternate amino termini and three alternate carboxy termini. Changes in the levels of Septin 9 by overexpression of these individual isoforms can disturb cellular behavior and may be implicated in neoplasia. Septin 9 is commonly upregulated in ovarian tumors and may be linked to hereditary neuralgic amyotrophy (HNA). HNA is an autosomal dominant, recurrent neuropathy affecting the brachial plexus.

REFERENCES

1. Burrows, J.F., et al. 2003. Altered expression of the septin gene, SEPT9, in ovarian neoplasia. J. Pathol. 201: 581-588.
2. Kim, D.S., et al. 2004. Analysis of mammalian septin expression in human malignant brain tumors. Neoplasia 6: 168-178.
3. Nagata, K., et al. 2004. Biochemical and cell biological analyses of a mammalian septin complex, Septin 7/9b/11. J. Biol. Chem. 279: 55895-55904.
4. Robertson, C., et al. 2004. Properties of Septin 9 isoforms and the requirement for GTP binding. J. Pathol. 203: 519-527.
5. Hall, P.A., et al. 2005. Expression profiling the human septin gene family. J. Pathol. 206: 269-278.
6. Chacko, A.D., et al. 2005. SEPT9_v4 expression induces morphological change, increased motility and disturbed polarity. J. Pathol. 206: 458-465.
7. Kuhlenbäumer, G., et al. 2005. Mutations in SEPT9 cause hereditary neuralgic amyotrophy. Nat. Genet. 37: 1044-1046.
8. Scott, M., et al. 2005. Multimodality expression profiling shows SEPT9 to be overexpressed in a wide range of human tumours. Oncogene 24: 4688-4700.
9. Scott, M., et al. 2006. Altered patterns of transcription of the septin gene, SEPT9, in ovarian tumorigenesis. Int. J. Cancer 118: 1325-1329.

CHROMOSOMAL LOCATION

Genetic locus: SEPT9 (human) mapping to 17q25.2.

SOURCE

Septin 9 (2C6) is a mouse monoclonal antibody raised against amino acids 26-125 of Septin 9 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Septin 9 (2C6) is recommended for detection of Septin 9 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

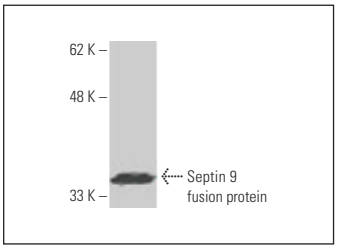
Suitable for use as control antibody for Septin 9 siRNA (h): sc-61532, Septin 9 shRNA Plasmid (h): sc-61532-SH and Septin 9 shRNA (h) Lentiviral Particles: sc-61532-V.

Molecular Weight of Septin 9: 65 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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).

DATA



Septin 9 (2C6): sc-293291. Western blot analysis of human recombinant Septin 9 fusion protein.

SELECT PRODUCT CITATIONS

1. Hassan, A., et al. 2019. Adolescent idiopathic scoliosis associated POC5 mutation impairs cell cycle, cilia length and centrosome protein interactions. PLoS ONE 14: e0213269.
2. Collins, K.B., et al. 2020. Septin 2 mediates podosome maturation and endothelial cell invasion associated with angiogenesis. J. Cell Biol. 219: e201903023.
3. Léger, T., et al. 2024. Chlordecone-induced hepatotoxicity and fibrosis are mediated by the proteasomal degradation of septins. J. Hazard. Mater. 476: 135177.

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.