SANTA CRUZ BIOTECHNOLOGY, INC.

SPATA33 (D-3): sc-514707

BACKGROUND

SPATA33 (spermatogenesis-associated protein 33), also know as C16orf55, is a 133 amino acid protein that is essential for sperm motility and male fertility. SPATA33 plays a critical role for providing the sperm midpiece with the flexibility it requires, and it is also necessary for the correct placement of sperm calcineurin within the mitochondria, as determined through comparative studies. SPATA33 is not only instrumental in promoting mitophagy, but it also serves as an autophagy mediator specifically within male germline cells. SPATA33 facilitates the connection of damaged mitochondria to autophagosomes by binding to the outer mitochondrial membrane protein VDAC2 and to the central autophagy component ATG16L1. SPATA33 exists as two alternatively spliced isoforms and the gene encoding SPATA33 is located on human 16q24.3.

REFERENCES

1. Ben Hamida, C., et al. 1997. Homozygosity mapping of giant axonal neuropathy gene to chromosome 16q24.1. Neurogenetics 1: 129-133.
2. Karlsson, J., et al. 2003. Novel quantitative trait loci controlling development of experimental autoimmune encephalomyelitis and proportion of lymphocyte subpopulations. J. Immunol. 170: 1019-1026.
3. Forabosco, P., et al. 2006. Meta-analysis of genome-wide linkage studies of systemic lupus erythematosus. Genes Immun. 7: 609-614.
4. Carneiro, L.A., et al. 2007. Nod-like receptors in innate immunity and inflammatory diseases. Ann. Med. 39: 581-593.
5. King, K., et al. 2007. Identification, evolution, and association study of a novel promoter and first exon of the human NOD2 (CARD15) gene. Genomics 90: 493-501.
6. Gervasini, C., et al. 2007. High frequency of mosaic CREBBP deletions in Rubinstein-Taybi syndrome patients and mapping of somatic and germ-line breakpoints. Genomics 90: 567-573.
7. Koop, O., et al. 2007. Genotype-phenotype analysis in patients with giant axonal neuropathy (GAN). Neuromuscul. Disord. 17: 624-630.

CHROMOSOMAL LOCATION

Genetic locus: SPATA33 (human) mapping to 16q24.3.

SOURCE

SPATA33 (D-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-19 at the N-terminus of SPATA33 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514707 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SPATA33 (D-3) is recommended for detection of SPATA33 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 SPATA33 siRNA (h): sc-93240, SPATA33 shRNA Plasmid (h): sc-93240-SH and SPATA33 shRNA (h) Lentiviral Particles: sc-93240-V.

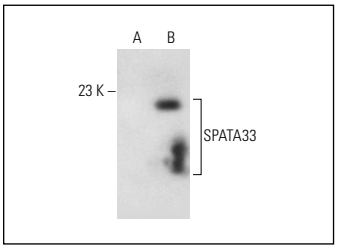
Molecular Weight of SPATA33: 15 kDa.

Positive Controls: SPATA33 (h): 293T Lysate: sc-175749.

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SPATA33 (D-3): sc-514707. Western blot analysis of SPATA33 expression in non-transfected: sc-117752 (**A**) and human SPATA33 transfected: sc-175749 (**B**) 293T whole cell lysates.

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 for detailed protocols and support products.