

# SPATA33 (h): 293T Lysate: sc-175749

## BACKGROUND

SPATA33 (spermatogenesis-associated protein 33), also known 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.
8. Tattoli, I., et al. 2007. The Nodosome: Nod1 and Nod2 control bacterial infections and inflammation. *Semin. Immunopathol.* 29: 289-301.
9. Yang, Y., et al. 2007. Giant axonal neuropathy. *Cell. Mol. Life Sci.* 64: 601-609.

## CHROMOSOMAL LOCATION

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

## PRODUCT

SPATA33 (h): 293T Lysate represents a lysate of human SPATA33 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## APPLICATIONS

SPATA33 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive SPATA33 antibodies. Recommended use: 10-20 µl per lane.

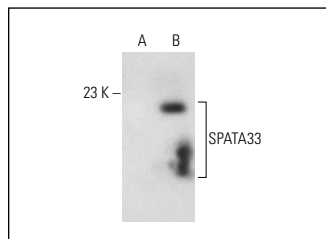
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

SPATA33 (D-3): sc-514707 is recommended as a positive control antibody for Western Blot analysis of enhanced human SPATA33 expression in C16orf55 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## 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.

## 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.