SANTA CRUZ BIOTECHNOLOGY, INC.

SPAG6 (XX-2): sc-100886

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The Power to Question

BACKGROUND

SPAG6 (sperm-associated antigen 6), also known as PF16 or Repro-SA-1, is a cytoplasmic protein that contains eight armadillo repeats and belongs to the armadillo repeat family. Proteins with armadillo repeats typically participate in protein-protein interactions, suggesting that SPAG6 associates with other proteins and may function as a structural or regulatory protein. Sharing 64% amino acid identity, SPAG6 is the mammalian homolog of the *Chlamydomonas reinhardtii* protein pf16, a component of the central apparatus in flagella. Predominantly expressed in testis, SPAG6 is a central apparatus protein that plays an important role in the sperm tail and is essential for flagellar motility and male fertility. SPAG6 interacts with SPAG16 and, together, these proteins may cooperate in the regulation of sperm motility. Four isoforms exist for SPAG6 due to alternative splicing events.

REFERENCES

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2. Sapiro, R., et al. 2000. Sperm antigen 6 is the murine homologue of the *Chlamydomonas reinhardtii* central apparatus protein encoded by the PF16 locus. Biol. Reprod. 62: 511-518.
3. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605730. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Sapiro, R., et al. 2002. Male infertility, impaired sperm motility, and hydrocephalus in mice deficient in sperm-associated antigen 6. Mol. Cell. Biol. 22: 6298-6305.
5. Zhang, Z., et al. 2005. Dissecting the axoneme interactome: the mammalian orthologue of *Chlamydomonas* PF6 interacts with sperm-associated antigen 6, the mammalian orthologue of *Chlamydomonas* PF16. Mol. Cell. Proteomics 4: 914-923.
6. Lonergan, K.M., et al. 2006. Identification of novel lung genes in bronchial epithelium by serial analysis of gene expression. Am. J. Respir. Cell Mol. Biol. 35: 651-661.
7. Shen, Y., et al. 2006. Abnormal CpG island methylation occurs during *in vitro* differentiation of human embryonic stem cells. Hum. Mol. Genet. 15: 2623-2635.
8. Zhang, Z., et al. 2007. A heterozygous mutation disrupting the SPAG16 gene results in biochemical instability of central apparatus components of the human sperm axoneme. Biol. Reprod. 77: 864-871.

CHROMOSOMAL LOCATION

Genetic locus: SPAG6 (human) mapping to 10p12.2; Spag6l (mouse) mapping to 16 A3.

SOURCE

SPAG6 (XX-2) is a mouse monoclonal antibody raised against recombinant SPAG6 of human origin.

PRODUCT

Each vial contains 100 µg IgG_3 kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SPAG6 (XX-2) is recommended for detection of SPAG6 of mouse, rat and 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 SPAG6 siRNA (h): sc-90404, SPAG6 siRNA (m): sc-153706, SPAG6 shRNA Plasmid (h): sc-90404-SH, SPAG6 shRNA Plasmid (m): sc-153706-SH, SPAG6 shRNA (h) Lentiviral Particles: sc-90404-V and SPAG6 shRNA (m) Lentiviral Particles: sc-153706-V.

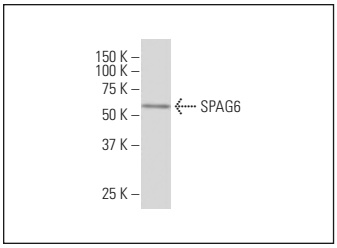
Molecular Weight of SPAG6: 57 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

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



SPAG6 (XX-2): sc-100886. Western blot analysis of SPAG6 expression in A-431 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Li, X., et al. 2021. Sperm-associated antigen 6 (Spag6) mutation leads to vestibular dysfunction in mice. J. Pharmacol. Sci. 147: 325-330.

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.