SANTA CRUZ BIOTECHNOLOGY, INC.

SPAG4 (H-6): sc-393115

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mammalian sperm flagellum contain two cytoskeletal structures associated with the the axoneme: the outer dense fibers and the fibrous sheath. The outer dense fibers surround the axoneme in the midpiece and principal piece, whereas the fibrous sheath surrounds outer dense fibers of the tail of the principal piece. SPAG4 (sperm associated antigen 4), also known as outer dense fiber-associated protein SPAG4, is a 427 amino acid multi-pass membrane protein that may play a role in the organization and assembly of outer dense fibers (ODFs). Existing as a homodimer, SPAG4 interacts with Odf1 and is suggested to associate with microtubules. SPAG4 localizes to the transient manchette and axoneme of elongating spermatids and epididymal sperm. Containing one SUN domain, SPAG4 is considered a potential cancer marker.

REFERENCES

1. Tarnasky, H., et al. 1998. A novel testis-specific gene, SPAG4, whose product interacts specifically with outer dense fiber protein ODF27, maps to human chromosome 20q11.2. Cytogenet. Cell Genet. 81: 65-67.
2. Shao, X., et al. 1999. SPAG4, a novel sperm protein, binds outer dense-fiber protein Odf1 and localizes to microtubules of manchette and axoneme. Dev. Biol. 211: 109-123.
3. Kierszenbaum, A.L. 2001. Spermatid manchette: plugging proteins to zero into the sperm tail. Mol. Reprod. Dev. 59: 347-349.
4. Shao, X., et al. 2001. Testicular protein SPAG5 has similarity to mitotic spindle protein Deepest and binds outer dense fiber protein Odf1. Mol. Reprod. Dev. 59: 410-416.
5. Zarsky, H.A., et al. 2003. Novel RING finger protein OIP1 binds to conserved amino acid repeats in sperm tail protein ODF1. Biol. Reprod. 68: 543-552.

CHROMOSOMAL LOCATION

Genetic locus: SPAG4 (human) mapping to 20q11.22.

SOURCE

SPAG4 (H-6) is a mouse monoclonal antibody raised against amino acids 212-266 mapping within an internal region of SPAG4 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.

SPAG4 (H-6) is available conjugated to agarose (sc-393115 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393115 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393115 PE), fluorescein (sc-393115 FITC), Alexa Fluor® 488 (sc-393115 AF488), Alexa Fluor® 546 (sc-393115 AF546), Alexa Fluor® 594 (sc-393115 AF594) or Alexa Fluor® 647 (sc-393115 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393115 AF680) or Alexa Fluor® 790 (sc-393115 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

SPAG4 (H-6) is recommended for detection of SPAG4 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 SPAG4 siRNA (h): sc-76544, SPAG4 shRNA Plasmid (h): sc-76544-SH and SPAG4 shRNA (h) Lentiviral Particles: sc-76544-V.

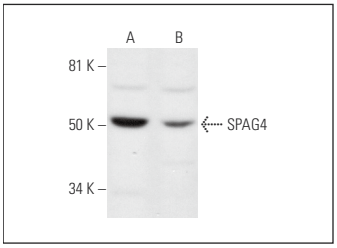
Molecular Weight of SPAG4: 49 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or T24 cell lysate: sc-2292.

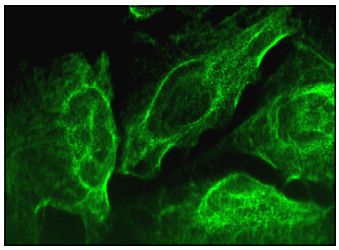
RECOMMENDED SUPPORT REAGENTS

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



SPAG4 (H-6): sc-393115. Western blot analysis of SPAG4 expression in HeLa (**A**) and T24 (**B**) whole cell lysates.



SPAG4 (H-6): sc-393115. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

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.