

# SPAG4 (L-16): sc-85927

## 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.
6. Xing, X.W., et al. 2004. Identification of a novel gene SRG4 expressed at specific stages of mouse spermatogenesis. *Acta Biochim. Biophys. Sin.* 36: 351-359.
7. Kennedy, C., et al. 2004. Human sperm associated antigen 4 (SPAG4) is a potential cancer marker. *Cell Tissue Res.* 315: 279-283.
8. Hasan, S., et al. 2006. Nuclear envelope localization of human UNC84A does not require nuclear lamins. *FEBS Lett.* 580: 1263-1268.
9. Fitzgerald, C.J., et al. 2006. Rat SPAG5 associates in somatic cells with endoplasmic reticulum and microtubules but in spermatozoa with outer dense fibers. *Mol. Reprod. Dev.* 73: 92-100.

## CHROMOSOMAL LOCATION

Genetic locus: SPAG4 (human) mapping to 20q11.22; Spag4 (mouse) mapping to 2 H1.

## SOURCE

SPAG4 (L-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SPAG4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-85927 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

SPAG4 (L-16) is recommended for detection of SPAG4 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)], 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); non cross-reactive with SPAG1, SPAG5, and SPAG11B.

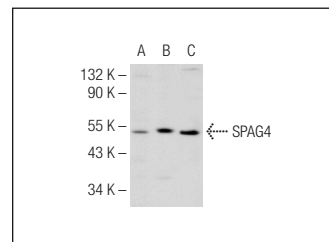
SPAG4 (L-16) is also recommended for detection of SPAG4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SPAG4 siRNA (h): sc-76544, SPAG4 siRNA (m): sc-153705, SPAG4 shRNA Plasmid (h): sc-76544-SH, SPAG4 shRNA Plasmid (m): sc-153705-SH, SPAG4 shRNA (h) Lentiviral Particles: sc-76544-V and SPAG4 shRNA (m) Lentiviral Particles: sc-153705-V.

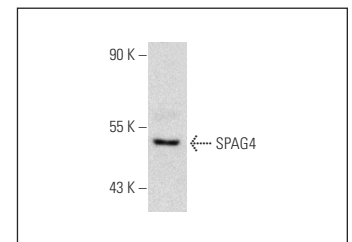
Molecular Weight of SPAG4: 49 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

## DATA



SPAG4 (L-16): sc-85927. Western blot analysis of SPAG4 expression in K-562 (A), HeLa (B) and NIH/3T3 (C) whole cell lysates.



SPAG4 (L-16): sc-85927. Western blot analysis of SPAG4 expression in T24 whole cell lysate.

## 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.



Try **SPAG4 (H-6): sc-393115**, our highly recommended monoclonal alternative to SPAG4 (L-16).