SANTA CRUZ BIOTECHNOLOGY, INC.

SPESP1 (S-12): sc-165561

BACKGROUND

SPESP1 (sperm equatorial segment protein 1) is a 399 amino acid protein belonging to the SPESP1 family. Localizing to cytoplasmic vesicle, secretory vesicle, and acrosome, SPESP1 is highly expressed in testis, with lower levels found in placenta and fetal lung. SPESP1 establishes an equatorial segment subcompartment early in sperm development and is required for proper sperm-egg fusion. Disruption of SPESP1 leads to abnormal distribution of sperm proteins resulting in a detached membrane from the equatorial segment and less fertile sperm. SPESP1 may interact with IZUMO1 and MN9 antigen and contains an N-glycosylation site as well as several cAMP-dependent kinase, protein kinase C, and casein kinase II consensus phosphorylation sites.

REFERENCES

1. Wolkowicz, M.J., et al. 2003. Equatorial segment protein defines a discrete acrosomal subcompartment persisting throughout acrosomal biogenesis. Biol. Reprod. 69: 735-745.
2. Jones, R., et al. 2008. The equatorial subsegment in mammalian spermatozoa is enriched in tyrosine phosphorylated proteins. Biol. Reprod. 79: 421-431.
3. Baker, M.A., et al. 2008. The mouse sperm proteome characterized via IPG strip prefractionation and LC-MS/MS identification. Proteomics 8: 1720-1730.
4. Yamatoya, K., et al. 2009. Equatorin: identification and characterization of the epitope of the MN9 antibody in the mouse. Biol. Reprod. 81: 889-897.
5. Song, F., et al. 2009. Tissue specific differentially methylated regions (TDMR): Changes in DNA methylation during development. Genomics 93: 130-139.
6. Muro, Y., et al. 2010. Mechanisms of fertilization—a view from the perspective of gene manipulated mice. J. Androl. 32: 218-225.
7. Fujihara, Y., et al. 2010. Sperm equatorial segment protein 1, SPESP1, is required for fully fertile sperm in mouse. J. Cell Sci. 123: 1531-1536.
8. Inoue, N., et al. 2011. The mechanism of sperm-egg interaction and the involvement of IZUMO1 in fusion. Asian J. Androl. 13: 81-87.

CHROMOSOMAL LOCATION

Genetic locus: Spesp1 (mouse) mapping to 9 B.

SOURCE

SPESP1 (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SPESP1 of mouse origin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

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-165561 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SPESP1 (S-12) is recommended for detection of SPESP1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 SPESP1 siRNA (m): sc-153751, SPESP1 shRNA Plasmid (m): sc-153751-SH and SPESP1 shRNA (m) Lentiviral Particles: sc-153751-V.

Molecular Weight of SPESP1: 45 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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