SANTA CRUZ BIOTECHNOLOGY, INC.

SP17 (A-12): sc-365325

The Power to Question

BACKGROUND

SP17 (sperm protein 17), also known as SPA17 (sperm autoantigenic protein 17), SP17-1 or CT22 (cancer/testis antigen 22), is a sperm surface peripheral membrane protein. It is predominantly expressed in testis and contains two heparan binding motifs and a C-terminal calmodulin (CaM)-binding domain. SP17 exists as a homodimer and localizes to the head and tail of spermatozoa. Residing in the fibrous sheath of the tail, SP17 interacts, via its N-terminus, with AKAP 3 and may play an important signaling role in this PKA-independent AKAP complex. Localizing to the cytoplasm of the head of spermatozoa, SP17 can bind to the zona pellucida of the oocyte with high affinity, suggesting a role in fertilization. In addition, SP17 has been identified as a cancer/testis antigen and is expressed in ovarian caner and multiple myeloma. This suggests that SP17 could be suitable as a target in tumor immunotherapy.

REFERENCES

1. Frayne, J. and Hall, L. 2002. A re-evaluation of sperm protein (SP17) indicates a regulatory role in an A-kinase anchoring protein complex, rather than a unique role in sperm-zona pellucida binding. Reproduction 124: 767-774.
2. Takeoka, Y., et al. 2002. Developmental considerations of sperm protein 17 gene expression in rheumatoid arthritis synoviocytes. Dev. Immunol. 9: 97-102.
3. Grizzi, F., et al. 2003. Immunolocalization of sperm protein 17 in human testis and ejaculated spermatozoa. J. Histochem. Cytochem. 51: 1245-1248.
4. Wang, Z., et al. 2004. SP17 gene expression in myeloma cells is regulated by promoter methylation. Br. J. Cancer 91: 1597-1603.
5. Lea, I.A., et al. 2004. Association of sperm protein 17 with A-kinase anchoring protein 3 in flagella. Reprod. Biol. Endocrinol. 2: 57.

CHROMOSOMAL LOCATION

Genetic locus: Spa17 (mouse) mapping to 9 A4.

SOURCE

SP17 (A-12) is a mouse monoclonal antibody raised against amino acids 40-149 mapping at the C-terminus of SP17 of mouse 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.

SP17 (A-12) is available conjugated to agarose (sc-365325 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365325 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365325 PE), fluorescein (sc-365325 FITC), Alexa Fluor® 488 (sc-365325 AF488), Alexa Fluor® 546 (sc-365325 AF546), Alexa Fluor® 594 (sc-365325 AF594) or Alexa Fluor® 647 (sc-365325 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365325 AF680) or Alexa Fluor® 790 (sc-365325 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SP17 (A-12) is recommended for detection of SP17 of mouse and rat 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 SP17 siRNA (m): sc-63053, SP17 shRNA Plasmid (m): sc-63053-SH and SP17 shRNA (m) Lentiviral Particles: sc-63053-V.

Molecular Weight of SP17 triplet: 22-25 kDa.

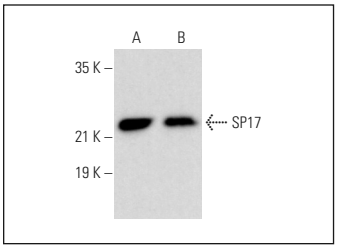
Molecular Weight of SP17 dimer: 54 kDa.

Positive Controls: mouse testis extract: sc-2405 or rat testis extract: sc-2400.

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



SP17 (A-12): sc-365325. Western blot analysis of SP17 expression in rat testis (**A**) and mouse testis (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Gao, Q., et al. 2018. Sperm protein 17 expression by murine epithelial ovarian cancer cells and its impact on tumor progression. Cancers 10: 276.

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.