SANTA CRUZ BIOTECHNOLOGY, INC.

SPATA20 (H-10): sc-515190

BACKGROUND

SPATA20 (spermatogenesis associated 20), also known as SP411 or Tisp78, is a 786 amino acid protein that may be involved in fertility regulation. SPATA20 is expressed in testis in an age dependent manner and localizes to round and elongated spermatids. SPATA20 contains a conserved thioredoxin-like domain near the N-terminus region and exists as four isoforms produced by alternative splicing events. SPATA20 is encoded by a gene located on human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

1. Darby, N.J. and Creighton, T.E. 1995. Functional properties of the individual thioredoxin-like domains of protein disulfide isomerase. Biochemistry 34: 11725-11735.
2. Darby, N.J. and Creighton, T.E. 1995. Characterization of the active site cysteine residues of the thioredoxin-like domains of protein disulfide isomerase. Biochemistry 34: 16770-16780.
3. Laboissiere, M.C., et al. 1995. The essential function of protein-disulfide isomerase is to unscramble non-native disulfide bonds. J. Biol. Chem. 270: 28006-28009.
4. Shi, H.J., et al. 2004. Cloning and characterization of rat spermatid protein SSP411: a thioredoxin-like protein. J. Androl. 25: 479-493.
5. Nusbaum, R., et al. 2006-2007. Susceptibility to breast cancer: hereditary syndromes and low penetrance genes. Breast Dis. 27: 21-50.
6. Tai, Y.C., et al. 2007. Breast cancer risk among male BRCA1 and BRCA2 mutation carriers. J. Natl. Cancer Inst. 99: 1811-1814.
7. Yan, J., et al. 2007. BLIMP1 regulates cell growth through repression of p53 transcription. Proc. Natl. Acad. Sci. USA 104: 1841-1846.

CHROMOSOMAL LOCATION

Genetic locus: SPATA20 (human) mapping to 17q21.33.

SOURCE

SPATA20 (H-10) is a mouse monoclonal antibody raised against amino acids 225-357 mapping within an internal region of SPATA20 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.

RESEARCH USE

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

APPLICATIONS

SPATA20 (H-10) is recommended for detection of SPATA20 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 SPATA20 siRNA (h): sc-93946, SPATA20 shRNA Plasmid (h): sc-93946-SH and SPATA20 shRNA (h) Lentiviral Particles: sc-93946-V.

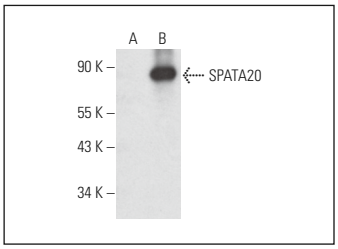
Molecular Weight of SPATA20: 88 kDa.

Positive Controls: SPATA20 (h2): 293T Lysate: sc-117111.

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



SPATA20 (H-10): sc-515190. Western blot analysis of SPATA20 expression in non-transfected: sc-117752 (**A**) and human SPATA20 transfected: sc-117111 (**B**) 293T whole cell lysates.

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 for detailed protocols and support products.