

SPATA20 (h): 293T Lysate: sc-111791

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 testes 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. Laboisserie, M.C., Sturley, S.L. and Raines, R.T. 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., Wu, A.Z., Santos, M., Feng, Z.M., Huang, L., Chen, Y.M., Zhu, K. and Chen, C.L. 2004. Cloning and characterization of rat spermatid protein SSP411: a thioredoxin-like protein. *J. Androl.* 25: 479-493.
5. Nusbaum, R., Vogel, K.J. and Ready, K. 2006-2007. Susceptibility to breast cancer: hereditary syndromes and low penetrance genes. *Breast Dis.* 27: 21-50.
6. Tai, Y.C., Domchek, S., Parmigiani, G. and Chen, S. 2007. Breast cancer risk among male BRCA1 and BRCA2 mutation carriers. *J. Natl. Cancer Inst.* 99: 1811-1814.
7. Yan, J., Jiang, J., Lim, C.A., Wu, Q., Ng, H.H. and Chin, K.C. 2007. Blimp-1 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.

PRODUCT

SPATA20 (h): 293T Lysate represents a lysate of human SPATA20 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

SPATA20 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive SPATA20 antibodies. Recommended use: 10-20 µl per lane.

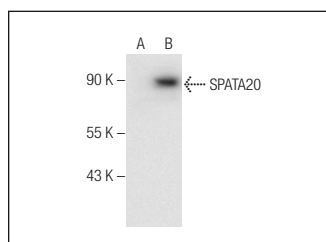
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

SPATA20 (D-3): sc-365890 is recommended as a positive control antibody for Western Blot analysis of enhanced human SPATA20 expression in SPATA20 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



SPATA20 (D-3): sc-365890. Western blot analysis of SPATA20 expression in non-transfected: sc-117752 (A) and human SPATA20 transfected: sc-111791 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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