SANTA CRUZ BIOTECHNOLOGY, INC.

FATE1 (B5-9): sc-101220

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

FATE1 (fetal and adult testis expressed 1), also known as FATE, CT43 (cancer/testis antigen 43) or BJ-HCC-2, is a cancer/testis antigen found in testis and tumor tissues (specifically hepatocarcinoma cells). Its expression is regulated by SF-1 (steroidogenic factor-1) and WT1 (Wilms' tumor protein), two proteins involved in tumorigenesis, suggesting a role for FATE1 in tumor development. FATE1 is exclusively expressed in testis of the 6-11 week old fetus (around the period of gonadal sex differentiation). At seven weeks, FATE1 is coexpressed with SRY and may play a role in early testicular differentiation. In adults, although predominantly expressed in testis, FATE1 can also be found in heart, kidney, brain, lung and adrenal gland. Mutations in the gene encoding FATE1 may be contributing factors in male infertility.

REFERENCES

1. Olesen, C., et al. 2001. Human FATE is a novel X-linked gene expressed in fetal and adult testis. Mol. Cell. Endocrinol. 184: 25-32.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300450. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Olesen, C., et al. 2003. Mutational analysis of the human FATE gene in 144 infertile men. Hum. Genet. 113: 195-201.
4. Dong, X.Y., et al. 2003. Identification of two novel CT antigens and their capacity to elicit antibody response in hepatocellular carcinoma patients. Br. J. Cancer 89: 291-297.
5. Yang, X.A., et al. 2004. Purification and refolding of a novel cancer/testis antigen BJ-HCC-2 expressed in the inclusion bodies of *Escherichia coli*. Protein Expr. Purif. 33: 332-338.
6. Yang, X.A., et al. 2005. Immunohistochemical analysis of the expression of FATE/BJ-HCC-2 antigen in normal and malignant tissues. Lab. Invest. 85: 205-213.
7. Doghman, M., et al. 2007. Increased steroidogenic factor-1 dosage triggers adrenocortical cell proliferation and cancer. Mol. Endocrinol. 21: 2968-2987.

CHROMOSOMAL LOCATION

Genetic locus: FATE1 (human) mapping to Xq28.

SOURCE

FATE1 (B5-9) is a mouse monoclonal antibody raised against recombinant FATE1 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

FATE1 (B5-9) is recommended for detection of FATE1 of 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), immunohistochemistry (including paraffin-embedded sections) (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 FATE1 siRNA (h): sc-90989, FATE1 shRNA Plasmid (h): sc-90989-SH and FATE1 shRNA (h) Lentiviral Particles: sc-90989-V.

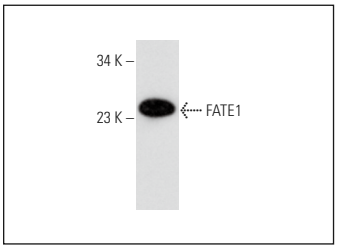
Molecular Weight of FATE1: 21 kDa.

Positive Control: human testis extract: sc-363781.

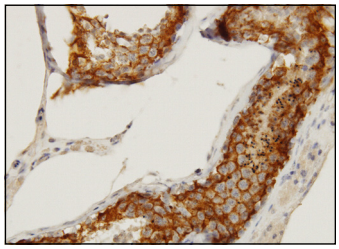
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



FATE1 (B5-9): sc-101220. Western blot analysis of FATE1 expression in human testis tissue extract.



FATE1 (B5-9): sc-101220. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human testis tissue showing membrane and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Maxfield, K.E., et al. 2015. Comprehensive functional characterization of cancer-testis antigens defines obligate participation in multiple hallmarks of cancer. Nat. Commun. 6: 8840.

RESEARCH USE

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