SANTA CRUZ BIOTECHNOLOGY, INC.

ATBF1 (3B1): sc-517126

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

AT-motif binding factor 1 (ATBF1) binds to the AT-rich core sequence element in the human α-fetoprotein enhancer. Alternative splicing generates the ATBF1-A and ATBF1-B. While ATBF1-A contains a 920-amino acid extension at the N-terminus, both ATBF1-A and ATBF1-B contain 4 DNA-binding homeobox domains. Additionally, ATBF1-A contains 23 zinc finger motifs while ATBF1-B contains 18 zinc finger motifs. The N-terminal extension unique to ATBF1-A has transcriptional repressor activity. In the small intestine, ATBF1-A inhibits expression of the brushborder enzyme aminopeptidase-N through direct binding to the AT motif element. Besides functioning in transcription regulation, ATBF1 also functions in ATPase activity. ATPase activity associated with ATBF1-A is DNA/RNA-dependent and requires both homeobox domains and zinc finger motifs. ATBF1 is highly expressed in spleen and brain tissues. The gene encoding human ATBF1 maps to chromosome 16q22.2.

REFERENCES

1. Morinaga, T., et al. 1991. A human α-fetoprotein enhancer-binding protein, ATBF1, contains four homeodomains and seventeen zinc fingers. Mol. Cell. Biol. 11: 6041-6049.
2. Yasuda, H., et al. 1994. ATBF1, a multiple-homeodomain zinc finger protein, selectively down-regulates AT-rich elements of the human α-fetoprotein gene. Mol. Cell. Biol. 14: 1395-1401.
3. Miura, Y., et al. 1995. Cloning and characterization of an ATBF1 isoform that expresses in a neuronal differentiation-dependent manner. J. Biol. Chem. 270: 26840-26848.
4. Ninomiya, T., et al. 2002. Regulation of the α-fetoprotein gene by the isoforms of ATBF1 transcription factor in human hepatoma. Hepatology 35: 82-87.

CHROMOSOMAL LOCATION

Genetic locus: ZFHX3 (human) mapping to 16q22.2; Zfhx3 (mouse) mapping to 8 D3.

SOURCE

ATBF1 (3B1) is a mouse monoclonal antibody raised against amino acids 2811-2910 representing partial length ATBF1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 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.

PROTOCOLS

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

APPLICATIONS

ATBF1 (3B1) is recommended for detection of ATBF1 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ATBF1 siRNA (h): sc-37694, ATBF1 siRNA (m): sc-37695, ATBF1 shRNA Plasmid (h): sc-37694-SH, ATBF1 shRNA Plasmid (m): sc-37695-SH, ATBF1 shRNA (h) Lentiviral Particles: sc-37694-V and ATBF1 shRNA (m) Lentiviral Particles: sc-37695-V.

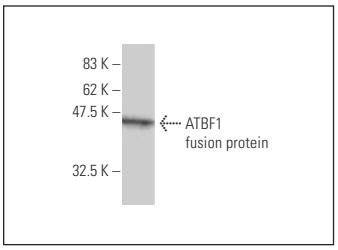
Molecular Weight of ATBF1-A: 404 kDa.

Molecular Weight of ATBF1-B: 306 kDa.

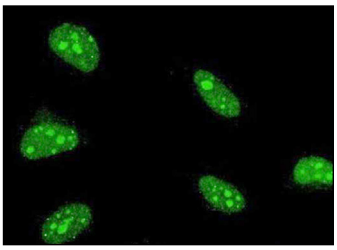
RECOMMENDED SUPPORT REAGENTS

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



ATBF1 (3B1): sc-517126. Western blot analysis of human recombinant ATBF1 fusion protein.



ATBF1 (3B1): sc-517126. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar and nuclear localization.

SELECT PRODUCT CITATIONS

1. Li, M., et al. 2022. ATBF1 is a potential diagnostic marker of histological grade and functions via WNT5A in breast cancer. BMC Cancer 22: 1280.

RESEARCH USE

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