SANTA CRUZ BIOTECHNOLOGY, INC.

ATBF1-A (Q-20): sc-21161



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 the 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. Yamada, K., et al. 1995. Assignment of the human ATBF1 transcription factor gene to chromosome 16q22.3-q23.1. Genomics 29: 552-553.
- Kaspar, P., et al. 1999. Myb-interacting protein, ATBF1, represses transcriptional activity of Myb oncoprotein. J. Biol. Chem. 274: 14422-14428.
- Kataoka, H., et al. 2000. AT motif binding factor 1-A (ATBF1-A) negatively regulates transcription of the aminopeptidase N gene in the crypt-villus axis of small intestine. Biochem. Biophys. Res. Commun. 267: 91-95.

CHROMOSOMAL LOCATION

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

SOURCE

ATBF1-A (Ω -20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ATBF1-A of human origin.

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21161 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-21161 X, 200 $\mu g/0.1$ ml.

APPLICATIONS

ATBF1-A (Q-20) is recommended for detection of ATBF1-A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ATBF1-A (Q-20) is also recommended for detection of ATBF1-A in additional species, including equine and canine.

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.

ATBF1-A (Q-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluo-rescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

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