SANTA CRUZ BIOTECHNOLOGY, INC.

ATAD3B (C-13): sc-104095

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The Power to Question

BACKGROUND

The AAA ATPase family of molecular chaperones are characterized by a highly conserved AAA motif. Composed of 200-250 residues, the AAA domain contains Walker homology sequences and imparts ATPase activity. Members of the AAA ATPase family act as DNA helicases, as well as transcription factors, and are thought to be involved in several cellular functions, such as cell-cycle regulation, protein proteolysis, organelle biogenesis and vesicle-mediated protein transport. Mitochondrial membrane proteins ATAD3A and ATAD3B contribute to the stabilization of nucleoids, which are large mitochondrial DNA (mtDNA)-protein complexes. ATAD3A/B may participate in the transformation pathway and the chemosensitivity of oligodendrogliomas. Three isoforms of ATAD3B exist as a result of alternative splicing events.

REFERENCES

1. Patel, S. and Latterich, M. 1998. The AAA team: related ATPases with diverse functions. Trends Cell Biol. 8: 65-71.
2. Neuwald, A.F., et al. 1999. AAA+: A class of chaperone-like ATPases associated with the assembly, operation, and disassembly of protein complexes. Genome Res. 9: 27-43.
3. Ogura, T. and Wilkinson, A.J. 2001. AAA+ superfamily ATPases: common structure—diverse function. Genes Cells 6: 575-597.
4. Ye, Y., et al. 2001. The AAA ATPase Cdc48/p97 and its partners transport proteins from the ER into the cytosol. Nature 414: 652-656.
5. Iyer, L.M., et al. 2004. Evolutionary history and higher order classification of AAA+ ATPases. J. Struct. Biol. 146: 11-31.
6. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. Cytogenet. Genome Res. 108: 217-222.

CHROMOSOMAL LOCATION

Genetic locus: ATAD3B (human) mapping to 1p36.33.

SOURCE

ATAD3B (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ATAD3B of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-104095 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 or our catalog for detailed protocols and support products.

APPLICATIONS

ATAD3B (C-13) is recommended for detection of ATAD3B isoforms 1 and 3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with isoform 2.

Suitable for use as control antibody for ATAD3B siRNA (h): sc-88670, ATAD3B shRNA Plasmid (h): sc-88670-SH and ATAD3B shRNA (h) Lentiviral Particles: sc-88670-V.

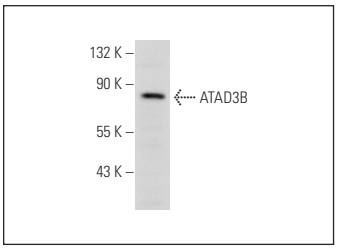
Molecular Weight of ATAD3B: 73 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: 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.

DATA



ATAD3B (C-13): sc-104095. Western blot analysis of ATAD3B expression in HEK293 whole cell lysate.

RESEARCH USE

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