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 translation, 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. The genes encoding ATAD3A/B/C maps to human chromosome 1p36.33, which houses over 3,000 genes and is the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome.

CHROMOSOMAL LOCATION

Genetic locus: ATAD3A/ATAD3B/ATAD3C (human) mapping to 1p36.33; Atad3a (mouse) mapping to 4 E2.

SOURCE

ATAD3A/B/C (A-4) is a mouse monoclonal antibody raised against amino acids 407-634 mapping at the C-terminus of ATAD3A of human origin.

PRODUCT

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

ATAD3A/B/C (A-4) is available conjugated to agarose (sc-376185 AC), 500 µg/0.25 ml agarose in 1 ml, for WB; HRP and ELISA: to either phycoerythrin (sc-376185 PE), fluorescein (sc-376185 FITC), Alexa Fluor® 488 (sc-376185 AF488), Alexa Fluor® 546 (sc-376185 AF546); Alexa Fluor® 594 (sc-376185 AF594) or Alexa Fluor® 647 (sc-376185 AF647), 200 µg/ml, for WB (RGB), IF, IHC-P and FCM; and to either Alexa Fluor® 680 (sc-376185 AF680) or Alexa Fluor® 790 (sc-376185 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ATAD3A/B/C (A-4) is recommended for detection of ATAD3A, ATAD3B and ATAD3C of human origin, and ATAD3A of mouse and rat origin by Western Blotting (starting dilution 1:100, 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).

Molecular Weight of ATAD3A: 71 kDa.
Molecular Weight of ATAD3B: 73 kDa.
Molecular Weight of ATAD3C: 46 kDa.
Molecular Weight of ATAD3A mouse isoforms: 67/57 kDa.
Positive Controls: A549 cell lysate: sc-2413 or HeLa whole cell lysate: sc-2201.

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).

DATA

SELECT PRODUCT CITATIONS


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 for detailed protocols and support products.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA.

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