

# ATAD3A/B/C (L-15): sc-104093

## 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. The gene encoding ATAD3A/B/C maps to human chromosome 1, 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.

## 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<sup>+</sup>: 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<sup>+</sup> 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<sup>+</sup> ATPases. *J. Struct. Biol.* 146: 11-31.

## CHROMOSOMAL LOCATION

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

## SOURCE

ATAD3A/B/C (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ATAD3A 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-104093 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.

## RESEARCH USE

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

## APPLICATIONS

ATAD3A/B/C (L-15) is recommended for detection of ATAD3A, ATAD3B and ATAD3C of human origin and ATAD3A of mouse and rat origin by Western Blotting (starting dilution 1:200, 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 other ATAD family members.

ATAD3A/B/C (L-15) is also recommended for detection of ATAD3A, ATAD3B and ATAD3C in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for ATAD3A siRNA (m): sc-105102, ATAD3A shRNA Plasmid (m): sc-105102-SH and ATAD3A shRNA (m) Lentiviral Particles: sc-105102-V.

Molecular Weight of ATAD3A: 71 kDa.

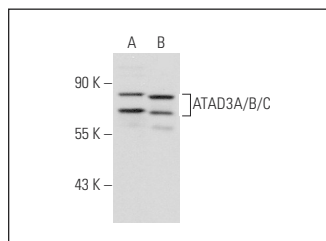
Molecular Weight of ATAD3B: 73 kDa.

Molecular Weight of ATAD3C: 46 kDa.

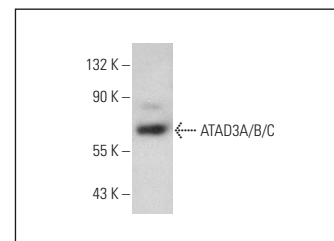
Molecular Weight of mouse ATAD3A isoforms: 67/57 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, COLO 320DM cell lysate: sc-2226 or A-431 whole cell lysate: sc-2201.

## DATA



ATAD3A/B/C (L-15): sc-104093. Western blot analysis of ATAD3A/B/C expression in Hep G2 (A) and COLO 320DM (B) whole cell lysates.



ATAD3A/B/C (L-15): sc-104093. Western blot analysis of ATAD3A/B/C expression in A-431 whole cell lysate.

## PROTOCOLS

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Try **ATAD3A/B/C (A-4): sc-376185**, our highly recommended monoclonal alternative to ATAD3A/B/C (L-15).