

# ATAD1 (A-16): sc-241848

## BACKGROUND

The AAA ATPase family of molecular chaperones is 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 or 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. ATAD1 (ATPase family, AAA domain containing 1), also known as AFDC1, is a 361 amino acid protein belonging to the AAA ATPase family. Highly conserved, ATAD1 exhibits peroxisomal and mitochondrial localization, and exists as two alternatively spliced isoforms. ATAD1 may be associated with metastasis and poor survival across multiple carcinomas.

## REFERENCES

1. Wang, D., et al. 2005. Five loci, SLT1 to SLT5, controlling the susceptibility to spontaneously occurring lung cancer in mice. *Cancer Res.* 65: 8158-8165.
2. Kim, J.H., et al. 2007. Integrative analysis of genomic aberrations associated with prostate cancer progression. *Cancer Res.* 67: 8229-8239.
3. Wiese, S., et al. 2007. Proteomics characterization of mouse kidney peroxisomes by tandem mass spectrometry and protein correlation profiling. *Mol. Cell. Proteomics* 6: 2045-2057.
4. Mtango, N.R., et al. 2007. Ubiquitin proteasome pathway gene expression varies in rhesus monkey oocytes and embryos of different developmental potential. *Physiol. Genomics* 31: 1-14.
5. Saal, L.H., et al. 2007. Poor prognosis in carcinoma is associated with a gene expression signature of aberrant PTEN tumor suppressor pathway activity. *Proc. Natl. Acad. Sci. USA* 104: 7564-7569.
6. Menko, F.H., et al. 2008. Variable phenotypes associated with 10q23 microdeletions involving the PTEN and BMPR1A genes. *Clin. Genet.* 74: 145-154.
7. Chibon, F., et al. 2008. Contribution of PTEN large rearrangements in Cowden disease: a multiplex amplifiable probe hybridisation (MAPH) screening approach. *J. Med. Genet.* 45: 657-665.
8. Waddell, N., et al. 2010. Subtypes of familial breast tumours revealed by expression and copy number profiling. *Breast Cancer Res. Treat.* 123: 661-677.
9. Bernard, G., et al. 2010. Tremor-ataxia with central hypomyelination (TACH) leukodystrophy maps to chromosome 10q22.3-10q23.31. *Neurogenetics* 11: 457-464.

## CHROMOSOMAL LOCATION

Genetic locus: ATAD1 (human) mapping to 10q23.31; Atad1 (mouse) mapping to 19 C1.

## SOURCE

ATAD1 (A-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ATAD1 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-241848 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ATAD1 (A-16) is recommended for detection of ATAD1 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); non cross-reactive with ATAD family members.

ATAD1 (A-16) is also recommended for detection of ATAD1 in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for ATAD1 siRNA (h): sc-90699, ATAD1 siRNA (m): sc-141314, ATAD1 shRNA Plasmid (h): sc-90699-SH, ATAD1 shRNA Plasmid (m): sc-141314-SH, ATAD1 shRNA (h) Lentiviral Particles: sc-90699-V and ATAD1 shRNA (m) Lentiviral Particles: sc-141314-V.

Molecular Weight of ATAD1 isoform 1: 41 kDa.

Molecular Weight of ATAD1 isoform 2: 32 kDa.

## 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) 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.