

**ATAD3A Antibody**  
**Catalog # ASC11340****Specification****ATAD3A Antibody - Product Information**

Application	WB, ICC, IF
Primary Accession	<a href="#">Q9NV17</a>
Other Accession	<a href="#">Q9NV17</a> , <a href="#">283436220</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	ATAD3A antibody can be used for detection of ATAD3A by Western blot at 1 µg/mL. Antibody can also be used for immunocytochemistry starting at 20 µg/mL. For immunofluorescence start at 20 µg/mL.

**ATAD3A Antibody - Additional Information**Gene ID **55210****Target/Specificity**

ATAD3A; ATAD3A antibody is predicted to not cross-react with other ATAD protein family members. At least two isoforms are known to exist.

**Reconstitution & Storage**

ATAD3A antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

ATAD3A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**ATAD3A Antibody - Protein Information**

**Name** ATAD3A {ECO:0000303|PubMed:37832546, ECO:0000312|HGNC:HGNC:25567}

**Function**

Essential for mitochondrial network organization, mitochondrial metabolism and cell growth at organism and cellular level (PubMed: <a href="http://www.uniprot.org/citations/17210950" target="\_blank">17210950</a>, PubMed: <a href="http://www.uniprot.org/citations/20154147" target="\_blank">20154147</a>, PubMed: <a href="http://www.uniprot.org/citations/22453275" target="\_blank">22453275</a>, PubMed: <a href="http://www.uniprot.org/citations/31522117" target="\_blank">31522117</a>, PubMed: <a href="http://www.uniprot.org/citations/37832546" target="\_blank">37832546</a>, PubMed: <a href="http://www.uniprot.org/citations/39116259" target="\_blank">39116259</a>). May play an important role in mitochondrial protein synthesis (PubMed: <a href="http://www.uniprot.org/citations/22453275" target="\_blank">22453275</a>).

May also participate in mitochondrial DNA replication (PubMed:<a href="http://www.uniprot.org/citations/17210950" target="\_blank">17210950</a>). May bind to mitochondrial DNA D-loops and contribute to nucleoid stability (PubMed:<a href="http://www.uniprot.org/citations/17210950" target="\_blank">17210950</a>). Required for enhanced channeling of cholesterol for hormone-dependent steroidogenesis (PubMed:<a href="http://www.uniprot.org/citations/22453275" target="\_blank">22453275</a>). Involved in mitochondrial-mediated antiviral innate immunity (PubMed:<a href="http://www.uniprot.org/citations/31522117" target="\_blank">31522117</a>). Required to protect mitochondria from the PERK-mediated unfolded protein response: specifically inhibits the activity of EIF2AK3/PERK at mitochondria-endoplasmic reticulum contact sites, thereby providing a safe haven for mitochondrial protein translation during endoplasmic reticulum stress (PubMed:<a href="http://www.uniprot.org/citations/39116259" target="\_blank">39116259</a>). Ability to inhibit EIF2AK3/PERK is independent of its ATPase activity (PubMed:<a href="http://www.uniprot.org/citations/39116259" target="\_blank">39116259</a>). Also involved in the mitochondrial DNA damage response by promoting signaling between damaged genomes and the mitochondrial membrane, leading to activation of the integrated stress response (ISR) (PubMed:<a href="http://www.uniprot.org/citations/37832546" target="\_blank">37832546</a>).

### Cellular Location

Mitochondrion inner membrane; Single-pass membrane protein. Mitochondrion matrix, mitochondrion nucleoid Note=In the mitochondrial inner membrane, enriched in sites with the potential to form contacts with the outer membrane (PubMed:20154147, PubMed:20349121). The N-terminal domain interacts with the inner surface of the mitochondrial outer membrane and the C-terminal domain localizes in a specific matrix compartment, where it is associated with nucleoids (PubMed:18063578). Also present at mitochondria-endoplasmic reticulum contact sites; where it interacts with EIF2AK3/PERK (PubMed:39116259).

### Tissue Location

Overexpressed in lung adenocarcinomas (at protein level).

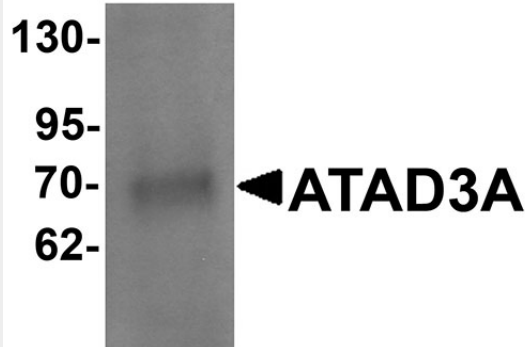
## ATAD3A Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## ATAD3A Antibody - Images

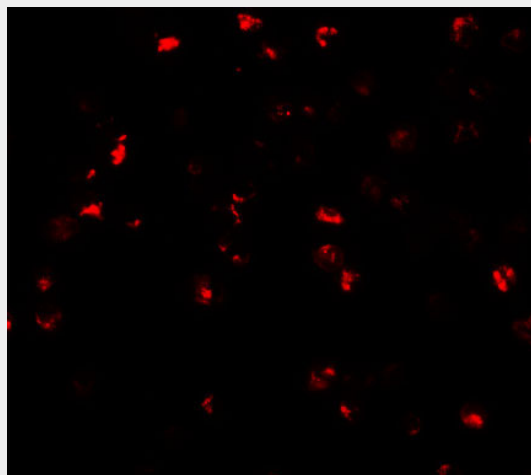




Western blot analysis of ATAD3A in Daudi cell lysate with ATAD3A antibody at 1 µg/mL .



Immunocytochemistry of ATAD3A in Daudi cells with ATAD3A antibody at 20 µg/mL.



Immunofluorescence of ATAD3A in Daudi cells with ATAD3A antibody at 20 µg/mL.

#### **ATAD3A Antibody - Background**

ATAD3A Antibody: ATAD3A is a member of the AAA ATPase family, a family of proteins that catalyze ATP into ADP and are involved in several cellular functions such as cell-cycle regulation, protein proteolysis and transport. The AAA ATPase family is characterized by a highly conserved AAA motif containing Walker homology sequences and imparting ATPase activity. Mitochondrial membrane proteins ATAD3A/B contribute to the stabilization of nucleoids and may participate in the transformation pathway and the chemosensitivity of oligodendrogliomas. The gene encoding ATAD3A/B/C maps to human chromosome 1 and has been suggested to be an anti-apoptotic marker.

#### **ATAD3A Antibody - References**

Patel S and Latterich M. The AAA team: related ATPases with diverse functions. Trends Cell Biol. 1998; 8:65-71.

Ogura T and Wilkinson AJ. AAA+ superfamily ATPases: common structure—diverse function. Genes Cells 2001; 6:575-97.

Hubstenberger A, Labourdette G, Baudier J, et al. ATAD3A and ATAD3B are distal 1p-located genes differentially expressed in human glioma cell lines and present in vitro anti-oncogenic and chemoresistant properties. Exp. Cell Res. 2008; 314:2870-83.

Fang HY, Chang CL, Hsu SH, et al. ATPase family AAA domain-containing 3A is a novel anti-apoptotic factor in lung adenocarcinoma cells. J. Cell Sci. 2010; 123:1171-80.