

**HADHA Antibody (C-term) [Knockout Validated]  
Affinity Purified Rabbit Polyclonal Antibody (Pab)  
Catalog # AW5706**

**Specification**

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**HADHA Antibody (C-term) [Knockout Validated] - Product Information**

Application	WB, IHC-P, FC,E
Primary Accession	<a href="#">P40939</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Source	HUMAN

**HADHA Antibody (C-term) [Knockout Validated] - Additional Information**

**Gene ID** 3030

**Antigen Region**  
737-763

**Other Names**

Trifunctional enzyme subunit alpha, mitochondrial, 78 kDa gastrin-binding protein, TP-alpha, Long-chain enoyl-CoA hydratase, Long chain 3-hydroxyacyl-CoA dehydrogenase, HADHA, HADH

**Dilution**

WB~~1:500-1:2000  
IHC-P~~1:10~50  
FC~~1:10~50

**Target/Specificity**

This HADHA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 737-763 amino acids from the C-terminal region of human HADHA.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

HADHA Antibody (C-term) [Knockout Validated] is for research use only and not for use in diagnostic or therapeutic procedures.

**HADHA Antibody (C-term) [Knockout Validated] - Protein Information**

**Name** HADHA

**Synonyms** HADH

### Function

Mitochondrial trifunctional enzyme catalyzes the last three of the four reactions of the mitochondrial beta-oxidation pathway (PubMed:<a href="http://www.uniprot.org/citations/1550553" target="\_blank">1550553</a>, PubMed:<a href="http://www.uniprot.org/citations/29915090" target="\_blank">29915090</a>, PubMed:<a href="http://www.uniprot.org/citations/30850536" target="\_blank">30850536</a>, PubMed:<a href="http://www.uniprot.org/citations/8135828" target="\_blank">8135828</a>). The mitochondrial beta-oxidation pathway is the major energy-producing process in tissues and is performed through four consecutive reactions breaking down fatty acids into acetyl-CoA (PubMed:<a href="http://www.uniprot.org/citations/29915090" target="\_blank">29915090</a>). Among the enzymes involved in this pathway, the trifunctional enzyme exhibits specificity for long-chain fatty acids (PubMed:<a href="http://www.uniprot.org/citations/30850536" target="\_blank">30850536</a>). Mitochondrial trifunctional enzyme is a heterotetrameric complex composed of two proteins, the trifunctional enzyme subunit alpha/HADHA described here carries the 2,3-enoyl-CoA hydratase and the 3-hydroxyacyl-CoA dehydrogenase activities while the trifunctional enzyme subunit beta/HADHB bears the 3-ketoacyl-CoA thiolase activity (PubMed:<a href="http://www.uniprot.org/citations/29915090" target="\_blank">29915090</a>, PubMed:<a href="http://www.uniprot.org/citations/30850536" target="\_blank">30850536</a>, PubMed:<a href="http://www.uniprot.org/citations/8135828" target="\_blank">8135828</a>). Independently of the subunit beta, the trifunctional enzyme subunit alpha/HADHA also has a monolysocardiolipin acyltransferase activity (PubMed:<a href="http://www.uniprot.org/citations/23152787" target="\_blank">23152787</a>). It acylates monolysocardiolipin into cardiolipin, a major mitochondrial membrane phospholipid which plays a key role in apoptosis and supports mitochondrial respiratory chain complexes in the generation of ATP (PubMed:<a href="http://www.uniprot.org/citations/23152787" target="\_blank">23152787</a>). Allows the acylation of monolysocardiolipin with different acyl-CoA substrates including oleoyl-CoA for which it displays the highest activity (PubMed:<a href="http://www.uniprot.org/citations/23152787" target="\_blank">23152787</a>).

### Cellular Location

Mitochondrion. Mitochondrion inner membrane Note=Protein stability and association with mitochondrion inner membrane do not require HADHB.

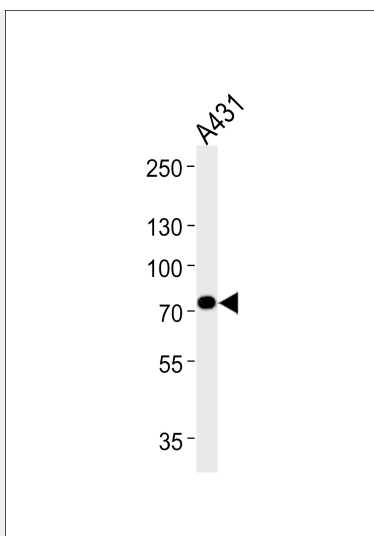
### HADHA Antibody (C-term) [Knockout Validated] - Protocols

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

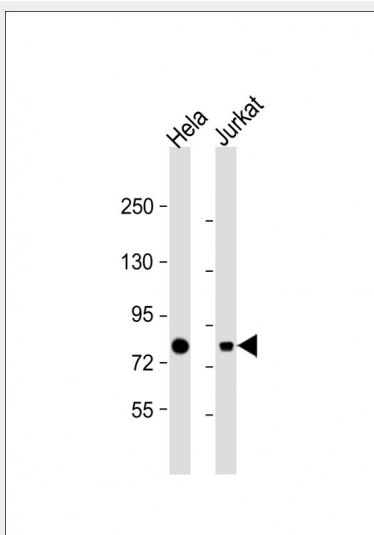
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### HADHA Antibody (C-term) [Knockout Validated] - Images

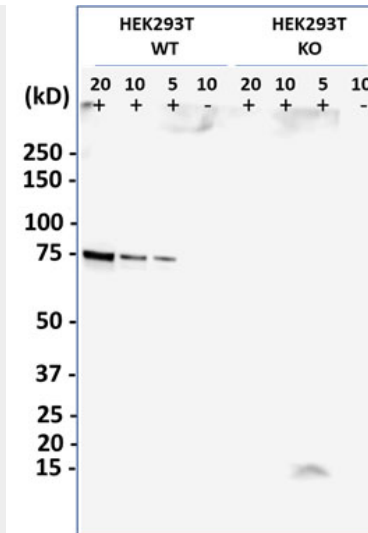




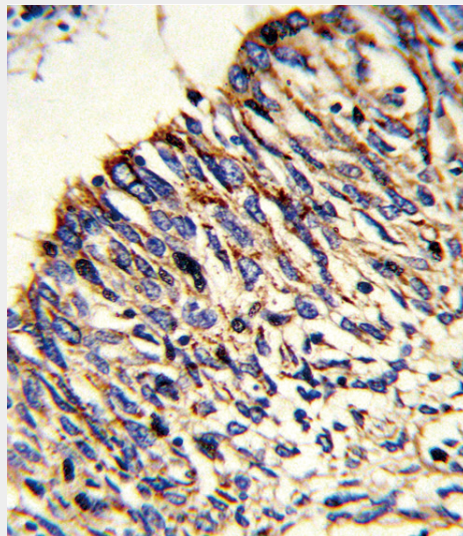
HADHA Antibody (C-term) (Cat.# AP6882b) western blot analysis in A431 cell line lysates (35ug/lane). This demonstrates the HADHA antibody detected the HADHA protein (arrow).



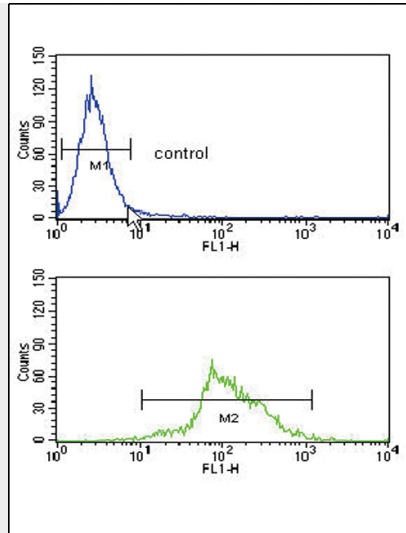
All lanes : Anti-HADHA Antibody (C-term) at 1:1000 dilution Lane 1: HeLa whole cell lysate Lane 2: Jurkat whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 83 kDa Blocking/Dilution buffer: 5% NFDm/TBST.



A predominant 75 kDa band for the HEK293T wild type lysate was observed (3 ug/ml anti-HADHA) vs the predicted size of 83 kDa. The molecular weight discrepancy could be due to post-translationally modification of the target protein, a splice-variant form of the target protein, a partially degraded form of the target protein, or an unrelated protein which shares the antibody-reactive epitope. A less intense band at 65 kDa was also observed for the knock out lysate, suggesting incomplete knockout of the target gene.



Formalin-fixed and paraffin-embedded human lung carcinoma reacted with HADHA Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



HADHA Antibody (C-term) (Cat. #AP6882b) flow cytometry analysis of Ramos cells (bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

**HADHA Antibody (C-term) [Knockout Validated] - Background**

HADHA is the alpha subunit of the mitochondrial trifunctional protein, which catalyzes the last three steps of mitochondrial beta-oxidation of long chain fatty acids. The mitochondrial membrane-bound heterocomplex is composed of four alpha and four beta subunits, with the alpha subunit catalyzing the 3-hydroxyacyl-CoA dehydrogenase and enoyl-CoA hydratase activities.

**HADHA Antibody (C-term) [Knockout Validated] - References**

Sims, H.F., et al., Proc. Natl. Acad. Sci. U.S.A. 92 (3), 841-845 (1995)