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HADHA Antibody (C-term) [Knockout Validated]

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5706

Specification

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

Application	**WB, IHC-P, FC,E**
Primary Accession	P40939
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:1550553, PubMed:29915090, PubMed:30850536, PubMed:8135828). 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:29915090). Among the enzymes involved in this pathway, the trifunctional enzyme exhibits specificity for long-chain fatty acids (PubMed:30850536). 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:29915090, PubMed:30850536, PubMed:8135828). Independently of the subunit beta, the trifunctional enzyme subunit alpha/HADHA also has a monolysocardiolipin acyltransferase activity (PubMed:23152787). 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:23152787). Allows the acylation of monolysocardiolipin with different acyl-CoA substrates including oleoyl-CoA for which it displays the highest activity (PubMed:23152787).

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 Cytomety
- Cell Culture

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

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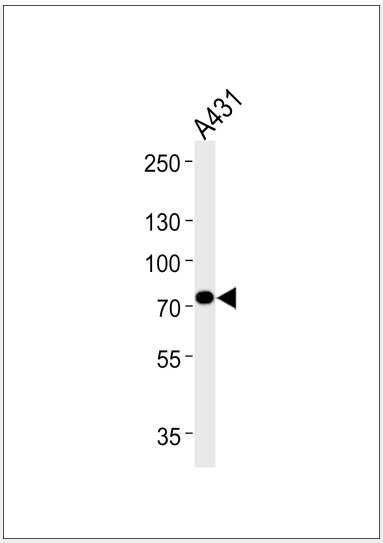
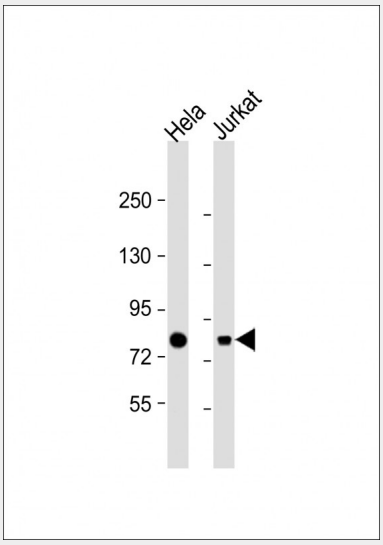


HADHA Antibody (C-term) (Cat.# AP6882b) western blot analysis in A431 cell line lysates (35ug/lane).This demonstrates the HADHA antibody detected the HADHA protein (arrow).



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.

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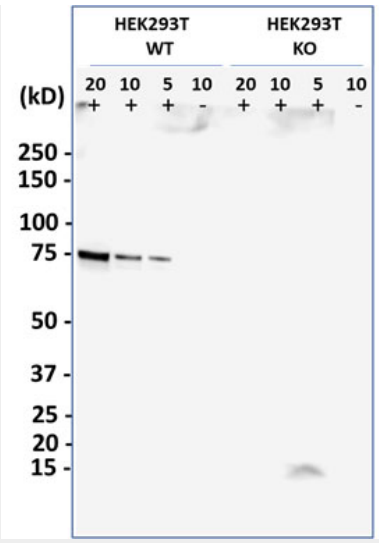
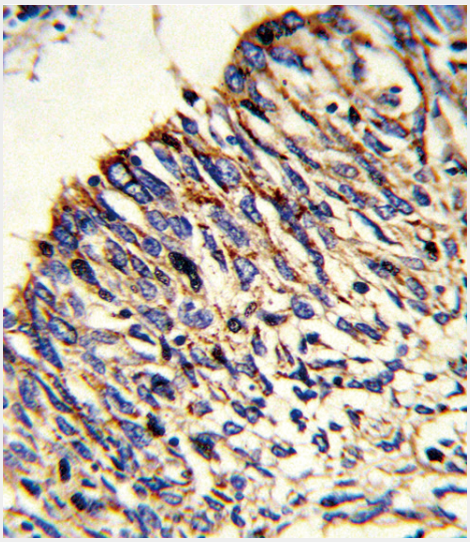


A predominant 75 kDa band for the HEK293T wild type lysate was observed (3 ug/ml anti-HADHA) vs the predicted size of 83 kDa. The molecular weight discrepancy could be due to post-translationally modification of the target protein, a splice-variant form of the target protein, a partially degraded form of the target protein, or an unrelated protein which shares the antibody-reactive epitope. A less intense band at 65 kDa was also A weak band only in the 20ug lane was 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.

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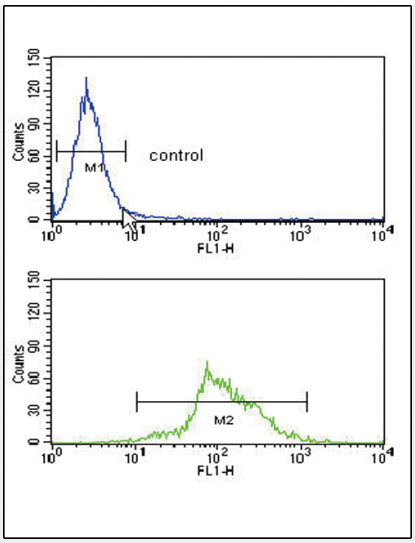

HADHA Antibody (C-term) (Cat. #AP6882b) flow cytometry analysis of Ramos cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

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)