10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PLOD1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP12656c

Specification

PLOD1 Antibody (N-term) - Product Information

Application	**WB, IHC-P, FC,E**
Primary Accession	Q02809
Other Accession	Q9R0E2, NP_000293.2
Reactivity	**Human**
Predicted	**Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**66-94**

PLOD1 Antibody (N-term) - Additional Information

Gene ID 5351

Other Names
Procollagen-lysine, 2-oxoglutarate 5-dioxygenase 1, Lysyl hydroxylase 1, LH1, PLOD1, LLH, PLOD

Target/Specificity
This PLOD1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 66-94 amino acids from the N-terminal region of human PLOD1.

Dilution
WB~~1:1000-1:2000
IHC-P~~1:25
FC~~1:25

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
PLOD1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

PLOD1 Antibody (N-term) - Protein Information

Name PLOD1

Synonyms LLH, PLOD

Function Part of a complex composed of PLOD1, P3H3 and P3H4 that catalyzes hydroxylation of lysine residues in collagen alpha chains and is required for normal assembly and cross-linkling of collagen fibrils (By similarity). Forms hydroxylysine residues in -Xaa-Lys- Gly- sequences in collagens (PubMed:10686424, PubMed:15854030, PubMed:8621606). These hydroxylysines serve as sites of attachment for carbohydrate units and are essential for the stability of the intermolecular collagen cross-links (Probable).

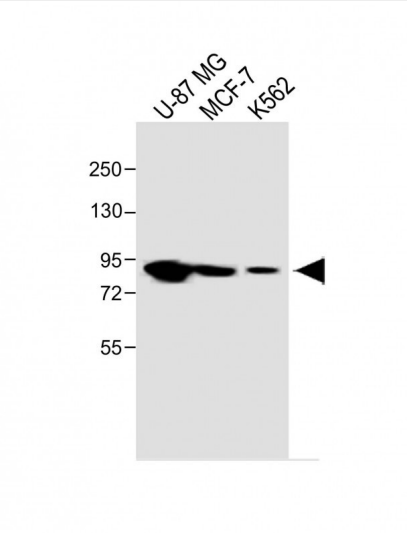
Cellular Location
Rough endoplasmic reticulum membrane; Peripheral membrane protein; Lumenal side

PLOD1 Antibody (N-term) - 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

PLOD1 Antibody (N-term) - Images



All lanes :PLOD1 Antibody (N-term) at 1:1000 dilution Lane 1: U-87 MG whole cell lysate Lane 2: MCF-7 whole cell lysate Lane 3: K562 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/10000 dilution. Observed band size :90kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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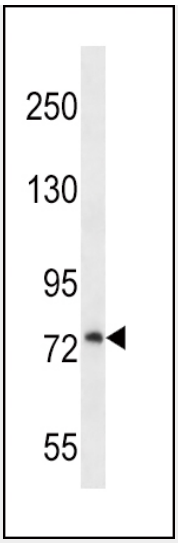
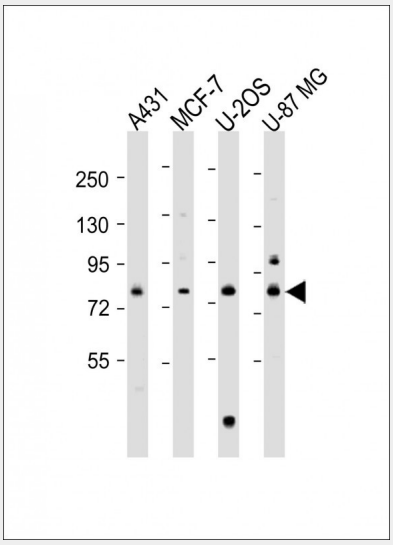


PLOD1 Antibody (N-term) (Cat. #AP12656c) western blot analysis in U251 cell line lysates (35ug/lane).This demonstrates the PLOD1 antibody detected the PLOD1 protein (arrow).



All lanes : Anti-PLOD1 Antibody (N-term) at 1:2000 dilution Lane 1: A431 whole cell lysates Lane 2: MCF-7 whole cell lysates Lane 3: U-2OS whole cell lysates Lane 4: U-87 MG whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 84 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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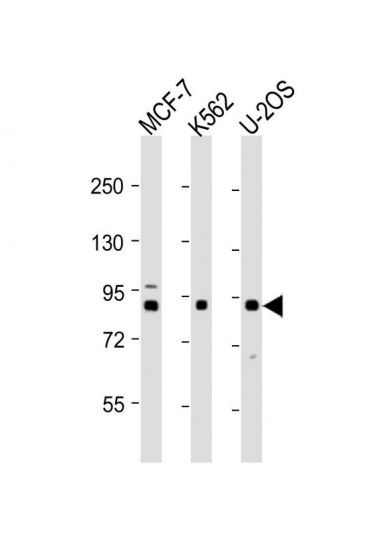
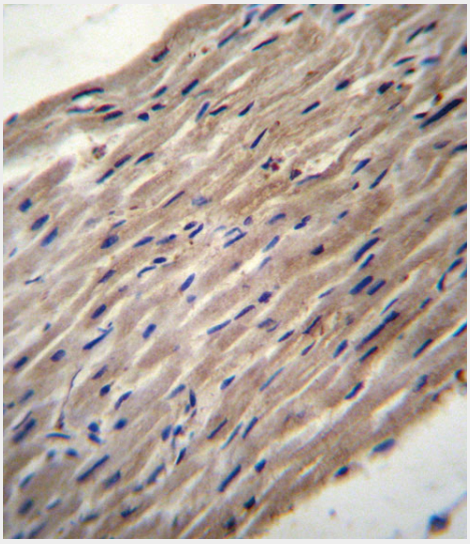


All lanes : Anti-PLOD1 Antibody (N-term) at 1:1000-1:2000 dilution Lane 1: MCF-7 whole cell lysates Lane 2: K562 whole cell lysates Lane 3: U-2OS whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 84 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



PLOD1 Antibody (N-term) (Cat. #AP12656c)immunohistochemistry analysis in formalin fixed and paraffin embedded human heart tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of PLOD1 Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.

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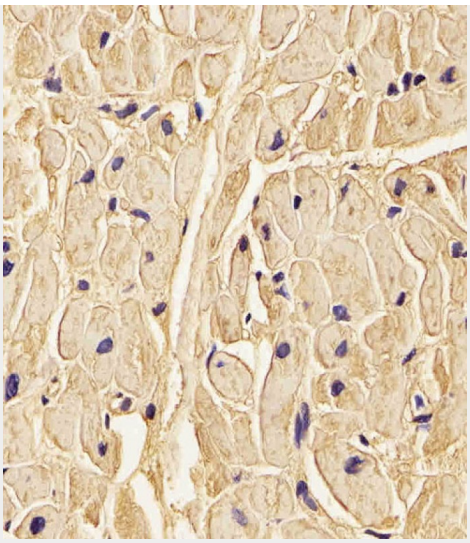
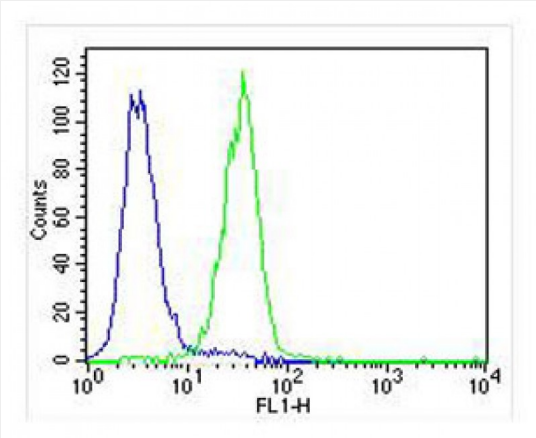


AP12656c staining PLOD1 in Human heart tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



Overlay histogram showing U-87 MG cells stained with AP12656c (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP12656c, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(NA168821)) at 1/400 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was mouse IgG1 (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.

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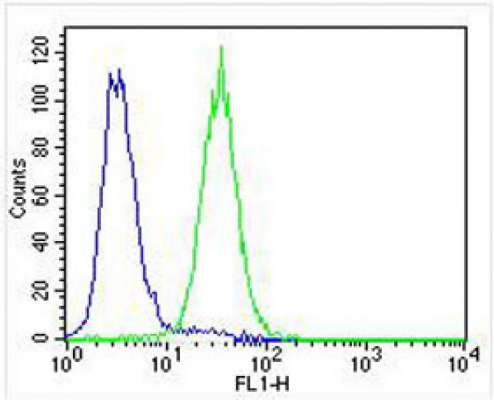

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PLOD1 Antibody (N-term) - Background

Lysyl hydroxylase is a membrane-bound homodimeric protein localized to the cisternae of the endoplasmic reticulum. The enzyme (cofactors iron and ascorbate) catalyzes the hydroxylation of lysyl residues in collagen-like peptides. The resultant hydroxylysyl groups are attachment sites for carbohydrates in collagen and thus are critical for the stability of intermolecular crosslinks. Some patients with Ehlers-Danlos syndrome type VI have deficiencies in lysyl hydroxylase activity.

PLOD1 Antibody (N-term) - References

Johnatty, S.E., et al. PLoS Genet. 6 (7), E1001016 (2010) :
Huang, Q.Y., et al. Bone 44(5):984-988(2009)
Yamada, Y., et al. Int. J. Mol. Med. 19(5):791-801(2007)
Tasker, P.N., et al. Osteoporos Int 17(7):1078-1085(2006)
Giunta, C., et al. Mol. Genet. Metab. 86 (1-2), 269-276 (2005) :

PLOD1 Antibody (N-term) - Citations

- Absence of the ER Cation Channel TMEM38B/TRIC-B Disrupts Intracellular Calcium Homeostasis and Dysregulates Collagen Synthesis in Recessive Osteogenesis Imperfecta.
- MBTPS2 mutations cause defective regulated intramembrane proteolysis in X-linked osteogenesis imperfecta.
- Impaired collagen biosynthesis and cross-linking in aorta of patients with bicuspid aortic valve.