

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~~1:2000
IHC-P~~1:10~50
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-linking of collagen fibrils (By similarity). Forms hydroxylysine residues in -Xaa-Lys- Gly- sequences in collagens (PubMed:[8621606](#), PubMed:[10686424](#), PubMed:[15854030](#)). These hydroxylysines serve as sites of attachment for carbohydrate units and are essential for the stability of the intermolecular collagen cross-links (Probable).

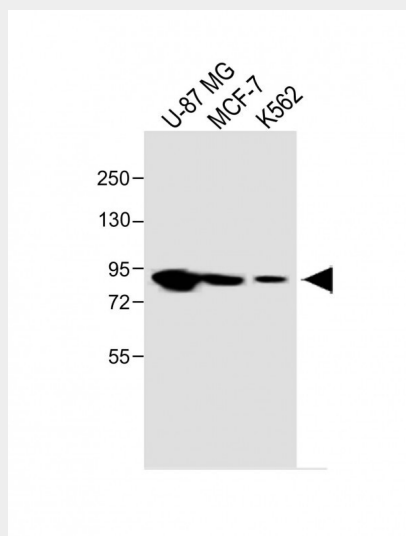
Cellular Location

Rough endoplasmic reticulum membrane; Peripheral membrane protein; Luminal side

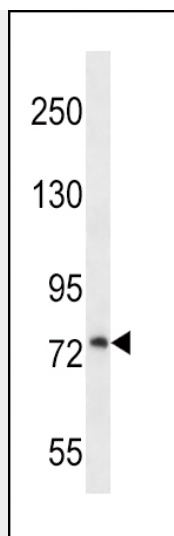
PLOD1 Antibody (N-term) - Protocols

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

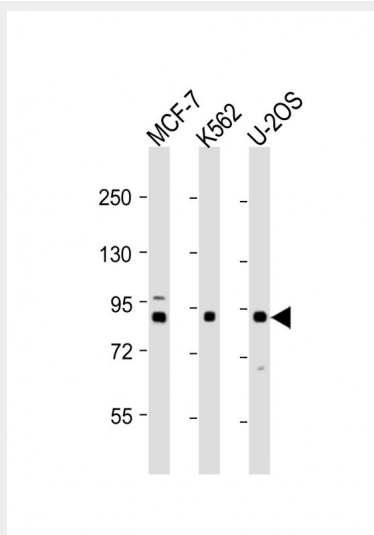
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PLOD1 Antibody (N-term) - Images

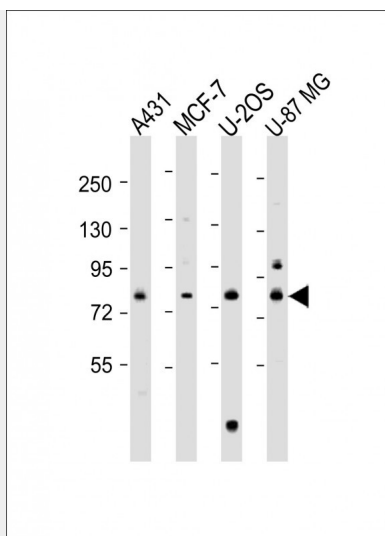
All lanes :PLOD1 Antibody (N-term) at 1:1000 dilution Lane 1: U-87 MG whole cell lysate Lane 2: MCF-7 whole cell lysate Lane 3: K562 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/10000 dilution. Observed band size :90kDa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



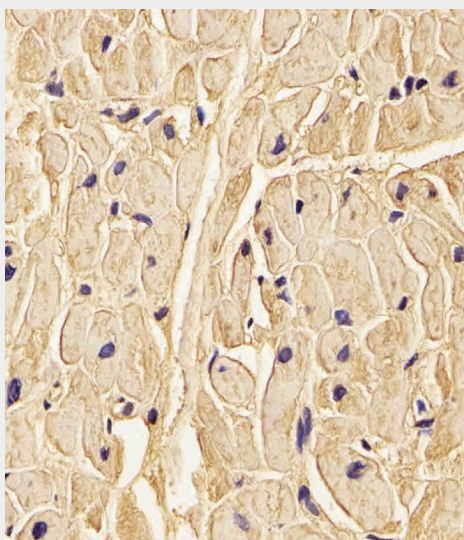
PLOD1 Antibody (N-term) (Cat. #AP12656c) western blot analysis in U251 cell line lysates (35ug/lane). This demonstrates the PLOD1 antibody detected the PLOD1 protein (arrow).



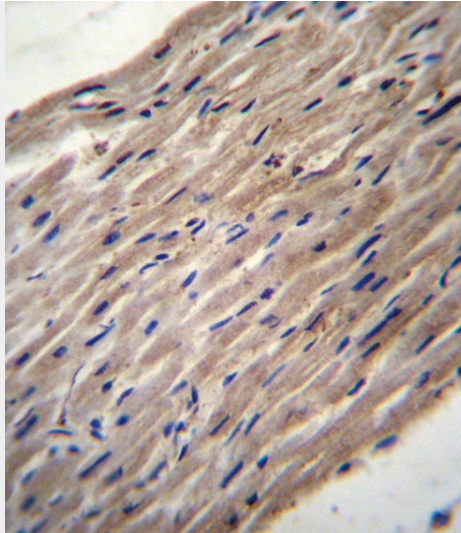
All lanes : Anti-PLOD1 Antibody (N-term) at 1:1000-1:2000 dilution Lane 1: MCF-7 whole cell lysates Lane 2: K562 whole cell lysates Lane 3: U-2OS whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size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



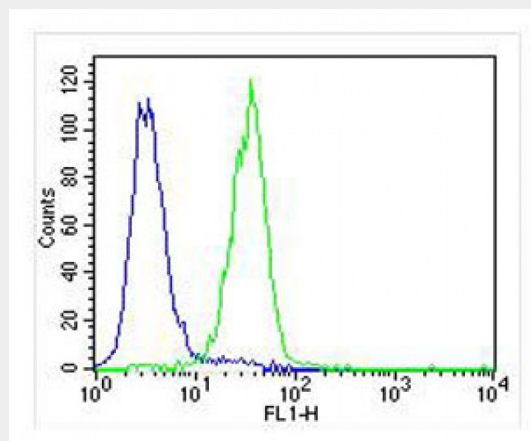
All lanes : Anti-PLOD1 Antibody (N-term) at 1:2000 dilution Lane 1: A431 whole cell lysates Lane 2: MCF-7 whole cell lysates Lane 3: U-2OS whole cell lysates Lane 4: U-87 MG whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000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



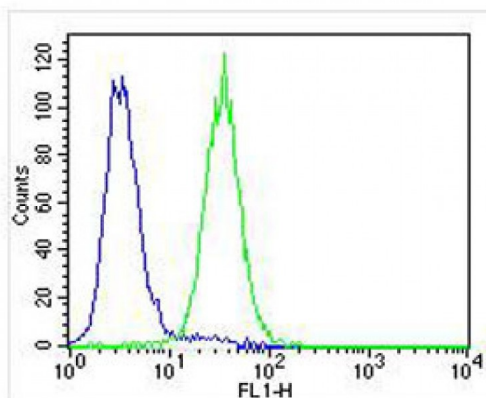
AP12656c staining PLOD1 in Human heart tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0.5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). 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.



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.



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 incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP12656c, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed (NA168821) at 1/400 dilution for 40 min at 37°C. Isotype control antibody (blue line) was mouse IgG1 (1 µg/1x10⁶ cells) used under the same conditions. Acquisition of >10,000 events was performed.



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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.](#)