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

PCCA Antibody (Center)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12328c

Specification

PCCA Antibody (Center) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	P05165
Other Accession	NP_001121164.1, NP_000273.2
Reactivity	**Human, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**80059**
Antigen Region	**362-390**

PCCA Antibody (Center) - Additional Information

Gene ID 5095

Other Names
Propionyl-CoA carboxylase alpha chain, mitochondrial, PCCase subunit alpha, Propanoyl-CoA:carbon dioxide ligase subunit alpha, PCCA

Target/Specificity
This PCCA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 362-390 amino acids from the Central region of human PCCA.

Dilution
WB~~1:2000
IHC-P~~1:25
E~~Use at an assay dependent concentration.

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
PCCA Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

PCCA Antibody (Center) - Protein Information

Name PCCA (HGNC:8653)

Function This is one of the 2 subunits of the biotin-dependent propionyl-CoA carboxylase (PCC), a mitochondrial enzyme involved in the catabolism of odd chain fatty acids, branched-chain amino acids isoleucine, threonine, methionine, and valine and other metabolites (PubMed:6765947, PubMed:8434582). Propionyl-CoA carboxylase catalyzes the carboxylation of propionyl-CoA/propanoyl-CoA to D-methylmalonyl- CoA/(S)-methylmalonyl-CoA (PubMed:10101253, PubMed:6765947, PubMed:8434582). Within the holoenzyme, the alpha subunit catalyzes the ATP-dependent carboxylation of the biotin carried by the biotin carboxyl carrier (BCC) domain, while the beta subunit then transfers the carboxyl group from carboxylated biotin to propionyl-CoA (By similarity). Propionyl-CoA carboxylase also significantly acts on butyryl-CoA/butanoyl-CoA, which is converted to ethylmalonyl-CoA/(2S)- ethylmalonyl-CoA at a much lower rate (PubMed:6765947). Other alternative minor substrates include (2E)-butenoyl-CoA/crotonoyl-CoA (By similarity).

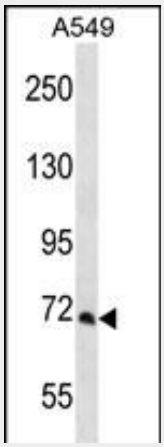
Cellular Location
Mitochondrion matrix

PCCA Antibody (Center) - Protocols

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

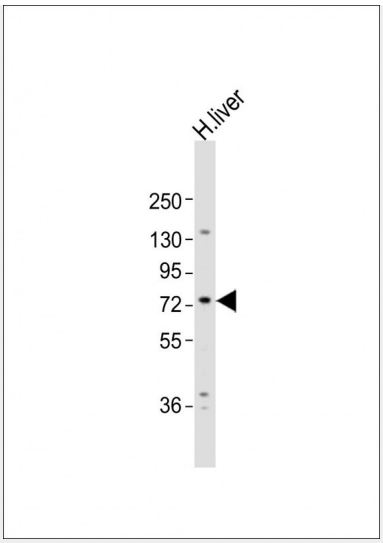
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PCCA Antibody (Center) - Images

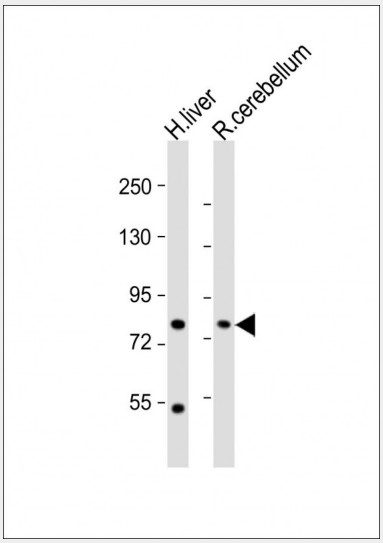


PCCA Antibody (Center) (Cat. #AP12328c) western blot analysis in A549 cell line lysates (35ug/lane).This demonstrates the PCCA antibody detected the PCCA protein (arrow).

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

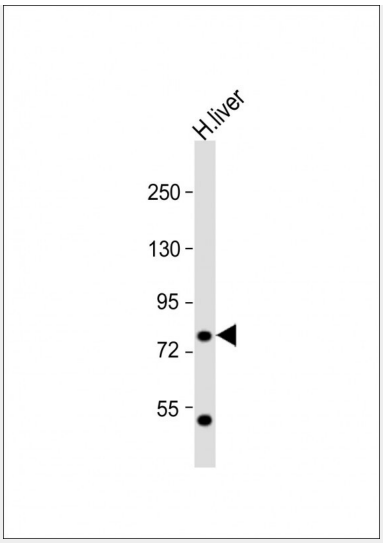


Anti-PCCA Antibody (Center) at 1:2000 dilution + human liver lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 80 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

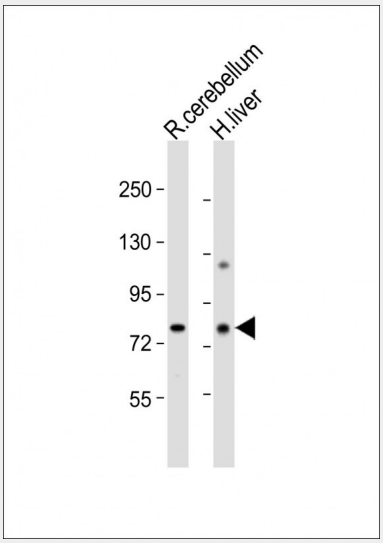


All lanes : Anti-PCCA Antibody (Center) at 1:2000 dilution Lane 1: human liver lysate Lane 2: rat cerebellum lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 80 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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

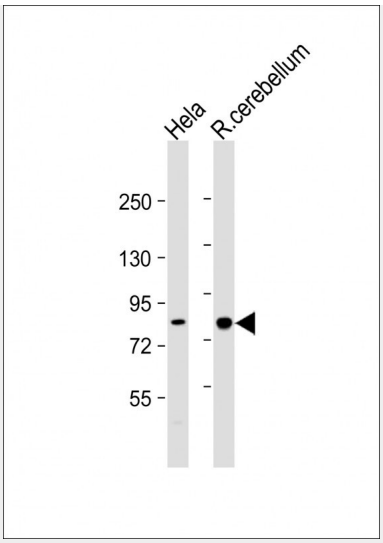


Anti-PCCA Antibody (Center) at 1:2000 dilution + human liver lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 80 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

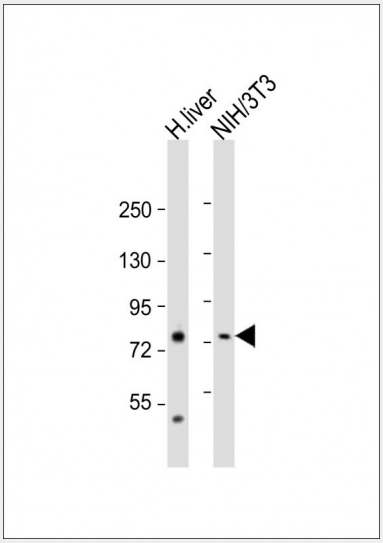


All lanes : Anti-PCCA Antibody (Center) at 1:2000 dilution Lane 1: rat cerebellum lysate Lane 2: human liver lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 80 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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

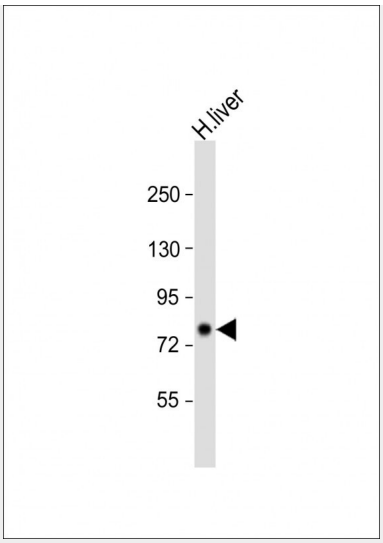


All lanes : Anti-PCCA Antibody (Center) at 1:2000 dilution Lane 1: Hela whole cell lysate Lane 2: rat cerebellum lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 80 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

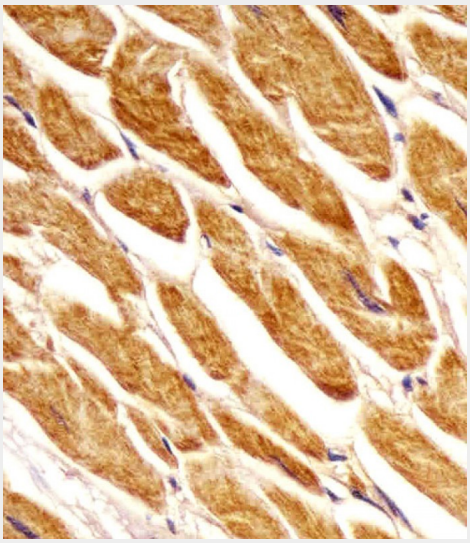


All lanes : Anti-PCCA Antibody (Center) at 1:2000 dilution Lane 1: human liver lysate Lane 2: NIH/3T3 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 80 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

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

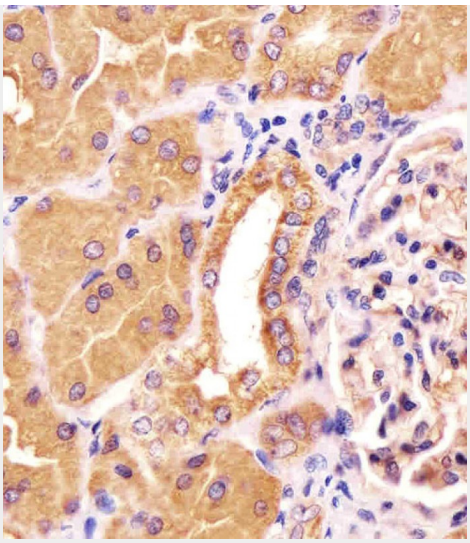


Anti-PCCA Antibody (Center) at 1:2000 dilution + human liver lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 80 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

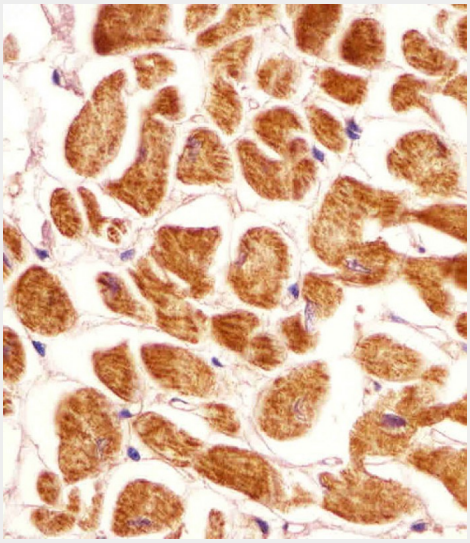


AP12328c staining PCCA in human heart tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). 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.

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

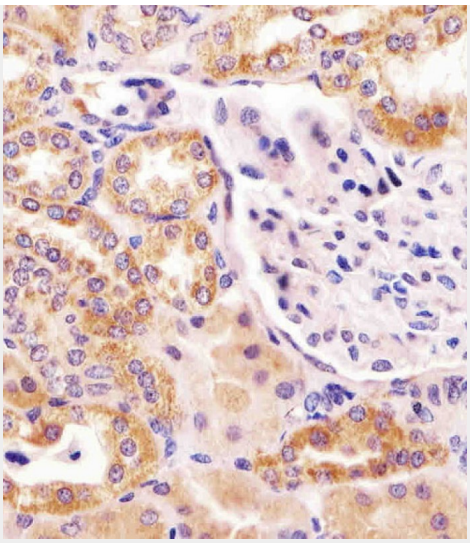


AP12328c staining PCCA in human kidney tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). 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.



AP12328c staining PCCA 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.

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



AP12328c staining PCCA in human kidney 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.

PCCA Antibody (Center) - Background

The protein encoded by this gene is the alpha subunit of the heterodimeric mitochondrial enzyme Propionyl-CoA carboxylase. PCCA encodes the biotin-binding region of this enzyme. Mutations in either PCCA or PCCB (encoding the beta subunit) lead to an enzyme deficiency resulting in propionic acidemia. Multiple transcript variants encoding different isoforms have been found for this gene.

PCCA Antibody (Center) - References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Huang, C.S., et al. Nature 466(7309):1001-1005(2010)
Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :
Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009)
MacDonald, M.J., et al. Diabetologia 52(6):1087-1091(2009)