

OGDH Antibody (C-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13442b

Specification

OGDH Antibody (C-term) - Product Information

Application	IHC-P, WB,E
Primary Accession	Q02218
Other Accession	NP_002532.2
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	115935
Antigen Region	381-410

OGDH Antibody (C-term) - Additional Information

Gene ID 4967

Other Names

2-oxoglutarate dehydrogenase, mitochondrial, 2-oxoglutarate dehydrogenase complex component E1, OGDC-E1, Alpha-ketoglutarate dehydrogenase, OGDH

Target/Specificity

This OGDH antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 381-410 amino acids from the C-terminal region of human OGDH.

Dilution

IHC-P~1:10~50

WB~1:1000

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

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

OGDH Antibody (C-term) - Protein Information

Name OGDH ([HGNC:8124](#))

Function 2-oxoglutarate dehydrogenase (E1 α) component of the 2-oxoglutarate dehydrogenase complex (OGDHC) (PubMed:[24495017](#), PubMed:[25210035](#), PubMed:[28435050](#)). Participates in the first step, rate limiting for the overall conversion of 2-oxoglutarate to succinyl-CoA and CO₂ catalyzed by the whole OGDHC (PubMed:[24495017](#), PubMed:[25210035](#), PubMed:[28435050](#)). Catalyzes the irreversible decarboxylation of 2-oxoglutarate (alpha-ketoglutarate) via the thiamine diphosphate (ThDP) cofactor and subsequent transfer of the decarboxylated acyl intermediate on an oxidized dihydrolipoyl group that is covalently amidated to the E2 enzyme (dihydrolipoyllysine-residue succinyltransferase or DLST) (PubMed:[24495017](#), PubMed:[25210035](#), PubMed:[28435050](#), PubMed:[35272141](#)). Plays a key role in the Krebs (citric acid) cycle, which is a common pathway for oxidation of fuel molecules, including carbohydrates, fatty acids, and amino acids (PubMed:[25210035](#)). Can catalyze the decarboxylation of 2-oxoadipate in vitro, but at a much lower rate than 2-oxoglutarate (PubMed:[28435050](#)). Can also convert 2-keto-4-hydroxyglutarate (KHG) and CoA into malyl-CoA (By similarity). Mainly active in the mitochondrion (PubMed:[29211711](#)). A fraction of the 2-oxoglutarate dehydrogenase complex also localizes in the nucleus and is required for lysine succinylation of histones: associates with KAT2A on chromatin and provides succinyl-CoA to histone succinyltransferase KAT2A (PubMed:[29211711](#)).

Cellular Location

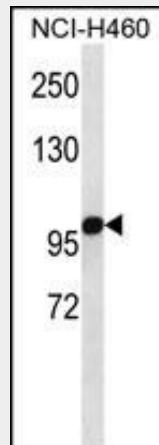
Mitochondrion. Nucleus. Note=Mainly localizes in the mitochondrion. A small fraction localizes to the nucleus, where the 2-oxoglutarate dehydrogenase complex is required for histone succinylation.

OGDH Antibody (C-term) - Protocols

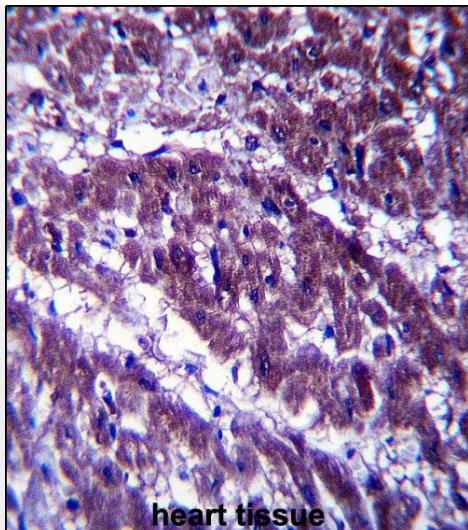
Provided below are standard protocols that you may find useful for product applications.

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

OGDH Antibody (C-term) - Images



OGDH Antibody (C-term) (Cat. #AP13442b) western blot analysis in NCI-H460 cell line lysates (35ug/lane). This demonstrates the OGDH antibody detected the OGDH protein (arrow).



OGDH Antibody (C-term) (Cat. #AP13442b) 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 OGDH Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

OGDH Antibody (C-term) - Background

This gene encodes one subunit of the 2-oxoglutarate dehydrogenase complex. This complex catalyzes the overall conversion of 2-oxoglutarate (alpha-ketoglutarate) to succinyl-CoA and CO₂ during the Krebs cycle. The protein is located in the mitochondrial matrix and uses thiamine pyrophosphate as a cofactor. A congenital deficiency in 2-oxoglutarate dehydrogenase activity is believed to lead to hypotonia, metabolic acidosis, and hyperlactatemia. Alternative splicing results in multiple transcript variants encoding distinct isoforms.

OGDH Antibody (C-term) - References

van Bever, Y., et al. Am. J. Med. Genet. A 143(7):763-767(2007)
Shi, Q., et al. J. Biol. Chem. 280(12):10888-10896(2005)
Habelhah, H., et al. J. Biol. Chem. 279(51):53782-53788(2004)
McCartney, R.G., et al. J. Biol. Chem. 273(37):24158-24164(1998)
Koike, K. Gene 159(2):261-266(1995)