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

# OGDH Antibody (C-term) Blocking peptide
**Synthetic peptide**
**Catalog # BP13442b**

## Specification

### OGDH Antibody (C-term) Blocking peptide - Product Information

Primary Accession Q02218

### OGDH Antibody (C-term) Blocking peptide - 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**
The synthetic peptide sequence used to generate the antibody AP13442b was selected from the C-term region of OGDH. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**Format**
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

### OGDH Antibody (C-term) Blocking peptide - Protein Information

**Name** OGDH (HGNC:8124)

**Function**
2-oxoglutarate dehydrogenase (E1o) component of the 2- oxoglutarate dehydrogenase complex (OGDHC) (PubMed:<a href="http://www.uniprot.org/citations/24495017" target="_blank">24495017</a>, PubMed:<a href="http://www.uniprot.org/citations/25210035" target="_blank">25210035</a>, PubMed:<a href="http://www.uniprot.org/citations/28435050" target="_blank">28435050</a>). Participates in the first step, rate limiting for the overall conversion of 2-oxoglutarate to succinyl-CoA and CO(2) catalyzed by the whole OGDHC (PubMed:<a href="http://www.uniprot.org/citations/24495017" target="_blank">24495017</a>, PubMed:<a href="http://www.uniprot.org/citations/25210035" target="_blank">25210035</a>, PubMed:<a href="http://www.uniprot.org/citations/28435050" target="_blank">28435050</a>). 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:<a href="http://www.uniprot.org/citations/24495017" target="_blank">24495017</a>, PubMed:<a href="http://www.uniprot.org/citations/25210035" target="_blank">25210035</a>, PubMed:<a href="http://www.uniprot.org/citations/28435050" target="_blank">28435050</a>). 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:<a href="http://www.uniprot.org/citations/25210035" target="_blank">25210035</a>). Can catalyze the decarboxylation of 2-oxoadipate in vitro, but at a much lower rate than 2-oxoglutarate (PubMed:<a href="http://www.uniprot.org/citations/28435050" target="_blank">28435050</a>). Mainly active in the mitochondrion (PubMed:<a href="http://www.uniprot.org/citations/29211711" target="_blank">29211711</a>). 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:<a href="http://www.uniprot.org/citations/29211711" target="_blank">29211711</a>).

**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) Blocking peptide - Protocols

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

- Blocking Peptides

## OGDH Antibody (C-term) Blocking peptide - Images

## OGDH Antibody (C-term) Blocking peptide - Background

This gene encodes one subunit of the 2-oxoglutaratedehydrogenase complex. This complex catalyzes the overallconversion of 2-oxoglutarate (alpha-ketoglutarate) to succinyl-CoAand CO(2) during the Krebs cycle. The protein is located in themitochondrial matrix and uses thiamine pyrophosphate as a cofactor.A congenital deficiency in 2-oxoglutarate dehydrogenase activity isbelieved to lead to hypotonia, metabolic acidosis, andhyperlactatemia. Alternative splicing results in multipletranscript variants encoding distinct isoforms.

## OGDH Antibody (C-term) Blocking peptide - 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)