

**D-amino-acid oxidase (aa286-298) Antibody (internal region)**  
Peptide-affinity purified goat antibody  
Catalog # AF3619a

**Specification**

---

**D-amino-acid oxidase (aa286-298) Antibody (internal region) - Product Information**

Application	WB
Primary Accession	<a href="#">P14920</a>
Other Accession	<a href="#">NP_001908.3</a> , <a href="#">1610</a>
Reactivity	Human
Predicted	Pig, Dog
Host	Goat
Clonality	Polyclonal
Concentration	0.5 mg/ml
Isotype	IgG
Calculated MW	39474

**D-amino-acid oxidase (aa286-298) Antibody (internal region) - Additional Information**

**Gene ID** 1610

**Other Names**

D-amino-acid oxidase, DAAO, DAMOX, DAO, 1.4.3.3, DAO, DAMOX

**Format**

0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

D-amino-acid oxidase (aa286-298) Antibody (internal region) is for research use only and not for use in diagnostic or therapeutic procedures.

**D-amino-acid oxidase (aa286-298) Antibody (internal region) - Protein Information**

**Name** DAO

**Synonyms** DAMOX

**Function**

Catalyzes the oxidative deamination of D-amino acids with broad substrate specificity (PubMed:[16616139](http://www.uniprot.org/citations/16616139)), PubMed:[17088322](http://www.uniprot.org/citations/17088322)), PubMed:[17303072](http://www.uniprot.org/citations/17303072)), PubMed:[18544534](http://www.uniprot.org/citations/18544534)), PubMed:[18544534](http://www.uniprot.org/citations/18544534)), PubMed:[18544534](http://www.uniprot.org/citations/18544534))

href="http://www.uniprot.org/citations/20368421" target="\_blank">20368421</a>, PubMed:<a href="http://www.uniprot.org/citations/20567862" target="\_blank">20567862</a>, PubMed:<a href="http://www.uniprot.org/citations/20603179" target="\_blank">20603179</a>, PubMed:<a href="http://www.uniprot.org/citations/22203986" target="\_blank">22203986</a>, PubMed:<a href="http://www.uniprot.org/citations/23219954" target="\_blank">23219954</a>, PubMed:<a href="http://www.uniprot.org/citations/23391306" target="\_blank">23391306</a>, PubMed:<a href="http://www.uniprot.org/citations/25030849" target="\_blank">25030849</a>, PubMed:<a href="http://www.uniprot.org/citations/25701391" target="\_blank">25701391</a>, PubMed:<a href="http://www.uniprot.org/citations/29274788" target="\_blank">29274788</a>, PubMed:<a href="http://www.uniprot.org/citations/29326945" target="\_blank">29326945</a>, PubMed:<a href="http://www.uniprot.org/citations/30938755" target="\_blank">30938755</a>, PubMed:<a href="http://www.uniprot.org/citations/31799256" target="\_blank">31799256</a>, PubMed:<a href="http://www.uniprot.org/citations/32730563" target="\_blank">32730563</a>, PubMed:<a href="http://www.uniprot.org/citations/33484270" target="\_blank">33484270</a>, PubMed:<a href="http://www.uniprot.org/citations/34041270" target="\_blank">34041270</a>, PubMed:<a href="http://www.uniprot.org/citations/37558109" target="\_blank">37558109</a>, PubMed:<a href="http://www.uniprot.org/citations/38035964" target="\_blank">38035964</a>). Required to catabolize D-amino acids synthesized endogenously, of gastrointestinal bacterial origin or obtained from the diet, and to use these as nutrients (By similarity). Regulates the level of D-amino acid neurotransmitters in the brain, such as D-serine, a co-agonist of N- methyl D-aspartate (NMDA) receptors, and may modulate synaptic transmission (PubMed:<a href="http://www.uniprot.org/citations/17303072" target="\_blank">17303072</a>). Catalyzes the first step of the racemization of D-DOPA to L-DOPA, for possible use in an alternative dopamine biosynthesis pathway (PubMed:<a href="http://www.uniprot.org/citations/17303072" target="\_blank">17303072</a>). Also catalyzes the first step of the chiral inversion of N(gamma)-nitro-D-arginine methyl ester (D-NNA) to its L-enantiomer L-NNA that acts as a nitric oxide synthase inhibitor (By similarity). The hydrogen peroxide produced in the reaction provides protection against microbial infection; it contributes to the oxidative killing activity of phagocytic leukocytes and protects against bacterial colonization of the small intestine (By similarity). Enzyme secreted into the lumen of the intestine may not be catalytically active and could instead be proteolytically cleaved into peptides with antimicrobial activity (By similarity). The hydrogen peroxide produced in the reaction may also play a role in promoting cellular senescence in response to DNA damage (PubMed:<a href="http://www.uniprot.org/citations/30659069" target="\_blank">30659069</a>). Could act as a detoxifying agent which removes D-amino acids accumulated during aging (PubMed:<a href="http://www.uniprot.org/citations/17303072" target="\_blank">17303072</a>).

### Cellular Location

Peroxisome matrix. Cytoplasm, cytosol. Presynaptic active zone {ECO:0000250|UniProtKB:O35078}. Secreted Note=Transiently present in the cytosol before being delivered to the peroxisomes (PubMed:21679769, PubMed:31799256). In the cerebellum, a fraction of protein localizes to the presynaptic active zone, where its activity is regulated by protein BSN (By similarity). Secreted into the lumen of the small intestine (PubMed:27670111) {ECO:0000250|UniProtKB:O35078, ECO:0000269|PubMed:21679769, ECO:0000269|PubMed:27670111, ECO:0000269|PubMed:31799256}

### Tissue Location

Expressed in the cerebellum, in astrocytes of the cortex, in motor neurons and fibers of the lumbar spinal cord (at protein level) (PubMed:17880399, PubMed:18544534, PubMed:18560437, PubMed:24138986, PubMed:34041270). Expressed in goblet cells of the small intestine (at protein level) (PubMed:27670111). Increased in the cerebellum of schizophrenic patients (at protein level) (PubMed:17880399, PubMed:18560437). Decreased in motor neurons of the spinal cord of patients with amyotrophic lateral sclerosis (at protein level) (PubMed:24138986). Expressed in the cerebellum, spinal cord, kidney, and thalamus (PubMed:17880399). Abundant in glia of the cerebellum and predominantly neuronal in the dorsolateral prefrontal cortex, hippocampus and substantia nigra (PubMed:17880399)

## D-amino-acid oxidase (aa286-298) Antibody (internal region) - 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](#)

## D-amino-acid oxidase (aa286-298) Antibody (internal region) - Images



AF3619a (0.03 µg/ml) staining of Human Cerebellum lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

## D-amino-acid oxidase (aa286-298) Antibody (internal region) - References

D-amino acid oxidase (DAO) genotype and mood symptomatology in schizophrenia. Corvin A, Donohoe G, McGhee K, Murphy K, Kenny N, Schwaiger S, Nangle JM, Morris D, Gill M. *Neurosci Lett*. 2007 Oct 16;426(2):97-100. PMID: 17890006