

**Anti-D-AMINO ACID OXIDASE (Pig Kidney) (SHEEP) Antibody**  
**D-Amino Acid Oxidase Antibody**  
**Catalog # ASR4795****Specification****Anti-D-AMINO ACID OXIDASE (Pig Kidney) (SHEEP) Antibody - Product Information**

Host	Sheep
Conjugate	Unconjugated
Target Species	Swine
Reactivity	Pig
Clonality	Polyclonal
Application	WB, E, IP, I, LCI
Application Note	D-AMINO ACID OXIDASE antibody has been tested by ELISA and western blot. This product is assayed against 1.0 ug of D-Amino Acid Oxidase [Pig Kidney] in a standard ELISA using Peroxidase conjugated Affinity Purified anti-Sheep IgG [H&L] (Goat) code #611-1302 and ABTS (2, 2'-azino-bis-[3-ethylbenthiazoline-6-sulfonic acid]) code # ABTS-100 as a substrate for 30 minutes at room temperature. A working dilution of 1:20,000 to 1:60,000 of the reconstitution concentration is suggested for this product.
Physical State	Lyophilized
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Immunogen	D-Amino Acid Oxidase [Pig Kidney]
Reconstitution Volume	100 µL
Reconstitution Buffer	Restore with deionized water (or equivalent)
Preservative	0.01% (w/v) Sodium Azide

**Anti-D-AMINO ACID OXIDASE (Pig Kidney) (SHEEP) Antibody - Additional Information****Gene ID** 397134**Other Names**  
397134**Purity**

Anti-D-AMINO ACID OXIDASE is an IgG fraction antibody purified from monospecific antiserum by a multi-step process which includes delipidation, salt fractionation and ion exchange chromatography followed by extensive dialysis against the buffer stated above. Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Sheep Serum as well as purified and partially purified D-Amino Acid Oxidase [Pig Kidney]. Cross reactivity against D-Amino Acid Oxidase from other tissues and species may occur but have not been specifically determined.

**Storage Condition**

Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

### Precautions Note

This product is for research use only and is not intended for therapeutic or diagnostic applications.

## Anti-D-AMINO ACID OXIDASE (Pig Kidney) (SHEEP) Antibody - Protein Information

### Name DAO

### Function

Catalyzes the oxidative deamination of D-amino acids with broad substrate specificity (PubMed:<a href="http://www.uniprot.org/citations/10876160" target="\_blank">10876160</a>, PubMed:<a href="http://www.uniprot.org/citations/16751595" target="\_blank">16751595</a>, PubMed:<a href="http://www.uniprot.org/citations/17469229" target="\_blank">17469229</a>, PubMed:<a href="http://www.uniprot.org/citations/20603179" target="\_blank">20603179</a>, PubMed:<a href="http://www.uniprot.org/citations/24492954" target="\_blank">24492954</a>, PubMed:<a href="http://www.uniprot.org/citations/24644036" target="\_blank">24644036</a>, PubMed:<a href="http://www.uniprot.org/citations/28592826" target="\_blank">28592826</a>, PubMed:<a href="http://www.uniprot.org/citations/2904274" target="\_blank">2904274</a>, PubMed:<a href="http://www.uniprot.org/citations/30333894" target="\_blank">30333894</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 (By similarity). Catalyzes the first step of the racemization of D-DOPA to L-DOPA, for possible use in an alternative dopamine biosynthesis pathway (By similarity). 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 (PubMed:<a href="http://www.uniprot.org/citations/22271930" target="\_blank">22271930</a>, PubMed:<a href="http://www.uniprot.org/citations/25425233" target="\_blank">25425233</a>, PubMed:<a href="http://www.uniprot.org/citations/27670111" target="\_blank">27670111</a>). 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 (By similarity). Could act as a detoxifying agent which removes D-amino acids accumulated during aging (By similarity).

### Cellular Location

Peroxisome matrix. Cytoplasm, cytosol {ECO:0000250|UniProtKB:P14920}. Presynaptic active zone {ECO:0000250|UniProtKB:O35078}. Secreted {ECO:0000250|UniProtKB:P18894}. Note=Transiently present in the cytosol before being delivered to the peroxisomes (By similarity). 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 (By similarity) {ECO:0000250|UniProtKB:O35078, ECO:0000250|UniProtKB:P14920, ECO:0000250|UniProtKB:P18894}

### Tissue Location

Expressed in the liver and in the kidney, including in epithelial cells (PubMed:2904274). Not expressed in the lung (PubMed:2904274).

**Anti-D-AMINO ACID OXIDASE (Pig Kidney) (SHEEP) Antibody - 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](#)

**Anti-D-AMINO ACID OXIDASE (Pig Kidney) (SHEEP) Antibody - Images****Anti-D-AMINO ACID OXIDASE (Pig Kidney) (SHEEP) Antibody - Background**

D-Amino Acid Oxidase regulates the level of the neuromodulator D-serine in the brain. It has high activity towards D-DOPA and contributes to dopamine synthesis. It could act as a detoxifying agent which removes D-amino acids accumulated during aging. It acts on a variety of D-amino acids, with a preference for those having small hydrophobic side chains, followed by those bearing polar, aromatic, and basic groups. D-Amino Acid Oxidase does not act on acidic amino acids.