

D-Amino Acid Oxidase (Crude Enzyme)

Cat. No. NATE-1807

Lot. No. (See product label)

Introduction

Description

D-Amino Acid Oxidase (DAAO; also DAO, OXDA, DAMOX) is a peroxisomal enzyme containing FAD as cofactor that is expressed in a wide range of species from yeasts to human. It is not present in plants or in bacteria which instead use D-amino acid dehydrogenase. Its function is to oxidize D-amino acids to the corresponding imino acids, producing ammonia and hydrogen peroxide. DAAO is a candidate susceptibility gene and together with G72 may play a role in the glutamatergic mechanisms of schizophrenia. Risperidone and sodium benzoate are inhibitors of DAAO. DAAO is used as a biocatalyst in several biotechnological applications, such as the oxidation of cephalosporin C, the deracemization of racemic D-amino acid solutions and as the biological component in several biosensors for the determination of the content in D-amino acids of biological fluids. This protein may use the morphine model of allosteric regulation. This product with the indicated enzyme activity was briefly purified from engineered E. coli.

Applications

biotechnology; industry; drug development; medicine; pharmacology; analysis; diagnostics; synthesis

Synonyms

D-amino-acid oxidase; L-amino acid:O₂ oxidoreductase; new yellow enzyme

Product Information

Source

E. coli

Appearance

Clear to translucent yellow solution

EC Number

EC 1.4.3.3

CAS No.

9000-88-8

Activity

Undetermined

Reaction

$\text{D-amino acid} + \text{H}_2\text{O} + \text{O}_2 = \text{2-oxo carboxylate} + \text{NH}_3 + \text{H}_2\text{O}_2$

Notes

Since this product needs to be freshly prepared, it will take about 2 weeks after you confirm the order. Each time of the freeze-thawing may cause partial inactivation. Therefore, it should be dispensed as required and stored at -20 °C or lower. With the preservation of the extension of time, the enzyme activity will decline to a certain extent, so the product should be used as soon as possible. This product may have turbidity or precipitation in the production and preservation process, it can be mixed after melting and will not affect the normal use. This product is limited to scientific research use, shall not be used for clinical diagnosis or treatment, shall not be used for food or medicine, shall not be stored in ordinary residential. For your safety and health, please wear an experimental suit and wear disposable gloves.

Usage and Packaging

Package

100ml

Storage and Shipping Information

Storage

at -20 °C or lower, for at least 1 month.