

## Native Plant origin Diamine Oxidase

Cat. No. NATE-0188

Lot. No. (See product label)

### Introduction

**Description** DAO is an enzyme (EC 1.4.3.22) composed of 642 amino acids. It is a homo-dimer of two identical subunits. Each subunit contains 2 disulfide bounds and a free cysteine with a theoretical molecular weight of 72,878 daltons per unit (a nominal molecular weight of  $73 \pm 3$  kDa is used for analytical purposes). DAO active site contains copper (II) and phenylalanine quinone: 2,4,5-trihydroxyphenylalanine quinone (TPQ). The products of the CuAO-catalysed oxidative deamination of amines such as histamine are various aldehydes, ammonia, and hydrogen peroxide. The copper is essential for activity and is believed to play a redox role in substrate turnover. Plant DAOs (histaminase) differs from the mammalian and prokaryotic enzymes in a number of peculiar features, mainly high turnover rate of catalysis, high binding affinity for histamine, and high chemical stability. The native *Pisum sativum* Diamine Oxidase (EC 1.4.3.22) can also be found in different organisms such as bacteria, yeasts, mushrooms, various plants, and animals. A review article by R. Medda, et al. in 1995 describes in detail research in this area.

**Applications** DAO catalyzes the oxidation of diamines (and some monoamines) to produce the aldehyde, ammonia, and H<sub>2</sub>O<sub>2</sub>.

**Synonyms** EC 1.4.3.6; 9001-53-0; Amine:oxygen oxidoreductase (deaminating) (pyridoxal-containing); Diamine Oxidase; Amine oxidase (copper-containing)

### Product Information

**Source** *Pisum sativum*

**Form** Tan Liquid

**EC Number** EC 1.4.3.6

**CAS No.** 9001-53-0

**Unit Definition** One DAO unit will oxidase 1.0  $\mu$ mol putrescine per hour at pH 7.2 at 37°C.