

## Native Cucurbita sp. Ascorbate Oxidase

Cat. No. NATE-0012

Lot. No. (See product label)

### Introduction

#### Description

In enzymology, a L-ascorbate oxidase (EC 1.10.3.3) is an enzyme that catalyzes the chemical reaction:  $2 \text{ L-ascorbate} + \text{O}_2 \leftrightarrow 2 \text{ dehydroascorbate} + 2 \text{ H}_2\text{O}$ . Thus, the two substrates of this enzyme are L-ascorbate and  $\text{O}_2$ , whereas its two products are dehydroascorbate and  $\text{H}_2\text{O}$ . This enzyme belongs to the family of oxidoreductases, specifically those acting on diphenols and related substances as donor with oxygen as acceptor. This enzyme participates in ascorbate metabolism. It employs one cofactor, copper.

#### Applications

Ascorbate oxidase, from Cucurbita sp., may be used to study oxidative stress and heat stress response and tolerance. Ascorbate oxidase, from Creative Enzymes, has been used in ascorbic acid assays to study the heat stress response of Arabidopsis.

#### Synonyms

ascorbase; ascorbic acid oxidase; ascorbate oxidase; ascorbic oxidase; ascorbate dehydrogenase; L-ascorbic acid oxidase; AAO; L-ascorbate: $\text{O}_2$  oxidoreductase; AA oxidase; EC 1.10.3.3; 9029-44-1; L-ascorbate oxidase

### Product Information

#### Source

Cucurbita sp.

#### Form

Lyophilized powder containing buffers and sucrose as stabilizer.

#### EC Number

EC 1.10.3.3

#### CAS No.

9029-44-1

#### Activity

1,000-3,000 units/mg protein

#### Unit Definition

One unit will oxidize  $1.0 \mu\text{mole}$  of L-ascorbate to dehydroascorbate per min at pH 5.6 at  $25^\circ\text{C}$ .

### Storage and Shipping Information

#### Storage

$2-8^\circ\text{C}$