

## Native Zucchini Ascorbate Oxidase

Cat. No. NATE-1137

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** AAO can be used in clinical tests for determining levels of ascorbic acid in blood or for the removal of interference effects caused by ascorbic acid in clinical analysis.

**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; L-ascorbate oxidase

### Product Information

**Source** Zucchini

**Appearance** Light tanish, brownish, greyish to blue green free flowing powder

**EC Number** EC 1.10.3.3

**CAS No.** 9029-44-1

**Molecular Weight** 70kD

**Activity** 156 to 624 U/mg

**Contaminants** Adenylate Kinase < 0.5 U/mg; Catalase < 0.096%; Glucose Oxidase < 0.002 U/mg; Cholesterol Oxidase < 0.002 U/mg; Lactate Oxidase < 0.002U/mg; Uricase < 0.002 U/mg

**pH Stability** 5.5 - 10.0

**Optimum pH** 5.5 to 6.0

**Thermal stability** Stable at 50°C and below

**Optimum temperature** 45°C

**Unit Definition** One unit of activity is defined as the amount of enzyme that will catalyse the oxidation of 1.0 micromole of ascorbic acid per minute at 37°C under the standard assay method conditions. Refer to Table 1 for guidance on factors to adjust units according to temperature of assay.