Creative Enzymes®

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 L-ascorbate + O2↔ 2 dehydroascorbate + 2 H2O. Thus, the two substRates of this enzyme are L-ascorbate and O2, whereas its two products are dehydroascorbate and H2O. 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:O2 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.