Creative Enzymes®

Native Porcine Diamine Oxidase

Cat. No. NATE-0189

Lot. No. (See product label)

Introduction

Description	Diamine oxidase from porcine kidney is a homodimer consisting of 2 equal subunits with a molecular weight of 87 kDa each. Each subunit contains one molecule of pyridoxal phosphate and one atom of copper. The molecular mass of the enzyme is found to be 170 kDa. The enzyme is a glycoprotein containing 5% hexose, 3.3% glucosamine, 2.6% N-acetylglucosamine, and 0.25% N-acetylneuraminic acid. The enzyme exhibits a high affinity for concanavalin A. It catalyzes the oxidation of monoamines, diamines, and histamine to aldehydes, ammonia, and hydrogen peroxide. Optimum pH with cadverine and histamine as substrates is found to be 6.3-7.4.2 The enzyme is classified as a copper amine oxidase and it is a key enzyme in nitrogen metabolism. It is inhibited by diethyldithiocarbamate, phenylhydrazine, semicarbazide, cyanide, isonicotinic acid hydrazide.
Applications	An endodextranase that hydrolyzes α-(1,6)-glucosidic linkages in dextran. Dextrans are undesirable compounds synthesized from sucrose by microbial contaminants during sugar production that increase viscosity of the flow and decrease industrial recovery. Dextranase has been used for hydrolyzing dextran at sugar mills in order to improve efficiency of sugar production. Diamine oxidase from porcine kidney has been used in a study to investigate a luminescence-based test for determining ornithine decarboxylase activity. Diamine oxidase from porcine kidney has also been used in a study to investigate N-linked oligosaccharide structures in diamine oxidase.
Synonyms	EC 1.4.3.6; 9001-53-0; Amine:oxygen oxidoreductase (deaminating) (pyridoxal-containing); Diamine Oxidase; Amine oxidase (copper-containing)

Product Information

Species	Porcine
Source	Porcine kidney
EC Number	EC 1.4.3.6
CAS No.	9001-53-0
Activity	> 0.05 unit/mg solid
Buffer	100 mM sodium phosphate buffer, pH 7.2: soluble 10 mg/mL
Unit Definition	One unit will oxidize 1.0 µmole of putrescine per hr at pH 7.2 at 37°C.

Storage and Shipping Information

Storage	−20°C