

Pyranose Oxidase from Microorganism

Cat. No. NATE-1718

Lot. No. (See product label)

Introduction

Description

Pyranose oxidase (P2O) catalyzes the oxidation of aldopyranoses at position C-2 to yield the corresponding 2-ketoaldoses. P2O is a homotetrameric protein that contains covalently bound flavin adenine dinucleotide (FAD). The in vivo substrates of P2O are thought to be D-glucose, D-galactose, and D-xylose. They are oxidized to 2-keto-D-glucose (D-arabino-hexos-2-ulose, 2-dehydro-D-glucose), 2-keto-D-galactose (D-lyxo-hexos-2-ulose, 2-dehydro-D-galactose), and 2-keto-D-xylose (D-threopentos-2-ulose, 2-dehydro-D-xylose), respectively. Pyranose oxidase has significant activity with carbohydrates such as, L-sorbose, D-glucono-1,5-lactone, and D-allose. When pyranose oxidase catalyzes the oxidation of aldopyranoses, electrons are transferred to molecular oxygen which results in the formation of hydrogen peroxide.

Synonyms

EC 1.1.3.10; glucose 2-oxidase; pyranose-2-oxidase; 37250-80-9; P2O

Product Information

Source

Microorganism

Form

Liquid

EC Number

EC 1.1.3.10

CAS No.

37250-80-9

Molecular Weight

70kDa (SDS-PAGE)

Activity

25 u/mg

Isoelectric point

5.95

pH Stability

4.0~11.0(50°C,30min)

Optimum pH

6

Thermal stability

<55°C (pH 7.0, 30min)

Optimum temperature

60°C

Michaelis Constant

8.6×10^{-3} M(1.5 anhydroglucitol) 7.12×10^{-4} M (D-glucose)

Inhibitors

Ag⁺, Hg²⁺

Unit Definition

One unit will convert one micromole of Dglucose to 2-Dehydro-D-glucose per minute at pH 7.0 at 37°C.

Notes

INTENDED FOR RESEARCH USE ONLY, NOT FOR USE IN HUMAN, THERAPEUTIC OR DIAGNOSTIC APPLICATIONS.

Storage and Shipping Information

Storage

Store at -20°C.