

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 $\times 10^{-4}$ M (D-glucose)
Inhibitors	Ag ⁺ , Hg ²⁺
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.