

Pyranose Oxidase from *E. coli*, Recombinant

Cat. No. NATE-1252

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

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

Product Information

Species	E. coli
Source	E. coli
Appearance	Yellow lyophilizate
EC Number	EC 1.1.3.10
CAS No.	37250-80-9
Molecular Weight	ca. 290 kDa
Activity	> 3 U/mg lyophilizate
pH Stability	3.5–11.0
Optimum pH	6.5
Thermal stability	below 55°C
Optimum temperature	55°C
Michaelis Constant	7.4 x 10 ⁻⁴ M (D-glucose) 1.5 x 10 ⁻² M (1,5-anhydroglucitol)
Structure	4 subunits of 64 kDa (SDS-PAGE)
Specificity	D-glucose (100), 1,5-anhydroglucitol (22)
Stabilizers	Glutamate
Unit Definition	One unit (U) is defined as the amount of enzyme which produces 1 μmol of hydrogen peroxide per min at 37°C and pH 7.0.

Storage and Shipping Information

Storage at -20°C

