

## 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

<b>Species</b>	E. coli
<b>Source</b>	E. coli
<b>Appearance</b>	Yellow lyophilizate
<b>EC Number</b>	EC 1.1.3.10
<b>CAS No.</b>	37250-80-9
<b>Molecular Weight</b>	ca. 290 kDa
<b>Activity</b>	> 3 U/mg lyophilizate
<b>pH Stability</b>	3.5–11.0
<b>Optimum pH</b>	6.5
<b>Thermal stability</b>	below 55°C
<b>Optimum temperature</b>	55°C
<b>Michaelis Constant</b>	7.4 x 10 <sup>-4</sup> M (D-glucose) 1.5 x 10 <sup>-2</sup> M (1,5-anhydroglucitol)
<b>Structure</b>	4 subunits of 64 kDa (SDS-PAGE)
<b>Specificity</b>	D-glucose (100), 1,5-anhydroglucitol (22)
<b>Stabilizers</b>	Glutamate
<b>Unit Definition</b>	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