Creative Enzymes®

Native Microorganism Glucose Dehydrogenase (PQQ-dependent)

Cat. No. DIA-192

Lot. No. (See product label)

Introduction

Description	In enzymology, a quinoprotein glucose dehydrogenase (EC 1.1.5.2) is an enzyme that catalyzes the chemical reaction: D-glucose + ubiquinone ↔D-glucono-1,5-lactone + ubiquinol. Thus, the two substrates of this enzyme are D-glucose and ubiquinone, whereas its two products are D-glucono-1,5-lactone and ubiquinol. This enzyme belongs to the family of oxidoreductases, specifically those acting on the CH-OH group of donor with a quinone or similar compound as acceptor. This enzyme participates in pentose phosphate pathway. It employs one cofactor, PQQ.
Applications	This enzyme is useful for enzymatic determination of D-Glucose.
Synonyms	Glucose Dehydrogenase; EC 1.1.5.2; D-glucose:ubiquinone oxidoreductase; D-glucose: (pyrroloquinoline-quinone) 1-oxidoreductase; glucose dehydrogenase (PQQ-dependent); glucose dehydrogenase (pyrroloquinoline-quinone); quinoprotein D-glucose dehydrogenase

Product Information

Source	Microorganism
Appearance	Purple amorphous powder, lyophilized
Form	Freeze dried powder
EC Number	EC 1.1.5.2
CAS No.	81669-60-5
Molecular Weight	approx. 100 kDa (by gel filtration)
Activity	GradeⅢ 500 U/mg-solid or more
Contaminants	Glucose dehydrogenase < 1.0×10^{-3}% (NAD-dependent); Hexokinase < 1.0×10^{-3}%
pH Stability	pH 3.5-8.5 (25°C, 16hr)
Optimum pH	7
Thermal stability	below 50°C (pH 7.5, 30min)
Optimum temperature	37°C
Michaelis Constant	4.8 mM (D-Glucose)
Inhibitors	Cu^{++}, Pb^{++}, Ag^{+}
Stabilizers	Ca^{++}, BSA

Storage and Shipping Information

Stability	Store at -20°C