

Native Microorganism Glucose Dehydrogenase (NAD(P)-dependent)

Product Information

Cat#	DIA-191
Abbr	Glucose Dehydrogenase (Microorganism)
Similar	Glucose Dehydrogenase
Source	Microorganism
Description	In enzymology, a glucose 1-dehydrogenase (EC 1.1.1.47) is an enzyme that catalyzes the chemical reaction: beta-D-glucose + NAD(P) ⁺ ↔ D-glucono-1,5-lactone + NAD(P)H + H ⁺ . The 3 substrates of this enzyme are beta-D-glucose, NAD ⁺ , and NADP ⁺ , whereas its 4 products are D-glucono-1,5-lactone, NADH, NADPH, and H ⁺ . This enzyme belongs to the family of oxidoreductases, specifically those acting on the CH-OH group of donor with NAD ⁺ or NADP ⁺ as acceptor.
Applications	This enzyme is useful for enzymatic determination of D-Glucose.
Appearance	White amorphous powder, lyophilized
Form	Freeze dried powder
Enzyme Commission Number	EC 1.1.1.47
Activity	250U/mg-solid or more
CAS No.	9028-53-9
Contaminants	NADH oxidase < 1.0×10 ⁻³ % α-Glucosidase < 1.0×10 ⁻³ % Glucose-6-phosphate dehydrogenase < 1.0×10 ⁻³ %
Molecular Weight	approx. 101 kDa (Gel filtration)
Isoelectric point	4.5
pH Stability	pH 6.0-7.5 (20°C, 16hr)
Michaelis Constant	NAD ⁺ linked : 1.38×10 ⁻² M (D-Glucose) 3.09×10 ⁻⁴ M (NAD ⁺), NADP ⁺ linked : 1.25×10 ⁻² M (D-Glucose) 4.07×10 ⁻⁵ M (NADP ⁺)



Creative Enzymes

Diagnostic Enzymes

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Specificity	Specific for β -D,-Glucose or 2-Deoxy-glucose (Either NAD ⁺ or NADP ⁺ serves as coenzyme.)
Optimum pH	9
Optimum temperature	55°C
Thermal stability	45°C (15min-treatment with 50mM K-phosphate buffer, pH 7.0)
Stability	Stable at-20°C for at least one year
Inhibitors	Ag ⁺ , Hg ²⁺ , Monoiodoacetate
Synonyms	Glucose Dehydrogenase; EC 1.1.1.47; beta-D-glucose: NAD(P)+ 1-oxidoreductase; D-glucose dehydrogenase (NAD(P)+)