Tribioscience

Glucose-6-phosphate dehydrogenase, Enzyme Activity

Catalog	Unit
TBP0017-1KU	1000 U
TBP0017-5KU	5000 U

Preparation and Specification

Appearance: White amorphous powder, lyophilized

Activity: GradeIII 200U/mg-solid or more

Contaminants: Creatine phosphokinase ≤1×10^{-3}%

Phosphoglucomutase ≤1×10^{-3}%

6-Phosphogluconate dehydrogenase ≤5×10^{-3}%

Phosphoglucose isomerase ≤1×10^{-2}%

Glutathione reductase ≤1×10^{-3}%

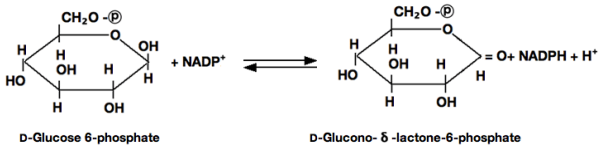
Hexokinase ≤1×10^{-2}%

Myokinase ≤1×10^{-2}%

NADH oxidase ≤1×10^{-2}%

NADPH oxidase ≤1×10^{-2}%

D-Glucose-6-phosphate:NADP$^+$ 1-oxidoreductase (EC 1.1.1.49)



D-Glucose 6-phosphate D-Glucono- δ -lactone-6-phosphate

Properties

Stability: Stable at -20°C for at least One year

Molecular weight: approx. 140,000 (by gel filtration)

Michaelis constants: NAD^+ linked 2.4×10^{-4}M (NAD^+), 4.7×10^{-4}M (G-6-P)

$NADP^+$ linked 7.4×10^{-6}M ($NADP^+$), 3.2×10^{-4}M (G-6-P)

Inhibitors: Metal ions, iodoacetamimide, SDS etc.

Optimum pH: 7.8

Optimum temperature: 50°C-55°C

pH Stability: pH 5.0-11.0 (25°C, 22hr)

Thermal stability: below 50°C (pH 7.8, 30min)

Applications

The enzyme is useful for enzymatic determination of NAD^+($NADP^+$) and G-6-P, and activities of phosphoglucose isomerase, phosphoglucomutase and hexokinase. The enzyme is also used for enzymatic determination of glucose and creatine phosphokinase activity when coupled with hexokinase.

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