Creative Enzymes®

Native Microorganism Glycerol Kinase

Cat. No. DIA-149

Lot. No. (See product label)

Introduction

Description The activity of glycerol kinase is found widely in nature. In microorganisms GK makes possible the utilization of glycerol as a carbon source. In mammals the enzyme represents a juncture of sugar and fat metabolism; The enzyme is important to the clinical chemist in the determination of glycerol. GK is also useful in the assay of glyceraldehydes and dihydroxyacetone following their quantitative reduction to glycerol with sodium borohydride.

Applications This enzyme is useful for enzymatic determination of glycerol and triglyceride when coupled with glycerol-3-phosphate dehydrogenase, glycerol-3-phosphate oxidase or pyruvate kinase and lactate dehydrogenase, lipoprotein lipase in clinical analysis.

Synonyms glycerokinase; GK; ATP: glycerol-3-phosphotransferase; glycerol kinase phosphorylating; glyceric kinase; EC 2.7.1.30

Product Information

Source	Microorganism
Appearance	White amorphous powder, lyophilized
Form	Freeze dried powder
EC Number	EC 2.7.1.30
CAS No.	9030-66-4
Molecular Weight	approx. 220 kDa (by gel filtration)
Activity	GradeⅢ 30 U/mg-solid or more
Contaminants	Catalase < 1.0×10^{-1}% NADH oxidase < 1.0×10^{-3}% Adenosine triphosphatase < 1.0×10^{-3}%
Isoelectric point	4.3
pH Stability	pH 5.5-10.0 (25°C, 20hr)
Optimum pH	10
Thermal stability	below 65°C (pH 7.5, 30min)
Optimum temperature	70°
Michaelis Constant	9.4×10^{-5}M (Glycerol), 1.3×10^{-5}M (ATP), 2.1×10^{-3}M (Dihydroxyacetone)
Structure	Four subunits of approx. 58,000
Inhibitors	p-Chloromercuribenzoate, Hg^{++}, Ag^{+}

Storage and Shipping Information

Stability	Stable at-20°C