

Native Cellulomonas sp. Glycerokinase

Cat. No. NATE-0287

Lot. No. (See product label)

Introduction

Description

Glycerol kinase is a phosphotransferase enzyme involved in triglycerides and glycerophospholipids synthesis. Glycerol kinase catalyzes the MgATP-dependent phosphorylation of glycerol to produce sn-glycerol-3-phosphate and is the rate limiting enzyme in the utilization of glycerol. It is also subject to feedback regulation by fructose-1,6-bisphosphate.

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

EC 2.7.1.30; glycerokinase; GK; ATP:glycerol-3-phosphotransferase; glycerol kinase (phosphorylating); glyceric kinase; 9030-66-4

Product Information

Source

Cellulomonas sp.

Form

Lyophilized powder containing phosphate buffer salts and sodium gluconate

EC Number

EC 2.7.1.30

CAS No.

9030-66-4

Molecular Weight

mol wt ~128 kDa ((by gel filtration)

Activity

20 U/mg-solid or more

Isoelectric point

4.2

pH Stability

pH 5.5 x 10.0 (25°C, 20hr)

Optimum pH

9.8 (G-3-PDH system), 7.8 (G-3-P oxidase system)

Thermal stability

below 40°C (pH 7.5, 15min)

Optimum temperature

50°C

Michaelis Constant

4.4 x 10⁻⁵M (Glycerol), 4.3 x 10⁻⁴M (ATP)

Inhibitors

p-Chloromercuribenzoate, heavy metal ions (Pb⁺⁺, Fe⁺⁺, Hg⁺⁺, Ag⁺)

Unit Definition

One unit will convert 1.0 μmole of glycerol and ATP to L-α-glycerophosphate and ADP per min at pH 9.8 at 25°C in a coupled system with PK/LDH.

Storage and Shipping Information

Storage

-20°C