Creative Enzymes
Diagnostic Enzymes

Glycerokinase from Cellulomonas sp.

Product Information

Cat#	NATE-0287
Abbr	GK, Native (Cellulomonas sp.)
Alias	GK
Similar	Glycerokinase
Source	Cellulomonas sp.
Description	Glycerol kinase is a phosphotransferase enzyme involved in triglycerides and glycerophospholipids synthesis. Glycerol kinase catalyzes tge 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.
Product Overview	The enzyme has the highest specificity for glycerol, and also phosphorylates dihydroxyacetone and glyceraldehyde. Mg++ is essentially required for the reaction.
Form	Lyophilized powder containing phosphate buffer salts and sodium gluconate
Enzyme Commission Number	EC 2.7.1.30
Activity	20 U/mg-solid or more
CAS No.	9030-66-4
Isoelectric point	4.2
pH Stability	pH 5.5 x 10.0 (25°C, 20hr)
Michaelis Constant	4.4 x 10-5M (Glycerol), 4.3 x 10-4M (ATP)
Unit Definition	One unit will convert 1.0 μmole of glycerol and ATP to L-α-glycerophosphate and ADP

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	per min at pH 9.8 at 25°C in a coupled system with PK/LDH.
Optimum pH	9.8 (G-3-PDH system), 7.8 (G-3-P oxidase system)
Optimum temperature	50°C
Thermal stability	below 40°C (pH 7.5, 15min)
Storage	−20°C
Inhibitors	p-Chloromercuribenzoate, heavy metal ions (Pb++, Fe++, Hg++, Ag+)
Synonyms	EC 2.7.1.30; glycerokinase; GK; ATP:glycerol-3-phosphotransferase; glycerol kinase (phosphorylating); glyceric kinase; 9030-66-4

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