Creative Enzymes®

Native Rabbit Creatine Phosphokinase

Cat. No. NATE-0138

Lot. No. (See product label)

Introduction

Description	Creatine kinase plays a key role in the energy metabolism of cells with intermittently high and fluctuating energy requirements. Examples of such cells include cardiac or skeletal muscle cells and neural tissues of brain and retina. The enzyme catalyzes the reversible transfer of the phosphoryl group from phosphorylcreatine to ADP, in order to generate ATP.1 The molecular mass of the protein is found to be approximately 80 kDa Da. It is made up of 2 subunits, each having a molecular weight of 40 kDa ± 2000. The lighter subunit is present in larger amounts.
Applications	Molecular Weight: ~81 kDa Creatine Phosphokinase is a dimer composed predominantly of the skeletal muscle derived homodimer (MM). CK also exists as a heterodimer (MB) particularly in the myocardium. CK derived from brain tissue consists mainly of the brain source homodimer (BB). The amino acid sequences of the M chain and B chains are about 80% homologous. From the sequence, the molecular weight of the M chain is 43,112.
Synonyms	EC 2.7.3.2; ATP:creatine phosphotransferase; CK; CPK; MM-CK; MB-CK; BB-CK; creatine phosphokinase; creatine phosphotransferase; phosphocreatine kinase; adenosine triphosphate-creatine transphosphorylase; Mi-CK; CK-BB; CK-MM; CK-MB; CKMiMi; MiMi-CK; 9001-15-4

Product Information

Species	Rabbit
Source	Rabbit muscle
Form	salt-free, lyophilized powder.
EC Number	EC 2.7.3.2
CAS No.	9001-15-4
Activity	> 150 units/mg protein
Optimum pH	pH 8.8-9.0 for the forward reaction and pH 6.0-7.0 for the reverse reaction.
Inhibitors	ADP is a strong inhibitor of the forward reaction competing with ATP. Divalent cations such as Ca2+ (Ki=4.5 mM), Zn2+ and Cu2+ inhibit CK by competing with Mg2+. Other inhibitors include acetate, acetylsalicylic acid, adenosine, p-aminosalicylic acid, AMP, benzoic acid, bicarbonate, bromide, chloride, p-Chloromercuribenzoic acid, ethylene oxide, 2,4-fluorodinitrobenzene, iodide, malonic acid, NAD, nitrate, phosphate, pyrophosphate, salicylic acid, sulfate, sulfite, thyroxine, trichloroacetate, L-triiodothyroxine, L-triiodothyronine, and tripolyphosphate.
Buffer	0.25 M glycyl-glycine, pH 7.4: soluble 5.0 mg/mL, clear, colorless to slightly yellow
Unit Definition	One unit will transfer 1.0 µmole of phosphate from phosphocreatine to ADP per min at pH 7.4 at 30°C.

Storage and Shipping Information

Storage	−20°C