Creative Enzymes®

Native Bovine Protamine Kinase, Cytosolic

Cat. No. NATE-0155

Lot. No. (See product label)

Introduction

Description Cytosolic protamine kinase is involved in the regulation of protein synthesis and is indirectly associated with numerous cellular processes. Cytosolic protamine kinase is a distinct insulin-stimulated kinase involved in the phosphorylation of eukaryotic Initiation Factor 4E (eIF4E) which is key to initiating translation by mRNA. This protein appears to be inactivated by protein phosphatase 2A family members and may also be inhibited by microcystin, okadeic acid, and ATP. The phosphorylation process is reversible and MBPK1 and MBPK2 (Myelin Basic Protein Kinase 1 and 2) may reactivate cytosolic protamine kinase.

Applications Cytosolic Protamine Kinase (cPK) is isolated from bovine kidney and has a molecular mass of approximately 45 kDa. It phosphorylates the eukaryotic Initiation Factor 4E (eIF4E), which initiates translation by mRNA. It is used to study protein synthesis and various cellular processes.

Synonyms Protamine Kinase, Cytosolic; Cytosolic protamine kinase; CPK; Cpk

Product Information

Species Bovine

Source Bovine kidney

Form buffered aqueous glycerol solution

Purity >90% (SDS-PAGE)

Activity > 15,000 units/mg protein

Buffer Solution in 50 µl of 50 mM Tris-HCl, pH 7.0, containing 14 mM β-mercaptoethanol, 1mM benzamidine, 0.1 mM PMSF, 1mM EDTA, 50% glycerol

Unit Definition One unit will incorporate 1 nmol of phosphate using protamine sulfate as a substrate per minute at pH 7.0 at 30°C.