Creative Enzymes®

Native Human Creatine Kinase MM Fraction

Cat. No. NATE-0142

Lot. No. (See product label)

Introduction

Description

Creatine kinase, muscle also known as CKM is a creatine kinase that in humans is encoded by the CKM gene. In the figure to the right, the crystal structure of the muscle-type M-CK monomer is shown. In vivo, two such monomers arrange symmetrically to form the active MM-CK enzyme. In heart, in addition to the MM-CK homodimer, also the heterodimer MB-CK consisting of one muscle (M-CK) and one brain-type (B-CK) subunit is expressed. The latter may be an important serum marker for myocardial infarction, if released from damaged myocardial cells into the blood where it can be detected by clinical chemistry.

Applications

May be used as a control or calibrator in monitoring myocardial injury. Creatine kinase MM fraction from human heart has been used in a study to investigate the importance of intraoperative and postoperative cardiac medical therapy in emergency coronary artery bypass grafting for acute myocardial infarction. Creatine kinase MM fraction from human heart has also been used in a study to investigate the circadian dependence of infarct size and left ventricular function after ST slevation myocardial infarction.

Synonyms

CKM; creatine kinase, muscle; CKMM; creatine kinase M-type; creatine kinase-M; creatine kinase M chain; M-CK; MM-CK

Product Information

Species

Human

Source

Human heart

Form

lyophilized powder

Buffer

Lyophilized powder containing Tris-HCl, EDTA and N-acetyl cysteine.

Pathway

Arginine and proline metabolism, organism-specific biosystem; Arginine and proline metabolism, conserved biosystem; Creatine metabolism, organism-specific biosystem; Creatine pathway, organism-specific biosystem; Creatine pathway, conserved biosystem; Metabolic pathways, organism-specific biosystem; Metabolism, organism-specific biosystem

Function

ATP binding; creatine kinase activity; nucleotide binding

Unit Definition

One unit will transfer 1.0 μmole of phosphate from creatine phosphate to ADP per minute at 37°C (measured at 340 nm as one equimolar amount of NADH produced by coupled reaction).

Storage and Shipping Information

Stability

−20°C