

Native Human Creatine Kinase MM Fraction

Product Information

Cat#	NATE-0142
Abbr	CKMM, Native (Human)
Alias	CKM; CKMM; M-CK; MM-CK
Similar	CKMM
Species	Human
Source	Human heart
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.
Form	lyophilized powder
Activity	> 200 U/mg
Unit Definition	One unit will transfer 1.0 μ mole 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).
Stability	-20°C

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