Recombinant Human Creatine Kinase MM Isoenzyme Type-I
Cat No ABC1127

Source: *Pichia pastoris*

**Background:**
The three isoenzymes (MM, MB, and BB) are found in muscle, cardiac and brain tissues. These recombinant proteins are ideal for calibrating diagnostic instruments and researching neuromuscular diseases. Creatine Kinases can be used for indications in many neuromuscular applications. These disorders include cardiac disease, mitochondrial disorders, inflammatory myopathies, myasthenia, polymyositis, McArdle's disease, NMJ disorders, muscular dystrophy, ALS, hypo and hyperthyroid disorders, central core disease, acid maltase deficiency, myoglobinuria, rhabdomyolysis, motor neuron diseases, rheumatic diseases, and other that create elevated or reduced levels of Creatine Kinases.

**Description:**
Recombinant Human Creatine Kinase MM produced in Pichia Pastoris is a glycosylated polypeptide chain having an identical amino acid sequence compared to the native enzyme, purified under non-denaturing conditions and reacts with polyclonal antibodies to MM Isoenzyme in ELISA. Recombinant Human CKMMITI is purified by proprietary chromatographic techniques.

**Physical Appearance:**
Sterile Filtered colourless liquid formulation.

**Formulation:**
The protein (7.5mg/ml) contains 0.1 M Tris-HCl, 0.075M NaCl, 10mM 2-ME, 50% glycerol, 0.1% sodium azide, pH 7.2.

**Stability:**
Recombinant Human CKMMITI although stable at 15°C for 7 days, should be stored desiccated below -18°C. **Please avoid freeze-thaw cycles.**

**Purity:**
Greater than 95.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Anion-exchange FPLC.
(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

**Dimers and aggregates:**
Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

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Biological Activity:
The biological activity measured by the enzymatic activity of Creatine phosphokinase procedure No.45-UV, 1IU-1 µmole creatine phosphate was 500IU/mg at 37°C.

Endotoxin:
Less than 0.1 ng/µg (IEU/µg) of Human CKMMITI.

Latest Publications:
1. Studies on the creatine kinase MM isoforms of normal and Duchenne muscular dystrophic patients.  

2. Serum creatine kinase MM isoforms and lactate dehydrogenase isoenzymes in patients with non-traumatic acute rhabdomyolysis]  

3. Use of serum creatine kinase MM isoforms for predicting the progression of left ventricular dilation in patients with hypertrophic cardiomyopathy.  

4. Cardiac markers in the early hours of acute myocardial infarction: clinical performance of creatine kinase, creatine kinase MB isoenzyme (activity and mass concentration), creatine kinase MM and MB subform ratios, myoglobin and cardiac troponin T.  

5. [Creatine kinase MM and MB isoforms and their potential in the diagnosis of acute myocardial infarction]  
   Harefuah 1996 Nov 1;131(9):331-4


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