

Catalog No. LF-MA0234

MONOCLONAL ANTIBODY



## Anti-Creatine kinase-MM(CK-MM)(2C5)

**Background :** Creatine kinase (CK), also known as phosphocreatine kinase or creatine phosphokinase (CPK) is an enzyme expressed by various tissue types. It catalyzes the reversible transfer of the N-phosphoryl group from phosphocreatine (PCr) to ADP to regenerate ATP. Creatine kinase plays a key role in the energy homeostasis of cells with intermittently high, fluctuating energy requirements, such as skeletal and cardiac muscle cells, neurons, photoreceptors, spermatozoa and electrocytes.

Creatine kinase consists of two subunits, which can be either B (brain type) or M (muscle type). Therefore, three different cytosolic isoenzymes exist: CK-MM, CK-BB and CK-MB. Cytosolic CK isoenzymes are always co-expressed in a tissue-specific fashion together with a mitochondrial isoform. Skeletal muscle expresses CK-MM (98%) and low levels of CK-MB (1%). The heart muscle expresses CK-MM at 70% and CK-MB at 25-30%. CK-BB is expressed in all tissues at low levels.

Cytosolic CKs, in close conjunction with Ca<sup>2+</sup>-pumps, play a crucial role for the energetics of Ca<sup>2+</sup>-homeostasis. Octameric mitochondrial Mi-CK binds and crosslinks mitochondrial membranes. The CK system is regulated by AMP-activated protein kinase via PCr/Cr and ATP/AMP ratios.

The cardiac-specific isoenzyme of creatine kinase, CK-MB, is a biomarker for myocardial infarction along with other markers such as cardiac Troponin I and myoglobin. The introduction of immunologic mass determination of CK-MB was a major breakthrough that replaced the traditional enzymatic assay.

**Immunogen :** Recombinant human protein purified from *E.coli* (CK-MM)

**Host :** Mouse

**Clone number :** 2C5

**Isotype :** IgG1, k

**Size :** 100ul

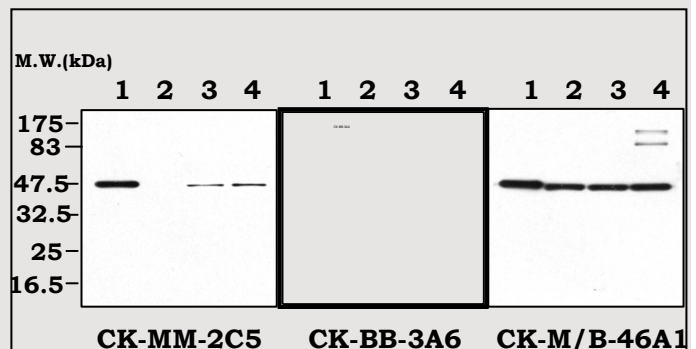
**Composition :** Hepes with 0.15M NaCl, 0.01% BSA, 0.03% sodium azide, and 50% glycerol

**Positive control :** Human CK-MB protein

**Storage :** Store for 1 year at -20°C from date of shipment

### Species cross reactivity

Human	Mouse	Rat
+	N/T	N/T



### Immunoblot Analysis of human plasma protein

Lane 1 : Recombinant CK-MM protein isolated from *E. coli*  
Lane 2 : Recombinant CK-BB protein isolated from *E. coli*  
Lane 3 : Recombinant CK-MB protein isolated from *E. coli*  
Lane 4 : Human CK-MB protein

### Applications :

Western Blotting (1:500 ~ 1,000)

### Background Reference :

- 1) Brown AM et al., 2007, Ann Emerg Med. 49(2):153-163.
- 2) Lippi G et al., 2006, CJEM. 8(1):27-31.
- 3) Newby L, 2004, Prog Cardiovasc Dis. 46(5):404-416.
- 4) Wallimann T et al., 1998, Biofactors. 8(3-4):229-234.

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NOT FOR DIAGNOSTIC OR THERAPEUTIC USE