

creatine kinase-M (MM-25): sc-69877

BACKGROUND

Creatine kinases (CKs) are a large family of isoenzymes that regulate levels of ATP in subcellular compartments, where they provide ATP at sites of fluctuating energy demand by the transfer of phosphates between creatine and adenine nucleotides. Creatine kinases provide the energy of phosphate hydrolysis necessary to drive the normal function of many cellular systems including muscle, electrocytes, retina photoreceptor cells, brain cells, kidney, salt glands, myometrium, placenta, pancreas, thymus, thyroid, intestinal epithelial cells, endothelial cells, cartilage and bone cells, macrophages, blood platelets, and tumor and cancer cells. Human cytoplasmic creatine kinase-B, also designated CK-B and BCK, is a 381 amino acid, brain tissue-specific isoform of creatine kinase. Human cytoplasmic creatine kinase-M (CK-M, MCK) is a muscle tissue-specific isoform of creatine kinase. Human cytoplasmic creatine kinase-Mi (Mi-CK, MtCK) is a 416 amino acid mitochondrial-specific isoform of creatine kinase. Cytosolic creatine kinases are important in the energetic regulation of Ca²⁺-pumps and in the maintenance of Ca²⁺-homeostasis.

REFERENCES

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3. Haas, R. C., Korenfeld, C., Zhang, Z.F., Perryman, B., Roman, D. and Strauss, A.W. 1989. Isolation and characterization of the gene and cDNA encoding human mitochondrial creatine kinase. *J. Biol. Chem.* 264: 2890-2897.
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6. Wallimann, T., Dolder, M., Schlattner, U., Eder, M., Hornemann, T., O'Gorman, E., Ruck, A. and Brdiczka, D. 1998. Some new aspects of creatine kinase (CK): compartmentation, structure, function and regulation for cellular and mitochondrial bioenergetics and physiology. *Biofactors* 8: 229-234.

CHROMOSOMAL LOCATION

Genetic locus: CKM (human) mapping to 19q13.32; Ckm (mouse) mapping to 7 A3.

SOURCE

creatine kinase-M (MM-25) is a mouse monoclonal antibody raised against creatine kinase-M of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

creatine kinase-M (MM-25) is recommended for detection of creatine kinase-M of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for creatine kinase-M siRNA (h): sc-35109, creatine kinase-M siRNA (m): sc-35110, creatine kinase-M siRNA (r): sc-270230, creatine kinase-M shRNA Plasmid (h): sc-35109-SH, creatine kinase-M shRNA Plasmid (m): sc-35110-SH, creatine kinase-M shRNA Plasmid (r): sc-270230-SH, creatine kinase-M shRNA (h) Lentiviral Particles: sc-35109-V, creatine kinase-M shRNA (m) Lentiviral Particles: sc-35110-V and creatine kinase-M shRNA (r) Lentiviral Particles: sc-270230-V.

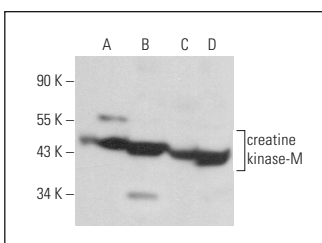
Molecular Weight of creatine kinase-M: 43 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, mouse heart extract: sc-2254 or rat heart extract: sc-2393.

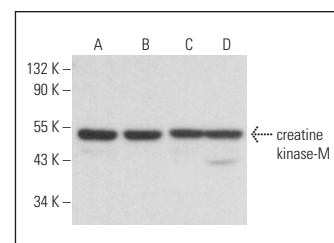
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



creatine kinase-M (MM-25): sc-69877. Western blot analysis of creatine kinase-M expression in SH-SY5Y whole cell lysate (A) and mouse heart (B), rat heart (C) and rat tongue (D) tissue extracts.



creatine kinase-M (MM-25): sc-69877. Western blot analysis of creatine kinase-M expression in SH-SY5Y (A), SK-N-SH (B), NIH/3T3 (C) and C2C12 (D) whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.