

# sMtCK (C-18): sc-15168

## BACKGROUND

Creatine kinases (CK) 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. CKs provide the energy of phosphate hydrolysis necessary to drive the normal function of many cellular systems including muscle, erythrocytes, 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, tumor and cancer cells. Human cytoplasmic CK-Brain (CK-B, BCK) is a 381 amino acid, brain tissue specific isoform of CK. Human cytoplasmic CK-Muscle (CK-M, MCK) is a muscle tissue specific isoform of CK. Human cytoplasmic CK-Mitochondrial (MtCK, Mi-CK) is a 416 amino acid mitochondrial specific isoform of CK. Cytosolic CKs are important in the energetic regulation of Ca<sup>2+</sup>-pumps and in the maintenance of Ca<sup>2+</sup>-homeostasis.

## REFERENCES

1. Mariman, E.C., et al. 1987. Structure and expression of the human creatine kinase B gene. *Genomics* 1: 126-137.
2. Nigro, J.M., et al. 1987. cDNA cloning and mapping of the human creatine kinase M gene to 19q13. *Am. J. Hum. Genet.* 40: 115-125.
3. Mariman, E.C., et al. 1989. Complete nucleotide sequence of the human creatine kinase B gene. *Nucleic Acids Res.* 17: 6385.

## CHROMOSOMAL LOCATION

Genetic locus: CKMT2 (human) mapping to 5q14.1; Ckmt2 (mouse) mapping to 13 C3.

## SOURCE

sMtCK (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of sMtCK of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-15168 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

sMtCK (C-18) is recommended for detection of sMtCK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

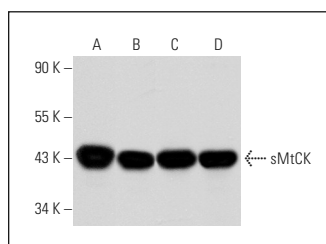
sMtCK (C-18) is also recommended for detection of sMtCK in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for sMtCK siRNA (h): sc-38969, sMtCK siRNA (m): sc-38970, sMtCK shRNA Plasmid (h): sc-38969-SH, sMtCK shRNA Plasmid (m): sc-38970-SH, sMtCK shRNA (h) Lentiviral Particles: sc-38969-V and sMtCK shRNA (m) Lentiviral Particles: sc-38970-V.

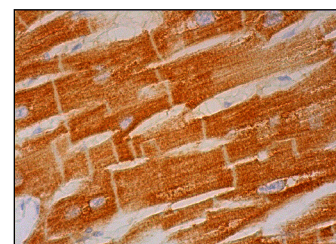
Molecular Weight of sMtCK: 52 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810, mouse skeletal muscle extract: sc-364250 or human skeletal muscle extract: sc-363776.

## DATA



sMtCK (C-18): sc-15168. Western blot analysis of sMtCK expression in rat skeletal muscle (A), mouse skeletal muscle (B), human heart (C) and human skeletal muscle (D) tissue extracts.



sMtCK (C-18): sc-15168. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

## SELECT PRODUCT CITATIONS

1. Schubert, W., et al. 2007. Caveolin-1<sup>-/-</sup> and caveolin-2<sup>-/-</sup>-deficient mice both display numerous skeletal muscle abnormalities, with tubular aggregate formation. *Am. J. Pathol.* 170: 316-333.

**MONOS**  
Satisfaction  
Guaranteed

Try **sMtCK (C-6): sc-390489** or **sMtCK (B-4): sc-376040**, our highly recommended monoclonal alternatives to sMtCK (C-18).