

uMtCK (N-15): sc-15165

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 Ca²⁺-pumps and in the maintenance of Ca²⁺-homeostasis.

CHROMOSOMAL LOCATION

Genetic locus: CKMT1A/CKMT1B (human) mapping to 15q15.3; Ckmt1 (mouse) mapping to 2 E5.

SOURCE

uMtCK (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of uMtCK 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-15165 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

uMtCK (N-15) is recommended for detection of uMtCK 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).

uMtCK (N-15) is also recommended for detection of uMtCK in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for uMtCK siRNA (h): sc-38967, uMtCK siRNA (m): sc-38968, uMtCK shRNA Plasmid (h): sc-38967-SH, uMtCK shRNA Plasmid (m): sc-38968-SH, uMtCK shRNA (h) Lentiviral Particles: sc-38967-V and uMtCK shRNA (m) Lentiviral Particles: sc-38968-V.

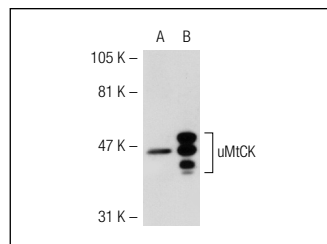
Molecular Weight of uMtCK: 47 kDa.

Positive Controls: uMtCK (h): 293T Lysate: sc-112105 or A-431 whole cell lysate: sc-2201.

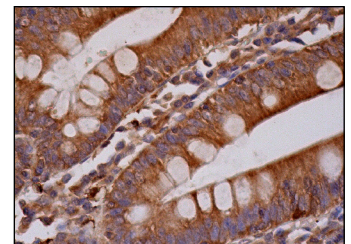
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



uMtCK (N-15): sc-15165. Western blot analysis of uMtCK expression in non-transfected: sc-117752 (A) and human uMtCK transfected: sc-112105 (B) 293T whole cell lysates.



uMtCK (N-15): sc-15165. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Lowe, M.T., et al. 2013. Dissociated expression of mitochondrial and cytosolic creatine kinases in the human brain: a new perspective on the role of creatine in brain energy metabolism. *J. Cereb. Blood Flow Metab.* 33: 1295-1306.

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 or our catalog for detailed protocols and support products.


 MONOS
Satisfaction
Guaranteed

Try **uMtCK (C-4): sc-514656** or **uMtCK (C-8): sc-374080**, our highly recommended monoclonal alternatives to uMtCK (N-15).