

creatine kinase-B (B-9): sc-373686

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-muscle (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 Ca^{2+} -pumps and in the maintenance of Ca^{2+} -homeostasis.

CHROMOSOMAL LOCATION

Genetic locus: CKB (human) mapping to 14q32.32; Ckb (mouse) mapping to 12 F1.

SOURCE

creatine kinase-B (B-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 3-30 at the N-terminus of creatine kinase-B of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-373686 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

creatine kinase-B (B-9) is recommended for detection of creatine kinase-B chain of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for creatine kinase-B siRNA (h): sc-35107, creatine kinase-B siRNA (m): sc-35108, creatine kinase-B shRNA Plasmid (h): sc-35107-SH, creatine kinase-B shRNA Plasmid (m): sc-35108-SH, creatine kinase-B shRNA (h) Lentiviral Particles: sc-35107-V and creatine kinase-B shRNA (m) Lentiviral Particles: sc-35108-V.

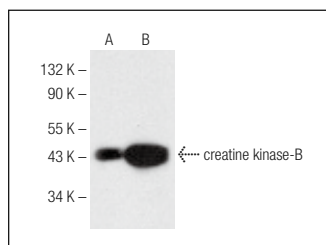
Molecular Weight of creatine kinase-B: 43 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SH-SY5Y cell lysate: sc-3812 or mouse brain extract: sc-2253.

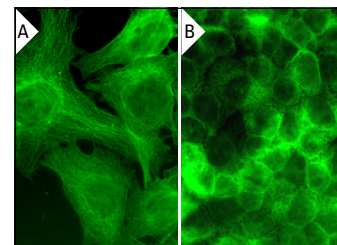
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



creatine kinase-B (B-9): sc-373686. Western blot analysis of creatine kinase-B expression in NCI-H1688 (A) and SH-SY5Y (B) whole cell lysates.



creatine kinase-B (B-9): sc-373686. Immunofluorescence staining of formalin-fixed Hep G2 cells (A) and HeLa cells (B) showing cytoplasmic and membrane localization.

SELECT PRODUCT CITATIONS

1. 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.
2. Cordero-Alba, M., et al. 2016. Proteomic insight into the effects of the *Salmonella* ubiquitin ligase SlrP on host cells. *Biochem. Biophys. Res. Commun.* 472: 539-544.
3. Acharya, K.D., et al. 2020. Dopamine-induced interactions of female mouse hypothalamic proteins with progesterone receptor-A in the absence of hormone. *J. Neuroendocrinol.* 32: e12904.
4. Ujckova, H., et al. 2023. Protracted morphine withdrawal induces upregulation of peroxiredoxin II and reduces 14-3-3 protein levels in the rat brain cortex and hippocampus. *Brain Res.* 1813: 148428.

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.