

creatine kinase-B (G-6): sc-374072

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

CHROMOSOMAL LOCATION

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

SOURCE

creatine kinase-B (G-6) 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 IgG₁ 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-374072 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

creatine kinase-B (G-6) 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.

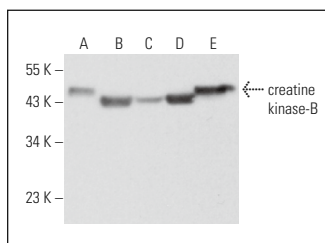
Molecular Weight of creatine kinase-B: 43 kDa.

Positive Controls: mouse brain extract: sc-2253, SH-SY5Y cell lysate: sc-3812 or A-673 cell lysate: sc-2414.

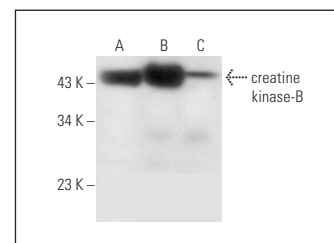
RECOMMENDED SUPPORT REAGENTS

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 (G-6): sc-374072. Western blot analysis of creatine kinase-B expression in SH-SY5Y (A), HeLa (B), SW480 (C), IMR-32 (D) and C6 (E) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



creatine kinase-B (G-6): sc-374072. Western blot analysis of creatine kinase-B expression in A-673 whole cell lysate (A) and mouse brain (B) and rat skeletal muscle (C) tissue extracts.

SELECT PRODUCT CITATIONS

- Shi, T., et al. 2013. Novel proteins associated with human dilated cardiomyopathy: selective reduction in α_{1A}-adrenergic receptors and increased desensitization proteins. *J. Recept. Signal Transduct. Res.* 33: 96-106.
- Fowler, E.D., et al. 2015. Decreased creatine kinase is linked to diastolic dysfunction in rats with right heart failure induced by pulmonary artery hypertension. *J. Mol. Cell. Cardiol.* 86: 1-8.
- Hsu, Y.H., et al. 2023. Using brain cell-type-specific protein interactomes to interpret neurodevelopmental genetic signals in schizophrenia. *iScience* 26: 106701.

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.