SANTA CRUZ BIOTECHNOLOGY, INC.

creatine kinase-B (C-17): sc-15160

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

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.
4. Haas, R. C., et al. 1989. Isolation and characterization of the gene and cDNA encoding human mitochondrial creatine kinase. J. Biol. Chem. 264: 2890-2897.
5. Wallimann, T., et al. 1994. Creatine kinase in non-muscle tissues and cells. Mol. Cell. Biochem. 133-134: 193-220.
6. Wallimann, T., et al. 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: CKB (human) mapping to 14q32.32; Ckb (mouse) mapping to 12 F1.

SOURCE

creatine kinase-B (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of creatine kinase-B 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-15160 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

creatine kinase-B (C-17) is recommended for detection of creatine kinase-B chain of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

creatine kinase-B (C-17) is also recommended for detection of creatine kinase-B chain in additional species, including equine, canine, bovine and porcine.

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 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) 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.

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.