SANTA CRUZ BIOTECHNOLOGY, INC.

creatine kinase-B (N-20): sc-15157



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

SOURCE

creatine kinase-B (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of creatine kinase-B of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-15157 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

creatine kinase-B (N-20) 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), 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).

creatine kinase-B (N-20) is also recommended for detection of creatine kinase-B chain in additional species, including equine, canine and 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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA





creatine kinase-B (N-20): sc-15157. Western blot analysis of creatine kinase expression in NCI-H1688 (A) and SH-SY5Y (B) whole cell lysates and mouse brain tissue extract (C)

creatine kinase-B (N-20): sc-15157. Immunofluorescence staining of methanol-fixed SH-SY5Y cells showing cytoplasmic staining

SELECT PRODUCT CITATIONS

- 1. Debrincat, M.A., et al. 2007. Ankyrin repeat and suppressors of cytokine signaling box protein ASB-9 targets creatine kinase-B for degradation. J. Biol. Chem. 282: 4728-4737.
- 2. Trepos-Pouplard, M., et al. 2010. Proteome analysis and genome-wide regulatory motif prediction identify novel potentially sex-hormone regulated proteins in rat efferent ducts. Int. J. Androl. 33: 661-674.
- 3. Terada, S., et al. 2010. Kinesin-1/Hsc70-dependent mechanism of slow axonal transport and its relation to fast axonal transport. EMBO J. 29: 843-854
- 4. Kwon, S.K., et al. 2011. Stress and traumatic brain injury: a behavioral, proteomics, and histological study. Front. Neurol. 2: 12.
- 5. Wong, A.C., et al. 2012. Expression and distribution of creatine transporter and creatine kinase (brain isoform) in developing and mature rat cochlear tissues. Histochem. Cell Biol. 137: 599-613.
- 6. Yang, J., et al. 2013. Proteomics reveals intersexual differences in the rat brain hippocampus. Anat. Rec. 296: 462-469.
- 7. 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.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

MONOS Satisfation Guaranteed

Try creatine kinase-B (B-9): sc-373686 or creatine kinase-B (G-6): sc-374072, our highly recommended monoclonal aternatives to creatine kinase-B (N-20).