SANTA CRUZ BIOTECHNOLOGY, INC.

creatine kinase-M/B (H-50): sc-28898

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-M (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: CKM (human) mapping to 19q13.32, CKB (human) mapping to 14q32.32; Ckm (mouse) mapping to 7 A3, Ckb (mouse) mapping to 12 F1.

SOURCE

creatine kinase-M/B (H-50) is a rabbit polyclonal antibody raised against amino acids 136-185 mapping within an internal region of creatine kinase-M 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.

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.

APPLICATIONS

creatine kinase-M/B (H-50) is recommended for detection of creatine kinase-M/B 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-M/B (H-50) is also recommended for detection of creatine kinase-M/B in additional species, including equine, canine, bovine, porcine and avian.

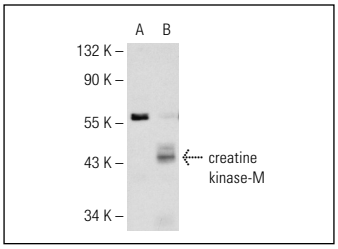
Molecular Weight of creatine kinase-M/B: 43 kDa.

Positive Controls: creatine kinase-M (h): 293T Lysate: sc-159316, HeLa whole cell lysate: sc-2200 or mouse heart extract: sc-2254.

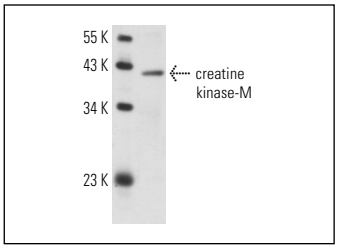
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

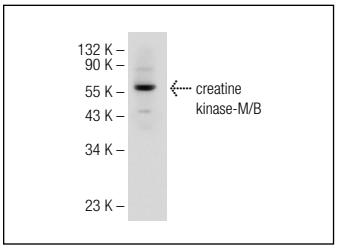
DATA



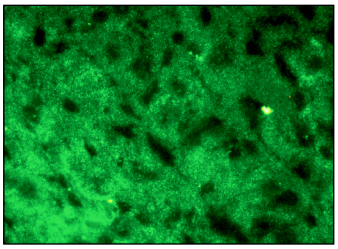
creatine kinase-M/B (H-50): sc-28898. Western blot analysis of creatine kinase-M expression in non-transfected 293T: sc-117752 (**A**), human creatine kinase-M transfected 293T: sc-159316 (**B**) and HeLa (**C**) whole cell lysates.



creatine kinase-M/B (H-50): sc-28898. Western blot analysis of creatine kinase-M expression in mouse heart tissue extract.



creatine kinase-M/B (H-50): sc-28898. Western blot analysis of creatine kinase-M/B expression in A-673 whole cell lysate.



creatine kinase-M/B (H-50): sc-28898. Immunofluorescence staining of normal mouse liver frozen section showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Willis, M.S., et al. 2009. Cardiac muscle ring finger-1 increases susceptibility to heart failure *in vivo*. Circ. Res. 105: 80-88.
2. Jacquet, S., et al. 2009. Identification of cardiac myosin-binding protein C as a candidate biomarker of myocardial infarction by proteomics analysis. Mol. Cell. Proteomics 8: 2687-2699.