

Recombinant Mouse KCRB Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51559

Size: 10ug, 100ug

Protein Name: Creatine kinase B-type (EC 2.7.3.2) (B-CK) (Creatine kinase B chain)
(Creatine phosphokinase B-type) (CPK-B)

Synonym: Ckb, Ckbb

UniProt ID: Q04447

UniProt Link: www.uniprot.org/uniprotkb/Q04447/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 381 AA

Molecular Weight: 43 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MPFSNSHNTQKLRFPAEDEFPDLSSHNNHMAKVLTPELYAELRAKCTPSGFTLDDAIQTGVDNPGH
PYIMTVGAVAGDEESYDVFKDLFDPIIEERHGGYQPSDEHKTDLNPDLQGGDDLDPNYVLSSRVRT
GRSIRGFCLPPHCSRGERRAIEKLAVEALSSLDGDLSGRYALKSMTEAEQQQLIDDHFLDKPVSP
LLLASGMARDWPDARGIWHNDNKTFLVWINEEDHLRVISMQKGGNMKEVFTRFCTGLTQIETLFKSK
NYEFMWNPHLGYILTCPSNLGTGLRAGVHIKPLHLGKHEKFSEVLKRLRLQKRGTTGGVDTAAGGV
FDVSNADRLGFSEVELVQMVDGVKLLIEMEQRLEQGQAIDDLMPAQK

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Creatine kinase B-type (EC 2.7.3.2) (B-CK) (Creatine kinase B chain) (Creatine phosphokinase B-type) (CPK-B) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Reversibly catalyzes the transfer of phosphate between ATP and various phosphogens (e.g. creatine phosphate) (PubMed:33597756). Creatine kinase isoenzymes play a central role in energy transduction in tissues with large, fluctuating energy demands, such as skeletal muscle, heart, brain and spermatozoa (Probable). Acts as a key regulator of adaptive thermogenesis as part of the futile creatine cycle: localizes to the mitochondria of thermogenic fat cells and acts by mediating phosphorylation of creatine to initiate a futile cycle of creatine phosphorylation and dephosphorylation (PubMed:33597756). During the futile creatine cycle, creatine and N-phosphocreatine are in a futile cycle, which dissipates the high energy charge of N-phosphocreatine as heat without performing any mechanical or chemical work (PubMed:33597756).

Subcellular Localization: Cytoplasm, cytosol . Mitochondrion . Cell membrane . Note=Localizes to the mitochondria of thermogenic fat cells via the internal MTS-like signal (iMTS-L) region.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.