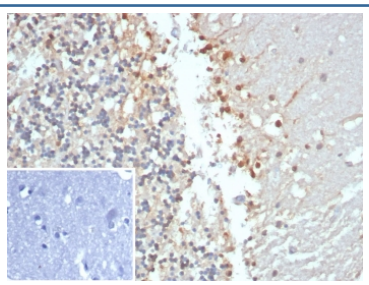
Recombinant Creatine kinase B Antibody / CK-BB / CKB [clone CKBB/8306R] (V5468)

Catalog No.	Formulation	Size
V5468-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5468-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5468SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

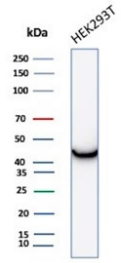
Recombinant RABBIT MONOCLONAL

Bulk quote request

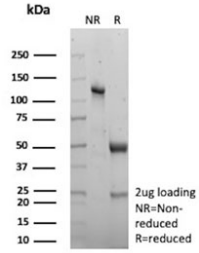
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Hamster, Guinea pig
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	CKBB/8306R
Purity	Protein A/G affinity
UniProt	P12277
Localization	Cytoplasm
Applications	Western Blot : 2-4ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This recombinant Creatine kinase B antibody is available for research use only.



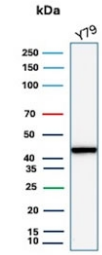
IHC staining of FFPE human brain tissue with recombinant Creatine kinase B antibody (clone CKBB/8306R). Inset: PBS used in place of primary Ab (secondary Ab negative control). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



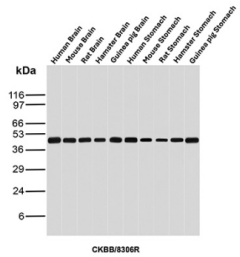
Western blot testing of human HEK293T cell lysate using recombinant Creatine kinase B antibody (clone CKBB/8306). Predicted molecular weight ~43 kDa.



SDS-PAGE analysis of purified, BSA-free recombinant Creatine kinase B antibody (clone CKBB/8306R) as confirmation of integrity and purity.



Western blot testing of human Y79 cell lysate using recombinant Creatine kinase B antibody (clone CKBB/8306). Predicted molecular weight ~43 kDa.



Western blot analysis of Human Brain, Mouse Brain, Rat Brain, Hamster Brain, Guinea pig Brain, Human Stomach, Mouse Stomach, Rat Stomach, Hamster Stomach and Guinea pig Stomach tissue lysates using recombinant Creatine kinase B antibody (clone CKBB/8306R). Predicted molecular weight ~43 kDa.

Description

Recombinant Creatine kinase B antibody detects Creatine kinase B-type, also known as CK-BB or CKB, a cytosolic enzyme that plays a key role in maintaining cellular energy homeostasis. The UniProt recommended name is Creatine kinase B-type (CKB). This enzyme catalyzes the reversible conversion of ATP and creatine into phosphocreatine and ADP, forming a rapid phosphate-transfer system that replenishes ATP during periods of high energy demand in the brain and other active tissues.

Functionally, Recombinant Creatine kinase B antibody recognizes a 43 kDa homodimeric enzyme that serves as the brain-specific isoform of the creatine kinase family. CKB operates within the phosphocreatine shuttle, transferring high-energy phosphate bonds between mitochondria and cytosolic ATP-dependent processes. This mechanism ensures rapid energy delivery to Na+/K+-ATPase pumps, synaptic vesicles, and cytoskeletal structures that drive neuronal signaling and neurotransmitter release. CKB's efficient ATP buffering capacity allows neurons to maintain electrical activity and synaptic transmission under continuous workload.

The CKB gene is located on chromosome 14q32.33 and encodes a 381-amino-acid enzyme highly conserved across vertebrate species. Structurally, CKB contains ATP- and creatine-binding sites stabilized by magnesium ions, and it functions as a homodimer or heterodimer (CKMB) depending on tissue type. Expression is strongest in brain, retina, and

other excitable tissues, while smaller amounts are found in kidney and testis. Under pathological conditions such as stroke, brain trauma, or hypoxia, elevated CKBB levels in serum and cerebrospinal fluid reflect neural cell damage. In cancer research, CKB overexpression has been associated with metabolic adaptation and enhanced tumor cell survival, particularly in small-cell lung carcinoma and colorectal cancer.

Recombinant Creatine kinase B antibody is produced using recombinant technology for high specificity and consistent performance. It is suitable for immunoblotting, immunofluorescence, and ELISA applications exploring metabolic regulation, oxidative stress, and neuroenergetics. CKB interacts with cytoskeletal proteins to channel ATP directly to sites of high energy consumption, coupling mitochondrial output with membrane function. Experimental data show that loss of Ckb impairs synaptic plasticity, decreases phosphocreatine buffering, and heightens sensitivity to energy depletion, confirming its role as a vital regulator of neuronal metabolism.

Outside the nervous system, CKB contributes to energy coupling in sperm motility, smooth muscle contraction, and photoreceptor activity. Its function is modulated by redox state, pH, and post-translational modifications such as phosphorylation. Through targeted detection, Recombinant Creatine kinase B antibody enables studies of energy flux, mitochondrial coordination, and metabolic adaptation in health and disease. NSJ Bioreagents provides this antibody validated for research use in metabolism, neuroscience, and cancer biology.

This Creatine Kinase B Antibody is part of a broader Creatine Kinase B antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the recombinant Creatine kinase B antibody should be determined by the researcher.

Immunogen

Recombinant human full-length Creatine kinase B protein was used as the immunogen for the recombinant Creatine kinase B antibody.

Storage

Aliquot the recombinant Creatine kinase B antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.