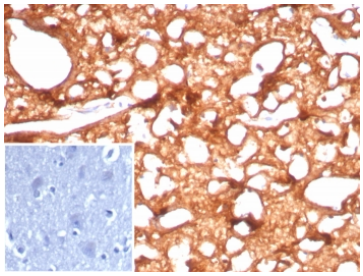
Brain Creatine Kinase Antibody / Neuronal Metabolic Activity Marker [clone CKBB/8843R] (V4380)

Catalog No.	Formulation	Size
V4380-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4380-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4380SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

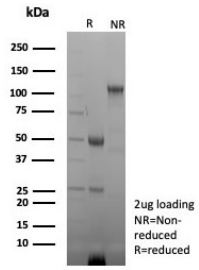
Recombinant RABBIT MONOCLONAL

Bulk quote request

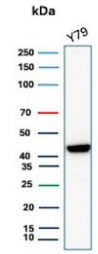
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Hamster, Guinea pig
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	CKBB/8843R
Purity	Protein A/G affinity
UniProt	P12277
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT Western Blot : 2-4ug/ml
Limitations	This Brain Creatine Kinase Antibody / Neuronal Metabolic Activity Marker is available for research use only.



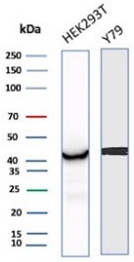
Brain Creatine Kinase Antibody Human Brain IHC. Immunohistochemistry analysis of FFPE human brain tissue using Brain Creatine Kinase antibody. The recombinant rabbit monoclonal antibody clone CKBB/8843R demonstrates strong cytoplasmic staining in neurons, consistent with Creatine kinase B / CKB expression as a neuronal metabolic activity marker. Neuronal cell bodies and processes show robust signal intensity corresponding to regions of high metabolic demand, while surrounding non-neuronal elements display comparatively lower staining. A PBS-only control confirms minimal non-specific staining. HIER: boil tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 20 min followed by cooling prior to staining.



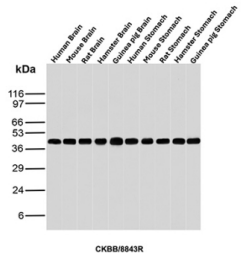
SDS-PAGE analysis of purified, BSA-free Brain Creatine Kinase antibody (clone CKBB/8843R) as confirmation of integrity and purity.



Brain Creatine Kinase Antibody Y79 WB. Western blot analysis of human Y79 cell lysate using Brain Creatine Kinase antibody. The recombinant rabbit monoclonal antibody clone CKBB/8843R detects a band at approximately 43 kDa, consistent with the predicted molecular weight of Creatine kinase B / CKB. Detection in Y79 neuroblastoma-derived cells reflects the elevated metabolic activity characteristic of neuronal lineage cells, supporting its use as a neuronal metabolic activity marker in western blot analysis.



Western blot testing of human HEK293 and Y79 cell lysate with Brain Creatine Kinase antibody (clone CKBB/8843R). Predicted molecular weight ~43 kDa.



Brain Creatine Kinase Antibody Human Mouse Rat Hamster Guinea Pig Brain and Stomach WB. 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 Brain Creatine Kinase antibody. The recombinant rabbit monoclonal antibody clone CKBB/8843R detects a band at approximately 43 kDa, consistent with the predicted molecular weight of Creatine kinase B / CKB. Strong and consistent detection in brain samples reflects the high metabolic activity of neuronal tissue, supporting its role as a neuronal metabolic activity marker, while cross-species banding demonstrates reliable performance in western blot analysis.

Description

Creatine kinase B (CKB) is a cytosolic enzyme that plays a critical role in neuronal energy metabolism by catalyzing the reversible conversion of phosphocreatine and ADP into ATP and creatine. This reaction provides a rapid and localized energy source required for synaptic transmission, ion transport, and maintenance of neuronal excitability. Brain Creatine Kinase Antibody is commonly used to assess expression of this enzyme in brain tissue, where its abundance reflects regions of high metabolic activity.

CKB is part of the creatine kinase enzyme family, which coordinates intracellular energy distribution through a network of cytosolic and mitochondrial isoforms. The B-type isoform forms CK-BB homodimers that are strongly enriched in neurons and other non-muscle tissues. CKB antibody, also referred to as Creatine kinase B antibody or Brain creatine kinase antibody in the literature, enables detection of this isoform in studies focused on brain-specific metabolism, neuronal function, and tissue-level energy dynamics.

Functionally, CKB operates within the phosphocreatine shuttle, a system that supports rapid ATP regeneration at sites of high energy consumption. In neurons, this is essential for sustaining neurotransmitter release, restoring ion gradients after depolarization, and maintaining cytoskeletal integrity. Changes in CKB expression have been associated with

neurological disorders, including neurodegenerative diseases and brain injury, highlighting its relevance as a marker of neuronal metabolic state. Brain Creatine Kinase Antibody provides a reliable tool for examining these changes in tissue-based analyses.

Subcellular localization of CKB is primarily cytoplasmic, with enrichment in neuronal cell bodies and processes where energy demand is highest. In immunohistochemical analysis, this is reflected by strong cytoplasmic staining in neurons, often with region-specific intensity corresponding to metabolic activity levels. This pattern allows CKB antibody to be used as an indicator of neuronal metabolic activity and tissue-specific energy utilization in brain samples.

This Brain Creatine Kinase Antibody is supported by immunohistochemistry data demonstrating robust detection of CKB in human brain tissue, consistent with established expression patterns. Protein microarray specificity validation further confirms selective binding to CKB among thousands of human proteins, providing strong confidence in specificity. Together, these features support its use in studies of neuronal metabolism, brain physiology, and tissue-level energy regulation.

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 Brain Creatine Kinase Antibody / Neuronal Metabolic Activity Marker should be determined by the researcher.

Immunogen

Recombinant human full-length protein was used as the immunogen for the Brain Creatine Kinase antibody.

Storage

Aliquot the Brain Creatine Kinase antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

CKB antibody, Creatine kinase B antibody, Brain creatine kinase antibody, CK-BB antibody, Cytosolic creatine kinase B antibody