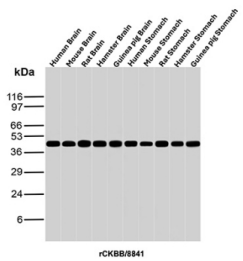
Creatine Kinase B Antibody for WB / Brain Energy Metabolism Marker Antibody [clone rCKBB/8841] (V4373)

Catalog No.	Formulation	Size
V4373-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4373-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4373SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

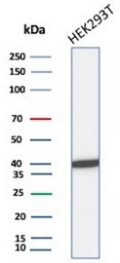
Recombinant | MOUSE MONOCLONAL

Bulk quote request

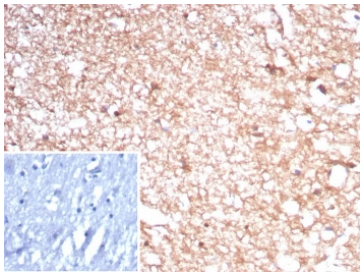
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Hamster, Guinea pig
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rCKBB/8841
Purity	Protein A/G affinity
UniProt	P12277
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT Western Blot : 2-4ug/ml
Limitations	This Creatine Kinase B Antibody for WB / Brain Energy Metabolism Marker Antibody is available for research use only.



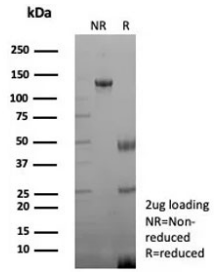
Creatine Kinase B Antibody for WB Multi-Species Tissue. Western blot analysis of Human Brain, Mouse Brain, Rat Brain, Hamster Brain, Guinea pig Brain, Human Stomach, Mouse Stomach, Rat Stomach, Hamster Stomach and Guinea pig Stomach tissue lysates using recombinant Creatine kinase B antibody (clone rCKBB/8841). Predicted molecular weight ~43 kDa.



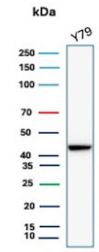
Creatine Kinase B Antibody for WB Human HEK293 Cells. Western blot testing of human HEK293 cell lysate with recombinant Creatine kinase B antibody. Predicted molecular weight ~43 kDa.



Creatine Kinase B Antibody Brain IHC. Immunohistochemistry staining of FFPE human brain tissue with recombinant Creatine kinase B antibody (clone rCKBB/8841). 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.



SDS-PAGE analysis of purified, BSA-free recombinant Creatine kinase B antibody (clone rCKBB/8841) as confirmation of integrity and purity.



Creatine Kinase B Antibody for WB Human Y79 Cells. Western blot testing of human Y79 cell lysate with recombinant Creatine kinase B antibody. Predicted molecular weight ~43 kDa.

Description

Creatine kinase B (CKB) is a cytosolic enzyme that plays a central role in cellular energy homeostasis by catalyzing the reversible transfer of a phosphate group from phosphocreatine to ADP, thereby regenerating ATP in tissues with high and fluctuating energy demands. This enzyme is highly expressed in the central nervous system, where it supports neuronal signaling, synaptic activity, and maintenance of membrane potential under conditions of rapid energy consumption. Creatine Kinase B Antibody for WB is widely used to evaluate expression of this enzyme in lysate-based studies focused on energy metabolism, particularly in brain-derived samples where CKB abundance is highest.

CKB belongs to the creatine kinase family of phosphotransferases, which includes cytosolic and mitochondrial isoforms that together form an integrated phosphocreatine energy shuttle system. The B-type subunit forms homodimers (CK-BB) or heterodimers with muscle-type CKM, enabling tissue-specific adaptation of energy buffering capacity. CKB antibody, also known as Creatine kinase B antibody or CKB antibody in the literature, supports detection of this enzyme in pathways governing ATP regeneration, phosphocreatine turnover, and metabolic resilience. Its high expression in neurons and glial cells reflects its essential role in sustaining energy-intensive processes such as neurotransmission and ion transport.

Functionally, CKB acts as a rapid-response ATP buffer, ensuring that localized energy demand is met during periods of

cellular stress or increased activity. In the brain, this buffering system is critical for maintaining synaptic vesicle cycling, ion gradient restoration, and cytoskeletal dynamics. Disruption of CKB expression or activity has been linked to neurological conditions including ischemic injury, neurodegeneration, and altered metabolic states, underscoring its importance in neuronal survival and function. Creatine Kinase B Antibody for WB provides a robust tool for monitoring these changes at the protein level in experimental models and comparative studies.

Subcellularly, CKB is predominantly localized in the cytoplasm but is often enriched in regions with high ATP consumption, including synaptic terminals and areas of active cytoskeletal remodeling. It can associate with membrane structures and protein complexes to facilitate efficient energy transfer at sites of demand. This localization pattern contributes to the characteristic band detection observed in western blot analysis of tissue and cell lysates. CKB antibody is therefore particularly suited for western blot applications where clear detection of cytosolic metabolic enzymes is required.

This Creatine Kinase B Antibody for WB is supported by western blot data demonstrating detection of endogenous CKB protein across multiple species, enabling cross-species comparison in research studies. In addition, protein microarray specificity validation confirms highly selective binding to CKB among thousands of human proteins, providing strong confidence in target specificity and reducing the likelihood of non-specific interactions. Together, these validation approaches support reliable performance in western blot analysis, making this antibody a valuable reagent for studying creatine kinase B in the context of brain metabolism, energy regulation, and cellular physiology.

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 Creatine Kinase B Antibody for WB / Brain Energy Metabolism Marker Antibody should be determined by the researcher.

Immunogen

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

Storage

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

Alternate Names

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