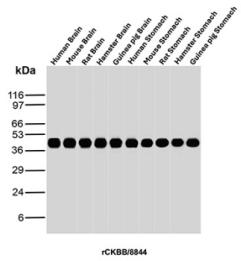
Recombinant CKBB Antibody / Creatine kinase B [clone rCKBB/8844] (V4360)

Catalog No.	Formulation	Size
V4360-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4360-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4360SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

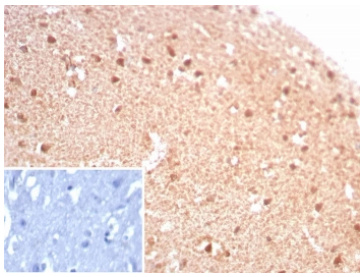
Recombinant | MOUSE MONOCLONAL

Bulk quote request

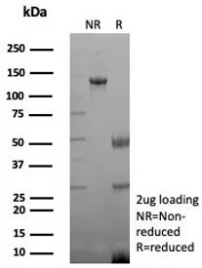
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Hamster, Guinea pig
Format	Purified
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rCKBB/8844
Purity	Protein A/G affinity
UniProt	P12277
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT Western Blot : 2-4ug/ml
Limitations	This recombinant CKBB antibody is available for research use only.



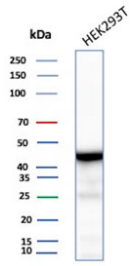
Western blot analysis of Human Brain, Mouse Brain, Rat Brain, Hamster Brain, Guinea pig Brain, Human Stomach, Mouse Stomach, Rat Stomach, Hamster Stomach and Guinea pig Stomach tissue lysates using recombinant CKBB antibody (clone rCKBB/8844). Predicted molecular weight ~43 kDa.



IHC staining of FFPE human brain tissue with recombinant CKBB antibody (clone rCKBB/8844). 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 CKBB antibody (clone rCKBB/8844) as confirmation of integrity and purity.



Western blot testing of human HEK293 cell lysate with recombinant CKBB antibody (clone rCKBB/8844). Predicted molecular weight ~43 kDa.

Description

Recombinant CKBB antibody detects Creatine kinase B-type, the brain isoform of the creatine kinase family that maintains energy homeostasis by catalyzing the reversible transfer of phosphate between ATP and creatine. The UniProt recommended name is Creatine kinase B-type (CKB), commonly known as CK-BB or brain-type creatine kinase. This enzyme plays a central role in sustaining ATP levels in neurons, glial cells, and other high-energy tissues.

Functionally, Recombinant CKBB antibody identifies a 43 kDa cytosolic enzyme that forms homodimers (CKBB) or heterodimers with the muscle isoform (CKMB). CKB drives the phosphocreatine shuttle, a system that rapidly transfers energy from mitochondria to cellular sites of ATP consumption. Within the nervous system, CKB localizes near Na+/K+-ATPase pumps, synaptic vesicles, and cytoskeletal structures, ensuring efficient ATP regeneration during neural signaling. It supports processes such as neurotransmitter release, vesicle recycling, and ion transport, all of which depend on rapid ATP turnover.

The CKB gene is located on chromosome 14q32.33 and encodes a 381-amino acid protein with conserved catalytic domains responsible for creatine and ATP binding. CKB expression is particularly high in the brain, retina, and smooth muscle, but it is also found in endocrine and reproductive tissues. Dysregulation of CKB has been linked to neurological disorders, brain injury, and tumor metabolism. Increased serum CKBB levels are diagnostic for hypoxic brain injury, trauma, and certain cancers such as small-cell lung carcinoma and neuroblastoma, where elevated CKB supports proliferation and resistance to metabolic stress.

Recombinant CKBB antibody is a high-affinity reagent produced using recombinant technology to ensure consistency and lot-to-lot reliability. It is validated for western blotting, immunofluorescence, and immunohistochemistry applications across human, mouse, and rat samples. The antibody is ideal for studies of neuronal metabolism, mitochondrial coupling, and oxidative stress. CKB interacts with cytoskeletal proteins and membrane components to localize energy production precisely where ATP demand is highest. Experimental models show that Ckb knockout results in cognitive impairment, reduced energy buffering, and increased sensitivity to ischemia, underscoring its physiological importance.

Beyond neural tissue, CKB contributes to sperm motility, retinal signaling, and smooth muscle contraction, emphasizing its broad role in maintaining localized energy flux. Through accurate detection of this enzyme, Recombinant CKBB antibody provides valuable insight into cellular energy dynamics, neuroprotection, and tumor metabolism. NSJ Bioreagents offers this recombinant antibody fully validated for metabolic, neurological, and oncological research applications.

Application Notes

Optimal dilution of the recombinant CKBB antibody should be determined by the researcher.

Immunogen

Recombinant human full-length protein was used as the immunogen for the recombinant CKBB antibody.

Storage

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