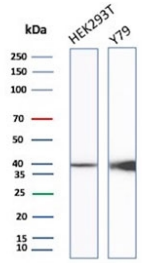
Recombinant CKB Antibody / Creatine kinase B [clone rCKBB/8839] (V4359)

Catalog No.	Formulation	Size
V4359-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4359-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4359SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

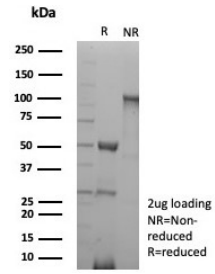
Recombinant | MOUSE MONOCLONAL

Bulk quote request

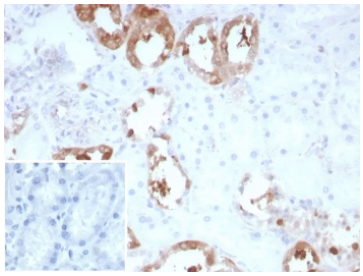
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rCKBB/8839
Purity	Protein A/G affinity
UniProt	P12277
Localization	Cytoplasm
Applications	ELISA (Order BSA-free format for coating) Western blot: 2-4ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 minutes at RT
Limitations	This recombinant CKB antibody is available for research use only.



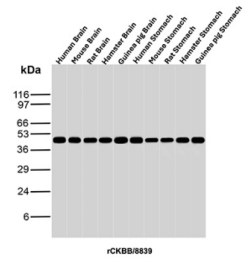
Western blot testing of human HEK293 and Y79 cell lysate with recombinant CKB antibody. Predicted molecular weight ~43 kDa.



SDS-PAGE analysis of purified, BSA-free recombinant CKB antibody (clone rCKBB/8839) as confirmation of integrity and purity.



CKB Antibody Kidney IHC. Immunohistochemistry staining of FFPE human kidney tissue with recombinant CKB antibody (clone rCKBB/8839). 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 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 CKB antibody (clone rCKBB/8839). Predicted molecular weight ~43 kDa.

Description

Recombinant CKB antibody detects Creatine kinase B-type, a cytosolic enzyme responsible for maintaining ATP balance in tissues with high and fluctuating energy demands. Also known as CK-BB or brain-type creatine kinase, this phosphotransferase catalyzes the reversible transfer of phosphate between creatine and ATP, forming phosphocreatine as a rapidly available energy reserve. The UniProt recommended name is Creatine kinase B-type (CKB), and its activity underpins fast energy buffering in neurons, retina, and smooth muscle.

Functionally, Recombinant CKB antibody identifies an enzyme that forms homodimers (CKBB) or heterodimers with the muscle subunit (CKMB). CKB operates within the phosphocreatine shuttle, transferring high-energy phosphate groups from mitochondria to subcellular ATP-consuming sites such as Na+/K+-ATPase pumps, synaptic vesicles, and cytoskeletal transport systems. By maintaining ATP at these critical regions, CKB supports neuronal firing, neurotransmitter release, and ion homeostasis. In the central nervous system, CKBB expression mirrors metabolic activity, increasing during neuronal maturation and synaptic remodeling.

The CKB gene, located on chromosome 14q32.33, encodes a 381-amino-acid enzyme highly conserved among vertebrates. Each monomer contains catalytic residues that coordinate ATP and creatine binding, with magnesium as a required cofactor. The enzymeÃ¢Â€Â™s structural design allows rapid reversibility, enabling ATP regeneration during energy stress. Dysregulation of CKB expression or activity is linked to neurodegenerative diseases, ischemic injury, and metabolic adaptation in cancer cells. Elevated CKBB levels in serum or cerebrospinal fluid serve as biomarkers for brain trauma, hypoxia, and certain tumor types, while reduced expression impairs synaptic plasticity and learning.

Recombinant CKB antibody is a high-specificity reagent designed to detect both native and denatured forms of creatine kinase B in mammalian tissues. It is widely used in immunoblotting, immunofluorescence, and ELISA for studying metabolic regulation, mitochondrial coupling, and cancer bioenergetics. Research has shown that CKB upregulation enhances survival under hypoxic conditions by maintaining ATP turnover, whereas inhibition sensitizes tumor cells to metabolic stress. The enzyme's association with cytoskeletal and membrane domains ensures localized energy transfer,

enabling precise ATP delivery to high-demand processes.

Beyond neural tissue, CKB contributes to sperm motility, photoreceptor function, and smooth muscle contractility. Its regulatory mechanisms involve phosphorylation, oxidative modification, and transcriptional control by CREB and NRF1. By targeting this energy-buffering enzyme, Recombinant CKB antibody supports studies on cellular metabolism, oxidative stress response, and tumor progression. NSJ Bioreagents provides recombinant antibodies offering consistent lot-to-lot performance, validated for human, mouse, and rat samples in metabolic and neuroscience research.

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 CKB antibody should be determined by the researcher.

Immunogen

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

Storage

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

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