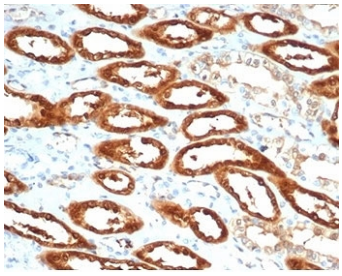
CKB Antibody / CKBB / Creatine kinase B [clone CKBB/6565] (V4054)

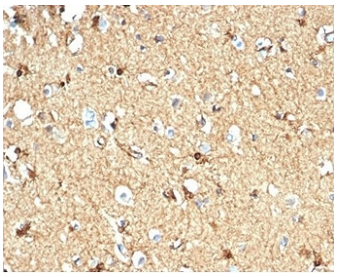
Catalog No.	Formulation	Size
V4054-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4054-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4054SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

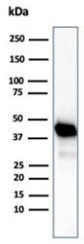
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	CKBB/6565
Purity	Protein A/G affinity
UniProt	P12277
Localization	Cytoplasm
Applications	ELISA : for coating order antibody without BSA Western Blot : 2-4ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This CKB antibody is available for research use only.



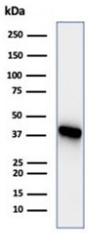
IHC staining of FFPE human kidney tissue with CKB antibody (clone CKBB/6565). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



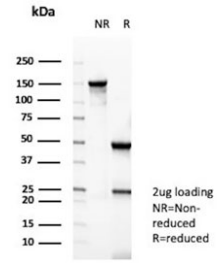
IHC staining of FFPE human brain tissue with CKB antibody (clone CKBB/6565). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



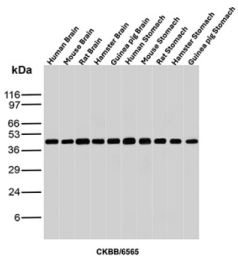
Western blot testing of human Y79 cell lysate using CKB antibody (clone CKBB/6565). Predicted molecular weight ~43 kDa.



Western blot testing of human HEK293 cell lysate using CKB antibody (clone CKBB/6565). Predicted molecular weight ~43 kDa.



SDS-PAGE analysis of purified, BSA-free CKB antibody (clone CKBB/6565) as confirmation of integrity and purity.



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 Creatine kinase B antibody (clone CKBB/6565). Predicted molecular weight ~43 kDa.

Description

CKB antibody detects Creatine kinase B-type, also known as CKBB or brain-type creatine kinase, an enzyme that catalyzes the reversible transfer of phosphate from phosphocreatine to ADP, regenerating ATP to maintain cellular energy supply. The UniProt recommended name is Creatine kinase B-type (CKB). This cytosolic phosphotransferase belongs to the creatine kinase family, which ensures rapid ATP replenishment in cells with high and fluctuating energy demands, particularly neurons and glial cells.

CKB antibody recognizes a 43 kDa homodimeric enzyme found in brain, retina, and smooth muscle. CKB couples with mitochondrial creatine kinases to form a phosphocreatine shuttle, enabling fast energy transport from mitochondria to

ATP-consuming sites such as synaptic terminals, ion pumps, and contractile fibers. In the nervous system, CKBB localizes near Na+/K+-ATPase and vesicle cycling complexes, providing an immediate ATP buffer during neurotransmission. Its expression correlates with neuronal differentiation and synaptic activity, and its release into cerebrospinal fluid or blood serves as an indicator of neural damage or ischemic stress.

Structurally, CKB forms either homodimers (CKBB) or heterodimers with muscle-type subunits (CKMB). Each subunit contains binding domains for ATP and creatine, and the enzymeâ€™s catalytic efficiency is modulated by magnesium ions and pH. The CKB antibody is commonly used in western blot, ELISA, and immunohistochemistry to evaluate tissue-specific expression and metabolic status. In oncology, CKBB is often upregulated in cancers such as small-cell lung carcinoma, neuroblastoma, and colorectal adenocarcinoma, reflecting its role in supporting tumor energy metabolism and cell migration.

The CKB gene is located on chromosome 14q32.33 and encodes a 381-amino acid enzyme highly conserved across species. Transcription of CKB is regulated by CREB and Sp1, integrating neuronal activity and hormonal signals. Loss of Ckb expression in animal models causes impaired memory, reduced motor performance, and susceptibility to hypoxia, underscoring its neuroprotective role. Beyond the nervous system, CKB participates in sperm motility, retinal photoreceptor activity, and muscle contraction, where localized energy control is critical.

Because CKB reflects the energetic status of neural and proliferative tissues, CKB antibody is widely used for studying brain metabolism, mitochondrial function, and cancer energetics. NSJ Bioreagents offers validated reagents for human, mouse, and rat applications, optimized for immunofluorescence, immunoblotting, and immunocytochemistry.

Application Notes

Optimal dilution of the CKB antibody should be determined by the researcher.

Immunogen

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

Storage

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