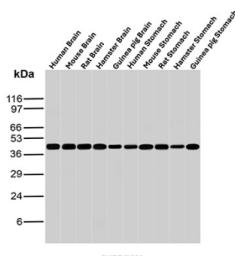


Creatine kinase B Antibody / CKBB / CKB [clone CKBB/6566] (V4369)

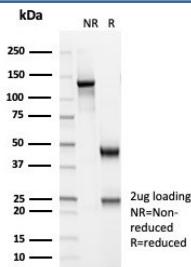
Catalog No.	Formulation	Size
V4369-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4369-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4369SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

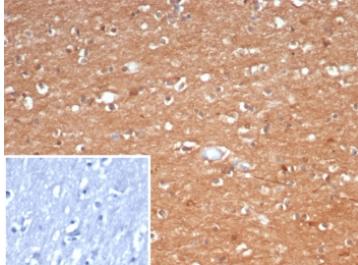
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat, Hamster, Guinea pig
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	CKBB/6566
Purity	Protein A/G affinity
UniProt	P12277
Localization	Cytoplasm
Applications	ELISA (Order BSA-free Format For Coating) : Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This Creatine kinase B antibody is available for research use only.



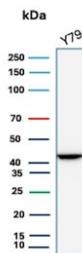
Western blot analysis of Human Brain, Mouse Brain, Rat Brain, Hamster Brain, Guinea pig Brain, Human Stomach, Mouse Stomach, Rat Stomach, Hamster Stomach and Guinea pig Stomach tissue lysates using Creatine kinase B antibody (clone CKBB/6566). Predicted molecular weight ~43 kDa.



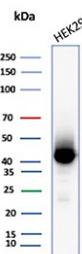
SDS-PAGE analysis of purified, BSA-free Creatine kinase B antibody (clone CKBB/6566) as confirmation of integrity and purity.



IHC staining of FFPE human brain tissue with Creatine kinase B antibody (clone CKBB/6566). 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 testing of human Y79 cell lysate with Creatine kinase B antibody (clone CKBB/6566). Predicted molecular weight ~43 kDa.



Western blot testing of human HEK293 cell lysate with Creatine kinase B antibody (clone CKBB/6566). Predicted molecular weight ~43 kDa.

Description

Creatine kinase B antibody detects Creatine kinase B-type, a cytosolic enzyme that maintains cellular energy balance through the reversible transfer of phosphate between ATP and creatine. The UniProt recommended name is Creatine kinase B-type (CKB), also known as CK-BB or brain-type creatine kinase. This enzyme is part of the creatine kinase family, which ensures ATP regeneration in cells exposed to rapid and repeated energy demands, especially neurons, glia, and smooth muscle cells.

Creatine kinase B antibody recognizes a 43 kDa enzyme that functions as a homodimer (CKBB) or forms heterodimers with muscle-type subunits (CKMB). In neurons, CKB supports synaptic transmission, ion exchange, and neurotransmitter release by coupling energy production to ATP-dependent processes. It operates within the phosphocreatine shuttle, where high-energy phosphate bonds are transferred from mitochondria to subcellular sites such as Na⁺/K⁺-ATPase pumps and vesicle trafficking complexes. This localized ATP regeneration enables stable neuronal excitability and efficient signal transmission under high energy demand.

The CKB gene, located on chromosome 14q32.33, encodes a 381-amino acid cytosolic protein that shares strong sequence homology with the muscle isoform CKM. CKB is particularly abundant in brain, retina, and other neural tissues, but expression also occurs in kidney, placenta, and testis. Elevated CKBB levels in serum or cerebrospinal fluid are

clinical indicators of neural injury, ischemia, or neurodegeneration. Beyond neurology, CKBB is overexpressed in several malignancies, including lung, colon, and prostate cancers, where it enhances tumor growth by promoting ATP turnover and cytoskeletal reorganization.

Researchers use Creatine kinase B antibody for applications such as immunohistochemistry, western blot, and ELISA to assess metabolic adaptation, energy distribution, and tissue pathology. CKB's strong association with membrane structures and cytoskeletal components ensures rapid access to ADP pools at sites of high metabolic demand. Its activity is regulated by pH, magnesium ions, and oxidative stress, reflecting its responsiveness to cellular energetic state. Studies in knockout mice show that loss of Ckb leads to reduced synaptic efficiency, impaired learning, and increased vulnerability to hypoxic stress, demonstrating its central role in neural energy homeostasis.

In addition to the nervous system, CKB contributes to energy support in sperm, sensory epithelia, and contracting muscle cells. Its tight control of ATP flux makes it indispensable for maintaining bioenergetic stability in diverse cell types. NSJ Bioreagents provides Creatine kinase B antibody reagents validated for human, mouse, and rat samples, ensuring specificity for both native and denatured protein forms in neuroscience, oncology, and metabolism studies.

Application Notes

Optimal dilution of the Creatine kinase B antibody should be determined by the researcher.

Immunogen

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

Storage

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