

## DESCRIPTION

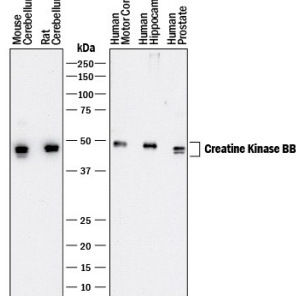
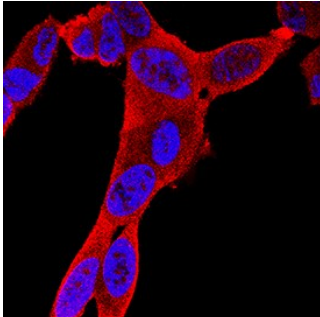
<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects human Creatine Kinase BB in direct ELISAs and Western blots.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 969409
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human Creatine Kinase BB Pro2-Lys381 Accession # P12277
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	See Below
<b>Immunocytochemistry</b>	8-25 µg/mL	See Below

## DATA

<p><b>Western Blot</b></p>  <p><b>Detection of Human, Mouse, and Rat Creatine Kinase BB by Western Blot.</b> Western blot shows lysates of mouse and rat brain (cerebellum) tissue, human brain (motor cortex and hippocampus) tissue, and human prostate tissue. PVDF membrane was probed with 0.1 µg/mL of Mouse Anti-Human/Mouse/Rat Creatine Kinase BB Monoclonal Antibody (Catalog # MAB9076) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Creatine Kinase BB at approximately 45 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p><b>Immunocytochemistry</b></p>  <p><b>Creatine Kinase BB in SH-SY5Y Human Cell Line.</b> Creatine Kinase BB was detected in immersion fixed SH-SY5Y human neuroblastoma cell line using Mouse Anti-Human/Mouse/Rat Creatine Kinase BB Monoclonal Antibody (Catalog # MAB9076) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for <a href="#">Fluorescent ICC Staining of Cells on Coverslips</a>.</p>
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## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Creatine kinase (CK) catalyzes the conversion of creatine to phosphocreatine (PCr) by consuming adenosine triphosphate (ATP) and generating adenosine diphosphate (ADP). CK reaction is reversible and thus ATP can be generated from PCr and ADP (1). In tissues and cells that consume ATP rapidly, especially skeletal muscle, but also brain, photoreceptor cells of the retina, hair cells of the inner ear, spermatozoa and smooth muscle, PCr serves as an energy reservoir for the rapid buffering and regeneration of ATP in situ, as well as for intracellular energy transport by the PCr shuttle or circuit (2). Clinically, creatine kinase is assayed in blood tests as a marker of myocardial infarction (heart attack), rhabdomyolysis (severe muscle breakdown), muscular dystrophy, autoimmune myositides and acute renal failure. Creatine kinase B (CKB), can form homodimer (BB type), and heterodimer (MB type) with creatine kinase M (CKM). MB type is found in myocardium, and homodimer BB type is found in many tissues, especially brain. The recombinant human CKB is in the BB type and its activity is measured using a phosphatase-coupled method (4).

### References:

1. Trask R.V. *et al.* (1988) *J. Biol. Chem.* **263**:17142.
2. Wallimann, T. *et al.* (1992) *Biochem. J.* **281**:21-40.
3. Wallimann, T. (1994) *Curr. Biol.* **4**:42.
4. Wu, Z.L. (2011) *PLoS One* **6**:e23172.