

**CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET**

<b>Product name</b>	B-CK, Human, clone CK-BYK/21E10		
<b>Catalog number</b>	HM2110-20UG		
<b>Lot number</b>	-	<b>Expiry date</b>	-
<b>Volume</b>	200 µl	<b>Amount</b>	20 µg
<b>Formulation</b>	0.2 µm filtered in PBS+0.1%BSA+0.02%NaN3	<b>Concentration</b>	100 µg/ml
<b>Host Species</b>	Mouse IgG2b	<b>Conjugate</b>	None
<b>Endotoxin</b>	N.A.	<b>Purification</b>	Protein G
<b>Storage</b>	4°C		

**Application notes**

	IHC-F	IHC-P	IF	FC	FS	IA	IP	W
Reference #	1	1	1					1-3
Yes	•	•	•					•
No								
N.D.				•	•	•	•	

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot



W: Western blot analysis in mouse and rat brain lysate. Band size is 42kDa.

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- W: reduced; size ~43-46 kDa (Ref 1-2).
- IHC-F: fixed 2 hr in 2% paraformaldehyde and 0.1 % glutaraldehyde in 0.1 M PB; stored until use in 1 % paraformaldehyde; blocking with 1% normal swine serum (Ref 1).
- IHC-P: antigen retrieval: 0.5 % pepsin in 0.01 N HCl for 15 min at 37 °C; endogenous peroxidase blocking by using 3 % H2O2 in PBS for 30 min; blocking with 1% normal swine serum for 30 min.; Purkinje cells serve as positive control and connective tissue as negative control (Ref 1).
- Positive control: Brain lysate, Human Purkinje cells; Negative control: Human fibroblasts.

**General Information**
**Description**

The monoclonal antibody CK-BYK/21E10 recognizes human creatine kinase B-type, also known as B-CK. Human B-CK is a protein of 381 amino acids (~45 kDa), expressed in a number of tissues. B-CK is most abundant in adult brain, approx. 5-fold lower in the stomach, 10-fold lower in the heart and barely detectable in liver. In brain, whereas most B-CK has been shown to be cytosolic, several of the reactions requiring B-CK are membrane-associated. B-CK belongs to the creatine kinase (CK) isoenzymes that catalyse the synthesis of phosphocreatine (PCr) and its subsequent use in the regeneration of ATP in cell types where the consumption of ATP is rapid and/or sudden. In the brain the different CK isoforms constitute an energy shuttle wherein ATP produced in the mitochondria is used by a mitochondrial CK [e.g. ubiquitous mitochondrial creatine kinase (uMi-CK)] to generate PCr, which is then transported and used by a

cytoplasmic CK [e.g. brain creatine kinase (B-CK)] to regenerate ATP at discrete cellular sites of high ATP turnover. B-CK appears to have a role in regenerating ATP needed for the transport of ions and neurotransmitters since CKB has been localized to brain synaptic plasma membranes, possibly coupled to Na<sup>+</sup>/K<sup>+</sup>-ATPase and acetylcholine receptor-rich membranes. Expression of B-CK is developmentally controlled: in rat, brain CK protein at birth is extremely low and increases 10-fold until week 4. This reflects the many energy-demanding processes in brain during brain development.

<b>Immunogen</b>	Synthetic 17-mer peptide corresponding to the N-terminal sequence of human creatine kinase brain-type (SNSHNALKLRFPAEDEF)
<b>Aliases</b>	Creatine kinase B chain, B-CK
<b>Cross reactivity</b>	Rabbit: Yes; Mouse: Yes; Rat: Yes.
<b>Gene</b>	Gene name: CKB, CKBB
<b>References</b>	<ol style="list-style-type: none"><li>1. Siermans, E et al; Tissue and cell-specific distribution of creatine kinase B: A new and highly specific monoclonal antibody for use in immunohistochemistry. Cell Tissue Res 1995, 280: 435</li><li>2. Kok, Y et al; Production of native creatine kinase B in insect cells using a baculovirus expression vector. Mol Cell Biochem 1995, 143: 59</li><li>3. Shen, W et al; Expression of creatine kinase isoenzyme genes during postnatal development of rat brain cerebellum: evidence for transcriptional regulation. Biochem J 2002, 367: 369</li></ol>
<b>Storage&amp;stability</b>	Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year.
<b>Precautions</b>	For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

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We hereby certify that the above-stated information is correct and that this product has been successfully tested by the Quality Control Department. This product was released for sale according to the existing specifications. This document has been produced electronically and is valid without a signature.

Approved by Manager of QC  
Brenda Teunissen

Date  
18/11/2020

Do you have any questions or comments regarding this product? Please contact us via [support@hycultbiotech.com](mailto:support@hycultbiotech.com).