BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

Anti-Creatine kinase B type/CKB Antibody Picoband®

Catalog Number: A01695-1

About CKB

Brain-type creatine kinase also known as CK-BB is a creatine kinase that in humans is encoded by the CKB gene. The protein encoded by this gene is a cytoplasmic enzyme involved in energy homeostasis. The encoded protein reversibly catalyzes the transfer of phosphate between ATP and various phosphogens such as creatine phosphate. It acts as a homodimer in brain as well as in other tissues, and as a heterodimer with a similar muscle isozyme in heart. The encoded protein is a member of the ATP:guanido phosphotransferase protein family. A pseudogene of this gene has been characterized.

Submit a product review to Biocompare.com



Submit a review of this product to Biocompare.com to receive a $20 Amazon.com giftcard! Your reviews help your fellow scientists make the right decisions. Thank you for your contribution.

Overview

Product Name	Anti-Creatine kinase B type/CKB Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Creatine kinase B type/CKB Antibody Picoband® catalog # A01695-1. Tested in ELISA, IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P12277

Technical Details

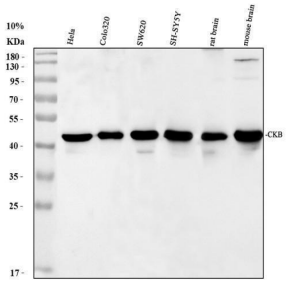
Immunogen	E. coli-derived human CKB recombinant protein (Position: H7-K381).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

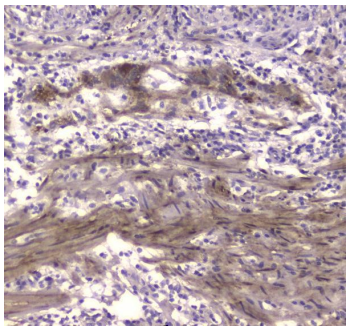
	blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml ELISA, 0.1-0.5ug/ml

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com

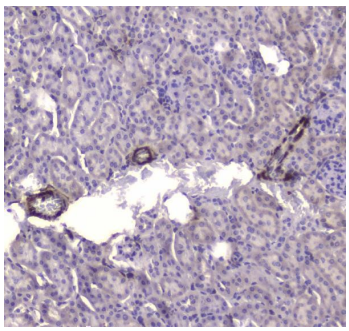
Anti-Creatine kinase B type/CKB Antibody Picoband® (A01695-1) Images



Western blot analysis of CKB using anti-CKB antibody (A01695-1). Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human Hela whole cell lysates, Lane 2: human Colo320 whole cell lysates, Lane 3: human SW620 whole cell lysates, Lane 4: human SH-SY5Y whole cell lysates, Lane 5: rat brain tissue lysates, Lane 6: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CKB antigen affinity purified polyclonal antibody (A01695-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody (Catalog # BA1054) at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for CKB at approximately 43 kDa. The expected band size for CKB is at 43 kDa.



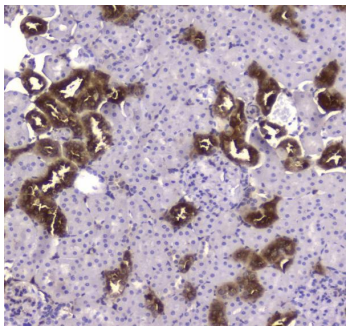
IHC analysis of CKB using anti-CKB antibody (A01695-1). CKB was detected in paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CKB Antibody (A01695-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



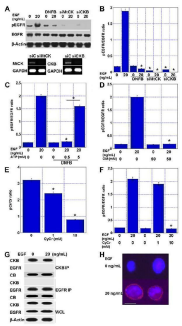
IHC analysis of CKB using anti-CKB antibody (A01695-1). CKB was detected in paraffin-embedded section of mouse kidney tissue . Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CKB Antibody (A01695-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

IHC analysis of CKB using anti-CKB antibody (A01695-1). CKB was detected in paraffin-embedded section of rat kidney tissue . Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution)

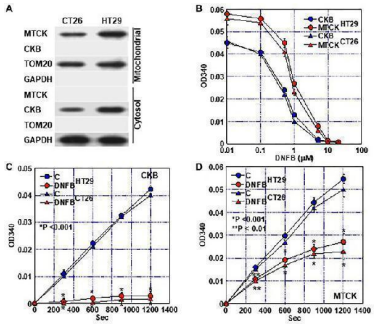
BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com



for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-CKB Antibody (A01695-1) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

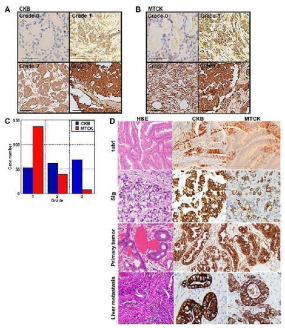


Creatine shuttle provides ATP for EGFR phosphorylation in EGF-treated HT29 cells. (A) Effect of DNFB (5 uM) and knockdown of MTCK or CKB on EGFR phosphorylation. Lower panels, effect of siMTCK and siCKB on expression of MTCK and CKB, respectively. (B) Semi-quantification of EGFR phosphorylation levels. (C) Effect of ATP on suppressed EGFR phosphorylation by DNFB (5 uM). (D) Effect of oligomycin on EGFR phosphorylation. (E) Effect of CyCr on creatine phosphorylation. (F) Effect of CyCr on EGFR phosphorylation. (G) Co-immunoprecipitation using anti-CKB antibody or anti-EGFR antibody to examine binding of CKB and EGFR. (H) Duolink ® proximity ligation assay. Red, proximity signal of EGFR and CKB. Blue, DAPI. Scale bar, 10 um. Error bars: standard deviation of three independent trials. Statistical significance was calculated using a two-tailed ordinary analysis of variance. Abbreviations: DNFB: dinitrofluorobenzene; EGFR: epithelial growth factor receptor; pEGFR: phosphorylated EGFR; EGF: epithelial growth factor; CKB: creatine kinase B; MTCK: mitochondrial creatine kinase; siC: short interfering RNA (siRNA) used as control; siMTCK: siRNA for MTCK; siCKB: siRNA for CKB; GAPDH: glyceraldehyde 3-phosphate dehydrogenase; OM: oligomycin; CyCr: cyclocreatine; pCr: phosphocreatine; IP: immunoprecipitation; CB: Coomassie blue; WCL: whole cell lysate; DAPI: 4′,6-diamidino-2-phenylindole.Index in PubMed under a CC BY license. PMID: 37204253

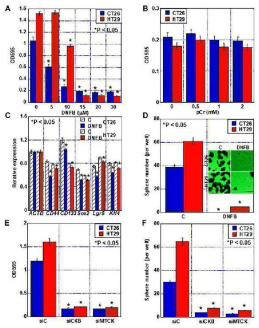


Creatine kinase inhibitory effect of DNFB. (A) Protein fractionation of mitochondria (Mitochondrial) and mitochondria-free cytosol (Cytosol). MTCK and CKB were detected by western blotting. TOM20 and GAPDH were subjected as a mitochondrial marker and a cytosol marker, respectively. (B) Inhibition of creatine kinase activity (at 20 min) of CKB (cytosol fraction) and MTCK (mitochondrial fraction) in a DNFB concentration-dependent manner. (C , D) Inhibition of creatine kinase activity of CKB (C) and MTCK (D) in a time-dependent manner. Error bar, standard deviation of three independent trials. Statistical significance was calculated using a two-tailed ordinary analysis of variance. Abbreviations: CKB: creatine kinase B; MTCK: mitochondrial creatine kinase; DNFB: dinitrofluorobenzene; TOM20: translocase of the outer membrane 20; GAPDH: glyceraldehyde 3-phosphate dehydrogenase.Index in PubMed under a CC BY license. PMID: 37204253

BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
888-466-3604 | support@bosterbio.com | www.bosterbio.com



Immunohistochemistry of CKB and MTCK in CRCs. (A , B) Immunohistochemical examination of CKB (A) and MTCK (B). Immunohistochemical activity is classified into grade 0–3. Grade 0 is equivalent to the expression in the normal colonic epithelium. (C) Histogram of expression grade. (D) Immunohistochemical examination of CKB and MTCK in case of well-differentiated adenocarcinoma (tub1), signet ring cell carcinoma (sig), primary tumor and liver metastasis of tub1 case. Scale bar, 100 um. Abbreviations: CKB: creatine kinase B; MTCK: mitochondrial creatine kinase; CRC: colorectal cancer.Index in PubMed under a CC BY license. PMID: 37204253



Effect of creatine shuttle inhibition by DNFB on growth and stemness of CRC cells. (A) Effect of DNFB on cell growth. (B) Effect of pCr on DNFB-treated CRC cells. (C) Effect of DNFB (10 uM) on expression of stemness-associated genes detected by quantitative RT-PCR. beta-Actin was used as a loading control. (D) Effect of DNFB (10 uM) on sphere formation. Scale bar, 50 um. (E , F) Effect of knockdown of CKB or MTCK on cell proliferation (E) and sphere formation (F). Error bars: standard deviation of three independent trials. Statistical significance was calculated using a two-tailed ordinary analysis of variance. Abbreviations: CKB: creatine kinase B; MTCK: mitochondrial creatine kinase; DNFB: dinitrofluorobenzene; CRC: colorectal cancer; OD: optimal density; pCr: phosphocreatine; C: untreated control.Index in PubMed under a CC BY license. PMID: 37204253

Anti-Creatine kinase B type/CKB Antibody

For Research Use Only. Not for use in diagnostic procedures.