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Anti-PKB Alpha Akt1 Antibody (Monoclonal, PKB-175)

Catalog Number: MA1085

About Akt1

PKB alpha also knows as V-AKT murine thymoma vial oncogene homolog 1 (ATK1). AKT1 and the related AKT2 are activated by platelet-derived growth factor. The activation is rapid and specific, and is abrogated by mutations in the pleckstrin homology domain of AKT1. AKT1 gene is mapped to chromosome 14q32.3. Akt1/protein kinase B-alpha is critical for ischemic and VEGF-mediated angiogenesis. Akt1 regulates pathological angiogenesis, vascular maturation and permeability in vivo.

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Overview

Product Name	Anti-PKB Alpha Akt1 Antibody (Monoclonal, PKB-175)
Reactive Species	Chicken, Human, Mouse, Rat
Description	Boster Bio Anti-PKB Alpha Akt1 Antibody (Monoclonal, PKB-175) catalog # MA1085. Tested in WB applications. This antibody reacts with Chicken, Human, Mouse, Rat.
Application	WB
Clonality	Monoclonal PKB-175
Formulation	Mouse IgG in stabilizing components, 1.2% sodium acetate and 0.01mg 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	Mouse
Uniprot ID	P47196

Technical Details

Immunogen	Synthetic peptide corresponding to amino acids 461-477 of human PKB alpha/Akt1, conjugated to KLH.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Mouse IgG (EK1001) for Western blot.
Cross Reactivity	No cross-reactivity with other proteins

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Isotype	Mouse IgG1
Form	Lyophilized
Concentration	Adding 1 ml of PBS buffer will yield a concentration of 100 ug/ml.
Purification	Ascites
Suggested Dilutions	Western blot, 0.25-0.5ug/ml, Human, mouse, rat, chicken

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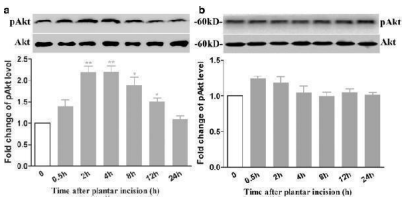
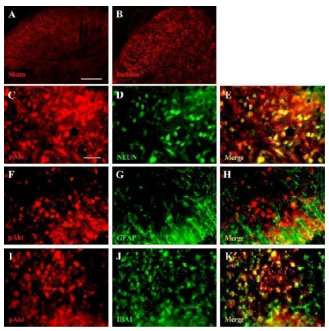
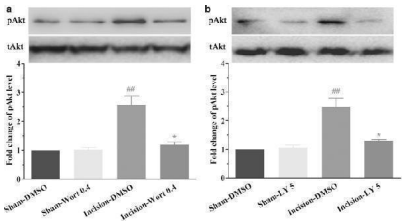
Anti-PKB Alpha Akt1 Antibody (Monoclonal, PKB-175) (MA1085) Images



Plantar incision induced a time-dependent increase of spinal pAkt expression in male mice, but not in female mice. The expression of pAkt and Akt was assayed at 0, 0.5, 2, 4, 8, 12, 24 h time-points after plantar incision in male mice (a) or female mice (b). The representative bands (top) for the expression of pAkt in the spinal cord at different time points after plantar incision and the quantitative data (bottom) for the expression of pAkt are shown. The fold change for the density of pAkt was normalized to total Akt for each sample, respectively. The fold change of pAkt in the 0-time point group was set at 1 for quantification. * $P < 0.05$, ** $P < 0.01$, compared with 0-time point group. (one-way ANOVA, followed by Bonferroni's multiple comparison test; $n = 4$ mice in each group). Data are presented as mean ± SEM Index in PubMed under a CC BY license. PMID: 31366324



Cellular localization of spinal-activated Akt induced plantar incision in male mice. Double immunofluorescence staining of pAkt (red) was performed with cell-specific markers: neuronal nuclei (NEUN, green) for neurons, ionized calcium-binding adapter molecule 1 (IBA1, green) for microglia, and glial fibrillary acidic protein (GFAP, green) for astrocytes at 2 h after plantar incision in male mice. Immunochemistry with pAkt antibody indicated increased pAkt immunoreactivity levels in the spinal dorsal horn (B). Double immunofluorescence staining showed that spinal pAkt was expressed in neurons and microglia (localization with NEUN or IBA1, respectively), but not expressed by astrocytes (no colocalization between pAkt and GFAP). Yellows: colocalization of pAkt with respective cell markers. $n = 4$ mice in each group. Scale bar = 200 um (A , B); 50 um (C – K) Index in PubMed under a CC BY license. PMID: 31366324



Post-surgical inhibition of PI3K attenuated spinal Akt activation induced by plantar incision in male mice. PI3K inhibitor wortmannin (0.4 ug) or LY294002 (5 ug) or DMSO was intrathecally injected at 45 min after plantar incision. The expression of spinal pAkt was assayed at the 2-h time-point after plantar incision. Post-surgical inhibition of PI3K with both wortmannin (a) and LY294002 (b) attenuated spinal Akt activation induced by plantar incision. The representative bands (top) and the quantitative data (bottom) for the expression of spinal pAkt after plantar incision. The fold change for the density of each pAkt was normalized to total Akt for each sample. The fold change of pAkt level in Sham-DMSO group was set at 1 for quantifications. ## $P < 0.01$ compared with Sham-DMSO group; * $P < 0.05$, compared with Incision-DMSO group (one-way ANOVA, followed by Bonferroni's multiple comparison test; $n = 4$ mice in each group). Data are presented as mean ± SEM Index in PubMed under a CC BY license. PMID: 31366324

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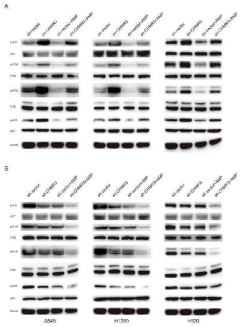
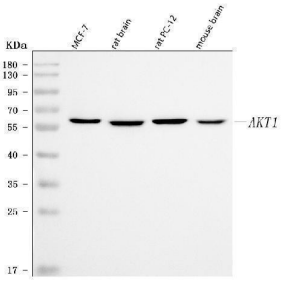


AMP treatment regulates the PI3K/AKT and MAPK signaling pathways. Lung cells (A549, NCI-H1299, and NCI-H520) with stable CHRM3 overexpression (A) or knockdown (B) were treated with or without 100 ug/mL AMPs for 48 h. The expression levels of PI3K/AKT pathway proteins and MAPK pathway proteins were detected using western blot.Index in PubMed under a CC BY license. PMID: 40718823



Western blot analysis of PKB alpha using anti-PKB alpha antibody (MA1085). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human MCF-7 whole cell lysates, Lane 2: rat brain tissue lysates, Lane 3: rat PC-12 whole cell lysates, Lane 4: 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 mouse anti-PKB alpha antigen affinity purified monoclonal antibody (Catalog # MA1085) 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-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for PKB alpha at approximately 60 kDa. The expected band size for PKB alpha is at 56 kDa.

16 Publications Citing This Product

1. PubMed ID: 26136904, Tang Y, Zhang X, Qi F, Chen M, Li Y, Liu L, He W, Li Z, Zu X. Exp Ther Med. 2015 May;9(5):1851-1856. Epub 2015 Feb 25. Afatinib Inhibits Proliferation And Invasion And Promotes Apoptosis Of The T24 Bladder Cancer Cell Line.

2. PubMed ID: 23630144, Wang Gg, Li W, Lu Xh, Zhao X, Xu L. Croat Med J. 2013 Apr;54(2):171-9. Taurine Attenuates Oxidative Stress And Alleviates Cardiac Failure In Type I Diabetic Rats.

3. PubMed ID: 22626874, Wang G, Li W, Lu X, Bao P, Zhao X. J Diabetes Complications. 2012 Jul-Aug;26(4):259-65. Doi: 10.1016/J.Jdiacomp.2012.04.007. Epub 2012 May 23. Luteolin Ameliorates Cardiac Failure In Type I Diabetic Cardiomyopathy.

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