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Anti-AKT1 Monoclonal Antibody

Catalog Number: M00024-1

Overview

Product Name	Anti-AKT1 Monoclonal Antibody
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-AKT1 Monoclonal Antibody catalog # M00024-1. Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IP, IF, IHC, ICC, WB
Clonality	Monoclonal EBG-1
Formulation	Rabbit IgG in stabilizing components, phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
Storage Instructions	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P31749

Technical Details

Immunogen	A synthesized peptide derived from human AKT1 Akt, also referred to as PKB or Rac, plays a critical role in controlling survival and apoptosis. This protein kinase is activated by insulin and various growth and survival factors to function in a wortmannin-sensitive pathway involving PI3 kinase. Akt is activated by phospholipid binding and activation loop phosphorylation at Thr308 by PDK1 and by phosphorylation within the carboxy terminus at Ser473.
Isotype	Rabbit IgG
Form	Liquid
Concentration	0.5mg/ml
Purification	Affinity-chromatography
Suggested Dilutions	WB 1:500-2000 IHC 1:50-200 ICC/IF 1:50-200 IP 1:50 FC 1:50

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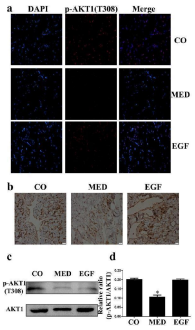
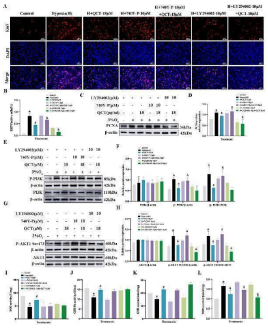
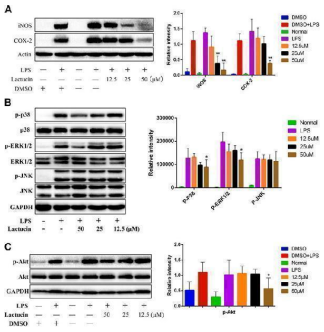
Anti-AKT1 Monoclonal Antibody (M00024-1) Images



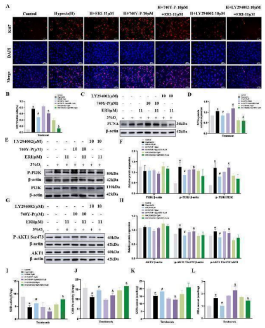
(a) Immunofluorescence staining of cavernous tissue using an antibody against p-Akt1(Tyr308) in the CO, MED and EGF groups. (b) Immunohistochemistry staining of cavernous tissue was performed with an antibody against Akt1 in three groups (magnification: ×400 scale bar: 20 um). (c,d) Western blot analysis of p-Akt1 (Tyr308) and Akt1 expression in the three groups. Data in the bar graphs are expressed as the means ± SD of 5~7 rats. *p<0.05 vs the CO group. p-Akt, phosphor-protein kinase B; CO, normal control rats; MED, metabolic syndrome-related erectile dysfunction rats; EGF, MED rats treated with epithelial growth factor; SD, standard deviation. Index in PubMed under a CC BY license. PMID: 29044143



Treatment with quercetin in PASMC proliferation and antioxidation under hypoxia. (A, B) Quercetin in cell proliferation were assessed using Ki67 immunofluorescence and quantitative evaluation in hypoxia-induced PASMCs (n = 3, scale bar = 100 um). (C–H) Primitive Western blots and quantitative densities of PCNA, p-PI3K, PI3K, p-AKT1 Ser473, AKT1 with or without 740Y-P(10 uM), LY294002(10 uM), or quercetin (18 uM) in PASMCs under 3% O 2 for 24 h (I–L) Quantitative evaluation of SOD and GSH-Px activities and GSH and MDA contents in 3% O 2 -induced PASMCs. n = 3. All data represent mean ± SD. * p < 0.05 vs. control group, # p < 0.05 vs. 3% O 2 group, and p < 0.05 vs. 3% O 2 + QCT-18 uM.Index in PubMed under a CC BY license. PMID: 40385484



Effect of Lactucin on the activation of signaling pathways. (A) The whole-cell lysates were extracted for immunoblotting to determine the level of iNOS, COX-2. (B, C) The whole-cell lysates were extracted for immunoblotting to determine the levels of phospho- or total MAPKs (ERK, p38, and JNK) and AKT identified based on their antibodies. Data are shown as mean ± SD for each group (* p < 0.05 with the LPS Group, n = 3. Normal Group: RAW264.7 cells without LPS activation).Index in PubMed under a CC BY license. PMID: 33995112



Treatment with eriocitrin in PASMC proliferation and antioxidation under hypoxic conditions. (A, B) Eriocitrin in cell proliferation were assessed using Ki67 immunofluorescence and quantitative evaluation in hypoxia-induced PASMCs (n = 3, scale bar = 100 um). (C–H) Primitive Western blots and quantitative densities of PCNA, p-PI3K, PI3K, p-AKT1 (Ser473), AKT1 with or without 740Y-P (10 uM), LY294002 (10 uM), or eriocitrin (11 uM) in PASMCs under 3% O 2 for 24 h (I–L) Quantitative evaluation of SOD and GSH-Px activities and GSH and MDA contents in 3% O 2 -induced PASMCs. n = 3. All data are represented as the mean ± SD. * p < 0.05 vs. control group, # p < 0.05 vs. 3%

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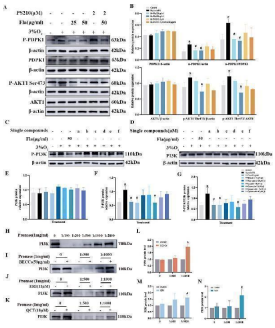
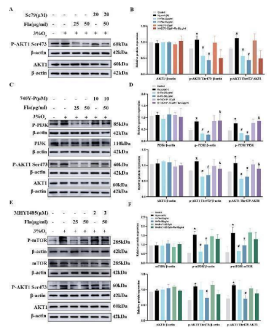
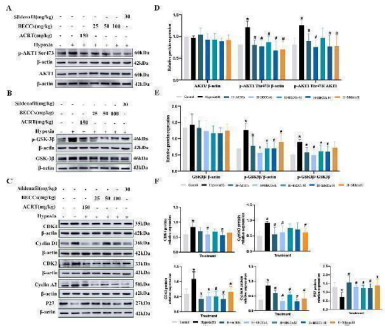
O 2 group, and p < 0.05 vs. 3% O 2 + ERI-11 uM.Index in PubMed under a CC BY license. PMID: 40385484



Eriocitrin and quercetin are responsible for anti-proliferation by targeting the PI3K protein in PASMCs under hypoxic conditions. ERI, eriocitrin; QCT, quercetin. (A, B) Primitive bands and quantitative evaluation of p-mTOR, mTOR, p-AKT1 (Ser473), and AKT1 with or without PS210 (2 uM) by Western blotting in PASMCs under 3% O 2 . n = 3. All data are represented as the mean ± SD. * p < 0.05 vs. control group, # p < 0.05 vs. 3% O 2 group, and p < 0.05 vs. 3% O 2 + FLA-50 ug/ml group. (C–G) Primitive bands and quantitative densities of p-PI3K and PI3K by Western blots. n = 3. All data are represented as the mean ± SD. * p < 0.05 vs. control group and # p < 0.05 vs. 3% O 2 group. (H–N) BECC, ERI, and QCT treatment increased the stability of PI3K in PASMC protease lysates by the DARTS experiment. (H–K) Primitive Western blots of PI3K. (L–N) Quantitative evaluation of PI3K levels. n = 3. All data are represented as the mean ± SD. * p < 0.05 vs. DMSO group.Index in PubMed under a CC BY license. PMID: 40385484



Flavonoids inhibit the proliferation of PASMCs under hypoxic conditions by inhibiting the PI3K/AKT axis. (A, B) Primitive bands and quantitative densities of p-AKT1 Ser473 and AKT1 with or without Sc79 (20 uM) by Western blots in PASMCs under 3% O 2 . (C, D) Primitive bands and quantitative densities of p-PI3K, PI3K, p-AKT1 Ser473, and AKT1 with or without 740Y-P (10 uM) by Western blots in PASMCs under 3% O 2 . (E, F) Primitive bands and quantitative densities of p-PDPK1, PDPK, p-AKT1 Ser473, and AKT1 with or without MYH1485 (2 uM) in PASMCs by Western blots under 3% O 2 . n = 3. All data are represented as the mean ± SD. * p < 0.05 vs. control group, # p < 0.05 vs. 3% O 2 group, and p < 0.05 vs. 3% O 2 + Fla-50 ug/ml group.Index in PubMed under a CC BY license. PMID: 40385484



BECCs regulate the AKT/GSK3beta/CDK/cyclin signaling pathway in HAPH rats. (A–C) Primitive bands of p-AKT1 S473, AKT1, p-GSK3beta, GSK3beta, CDK4, cyclin D1, CDK2, cyclin A, and P27 by Western blots in lung tissues. (D–F) Quantitative evaluation of p-AKT1 (S473), AKT1, p-GSK3beta, GSK3beta, CDK4, cyclin D1, CDK2, cyclin A, and P27 in the lung tissues. n = 5. All data are represented as the mean ± SD. * p < 0.05 vs. control group and # p < 0.05 vs. hypoxia group.Index in PubMed under a CC BY license. PMID: 40385484

Western blot analysis of AKT1 using anti-AKT1 antibody (M00024-1). 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 HepG2 whole cell lysates, Lane 2: human A549 whole cell lysates, Lane 3: human Hela whole cell lysates, Lane 4: human Raji whole cell lysates, Lane 5: human MCF-7 whole cell lysates,

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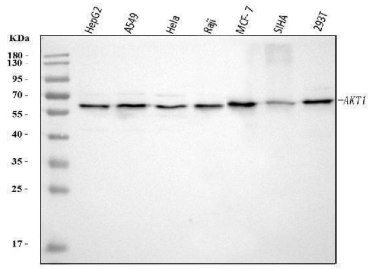
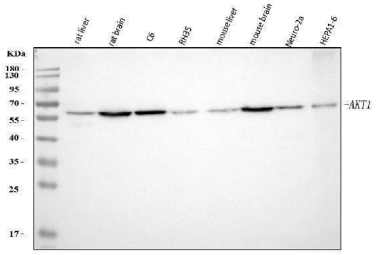
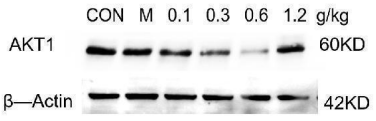


Lane 6: human SiHa whole cell lysates, Lane 7: human 293T whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-AKT1 antigen affinity purified monoclonal antibody (Catalog # M00024-1) at 1:500 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 at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for AKT1 at approximately 56 kDa. The expected band size for AKT1 is at 56 kDa.



Western blot analysis of AKT1 using anti-AKT1 antibody (M00024-1). 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: rat liver tissue lysates, Lane 2: rat brain tissue lysates, Lane 3: rat C6 whole cell lysates, Lane 4: rat RH35 whole cell lysates, Lane 5: mouse liver tissue lysates, Lane 6: mouse brain tissue lysates, Lane 7: Mouse Neuro-2a whole cell lysates, Lane 8: Mouse HEPA1-6 whole cell 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-AKT1 antigen affinity purified monoclonal antibody (Catalog # M00024-1) at 1:500 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 at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for AKT1 at approximately 56 kDa. The expected band size for AKT1 is at 56 kDa.



Western blot analysis of AKT1 using anti-AKT1 antibody (M00024-1). Electrophoresis was performed on a 5-20% 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: Control group-mouse hippocampus tissue, Lane 2: Model group-mouse hippocampus tissue, Lane 3: Drug treatment (0.1 g/kg) – Mouse hippocampus tissue Lane 4: Drug treatment (0.3 g/kg) – Mouse hippocampus tissue, Lane 5: Drug treatment (0.6 g/kg) – Mouse hippocampus tissue, Lane 5: Drug treatment (1.2 g/kg) – Mouse hippocampus tissue. 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-AKT1 antigen affinity purified monolonal antibody (A04887-1) 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

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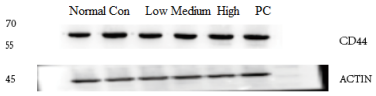
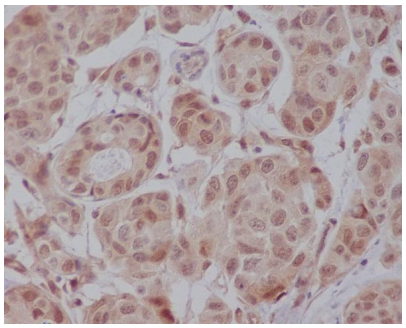
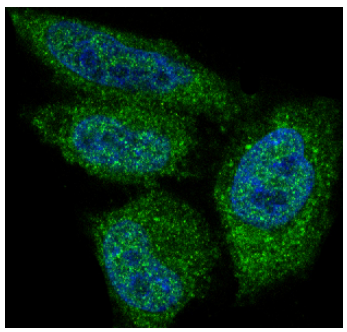
secondary antibody (Catalog # BA1054) at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate with ChemiDoc MP system. A specific band was detected for AKT1 at approximately 60 kDa. The expected band size for AKT1 is at 56 kDa.



Western blot analysis of AKT1 using anti-AKT1 antibody (M00024-1). Electrophoresis was performed on a 5-20% 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: Normal group-Rat colon tissue lysates, Lane 2: Control group-Rat colon tissue lysates, Lane 3: Drug treatment (low) –Rat colon tissue lysates Lane 4: Drug treatment (medium) –Rat colon tissue lysates, Lane 5: Drug treatment (high) –Rat colon tissue lysates, Lane 5: Drug treatment (positive) –Rat colon 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-AKT1 antigen affinity purified monolonal antibody (A04887-1) 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 with ChemiDoc MP system. A specific band was detected for AKT1 at approximately 60 kDa. The expected band size for AKT1 is at 56 kDa.



Immunohistochemical analysis of paraffin-embedded human colon, using AKT1 Antibody.



Immunofluorescent analysis of Hela cells, using AKT1 Antibody.

Immunofluorescent analysis using the Antibody at 1:50 dilution.

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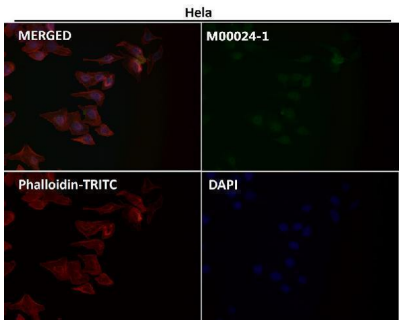
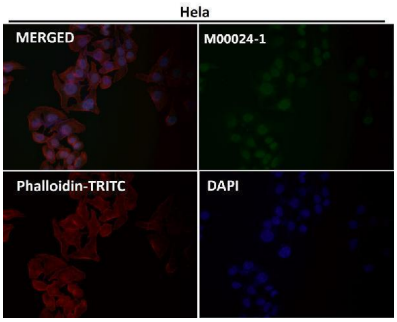
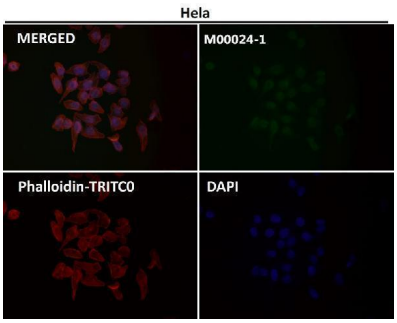
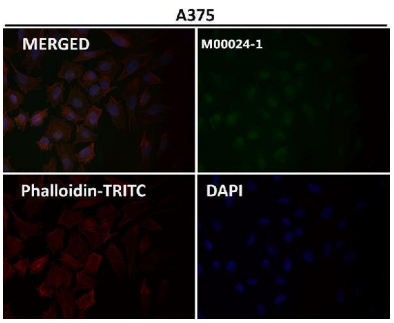




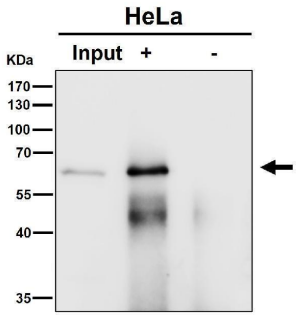
Immunofluorescent analysis using the Antibody at 1:50 dilution.



Immunofluorescent analysis using the Antibody at 1:150 dilution.



Immunofluorescent analysis using the Antibody at 1:50 dilution.



Immunoprecipitate (IP) analysis using the Antibody at 1:50 dilution. (wb at 1:3K dilution)

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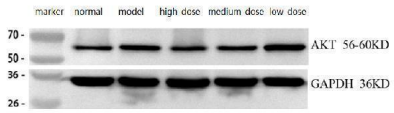

Western blot analysis of AKT1 using anti-AKT1 antibody (M00024-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: normal group-Rat skeletal muscle tissue lysates, Lane 2: model group-Rat skeletal muscle tissue lysates, Lane 3: high-dose group-Rat skeletal muscle tissue lysates, Lane 4: medium-dose group-Rat skeletal muscle tissue lysates, Lane 5: low-dose group-Rat skeletal muscle 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-AKT1 antigen affinity purified monoclonal antibody (Catalog # M00024-1) at 1:2000 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 at a dilution of 1:10000 for 1 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for AKT1 at approximately 56-60 kDa. The expected band size for AKT1 is at 56 kDa.

17 Publications Citing This Product

1. PubMed ID: 10.1016/j.brainres.2021.147508, The calcimimetic R-568 attenuates subarachnoid hemorrhage-induced vasospasm through PI3K/Akt/eNOS signaling pathway in the rat model

2. PubMed ID: 33930376, Güleç □, □engelen A,Karagöz-Güzey F,Önay-Uçar E,Eren B,Vahabova G,Karacan M,Bilgen Özcan T.The calcimimetic R-568 attenuates subarachnoid hemorrhage-induced vasospasm through PI3K/Akt/eNOS signaling pathway in the rat model.Brain Res.2021 Apr 27:147508.doi:10.1016/j. brainres.2021. 147508.Epub ahead of print.PMID:33930376.

3. PubMed ID: 33581257, Qu K,Cha H, Ru Y,Que H,Xing M.Buxuhuayu Decoction Accelerates Angiogenesis by Activating the PI3K-Akt-eNOS Signalling Pathway in a Streptozotocin-Induced Diabetic Ulcer Rat Model.J Ethnopharmacol.2021 Feb 10:113824.doi:10.1016/j.jep.2021.113824.Epub ahead

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Anti-AKT1 Monoclonal Antibody

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