

## Anti-AKT1 Monoclonal Antibody

Catalog Number: M00024-1

### About AKT1

The ion channels activated by glutamate are typically divided into two classes. Those that are sensitive to N-methyl-D-aspartate (NMDA) are designated NMDA receptors (NMDAR) while those activated by alpha-amino-3-hydroxy-5-methyl-4-isoxalone propionic acid (AMPA) are known as AMPA receptors (AMPA). The AMPAR are comprised of four distinct glutamate receptor subunits designated (GluR1-4) and they play key roles in virtually all excitatory neurotransmission in the brain (Keinänen et al., 1990; Hollmann and Heinemann, 1994). The GluR1 subunit is widely expressed throughout the nervous system. Phosphorylation of Ser-845 on GluR1 is thought to be mediated by PKA and phosphorylation of this site increases the conductance of the AMPAR (Roche et al., 1996; Banke et al., 2000). In addition, phosphorylation of this site has been linked to synaptic plasticity as well as learning and memory (Lee et al., 2003; Esteban et al., 2003).

### 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 phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
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	Actual concentration vary by lot. Use suggested dilution ratio to decide dilution procedure.

Purification	Affinity-chromatography
Suggested Dilutions	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>WB 1:500-1:2000 IHC 1:50-1:200 ICC/IF 1:50-1:200 IP 1:50 FC 1:50</p>

## Anti-AKT1 Monoclonal Antibody (M00024-1) Images

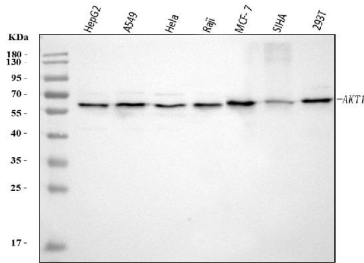


Figure 1. Western blot analysis of AKT1 using anti-AKT1 antibody (M00024-1).

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,  
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.

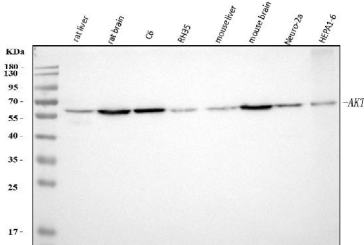
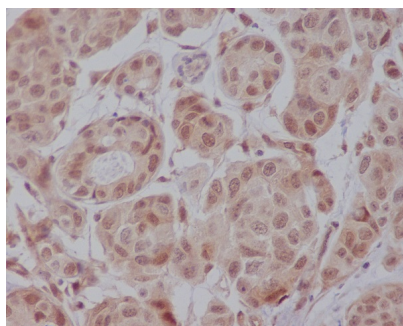


Figure 2. Western blot analysis of AKT1 using anti-AKT1 antibody (M00024-1).

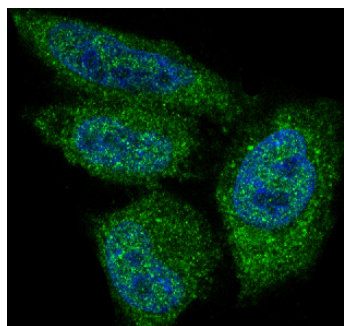
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

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.

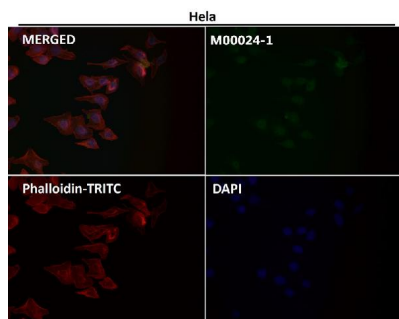
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-AKT1 antigen affinity purified monoclonal antibody (Catalog # M00024-1) at 1:500 overnight 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.



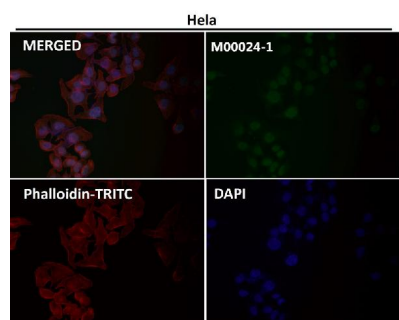
Immunohistochemical analysis of paraffin-embedded human colon, using AKT1 Antibody.



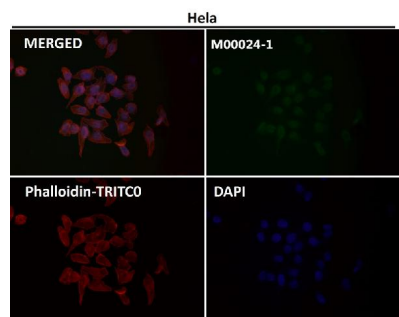
Immunofluorescent analysis of HeLa cells, using AKT1 Antibody.



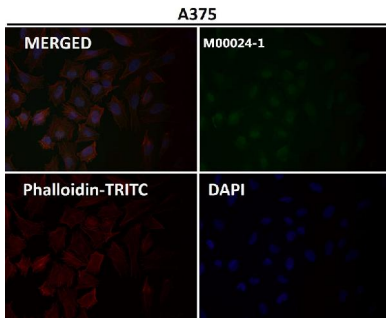
Immunofluorescent analysis using the Antibody at 1:50 dilution.



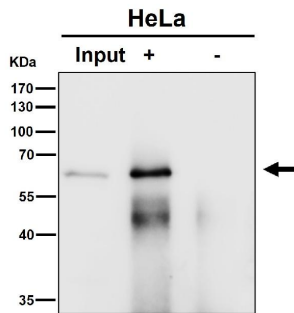
Immunofluorescent analysis using the Antibody at 1:50 dilution.



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)

## 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 İ, 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. Buxuahuayu 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

Visit [bosterbio.com/anti-akt1-antibody-m00024-1-boster.html](https://bosterbio.com/anti-akt1-antibody-m00024-1-boster.html) to see all 17 publications.

## 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.



Anti-AKT1 Monoclonal Antibody