

Anti-AKT (MOUSE) Monoclonal Antibody - 200-301-401
Code: 200-301-401

Size: 100 µg

Product Description: Anti-AKT (MOUSE) Monoclonal Antibody - 200-301-401

Concentration: 1.0 mg/mL by UV absorbance at 280 nm

PhysicalState: Liquid (sterile filtered)

Label	Unconjugated
Host	Mouse
Gene Name	AKT1, AKT2, AKT3
Species Reactivity	human, mouse, rat, chimpanzee
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Stabilizer	None
Preservative	0.01% (w/v) Sodium Azide
Storage Condition	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Synonyms	mouse anti-AKT Antibody, RAC-PK-alpha, Protein kinase B, PKB, C-AKT, RAC-alpha serine/threonine-protein kinase, Proto-oncogene c-Akt, AKT1, AKT 1, AKT-1
Application Note	Mouse Anti-AKT Antibody is suitable for ELISA, immunohistochemistry, immunoprecipitation and western blotting. Expect a band approximately 54 - 56 kDa in size corresponding to AKT protein by western blotting in the appropriate cell lysate or extract. Specific conditions for reactivity should be optimized by the end user. For immunohistochemistry we recommend the use of fresh frozen tissues. Attempts at staining paraffin-embedded formalin fixed tissues were negative. No pre-treatment of sample is required.
Background	AKT is a component of the PI-3 kinase pathway and is activated by phosphorylation at Ser 473 and Thr 308. AKT is a cytoplasmic protein also known as AKT1, Protein Kinase B (PKB) and rac (related to A and C kinases). AKT is a key regulator of many signal transduction pathways. AKT exhibits tight control over cell proliferation and cell viability. Overexpression or inappropriate activation of AKT is noted in many types of cancer. AKT mediates many of the downstream events of PI 3-kinase (a lipid kinase activated by growth factors, cytokines and insulin). PI 3-kinase recruits AKT to the membrane, where it is activated by PDK1 phosphorylation. Once phosphorylated, AKT dissociates from the membrane and phosphorylates targets in the cytoplasm and the cell nucleus. AKT has two main roles: (i) inhibition of apoptosis; (ii) promotion of proliferation. Anti-AKT Antibody is ideal for investigators involved in Cell Signaling, Neuroscience, Signal Transduction research.
Purity And Specificity	Anti-AKT Antibody was purified by Protein A chromatography. This antibody is specific for human and mouse AKT protein. A BLAST analysis was used to suggest cross-reactivity with AKT1, AKT2, and AKT3 from human, mouse, rat and chimpanzee sources based on 100% homology with the immunizing sequence. Cross-reactivity with AKT1, 2, 3 was determined with Western Blot. Cross reactivity of AKT from other sources has not been determined.
Assay Dilutions	User Optimized
ELISA	1:20,000
Western Blot	1:500 - 1:3,000
Immunohistochemistry	20 µg/mL
Flow Cytometry	User Optimized
Other Assays	User Optimized
Expiration	Expiration date is one (1) year from date of opening.
Immunogen	Anti-AKT Antibody was produced by repeated immunizations in mice with a synthetic peptide corresponding to residues internal to the human AKT1 protein.

General Reference

Lawlor, M. A. and Alessi, D.R. (2001). PKB/AKT: a key mediator of cell proliferation, survival and insulin responses. *J. Cell Science* 114:2903-2910. Alessi, D. R. (2001). Discovery of PDK1, one of the missing links in insulin signal transduction. *Biochem. Soc. Trans.* 29,1 -14. Jones, P.F., Jakubowicz, T., Pitossi, F.J., Maurer, F. and Hemmings, B.A. (1991) Molecular cloning and identification of a serine/threonine protein kinase of the second-messenger subfamily. *Proc. Natl. Acad. Sci. U.S.A.* 88 (10), 4171-4175. Staal, S.P. (1987) Molecular cloning of the akt oncogene and its human homologues AKT1 and AKT2: amplification of AKT1 in a primary human gastric adenocarcinoma. *Proc. Natl. Acad. Sci. U.S.A.* 84 (14), 5034-5037.

Related Products

000-000-401	AKT CONTROL PEPTIDE - 000-000-401
200-301-268	Anti-AKT pS473 (MOUSE) Monoclonal Antibody - 200-301-268
200-301-269	Anti-AKT pT308 (MOUSE) Monoclonal Antibody - 200-301-269
200-301-401	Anti-AKT (MOUSE) Monoclonal Antibody - 200-301-401

Related Links

NCBI - 62241011

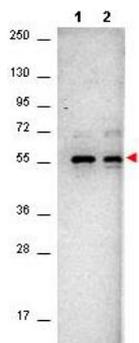
<http://www.ncbi.nlm.nih.gov/protein/62241011>

UniProtKB - <http://www.uniprot.org/uniprot/P31749>

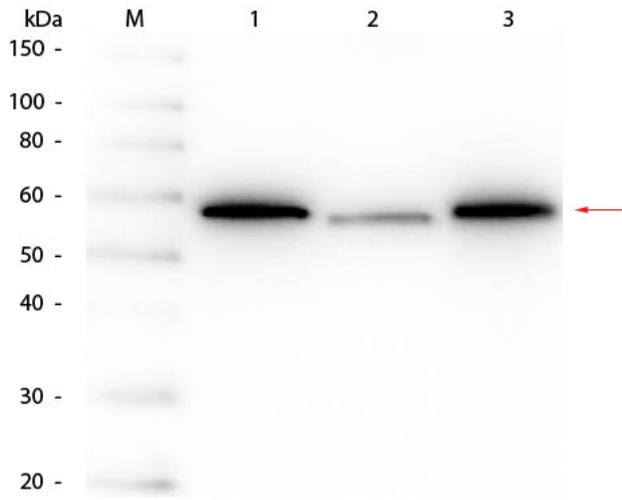
GeneID - 207

Images

- 1 Western Blot of Mouse anti-AKT antibody. Lane 1: unstimulated NIH/3T3 cell lysates. Lane 2: PDGF stimulated NIH/3T3 cell lysates. Load: 10 µg per lane. Primary antibody: AKT antibody at 1:400 for overnight at 4°C. Secondary antibody: HRP conjugated Gt-a-Mouse IgG (p/n 610-103-121) was used at a 1:40,000 dilution for 1 h at 4° C with FemtoMax™ enhanced chemiluminescent reagent (p/n FEMTOMAX-100). Block: 5% BLOTTO (p/n B501-0500) in TBS for 2h at RT. Observed size: ~56 kDa for AKT. Other band(s): none.

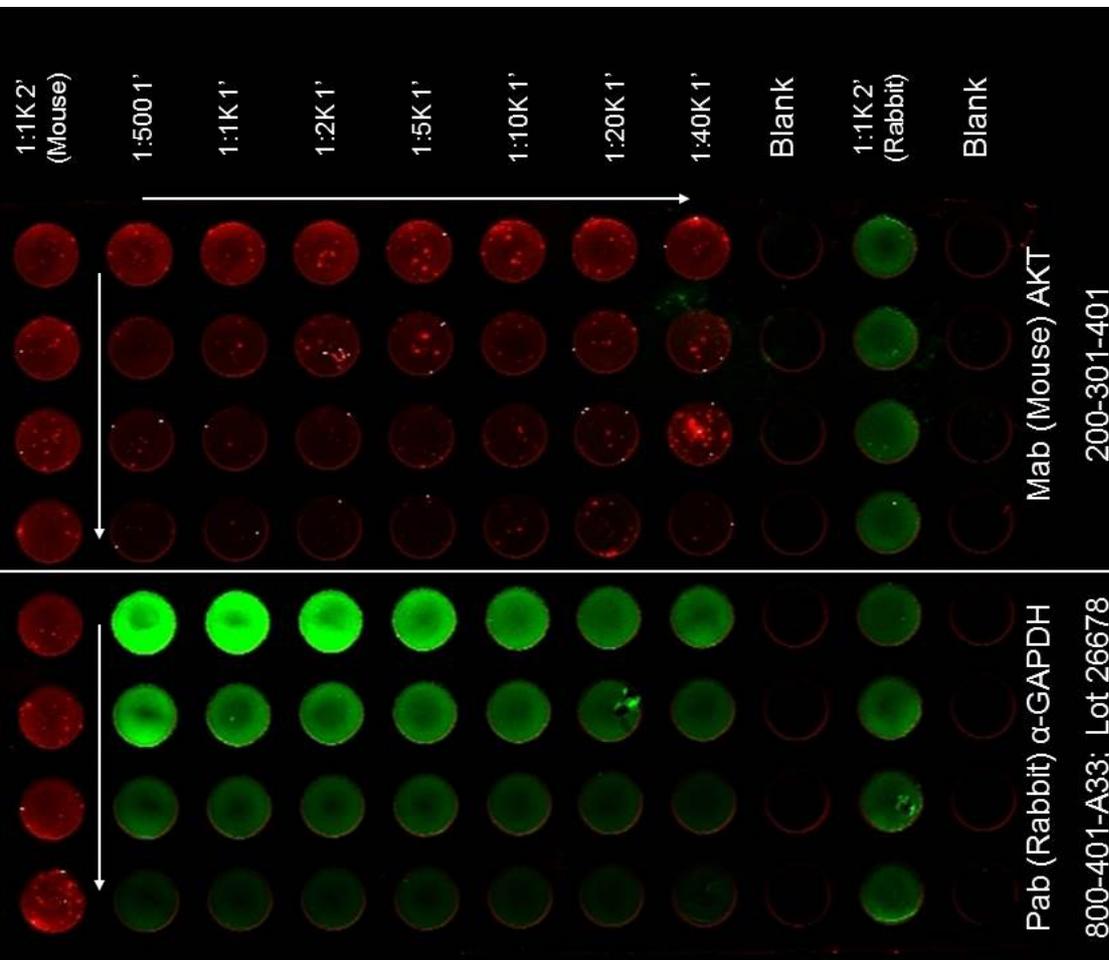


- 2 Western Blot of Mouse anti-AKT Monoclonal Antibody. Lane 1: His-AKT1 Recombinant Protein. Lane 2: His-AKT2 Recombinant Protein. Lane 3: His-AKT3 Recombinant Protein. Load: 50 ng per lane. Primary antibody: Mouse anti-AKT Monoclonal Antibody at 1:1,000 overnight at 4°C. Secondary antibody: HRP mouse secondary antibody at 1:40,000 for 30 min at RT. Block: MB-070 for 30 min at RT. Predicted/Observed size: 54-56 kDa, 54-56 kDa for AKT1, AKT2, AKT3.



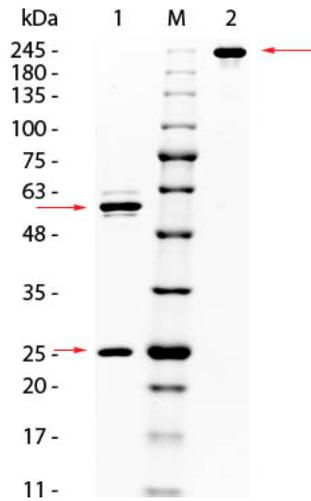
3

ELISA of Mouse Anti-AKT Antibody. Antigen: HCT-116 cell line. Coating amount: Confluent in the 96 well plate. Primary antibody: AKT or GAPDH antibody at 2 µg/mL. Dilution series: Primary and Secondary Antibodies 2-fold. Mid-point concentration: N/A. Secondary antibody: DyLight™ 680 donkey secondary antibody and DyLight™ 800 goat secondary antibody starting at 1:1,000. Substrate: None.



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SDS PAGE of Mouse anti-AKT Monoclonal Antibody. Lane 1: Reduced Mouse anti-AKT Monoclonal Antibody. Lane 2: 3 µL Opal Prestained Marker (p/n MB-210-0500). Lane 3: Non-Reduced Mouse anti-AKT Monoclonal Antibody. Load: 1 µg per lane. Predicted/Observed size: Non-Reduced at 160kDa/Observed at 245 kDa; Reduced at 55, 25 kDa. Non-reduced migrates slightly higher.



Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.