

**Datasheet for 200-301-401S****AKT Antibody****Overview**

|                      |                                                     |
|----------------------|-----------------------------------------------------|
| <b>Description:</b>  | Anti-AKT (MOUSE) Monoclonal Antibody - 200-301-401S |
| <b>Item No.:</b>     | 200-301-401S                                        |
| <b>Size:</b>         | 25 µL                                               |
| <b>Applications:</b> | ELISA, WB                                           |
| <b>Reactivity:</b>   | Human, Mouse, Rat, Chimpanzee                       |
| <b>Host Species:</b> | Mouse                                               |

**Product Details**

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| <b>Background:</b>   | 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. |
| <b>Synonyms:</b>     | mouse anti-AKT Antibody, RAC-PK-alpha, Protein kinase B, PKB, C-AKT, RAC-alpha serine/threonine-protein kinase, Proto-oncogene c-Akt, AKT1, AKT2, AKT3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Host Species:</b> | Mouse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Clonality:</b>    | Monoclonal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Clone ID:</b>     | 14E5.16C8.25F6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Format:</b>       | IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

**Target Details**

|                   |                  |
|-------------------|------------------|
| <b>Gene Name:</b> | AKT1, AKT2, AKT3 |
|-------------------|------------------|

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity:</b>         | Human, Mouse, Rat, Chimpanzee                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Immunogen Type:</b>     | Conjugated Peptide                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Immunogen:</b>          | Anti-AKT Antibody was produced by repeated immunizations in mice with a synthetic peptides corresponding to residues internal to the human AKT1, AKT2, and AKT3 proteins.                                                                                                                                                                                                                                                                        |
| <b>Purity/Specificity:</b> | 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. |
| <b>Relevant Links:</b>     | <ul style="list-style-type: none"> <li>• <a href="#">UniProtKB - P31749</a></li> <li>• <a href="#">NCBI - 62241011</a></li> <li>• <a href="#">GeneID - 207</a></li> </ul>                                                                                                                                                                                                                                                                        |

## Application Details

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Tested Applications:</b> | ELISA, WB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Application Note:</b>    | Mouse Anti-AKT Antibody is tested for ELISA and western blotting. This antibody is suitable for immunohistochemistry and immunoprecipitation. 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. |
| <b>Assay Dilutions:</b>     | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>ELISA:</b>               | 1:20,000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>FC:</b>                  | User Optimized                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>IHC:</b>                 | 20 µg/ml                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>WB:</b>                  | 1:500 - 1:3,000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## Formulation

|                        |                                                            |
|------------------------|------------------------------------------------------------|
| <b>Physical State:</b> | Liquid (sterile filtered)                                  |
| <b>Concentration:</b>  | 1.0 mg/mL by UV absorbance at 280 nm                       |
| <b>Buffer:</b>         | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 |
| <b>Preservative:</b>   | 0.01% (w/v) Sodium Azide                                   |

**Stabilizer:** None

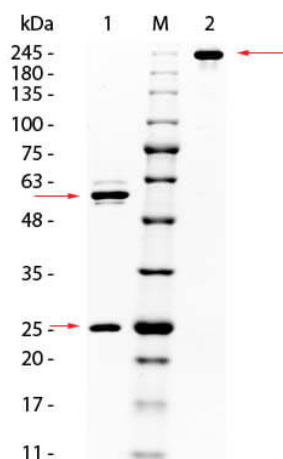
## Shipping & Handling

**Shipping Condition:** Dry Ice

**Storage Condition:** Store vial at -20° C or below prior to opening. This vial contains a relatively low volume of reagent (25 µL). To minimize loss of volume dilute 1:10 by adding 225 µL of the buffer stated above directly to the vial. Recap, mix thoroughly and briefly centrifuge to collect the volume at the bottom of the vial. Use this intermediate dilution when calculating final dilutions as recommended below. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.

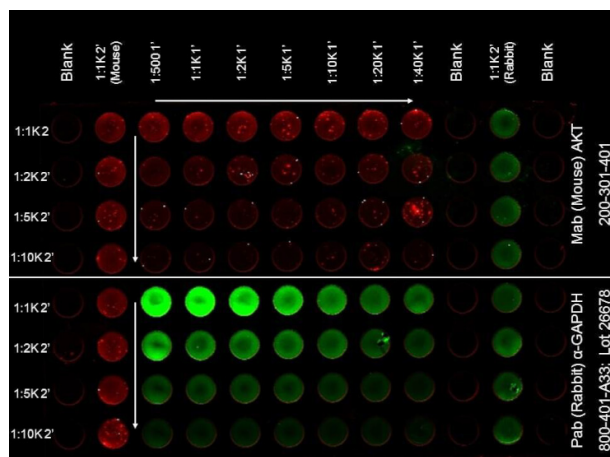
**Expiration:** Expiration date is one (1) year from date of receipt.

## Images



### SDS-PAGE

SDS PAGE of Mouse anti-AKT Monoclonal Antibody. Lane 1: Reduced Mouse anti-AKT Monoclonal Antibody. Lane M: 3 µL Opal Prestained Marker (p/n MB-210-0500). Lane 2: 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.

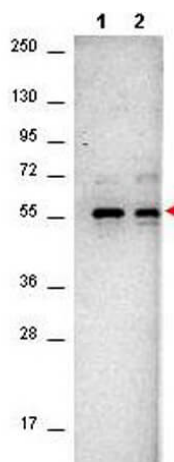


## ELISA

ELISA of Mouse Anti-AKT Antibody. Antigen: HCT-116 cell line (p/n W09-001-GM4). Coating amount: Confluent in the 96 well plate. Primary antibody: AKT (top) or GAPDH (bottom) 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.

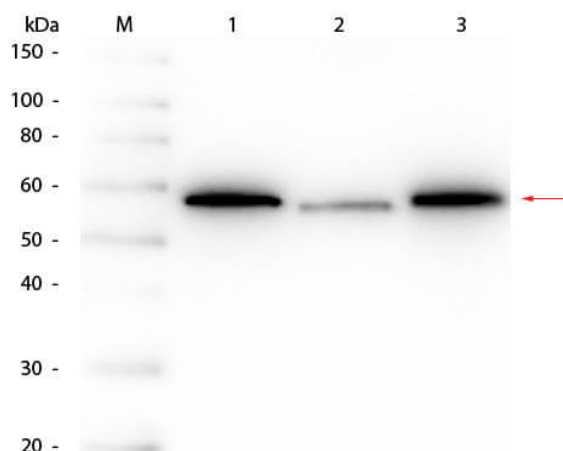
## Western Blot

Western Blot of Mouse anti-AKT antibody. Lane 1: NIH/3T3 cell lysates (p/n W10-000-358). Lane 2: PDGF stimulated NIH/3T3 cell lysates (p/n W10-001-377). Load: 10µg per lane. Primary antibody: Anti-AKT antibody at 1:400 for overnight at 4°C. Secondary antibody: Goat-anti-Mouse IgG HRP conjugated (p/n 610-103-121) was used at a 1:40,000 dilution for 1hr at 2-8°C with FemtoMax™ enhanced chemiluminescent reagent (p/n FEMTOMAX-100). Block: 5% BLOTTO (p/n B501-0500) in TBS for 2hr at RT. Observed size: ~56 kDa for AKT.



## Western Blot

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.



## References

- Figliozi et al. New insights on thyroid hormone mediated regulation of herpesvirus infections. *Cell & Bioscience* (2017)

## 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.