

## ARG45023 anti-Akt 1 (E17K Mutant) antibody [RM336]

Package: 50 µg  
Store at: -20°C

### Summary

|                     |  |
|---------------------|--|
| Product Description | Rabbit monoclonal [RM336] recognizes Akt 1 (E17K Mutant).  |
| Tested Reactivity   | Hu   |
| Tested Application  | ELISA, IHC-P, WB   |
| Specificity         | This antibody reacts to the Akt E17K mutant. No cross reactivity with wild type Akt.   |
| Host                | Rabbit   |
| Clonality           | Monoclonal   |
| Clone               | RM336  |
| Isotype             | IgG  |
| Target Name         | Akt 1  |
| Immunogen           | A peptide corresponding to the Akt E17K Mutant   |
| Conjugation         | Un-conjugated  |
| Alternate Names     | AKT1; AKT Serine/Threonine Kinase 1; RAC; PKB; RAC-Alpha; PRKBA; AKT; V-Akt Murine Thymoma Viral Oncogene Homolog 1; RAC-Alpha Serine/Threonine-Protein Kinase; Protein Kinase B Alpha; Proto-Oncogene C-Akt; Protein Kinase B; RAC-PK-Alpha; EC 2.7.11.1; PKB Alpha; V-Akt Murine Thymoma Viral Oncogene-Like Protein 1; Serine-Threonine Protein Kinase; Rac Protein Kinase Alpha; PKB-ALPHA; EC 2.7.11; AKT1m |

### Application Instructions

| Application table | Application  | Dilution         |
|-------------------|--|------------------|
|                   | ELISA  | 0.05 - 0.5 µg/mL |
|                   | IHC-P  | 0.2 - 1 µg/mL    |
|                   | WB   | 0.1 - 0.5 µg/mL  |
| Application Note  | * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist. |                  |

### Properties

|               |  |
|---------------|--|
| Form          | Liquid   |
| Purification  | Purification with Protein A.                         |
| Buffer        | PBS with 50% Glycerol, 1% BSA and 0.09% sodium azide |
| Preservative  | 0.09% sodium azide                                   |
| Stabilizer    | 50% Glycerol, 1% BSA and 0.09%                       |
| Concentration | 1 mg/ml  |

**Storage instruction** For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

## Bioinformation

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|                              |   |
|------------------------------|---|
| <b>Gene Symbol</b>           | AKT1  |
| <b>Gene Full Name</b>        | AKT Serine/Threonine Kinase 1   |
| <b>Background</b>            | <p>This gene encodes one of the three members of the human AKT serine-threonine protein kinase family which are often referred to as protein kinase B alpha, beta, and gamma. These highly similar AKT proteins all have an N-terminal pleckstrin homology domain, a serine/threonine-specific kinase domain and a C-terminal regulatory domain. These proteins are phosphorylated by phosphoinositide 3-kinase (PI3K). AKT/PI3K forms a key component of many signalling pathways that involve the binding of membrane-bound ligands such as receptor tyrosine kinases, G-protein coupled receptors, and integrin-linked kinase. These AKT proteins therefore regulate a wide variety of cellular functions including cell proliferation, survival, metabolism, and angiogenesis in both normal and malignant cells. AKT proteins are recruited to the cell membrane by phosphatidylinositol 3,4,5-trisphosphate (PIP3) after phosphorylation of phosphatidylinositol 4,5-bisphosphate (PIP2) by PI3K. Subsequent phosphorylation of both threonine residue 308 and serine residue 473 is required for full activation of the AKT1 protein encoded by this gene. Phosphorylation of additional residues also occurs, for example, in response to insulin growth factor-1 and epidermal growth factor. Protein phosphatases act as negative regulators of AKT proteins by dephosphorylating AKT or PIP3. The PI3K/AKT signalling pathway is crucial for tumor cell survival. Survival factors can suppress apoptosis in a transcription-independent manner by activating AKT1 which then phosphorylates and inactivates components of the apoptotic machinery. AKT proteins also participate in the mammalian target of rapamycin (mTOR) signalling pathway which controls the assembly of the eukaryotic translation initiation factor 4F (eIF4E) complex and this pathway, in addition to responding to extracellular signals from growth factors and cytokines, is dysregulated in many cancers. Mutations in this gene are associated with multiple types of cancer and excessive tissue growth including Proteus syndrome and Cowden syndrome 6, and breast, colorectal, and ovarian cancers. Multiple alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Jul 2020]</p> |
| <b>Function</b>              | <p>In response to LPAR1 receptor pathway activation, phosphorylates Rabin8/RAB3IP which alters its activity and phosphorylates WDR44 which induces WDR44 binding to Rab11, thereby switching Rab11 vesicular function from preciliary trafficking to endocytic recycling. [Uniprot]</p>   |
| <b>Cellular Localization</b> | <p>Cell membrane, Cytoplasm, Membrane, Mitochondrion, Nucleus. [Uniprot]</p>  |