

## Product datasheet for **AP06006PU-M**

### **AKT1 Rabbit Polyclonal Antibody**

#### **Product data:**

|                         |  |
|-------------------------|--|
| Product Type:           | Primary Antibodies   |
| Applications:           | ELISA, IHC, WB   |
| Recommended Dilution:   | <b>Western blot:</b> 1/500-1/1000.<br><b>Immunohistochemistry on Paraffin sections:</b> 1/50-1/200.  |
| Reactivity:             | Human, Mouse, Rat  |
| Host:                   | Rabbit   |
| Clonality:              | Polyclonal   |
| Immunogen:              | Synthetic peptide, corresponding to amino acids 440-490 of Human AKT1.   |
| Specificity:            | This antibody detects endogenous levels of AKT1 / PKB protein (region surrounding Pro467).   |
| Formulation:            | Phosphate buffered saline (PBS), pH 7.2<br>State: Aff - Purified<br>State: Liquid purified Ig fraction (> 95% by SDS-PAGE)<br>Preservative: 0.05% Sodium azide |
| Concentration:          | 1.0 mg/ml  |
| Purification:           | Affinity Chromatography using epitope-specific immunogen   |
| Conjugation:            | Unconjugated   |
| Storage:                | Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.<br>Avoid repeated freezing and thawing.   |
| Stability:              | Shelf life: one year from despatch.  |
| Predicted Protein Size: | ~ 60 kDa   |
| Gene Name:              | AKT serine/threonine kinase 1  |
| Database Link:          | <a href="#">Entrez Gene 207 Human P31749</a>   |

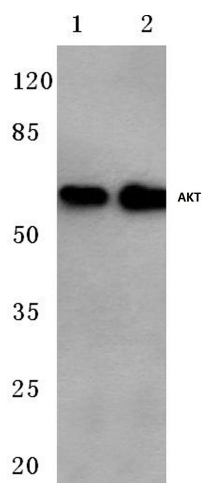
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**Background:**

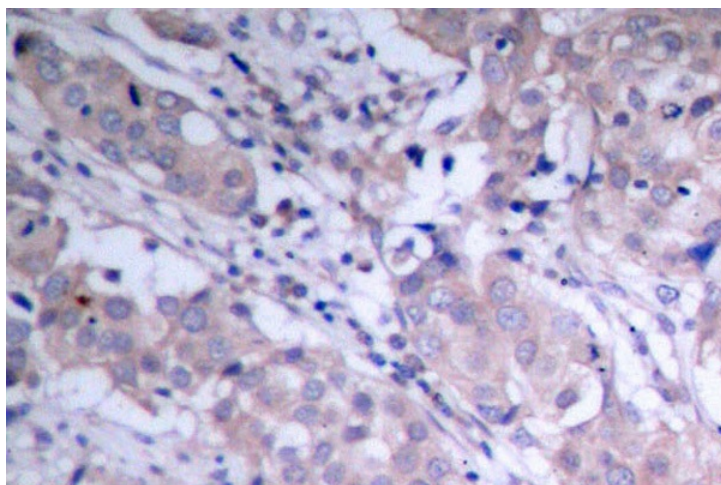
AKT, also known as protein kinase B (PKB), is a 57 kDa serine/threonine protein kinase. There are three mammalian isoforms of Akt: AKT1 (PKB alpha), AKT2 (PKB beta) and AKT3 (PKB gamma) with AKT2 and AKT3 being approximately 82% identical with the AKT1 isoform. Each isoform has a pleckstrin homology (PH) domain, a kinase domain and a carboxy terminal regulatory domain. AKT was originally cloned from the retrovirus AKT8, and is a key regulator of many signal transduction pathways. Its tight control over cell proliferation and cell viability are manifold; overexpression or inappropriate activation of AKT has been seen in many types of cancer. AKT mediates many of the downstream events of phosphatidylinositol 3 kinase (a lipid kinase activated by growth factors, cytokines and insulin). PI3 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. AKT has been shown to play a role in such metabolic processes as glucose transport, glycogen synthesis, glycolysis, and protein synthesis. It had also been shown to promote cell survival by inhibiting apoptosis through its ability to phosphorylate and inactivate several targets, including Bad, Forkhead transcription factors, and caspase 9. Activity of AKT has been associated with the phosphorylation of two sites: T308, in the activation loop of the kinase, and S473, at the carboxyl terminus. Phosphorylation of both sites contributes to AKT activity, however phosphorylation of T308 has been shown to be absolutely essential for AKT activation.

**Synonyms:**

Akt-1, RAC-PK-alpha, Protein kinase B, C-AKT

**Product images:**


Western blot (WB) analysis of Akt antibody at 1/500 dilution Lane 1: Jurkat cell lysate Lane 2: NIH3T3 cell lysate



Immunohistochemical analysis using AKT1 / PKB antibody in Paraffin-embedded human breast carcinoma tissue.