

## Product datasheet for **AP01520PU-N**

### **AKT1 pSer473 Rabbit Polyclonal Antibody**

#### **Product data:**

|                         |   |
|-------------------------|---|
| Product Type:           | Primary Antibodies  |
| Applications:           | 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  |
| Specificity:            | p-Akt Antibody detects endogenous levels of p-Akt. (region surrounding Ser473)  |
| Formulation:            | Phosphate buffered saline (PBS) with 0.05% sodium azide, approx. pH 7.2.<br>State: Aff - Purified<br>State: Liquid purified Ig fraction |
| Concentration:          | 1.0 mg/ml   |
| Purification:           | Affinity chromatography   |
| Conjugation:            | Unconjugated  |
| Storage:                | Store the antibody 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: | ~ 56 kDa  |
| Gene Name:              | AKT serine/threonine kinase 1   |
| Database Link:          | <a href="#">Entrez Gene 207 Human P31749</a>  |



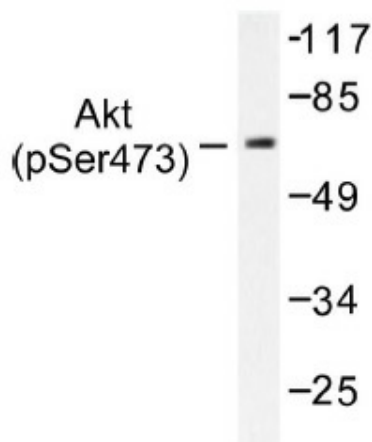
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**Background:**

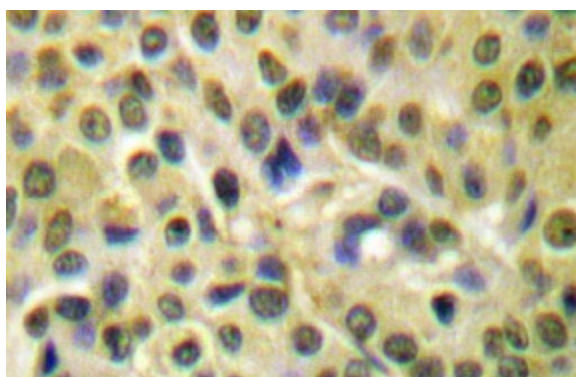
The serine/threonine kinase Akt family contains several members, including Akt1 (also designated PKB or RacPK), Akt2 (also designated PKB $\beta$  or RacPK- $\beta$ ) and Akt 3 (also designated PKB $\gamma$  or thymoma viral proto-oncogene 3), which exhibit sequence homology with the protein kinase A and C families and are encoded by the c-Akt proto-oncogene. All members of the Akt family have a Pleckstrin homology domain. Akt1 and Akt2 are activated by PDGF stimulation. This activation is dependent on PDGFR- $\beta$  tyrosine residues 740 and 751, which bind the subunit of the phosphatidylinositol 3-kinase (PI 3-kinase) complex. Activation of Akt1 by insulin or insulin-growth factor-1(IGF-1) results in phosphorylation of both Thr 308 and Ser 473. Akt proteins become phosphorylated and activated in insulin/IGF-1-stimulated cells by an upstream kinase(s), and the activation of Akt1 and Akt2 is inhibited by the PI kinase inhibitor wortmannin. Taken together, this data strongly suggests that the protein signals downstream of the PI kinases. Akt3 is phosphorylated on a serine residue in response to insulin. However, the activation of Akt3 by insulin is inhibited by prior activation of protein kinase C via a mechanism that does not require the presence of the PH domain. Akt3 is expressed in 3T3-L1 fibroblasts, adipocytes and skeletal muscle and may be involved in various biological processes, including adipocyte and muscle differentiation, glycogen synthesis, glucose uptake, apoptosis and cellular proliferation.

**Synonyms:**

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

**Product images:**

Western blot (WB) analysis of p-Akt antibody (Cat.-No.: AP01520PU-N) in extracts from 293 cells treated with TNF-a 20ng/ml 30'.



Immunohistochemistry (IHC) analyzes of p-Akt antibody (Cat.-No.: AP01520PU-N) in paraffin-embedded human breast carcinoma tissue.