

**Akt1 protein**

<b>Catalog No :</b>	YD0071
<b>Reactivity :</b>	Human
<b>Applications :</b>	WB;SDS-PAGE
<b>Gene Name :</b>	AKT1
<b>Protein Name :</b>	Akt1 protein
<b>Sequence :</b>	Amino acid: 13-253, with his-MBP tag.
<b>Human Gene Id :</b>	207
<b>Human Swiss Prot No :</b>	P31749
<b>Mouse Gene Id :</b>	11651
<b>Mouse Swiss Prot No :</b>	P31750
<b>Formulation :</b>	Liquid in PBS
<b>Source :</b>	E.coli
<b>Dilution :</b>	WB 1:500-2000
<b>Concentration :</b>	SDS-PAGE >90%
<b>Storage Stability :</b>	-20°C/6 month,-80°C for long storage
<b>Function :</b>	<p>catalytic activity:ATP + a protein = ADP + a phosphoprotein.,disease:Defects in AKT1 are associated with breast cancer (BC) [MIM:114480]. BC is an extremely common malignancy, affecting one in eight women during their lifetime.,disease:Defects in AKT1 are associated with colorectal cancer (CRC) [MIM:114500].,disease:Defects in AKT1 are associated with susceptibility to ovarian cancer [MIM:604370]; also called susceptibility to familial breast-ovarian cancer type 1 (BROVCA1).,domain:Binding of the PH domain to the phosphatidylinositol 3-kinase alpha (PI(3)K) results in its targeting to the plasma membrane.,domain:The AGC-kinase C-terminal mediates interaction with</p>

THEM4.,enzyme regulation:Three specific sites, one in the kinase domain (Thr-308) and the two other ones in the C-terminal regulatory region (Ser-473 and Tyr-474), need to be phosphorylated for its full activation.,function:Gene

### Subcellular Location :

Cytoplasm . Nucleus . Cell membrane . Nucleus after activation by integrin-linked protein kinase 1 (ILK1). Nuclear translocation is enhanced by interaction with TCL1A. Phosphorylation on Tyr-176 by TNK2 results in its localization to the cell membrane where it is targeted for further phosphorylations on Thr-308 and Ser-473 leading to its activation and the activated form translocates to the nucleus. Colocalizes with WDFY2 in intracellular vesicles (PubMed:16792529).

### Expression :

Expressed in prostate cancer and levels increase from the normal to the malignant state (at protein level). Expressed in all human cell types so far analyzed. The Tyr-176 phosphorylated form shows a significant increase in expression in breast cancers during the progressive stages i.e. normal to hyperplasia (ADH), ductal carcinoma in situ (DCIS), invasive ductal carcinoma (IDC) and lymph node metastatic (LNMM) stages.

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