

## Product datasheet for **TA392490M**

### AKT1 Rabbit Polyclonal Antibody

#### Product data:

Product Type:	Primary Antibodies
Applications:	WB
Recommended Dilution:	WB: 1:2000~1:5000
Reactivity:	Human, Rat, Mouse
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Synthetic peptide, corresponding to Human akt-1.
Specificity:	akt-1 polyclonal antibody detects endogenous levels of akt-1 protein.
Formulation:	Rabbit IgG, 1mg/ml in PBS with 0.02% sodium azide, 50% glycerol, pH7.2
Concentration:	1mg/ml
Conjugation:	Unconjugated
Storage:	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze-thaw cycles.
Stability:	1 year
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 referred to as PKB or Rac, plays a critical role in controlling survival and apoptosis. This protein kinase is activated by insulin and various growth and survival factors to function in a wortmannin-sensitive pathway involving PI3 kinase. Akt is activated by phospholipid binding and activation loop phosphorylation at Thr308 by PDK1 and by phosphorylation within the carboxy terminus at Ser473. The previously elusive PDK2 responsible for phosphorylation of Akt at Ser473 has been identified as mammalian target of rapamycin (mTOR) in a rapamycin-insensitive complex with rictor and Sin1. Akt promotes cell survival by inhibiting apoptosis through phosphorylation and inactivation of several targets, including Bad, forkhead transcription factors, c-Raf, and caspase-9. PTEN phosphatase is a major negative regulator of the PI3 kinase/Akt signaling pathway. LY294002 is a specific PI3 kinase inhibitor. Another essential Akt function is the regulation of glycogen synthesis through phosphorylation and inactivation of GSK-3 $\alpha$  and  $\beta$ . Akt may also play a role in insulin stimulation of glucose transport. In addition to its role in survival and glycogen synthesis, Akt is involved in cell cycle regulation by preventing GSK-3 $\beta$ -mediated phosphorylation and degradation of cyclin D1 and by negatively regulating the cyclin dependent kinase inhibitors p27 Kip1 and p21 Waf1/Cip1. Akt also plays a critical role in cell growth by directly phosphorylating mTOR in a rapamycin-sensitive complex containing raptor. More importantly, Akt phosphorylates and inactivates tuberlin (TSC2), an inhibitor of mTOR within the mTOR-raptor complex.

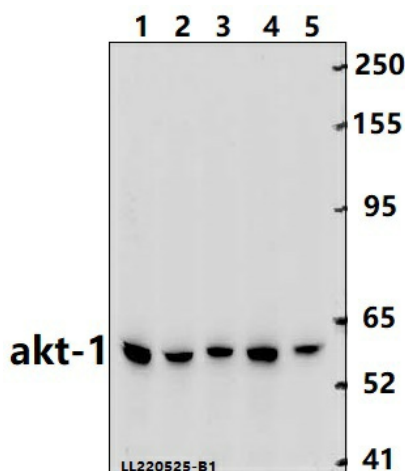
**Synonyms:**

AKT1; PKB; PKB, RAC; PKB alpha; Protein kinase B; Protein kinase B alpha; Proto-oncogene c-Akt; RAC-alpha serine/threonine-protein kinase; RAC-PK-alpha

**Note:**

For research use only, not for use in diagnostic procedure.

**Product images:**



Western blot (WB) analysis of akt-1 polyclonal antibody at 1:2000 dilution Lane1:BV2 whole cell lysate(40ug) Lane2:PC12 whole cell lysate(40ug) Lane3:Jurkat whole cell lysate(40ug) Lane4:A549 whole cell lysate(40ug) Lane5:Hela whole cell lysate(40ug)