

<b>Cat. No:</b>	MAB-94126
<b>Conjugate:</b>	Unconjugated
<b>Size:</b>	100 ul
<b>Clone:</b>	D9E
<b>Concentration:</b>	1mg/ml
<b>Host:</b>	Rb
<b>Isotype:</b>	IgG
<b>Reactivity:</b>	Hu, Ms , Rt
<b>Applications:</b>	WB:1:1000 IP : optimized by the end users IF- ICC: 1:100
<b>Molecular Weight:</b>	60 kDa
<b>Purification:</b>	Purified

**Background:**

Akt, also referred to as PKB or Rac, plays a critical role in controlling survival and apoptosis (1-3). This protein kinase is activated by insulin and various growth and survival factors to function in a wortmannin-sensitive pathway involving PI3 kinase (2,3). Akt is activated by phospholipid binding and activation loop phosphorylation at Thr308 by PDK1 (4) 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 (5,6). Akt promotes cell survival by inhibiting apoptosis through phosphorylation and inactivation of several targets, including Bad (7), forkhead transcription factors (8), c-Raf (9), and caspase-9. PTEN phosphatase is a major negative regulator of the PI3 kinase/Akt signaling pathway (10). LY294002 is a specific PI3 kinase inhibitor (11). Another essential Akt function is the regulation of glycogen synthesis through phosphorylation and inactivation of GSK-3 $\alpha$  and  $\beta$  (12,13). Akt may also play a role in insulin stimulation of glucose transport (12). 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 (14) and by negatively regulating the cyclin dependent kinase inhibitors p27 Kip1 (15) and p21 Waf1/Cip1 (16). Akt also plays a critical role in cell growth by directly phosphorylating mTOR in a rapamycin-sensitive complex containing raptor (17). More importantly, Western blot analysis of extracts from NIH/3T3 cells, untreated or PDGF-treated (50 ng/ml) for the indicated times, using PhosphoAkt (Ser473) Antibody (upper) or Akt Antibody (lower). Specificity/Sensitivity: Akt Antibody detects endogenous levels of total Akt1, Akt2 and Akt3 proteins. The antibody does not cross-react with related kinases. Source/Purification: Monoclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the carboxy-terminal sequence of mouse Akt. Antibodies are purified by protein A and peptide affinity chromatography. phosphorylates and inactivates tuberin (TSC2), an inhibitor of mTOR within the mTOR-raptor complex (18,19).

<b>Form:</b>	Liquid
<b>Buffer:</b>	Supplied in 20 mM Tris HCL (pH 8), 0,5% sodium azide 10 mg/ml BSA
<b>Storage:</b>	Store at -20°C.

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