Product Data Sheet:
AKT 1,2,3 (Pan AKT)

Cat. No:	MAB-94324
Conjugate:	Unconjugated
Size:	100 ug
Clone:	C67E7
Concentration:	1mg/ml
Host:	Rb
Isotype:	IgG
Reactivity:	Hu,Ms,Rt
Applications:	WB 1:1000 IHC(P): 1:100 IP: 1:50 IF-ICC : 1:50
Molecular Weight:	60 kDa
Purification:	Aff. Pur.
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 by phosphorylating and inactivating 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-3Alpha and beta (12,13). Akt may also play a role in in insulin stimulation of glucose transport (12). 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-3beta mediated phosphorylation and degradation of cyclin D1 (14) and by negatively regulating the cyclin dependent kinase inhibitors p27 Kip (15) and p21 Waf1 (16). Akt also plays a critical role in cell growth by directly phosphorylating mTOR in a rapamycin-sensitive complex containing raptor (17). More importantly, Akt phosphorylates and inactivates tuberin (TSC2), an inhibitor of mTOR within the mTOR- raptor complex (18). Inhibition of mTOR stops the protein synthesis machinery due to inactivation of its effector, p70 S6 kinase and activation of the eukaryotic initiation factor 4E binding protein 1 (4E-EP1), an inhibitor of translation (18,19).
Form:	Liquid
Buffer:	Supplied in Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Storage:	Store at –20°C. Do not aliquot the antibody.

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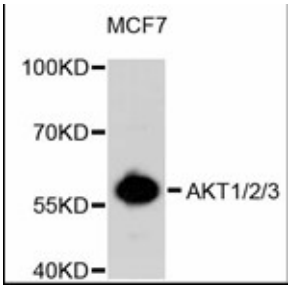
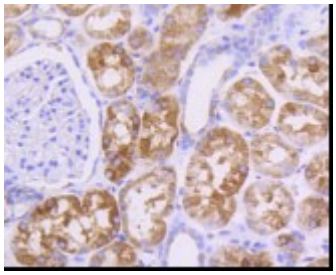
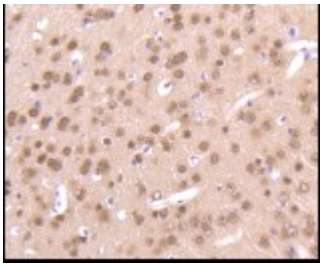


Western blot analysis of extracts of MCF-7 cells, using Pan-AKT antibody.
Secondary antibody:
HRP Goat Anti- Rabbit IgG (H+L) at 1:10000
Lysates/proteins: 25ug per lane.
Blocking buffer: 3% nonfat dry milk in TBST



Immunohistochemistry of paraffin embedded
human kidney using Pan-AKT antibody)
at dilution of 1:100



Immunohistochemistry of paraffin embedded
mouse brain using Pan-AKT antibody

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