

## Akt (A444) polyclonal antibody

Catalog: AP0378

Host: Rabbit

Reactivity: Human,Rat,Mouse

### 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 tuberin (TSC2), an inhibitor of mTOR within the mTOR-raptor complex.

### Product:

Rabbit IgG, 1mg/ml in PBS with 0.02% sodium azide, 50% glycerol, pH7.2

### Molecular Weight:

~ 60 kDa

### Swiss-Prot:

P31749/P31751/Q9Y243

### Purification&Purity:

The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen and the purity is > 95% (by SDS-PAGE).

### Applications:

WB: 1:1000~1:2000

IF: 1:50~1:200

IP: 1:50~1:200

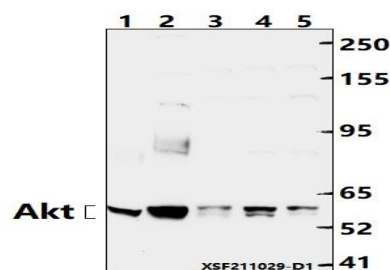
### Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

### Specificity:

Akt (A444) polyclonal antibody detects endogenous levels of Akt protein.

### DATA:



Western blot (WB) analysis of Akt (A444) polyclonal antibody at 1:1000 dilution

Lane1:PMVEC whole cell lysate(40ug)

Lane2:BV2 whole cell lysate(40ug)

Lane3:EC9706 whole cell lysate(40ug)

Lane4:MCF-7 whole cell lysate(40ug)

Lane5:HepG2 whole cell lysate(40ug)

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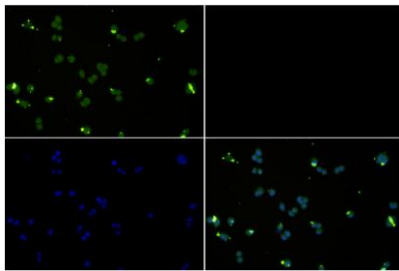
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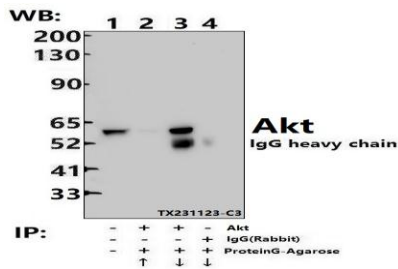
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For research use only, not for use in diagnostic procedure.

Immunofluorescence analysis of MCF-7 cells using Akt antibody at dilution of 1:50.



Immunoprecipitation of 3T3-L1 cell lysates using Akt (A444) pAb (Sephacrose Bead Conjugate)#BD0048 (lane 2 and lane 3) and Nonspecific IgG Control (Sephacrose Bead Conjugate)#BD0048 (lane 4). Lane 1 is 30% input. The western blot was probed using Akt (A444) pAb.

**Note:**

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