

Akt (Phospho-S473) polyclonal antibody

Catalog: AP0488

Host: Rabbit

Reactivity: Human

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 α and β . 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 β -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:

~ 56 kDa

Swiss-Prot:

P31751,Q9Y243,P31749

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: 1:2000~1:5000

IF: 1:100~1:500

IP: 1:50~1:200

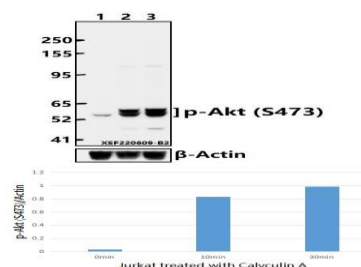
Storage&Stability:

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

Specificity:

Akt (Phospho-S473) polyclonal antibody detects endogenous levels of Akt protein only when phosphorylated at Ser473.

DATA:



Western blot (WB) analysis of Akt (Phospho-S473) polyclonal antibody at 1:2000 dilution

Lane1:Jurkat whole cell lysate(40ug)

Lane2:Jurkat treated with Calyculin A(100 nM,10 minutes) whole cell lysate(40ug)

Lane3:Jurkat treated with Calyculin A(100 nM,30 minutes) whole cell lysate(40ug)

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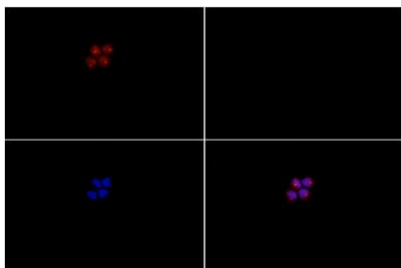
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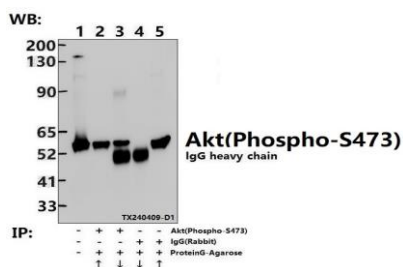
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For research use only, not for use in diagnostic procedure.

Immunofluorescence analysis of Jurkat (Calyculin A, 100 nM, 30 minutes) cells using Akt (Phospho-S473) pAb at dilution of 1:200 (40x lens).



Immunoprecipitation of Jurkat cell lysates using Akt (Phospho-S473) pAb (Sephacrose Bead Conjugate)#BD0048 (lane 2 and lane 3) and Nonspecific IgG Control (Sephacrose Bead Conjugate)#BD0048 (lane 4 and lane 5). Lane 1 is 30% input. The western blot was probed using Akt (Phospho-S473) pAb.

Note:

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