Akt1 (D-17): sc-7126

**BACKGROUND**

The serine/threonine kinase Akt family contains several members, including Akt1 (also designated PKB or RacPK), Akt2 (also designated PKBβ or RacPK-β) and Akt3 (also designated PKBγ or thyom a viral proto-oncogene3), which exhibit sequence homology with the protein kinase A and C families and are encoded by the c-Akt proto-oncogene. All members of the Akt family have a Pleckstrin homology domain. Akt1 and Akt2 are activated by PDGF stimulation. This activation is dependent on PDGFR-β tyrosine residues 740 and 751, which bind the subunit of the phosphatidylinositol 3-kinase (PI3-kinase) complex. Activation of Akt1 by Insulin or Insulin-growth factor-1 (IGF-1) results in phosphorylation of both Thr 308 and Ser 473. Phosphorylation of both residues is important to generate a high level of Akt1 activity, and the phosphorylation of Thr 308 is not dependent on phosphorylation of Ser 473. Thus, Akt proteins become phosphorylated and activated in Insulin/IGF-1-stimulated cells by an upstream kinase(s). The activation of Akt1 and Akt2 is inhibited by the PI kinase inhibitor Wortmannin, suggesting that the protein signals downstream of the PI kinases.

**CHROMOSOMAL LOCATION**

Genetic locus: AKT1 (human) mapping to 14q32.33; Akt1 (mouse) mapping to 12 F1.

**SOURCE**

Akt1 (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Akt1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Blocking peptide available for competition studies, sc-7126 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

**APPLICATIONS**

Akt1 (D-17) is recommended for detection of Akt1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation (1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Akt2.

Akt1 (D-17) is also recommended for detection of Akt1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Akt1 siRNA (h): sc-29195, Akt1 siRNA (m): sc-29196, Akt1 shRNA Plasmid (h): sc-29195-SH, Akt1 shRNA Plasmid (m): sc-29196-SH, Akt1 shRNA (h) Lentiviral Particles: sc-29195-V and Akt1 shRNA (m) Lentiviral Particles: sc-29196-V.

Molecular Weight of Akt1: 62 kDa.

**STORAGE**

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**RESEARCH USE**

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

**DATA**

Akt1 (D-17): sc-7126. Western blot analysis of Akt1 expression in non-transfected: [A] and human Akt1 transfected: [B] 293T whole cell lysates.

Akt1 (D-17): sc-7126. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining.

**SELECT PRODUCT CITATIONS**


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