**BACKGROUND**

The serine/threonine kinase Akt family contains several members, including Akt1 (also designated PKBα or RacPK), Akt2 (also designated PKBβ or RacPK-β) and Akt3 (also designated PKBγ or thyma viral proto-oncogene 3), 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 in vivo. 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.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: AKT1 (human) mapping to 14q32.32; Akt1 (mouse) mapping to 12 F1-F2.

**SOURCE**

Akt1 (11A11) is a mouse monoclonal antibody raised against a synthetic Akt1 peptide of human origin.

**STORAGE**

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

**PRODUCT**

Each vial contains 50 µg IgG1 in 500 µl of PBS with < 0.1% sodium azide, 1% gelatin, PEG and sucrose.

**APPLICATIONS**

Akt1 (11A11) is recommended for detection of Akt1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)]; may cross-react with Akt2 and Akt3.

Suitable for use as control antibody for Akt1 siRNA (h): sc-29195 and Akt1 siRNA (h2): sc-44198; and as shRNA Plasmid control antibody for Akt1 shRNA Plasmid (h): sc-29195-Sh and Akt1 shRNA Plasmid (h2): sc-44198-Sh.

Molecular Weight of Akt1: 62 kDa.

Positive Controls: human lung tumor, KNRK whole cell lysate: sc-2214 or NIH/3T3 whole cell lysate: sc-2210.

**RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

**DATA**

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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