**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 PKBy or thymal 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 (PI 3-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**


**SOURCE**

Akt1/2/3 (5C10) is a mouse monoclonal antibody raised against amino acids 466-480 of Akt1 of human origin.

**PRODUCT**

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG, and sucrose.

**APPLICATIONS**

Akt1/2/3 (5C10) is recommended for detection of Akt1, Akt2 and Akt3 of mouse, rat, human and canine 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)).

Molecular Weight of Akt1/2/3: 62 kDa.

Positive Controls: Akt1 (h): 293T Lysate: sc-158248, MCF7 whole cell lysate: sc-2206 or MDA-MB-231 cell lysate: sc-2232.

**STORAGE**

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

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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

**DATA**

**SELECT PRODUCT CITATIONS**