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 thymoma 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 that is dependent on PDGFR-β tyrosine residues 740 and 751, which bind the subunit of the phosphatidylinositol 3-kinase (PI 3-kinase) complex. Akt proteins become phosphorylated and activated in insulin/IGF-I-stimulated cells by an upstream kinase, and the activation of Akt1 and Akt2 is inhibited by the PI kinase inhibitor wortmannin. Taken together, this data strongly suggests that the protein signals downstream of the PI kinases. Akt3 is phosphorylated on a serine residue in response to insulin, and this activation is inhibited by prior activation of protein kinase C. Akt3 is expressed in 3T3-L1 fibroblasts, adipocytes and skeletal muscle and may be involved in various biological processes, including adipocyte and muscle differentiation, glycogen synthesis, glucose uptake, apoptosis and cellular proliferation.

CHROMOSOMAL LOCATION
Genetic locus: AKT2 (human) mapping to 19q13.2; Akt2 (mouse) mapping to 7 A3.

SOURCE
Akt2 (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 445-470 at the C-terminus of Akt2 of human origin.

PRODUCT
Each vial contains 200 µg IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Akt2 (F-7) is available conjugated to agarose (sc-5270 AC), 500 µg/0.25 ml (suitable for use in 7 A3). Akt2 (F-7) is recommended for detection of Akt2 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Akt2 siRNA (h): sc-29197, Akt2 siRNA (m): sc-38910, Akt2 shRNA Plasmid (h): sc-29197-SH, Akt2 shRNA Plasmid (m): sc-38910-SH, Akt2 shRNA (h) Lentiviral Particles: sc-29197-V and Akt2 shRNA (m) Lentiviral Particles: sc-38910-V.

Molecular Weight of Akt2: 56 kDa.

APPLICATIONS
Akt2 (F-7) is recommended for detection of Akt2 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Positive Controls: Jurkat whole cell lysate: sc-2204, HL-60 whole cell lysate: sc-2209 or A549 cell lysate: sc-2413.

DATA
Akt2 (F-7): sc-5270. Western blot analysis of Akt2 expression in HL-60 (A), Jurkat (B), MIA PaCa-2 (C), T-47D (D), MDA MB-231 (E) and A549 (F) whole cell lysates.

Akt2 (F-7): sc-5270. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic staining of glandular tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS


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