SANTA CRUZ BIOTECHNOLOGY, INC.

Akt3 (C-14): sc-11520

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 Akt 3 (also designated PKBγ or thyoma 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. Akt3 is phosphorylated on a serine residue in response to Insulin. However, the activation of Akt3 by Insulin is inhibited by prior activation of protein kinase C via a mechanism that does not require the presence of the PH domain. 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: AKT3 (human) mapping to 1q43; Akt3 (mouse) mapping to 1 H4.

SOURCE

Akt3 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Akt3 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-11520 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Akt3 (C-14) is recommended for detection of Akt3 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).

Akt3 (C-14) is also recommended for detection of Akt3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Akt3 siRNA (h): sc-38911, Akt3 siRNA (m): sc-38912, Akt3 siRNA (r): sc-108064, Akt3 shRNA Plasmid (h): sc-38911-SH, Akt3 shRNA Plasmid (m): sc-38912-SH, Akt3 shRNA Plasmid (r): sc-108064-SH, Akt3 shRNA (h) Lentiviral Particles: sc-38911-V, Akt3 shRNA (m) Lentiviral Particles: sc-38912-V and Akt3 shRNA (r) Lentiviral Particles: sc-108064-V.

Molecular Weight of Akt3: 60 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, mouse brain extract: sc-2253 or MCF7 whole cell lysate: sc-2206.

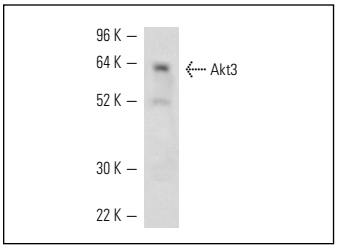
RESEARCH USE

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

STORAGE

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

DATA



Akt3 (C-14): sc-11520. Western blot analysis of Akt3 expression in insulin treated NIH/3T3 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Vasko, V., et al. 2004. Akt activation and localisation correlate with tumour invasion and oncogene expression in thyroid cancer. J. Med. Genet. 41: 161-170.
2. Kirkegaard, T., et al. 2005. Akt activation predicts outcome in breast cancer patients treated with tamoxifen. J. Pathol. 207: 139-146.
3. Fieber, C.B., et al. 2006. Modulation of total Akt kinase by increased expression of a single isoform: requirement of the sphingosine-1-phosphate receptor, Edg3/S1P3, for the VEGF-dependent expression of Akt3 in primary endothelial cells. Exp. Cell Res. 312: 1164-1173.
4. Thrash, B.R., et al. 2006. Akt1 provides an essential survival signal required for differentiation and stratification of primary human keratinocytes. J. Biol. Chem. 281: 12155-12162.
5. Hirano, I., et al. 2009. Depletion of pleckstrin homology domain leucine-rich repeat protein phosphatases 1 and 2 by Bcr-Abl promotes chronic myelogenous leukemia cell proliferation through continuous phosphorylation of Akt isoforms. J. Biol. Chem. 284: 22155-22165.
6. Saji, M., et al. 2011. Akt1 deficiency delays tumor progression, vascular invasion, and distant metastasis in a murine model of thyroid cancer. Oncogene 30: 4307-4315.
7. Fenouille, N., et al. 2011. SPARC functions as an anti-stress factor by inactivating p53 through Akt-mediated MDM2 phosphorylation to promote melanoma cell survival. Oncogene 30: 4887-4900.
8. Le Page, C., et al. 2012. ErbB2/Her-2 regulates the expression of Akt2 in prostate cancer cells. Prostate 72: 777-788.