SANTA CRUZ BIOTECHNOLOGY, INC.

Akt3 (EE-M14): sc-134254

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 Akt3 (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.

REFERENCES

1. Burgering, B.M., et al. 1995. Protein kinase B (c-Akt) in phosphatidylinositol-3-OH kinase signal transduction. Nature 376: 599-602.
2. Datta, K., et al. 1995. AH/PH domain-mediated interaction between Akt molecules and its potential role in Akt regulation. Mol. Cell. Biol. 15: 2304-2310.

CHROMOSOMAL LOCATION

Genetic locus: AKT3 (human) mapping to 1q43; Akt3 (mouse) mapping to 1 H4.

SOURCE

Akt3 (EE-M14) is a mouse monoclonal antibody raised against recombinant Akt3 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Akt3 (EE-M14) 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

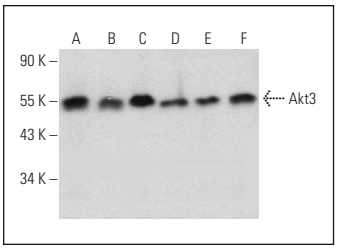
Molecular Weight of Akt3: 60 kDa.

Positive Controls: LNCaP cell lysate: sc-2231, HeLa whole cell lysate: sc-2200 or C2C12 whole cell lysate: sc-364188.

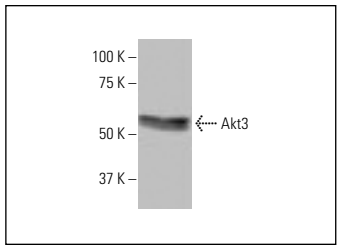
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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



Akt3 (EE-M14): sc-134254. Western blot analysis of Akt3 expression in LNCaP (**A**), DU 145 (**B**), C2C12 (**C**), Sol8 (**D**), C6 (**E**) and L8 (**F**) whole cell lysates.



Akt3 (EE-M14): sc-134254. Western blot analysis of Akt3 expression in HeLa whole cell lysate.

SELECT PRODUCT CITATIONS

1. Evangelisti, C., et al. 2011. Preclinical testing of the Akt inhibitor triciribine in T-cell acute lymphoblastic leukemia. J. Cell. Physiol. 226: 822-831.
2. Zhuang, J., et al. 2017. MicroRNA-497 inhibits cellular proliferation, migration and invasion of papillary thyroid cancer by directly targeting Akt3. Mol. Med. Rep. 16: 5815-5822.
3. Halon-Golabek, M., et al. 2018. HmSOD1 gene mutation-induced disturbance in iron metabolism is mediated by impairment of Akt signalling pathway. J. Cachexia Sarcopenia Muscle 9: 557-569.
4. Zhang, J., et al. 2019. Glucose drives growth factor-independent esophageal cancer proliferation via phosphohistidine-FAK signaling. Cell. Mol. Gastroenterol. Hepatol. 8: 37-60.
5. Liu, H.T., et al. 2022. lncRNA THAP7-AS1, transcriptionally activated by SP1 and post-transcriptionally stabilized by METTL3-mediated m6A modification, exerts oncogenic properties by improving CUL4B entry into the nucleus. Cell Death Differ. 29: 627-641.
6. Grassilli, S., et al. 2022. Vav1 selectively down-regulates Akt2 through miR-29b in certain breast tumors with triple negative phenotype. J. Pers. Med. 12: 993.

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.