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 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 (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.

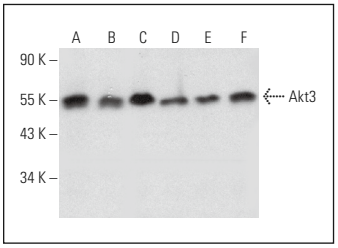
RECOMMENDED SUPPORT REAGENTS

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).

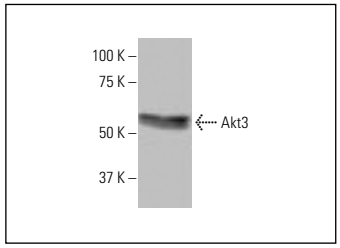
STORAGE

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

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.
7. Fujiwara-Tani, R., et al. 2024. Nuclear MAST4 suppresses FOXO3 through interaction with Akt3 and induces chemoresistance in pancreatic ductal carcinoma. Int. J. Mol. Sci. 25: 4056.
8. Palma, M.S., et al. 2024. Substrate preference of protein kinase B isoforms can vary depending on the cell line. PLoS ONE 19: e0298322.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.