SANTA CRUZ BIOTECHNOLOGY, INC.

ChoK (B-6): sc-390060

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The major pathway for the biosynthesis of phosphatidylcholine occurs via the CDP-choline pathway. Choline kinase, the initial enzyme in the sequence, plays a role in cell growth proliferation. Hemicholinium-3 (HC-3), an inhibitor for choline kinase (also known as ChoK and CKI), drastically reduces entry into S phase after stimulation by growth factors. In Ras-transformed cells, an increased level of phosphorylcholine (PCho) results from the consecutive activation of phospholipase D (PLD) and ChoK. ChoK and its product, PCho, have been implicated in human carcinogenesis, including the development of human breast cancer, and ChoK dysregulation is found in a variety of human tumors such as lung, colorectal, and prostate tumors. The human Choline kinase gene maps to chromosome 11q13.2.

REFERENCES

1. Jimenez, B., et al. 1995. Generation of phosphorylcholine as an essential event in the activation of Raf-1 and MAP-kinases in growth factors-induced mitogenic stimulation. J. Cell. Biochem. 57: 141-149.
2. Hernandez-Alcoceba, R., et al. 1997. Choline kinase inhibitors as a novel approach for antiproliferative drug design. Oncogene 15: 2289-2301.
3. Hernandez-Alcoceba, R., et al. 1999. *In vivo* antitumor activity of choline kinase inhibitors: a novel target for anticancer drug discovery. Cancer Res. 59: 3112-3118.
4. Lucas, L., et al. 2001. Modulation of phospholipase D by hexadecylphosphorylcholine: a putative novel mechanism for its antitumoral activity. Oncogene 20: 1110-1117.
5. Ramirez de Molina, A., et al. 2002. Increased choline kinase activity in human breast carcinomas: clinical evidence for a potential novel antitumor strategy. Oncogene 21: 4317-4322.
6. Ramirez de Molina, A., et al. 2002. Overexpression of choline kinase is a frequent feature in human tumor-derived cell lines and in lung, prostate, and colorectal human cancers. Biochem. Biophys. Res. Commun. 296: 580-583.

CHROMOSOMAL LOCATION

Genetic locus: CHKA (human) mapping to 11q13.2; Chka (mouse) mapping to 19 A.

SOURCE

ChoK (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 23-61 near the N-terminus of ChoK of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390060 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

ChoK (B-6) is recommended for detection of ChoK of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for ChoK siRNA (h): sc-38965, ChoK siRNA (m): sc-38966, ChoK shRNA Plasmid (h): sc-38965-SH, ChoK shRNA Plasmid (m): sc-38966-SH, ChoK shRNA (h) Lentiviral Particles: sc-38965-V and ChoK shRNA (m) Lentiviral Particles: sc-38966-V.

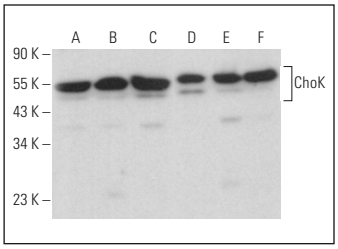
Molecular Weight of ChoK: 50 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

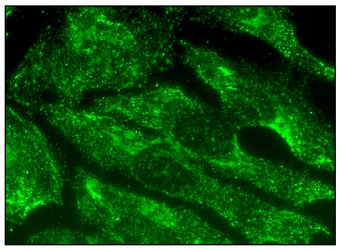
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ChoK (B-6): sc-390060. Western blot analysis of ChoK expression in Jurkat (**A**), A549 (**B**), K-562 (**C**), Hep G2 (**D**), MCF7 (**E**) and HeLa (**F**) whole cell lysates.



ChoK (B-6): sc-390060. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

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.

PROTOCOLS

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