

# ChoK (B-6): sc-390060

## 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<sub>2b</sub> 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.

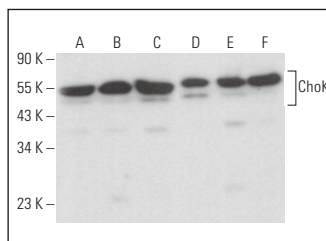
Molecular Weight of ChoK: 50 kDa.

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

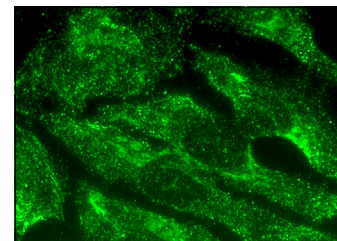
## RECOMMENDED SUPPORT REAGENTS

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](http://www.scbt.com) for detailed protocols and support products.