

# ChoKB (K-24): sc-130719

## 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. A related protein, ChoKB (choline kinase  $\beta$ ), is a 395 amino acid enzyme that catalyzes the phosphorylation of choline by ATP in the presence of magnesium, thereby yielding phosphocholine and ADP. Like all choline kinases, ChoKB possesses ethanoamine kinase activity and catalyzes the phosphorylation of ethanolamine. The gene encoding ChoKB is located less than 1 kb upstream of the CPT1B gene, suggesting that the ChoKB gene may regulate transcription CPT1B. In mice, mutations and/or deletions in the gene encoding ChoKB are the cause of hindlimb muscular dystrophy and neonatal bone deformity.

## REFERENCES

1. Ishidate, K. 1997. Choline/ethanolamine kinase from mammalian tissues. *Biochim. Biophys. Acta* 1348: 70-78.
2. Aoyama, C., Nakashima, K., Matsui, M. and Ishidate, K. 1998. Complementary DNA sequence for a 42 kDa rat kidney choline/ethanolamine kinase. *Biochim. Biophys. Acta* 1390: 1-7.
3. Yamazaki, N., Shinohara, Y., Kajimoto, K., Shindo, M. and Terada, H. 2000. Novel expression of equivocal messages containing both regions of choline/ethanolamine kinase and muscle type carnitine palmitoyltransferase I. *J. Biol. Chem.* 275: 31739-31746.
4. Aoyama, C., Yamazaki, N., Terada, H. and Ishidate, K. 2000. Structure and characterization of the genes for murine choline/ethanolamine kinase isozymes  $\alpha$  and  $\beta$ . *J. Lipid Res.* 41: 452-464.
5. Sher, R.B., Aoyama, C., Huebsch, K.A., Ji, S., Kerner, J., Yang, Y., Frankel, W.N., Hoppel, C.L., Wood, P.A., Vance, D.E. and Cox, G.A. 2006. A rostro-caudal muscular dystrophy caused by a defect in choline kinase  $\beta$ , the first enzyme in phosphatidylcholine biosynthesis. *J. Biol. Chem.* 281: 4938-4948.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 612395. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Ramírez de Molina, A., Gallego-Ortega, D., Sarmentero-Estrada, J., Lagares, D., Gómez Del Pulgar, T., Bandrés, E., García-Foncillas, J. and Lacal, J.C. 2008. Choline kinase as a link connecting phospholipid metabolism and cell cycle regulation: implications in cancer therapy. *Int. J. Biochem. Cell Biol.* 40: 1753-1763.
8. SWISS-PROT/TrEMBL (Q9Y259). World Wide Web URL: <http://www.expasy.org/uniprot/Q9Y259>

## CHROMOSOMAL LOCATION

Genetic locus: CHKB (human) mapping to 22q13.33.

## STORAGE

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

## SOURCE

ChoKB (K-24) is a purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of ChoKB of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

ChoKB (K-24) is recommended for detection of ChoKB of human and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

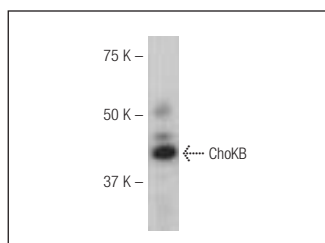
Suitable for use as control antibody for ChoKB siRNA (h): sc-105203, ChoKB shRNA Plasmid (h): sc-105203-SH and ChoKB shRNA (h) Lentiviral Particles: sc-105203-V.

Molecular Weight of ChoKB: 42 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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



ChoKB (K-24): sc-130719. Western blot analysis of ChoKB expression in rat testis tissue extract.

## 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) or our catalog for detailed protocols and support products.