



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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# CHDH (h): 293T Lysate: sc-177054

## BACKGROUND

Choline is an essential micronutrient that is one of the major sources of methyl groups in the human diet and is necessary for the structure and function of all cells. CHDH (choline dehydrogenase) is a 594 amino acid protein belonging to the GMC oxidoreductase family. This flavin adenine dinucleotide (FAD)-dependent enzyme converts choline to betaine aldehyde, which is then oxidized to betaine, one of the precursors of methionine. CHDH activity is highest in the kidney and liver and it is localized to the matrix side of the inner mitochondrial membrane. Since the gene encoding CHDH is regulated by estrogen, CHDH may be a possible marker for early stage ER-positive breast cancer due to its potential to predict anti-estrogen resistance. Polymorphisms in the gene encoding CHDH have been linked to the degree of susceptibility for choline deficiency.

## REFERENCES

1. Zeisel, S.H. 2000. Choline: needed for normal development of memory. *J. Am. Coll. Nutr.* 19: 528S-531S.
2. Huang, S. and Lin, Q. 2003. Functional expression and processing of rat choline dehydrogenase precursor. *Biochem. Biophys. Res. Commun.* 309: 344-350.
3. Kohlmeier, M., da Costa, K.A., Fischer, L.M. and Zeisel, S.H. 2005. Genetic variation of folate-mediated one-carbon transfer pathway predicts susceptibility to choline deficiency in humans. *Proc. Natl. Acad. Sci. USA* 102: 16025-16030.
4. da Costa, K.A., Kozyreva, O.G., Song, J., Galanko, J.A., Fischer, L.M. and Zeisel, S.H. 2006. Common genetic polymorphisms affect the human requirement for the nutrient choline. *FASEB J.* 20: 1336-1344.
5. Slow, S. and Garrow, T.A. 2006. Liver choline dehydrogenase and kidney betaine-homocysteine methyltransferase expression are not affected by methionine or choline intake in growing rats. *J. Nutr.* 136: 2279-2283.
6. Wang, Z., Dahiya, S., Provencher, H., Muir, B., Carney, E., Coser, K., Shioda, T., Ma, X.J. and Sgroi, D.C. 2007. The prognostic biomarkers HOXB13, IL17BR, and CHDH are regulated by estrogen in breast cancer. *Clin. Cancer Res.* 13: 6327-6334.
7. Xu, X., Gammon, M.D., Zeisel, S.H., Lee, Y.L., Wetmur, J.G., Teitelbaum, S.L., Bradshaw, P.T., Neugut, A.I., Santella, R.M. and Chen, J. 2008. Choline metabolism and risk of breast cancer in a population-based study. *FASEB J.* 22: 2045-2052.

## CHROMOSOMAL LOCATION

Genetic locus: CHDH (human) mapping to 3p21.1.

## PRODUCT

CHDH (h): 293T Lysate represents a lysate of human CHDH transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## APPLICATIONS

CHDH (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive CHDH antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

## 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.