SANTA CRUZ BIOTECHNOLOGY, INC.

CHCHD4 (m): 293T Lysate: sc-119217

BACKGROUND

CHCHD4 (coiled-coil-helix-coiled-coil-helix domain containing 4), also known as MIA40, is a 142 amino acid protein that contains one CHCH domain and localizes to the mitochondrial intermembrane space. Expressed in a variety of tissues with particularly high expression in kidney and liver, CHCHD4 exists as a homooligomer that is required for the folding of small cysteine-containing proteins. Specifically, CHCHD4 is thought to function via a disulfide relay system that oxidizes precursor proteins, thereby promoting their folding within mitochondria. CHCHD4 is expressed as multiple alternatively spliced isoforms that are encoded by a gene which maps to human chromosome 3. Chromosome 3 is made up of about 214 million bases encoding over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci.

REFERENCES

1. Chacinska, A., et al. 2004. Essential role of MIA40 in import and assembly of mitochondrial intermembrane space proteins. EMBO J. 23: 3735-3746.
2. Hofmann, S., et al. 2005. Functional and mutational characterization of human MIA40 acting during import into the mitochondrial intermembrane space. J. Mol. Biol. 353: 517-528.
3. Terziyska, N., et al. 2007. The sulfhydryl oxidase ERV1 is a substrate of the MIA40-dependent protein translocation pathway. FEBS Lett. 581: 1098-1102.
4. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611077. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Bihlmaier, K., et al. 2008. The disulfide relay of the intermembrane space of mitochondria: an oxygen-sensing system? Ann. N.Y. Acad. Sci. 1147: 293-302.
6. Chacinska, A., et al. 2008. Mitochondrial biogenesis, switching the sorting pathway of the intermembrane space receptor MIA40. J. Biol. Chem. 283: 29723-29729.
7. Koehler, C.M., et al. 2009. Redox regulation of protein folding in the mitochondrial intermembrane space. Biochim. Biophys. Acta 1793: 139-145.
8. Terziyska, N., et al. 2009. Structural and functional roles of the conserved cysteine residues of the redox-regulated import receptor MIA40 in the intermembrane space of mitochondria. J. Biol. Chem. 284: 1353-1363.

CHROMOSOMAL LOCATION

Genetic locus: Chchd4 (mouse) mapping to 6 D1.

PRODUCT

CHCHD4 (m): 293T Lysate represents a lysate of mouse CHCHD4 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

CHCHD4 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CHCHD4 antibodies. Recommended use: 10-20 µl per lane.

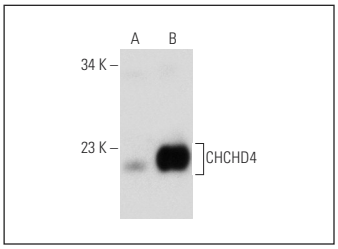
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

CHCHD4 (C-12): sc-365137 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse CHCHD4 expression in CHCHD4 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



CHCHD4 (C-12): sc-365137. Western blot analysis of CHCHD4 expression in non-transfected: sc-117752 (**A**) and mouse CHCHD4 transfected: sc-119217 (**B**) 293T whole cell lysates.

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.