

FTCD (C-1): sc-398522

BACKGROUND

58K protein antibodies are excellent for use as markers for the Golgi complex. The 58K protein has been identified as being FTCD, a bifunctional enzyme that channels 1-carbon units from formiminoglutamate, a metabolite of the histidine degradation pathway, to the folate pool. Defects in FTCD are the cause of glutamate formiminotransferase deficiency [also known as formiminoglutamicaciduria (FIGLU-uria)], an autosomal recessive disorder. Features of a severe phenotype include elevated levels of formiminoglutamate (FIGLU) in the urine in response to histidine administration, megaloblastic anemia and mental retardation. Features of a mild phenotype include high urinary excretion of FIGLU in the absence of histidine administration, mild developmental delay and no hematological abnormalities.

REFERENCES

- Hennig, D., et al. 1998. A formiminotransferase cyclodeaminase isoform is localized to the Golgi complex and can mediate interaction of *trans*-Golgi network-derived vesicles with microtubules. *J. Biol. Chem.* 273: 19602-19611.
- Bashour, A.M. and Bloom, G.S. 1998. 58K, a microtubule-binding Golgi protein, is a formiminotransferase cyclodeaminase. *J. Biol. Chem.* 273: 19612-19617.
- Gao, Y.S., et al. 1998. Molecular cloning, characterization, and dynamics of rat formiminotransferase cyclodeaminase, a Golgi-associated 58-kDa protein. *J. Biol. Chem.* 273: 33825-33834.
- Gao, Y.S., et al. 2002. A novel type of regulation of the vimentin intermediate filament cytoskeleton by a Golgi protein. *Eur. J. Cell Biol.* 81: 391-401.
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- Mao, Y., et al. 2004. Structure of the bifunctional and Golgi-associated formiminotransferase octamer. *EMBO J.* 23: 2963-2971.
- Hagiwara, H., et al. 2006. Localization of Golgi 58K protein (formiminotransferase cyclodeaminase) to the centrosome. *Histochem. Cell Biol.* 126: 251-259.

CHROMOSOMAL LOCATION

Genetic locus: FTCD (human) mapping to 21q22.3.

SOURCE

FTCD (C-1) is a mouse monoclonal antibody raised against amino acids 1-280 mapping at the N-terminus of FTCD of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

FTCD (C-1) is recommended for detection of FTCD of 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 FTCD siRNA (h): sc-60662, FTCD shRNA Plasmid (h): sc-60662-SH and FTCD shRNA (h) Lentiviral Particles: sc-60662-V.

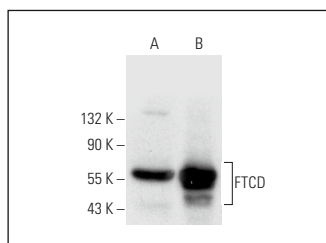
Molecular Weight of FTCD: 58 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or human liver extract: sc-363766.

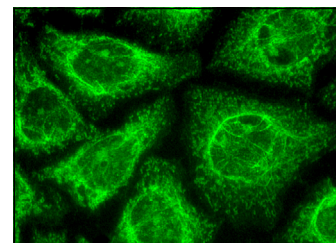
RECOMMENDED SUPPORT REAGENTS

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



FTCD (C-1): sc-398522. Western blot analysis of FTCD expression in Hep G2 whole cell lysate (A) and human liver tissue extract (B).



FTCD (C-1): sc-398522. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

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.