

FTCD (G-3): sc-271788

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.

CHROMOSOMAL LOCATION

Genetic locus: FTCD (human) mapping to 21q22.3; Ftcd (mouse) mapping to 10 C1.

SOURCE

FTCD (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 33-67 near 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.

FTCD (G-3) is available conjugated to agarose (sc-271788 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271788 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271788 PE), fluorescein (sc-271788 FITC), Alexa Fluor® 488 (sc-271788 AF488), Alexa Fluor® 546 (sc-271788 AF546), Alexa Fluor® 594 (sc-271788 AF594) or Alexa Fluor® 647 (sc-271788 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271788 AF680) or Alexa Fluor® 790 (sc-271788 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271788 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

FTCD (G-3) is recommended for detection of FTCD isoforms A, D, E and C 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 FTCD siRNA (h): sc-60662, FTCD siRNA (m): sc-60663, FTCD shRNA Plasmid (h): sc-60662-SH, FTCD shRNA Plasmid (m): sc-60663-SH, FTCD shRNA (h) Lentiviral Particles: sc-60662-V and FTCD shRNA (m) Lentiviral Particles: sc-60663-V.

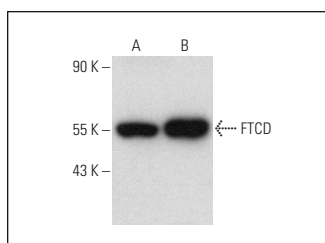
Molecular Weight of FTCD: 58 kDa.

Positive Controls: rat liver extract: sc-2395 or mouse liver extract: sc-2256.

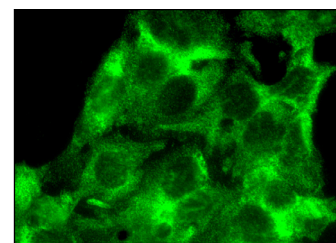
RECOMMENDED SUPPORT REAGENTS

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 (G-3): sc-271788. Western blot analysis of FTCD expression in mouse liver (A) and rat liver (B) tissue extracts.



FTCD (G-3): sc-271788. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic 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 for detailed protocols and support products.

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