SANTA CRUZ BIOTECHNOLOGY, INC.

FUCA2 (B-11): sc-514038

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

FUCA2 (fucosidase, α-L-2, plasma), also known as α-L-fucosidase 2, is a 467 amino acid secreted protein that exists as a homotetramer and localizes specifically to plasma (unlike FUCA1 which is specific to tissues). Belonging to the glycosyl hydrolase family, FUCA2 functions to catalyze the H_2O-dependent conversion of an α-L-fucoside to an alcohol. Specifically, FUCA2 hydrolyzes the α-1,6-linked fucose that is joined to the N-acetylglucosamine residue of target glycoproteins, thereby yielding L-fucose and alcohol. As FUCA2 is responsible for regulating the amount of α-L-fucosidase within plasma, defects in the gene encoding FUCA2 that cause a loss of catalytic activity may lead to a decrease in α-L-fucosidase levels and, ultimately, fucosidosis. Fucosidosis is a very rare autosomal recessive glycoprotein storage disease that is characterized by organomegaly, mental retardation and twisted blood vessels.

REFERENCES

1. Ng, W.G., et al. 1976. Biochemical and genetic studies of plasma and leukocyte α-L-fucosidase. Am. J. Hum. Genet. 28: 42-50.
2. Eiberg, H., et al. 1984. Linkage of plasma α-L-fucosidase (FUCA2) and the plasminogen (PLG) system. Clin. Genet. 26: 23-29.
3. O'Brien, J.S., et al. 1987. Molecular biology of the α-L-fucosidase gene and fucosidosis. Enzyme 38: 45-53.
4. Carritt, B. and Welch, H.M. 1987. An α-fucosidase pseudogene on human chromosome 2. Hum. Genet. 75: 248-250.
5. Alhadeff, J.A., et al. 1999. Characterization of human semen α-L-fucosidases. Mol. Hum. Reprod. 5: 809-815.
6. Cordero, O.J., et al. 2001. Cell surface human α-L-fucosidase. Eur. J. Biochem. 268: 3321-3331.

CHROMOSOMAL LOCATION

Genetic locus: FUCA2 (human) mapping to 6q24.2; Fuca2 (mouse) mapping to 10 A2.

SOURCE

FUCA2 (B-11) is a mouse monoclonal antibody raised against amino acids 307-338 mapping within an internal region of FUCA2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FUCA2 (B-11) is available conjugated to agarose (sc-514038 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514038 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514038 PE), fluorescein (sc-514038 FITC), Alexa Fluor® 488 (sc-514038 AF488), Alexa Fluor® 546 (sc-514038 AF546), Alexa Fluor® 594 (sc-514038 AF594) or Alexa Fluor® 647 (sc-514038 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514038 AF680) or Alexa Fluor® 790 (sc-514038 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

FUCA2 (B-11) is recommended for detection of FUCA2 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 FUCA2 siRNA (h): sc-95549, FUCA2 siRNA (m): sc-145268, FUCA2 shRNA Plasmid (h): sc-95549-SH, FUCA2 shRNA Plasmid (m): sc-145268-SH, FUCA2 shRNA (h) Lentiviral Particles: sc-95549-V and FUCA2 shRNA (m) Lentiviral Particles: sc-145268-V.

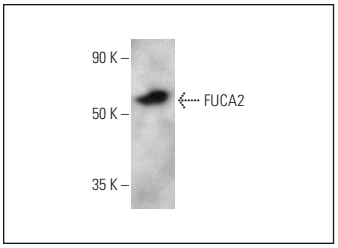
Molecular Weight of FUCA2: 55 kDa.

Positive Controls: human plasma extract: sc-364374 or human liver extract: sc-363766.

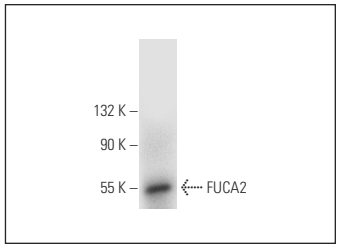
RECOMMENDED SUPPORT REAGENTS

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



FUCA2 (B-11): sc-514038. Western blot analysis of FUCA2 expression in human plasma.



FUCA2 (B-11): sc-514038. Western blot analysis of FUCA2 expression in human liver tissue extract.

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.