

liver FBPase (B-10): sc-166298

BACKGROUND

Fructose-1,6-bisphosphatase (FBPase) mediates the key reaction of carbohydrate metabolism. It catalyzes the splitting of fructose-1,6-bisphosphate into fructose 6-phosphate and inorganic phosphate. FBPase is encoded by two genes, FBP1 and FBP2, which express the liver and muscle isoforms, respectively. FBPase appears to be present in all living organisms and is regulated by AMP inhibition in most species. Inhibition of FBPase by AMP affects the turnover of bound substrate and not its affinity for substrate. The liver FBPase isoform is composed of four identical subunits. Mutations in the FBP1 gene are inherited as an autosomal recessive disorder that leads to a deficiency of FBPase, which is associated with hypoglycemia and metabolic acidosis. Muscle FBPase is located on both sides of the z-line.

REFERENCES

1. Dzugas, A., et al. 1980. Purification of human liver fructose-1,6-bisphosphatase. *Biochim. Biophys. Acta* 614: 407-412.
2. Marcus, F., et al. 1987. Function, structure and evolution of fructose-1,6-bisphosphatase. *Arch. Biol. Med. Exp.* 20: 371-378.
3. Matsuura, T., et al. 2002. Two newly identified genomic mutations in a Japanese female patient with fructose-1,6-bisphosphatase (FBPase) deficiency. *Mol. Genet. Metab.* 76: 207-210.
4. Rakus, D., et al. 2003. Different sensitivities of mutants and chimeric forms of human muscle and liver fructose-1,6-bisphosphatases towards AMP. *Biol. Chem.* 384: 51-58.

CHROMOSOMAL LOCATION

Genetic locus: FBP1 (human) mapping to 9q22.32.

SOURCE

liver FBPase (B-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-28 at the N-terminus of liver FBPase 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.

liver FBPase (B-10) is available conjugated to agarose (sc-166298 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166298 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166298 PE), fluorescein (sc-166298 FITC), Alexa Fluor® 488 (sc-166298 AF488), Alexa Fluor® 546 (sc-166298 AF546), Alexa Fluor® 594 (sc-166298 AF594) or Alexa Fluor® 647 (sc-166298 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166298 AF680) or Alexa Fluor® 790 (sc-166298 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166298 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

liver FBPase (B-10) is recommended for detection of liver FBPase 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), immunohistochemistry (including paraffin-embedded sections) (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 liver FBPase siRNA (h): sc-45235, liver FBPase shRNA Plasmid (h): sc-45235-SH and liver FBPase shRNA (h) Lentiviral Particles: sc-45235-V.

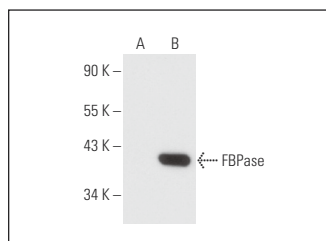
Molecular Weight of liver FBPase: 36 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209 or FBPase (h2): 293T Lysate: sc-158503.

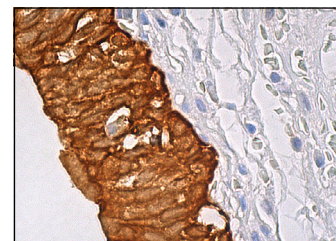
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



liver FBPase (B-10): sc-166298. Western blot analysis of FBPase expression in non-transfected: sc-117752 (A) and human FBPase transfected: sc-158503 (B) 293T whole cell lysates.



liver FBPase (B-10): sc-166298. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and membrane staining of urothelial cells.

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.