

FBPase (H-300): sc-66946

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. Dzugaj, 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.
5. Rakus, D., et al. 2004. Interaction between muscle aldolase and muscle fructose 1,6-bisphosphatase results in the substrate channeling. *Biochemistry* 43: 14948-14957.
6. Gizak, A., et al. 2005. Nuclear localization of fructose 1,6-bisphosphatase in smooth muscle cells. *J. Mol. Histol.* 36: 243-248.

CHROMOSOMAL LOCATION

Genetic locus: FBP1/FBP2 (human) mapping to 9q22.32; Fbp1/Fbp2 (mouse) mapping to 13 B3.

SOURCE

FBPase (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of liver FBPase of human origin.

PRODUCT

Each vial contains 200 µg IgG 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

FBPase (H-300) is recommended for detection of liver and muscle FBPase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

FBPase (H-300) is also recommended for detection of liver and muscle FBPase in additional species, including canine, bovine and porcine.

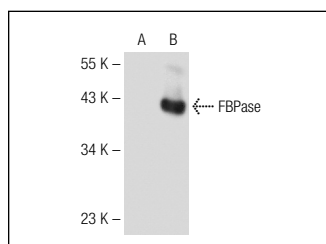
Molecular Weight of FBPase: 36 kDa.

Positive Controls: FBPase (h): 293T Lysate: sc-113796 or HL-60 whole cell lysate: sc-2209.

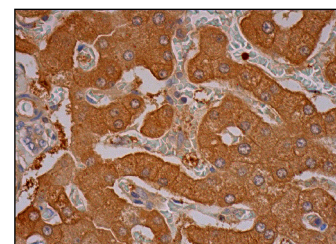
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



FBPase (H-300): sc-66946. Western blot analysis of FBPase expression in non-transfected: sc-117752 (A) and human FBPase transfected: sc-113796 (B) 293T whole cell lysates.



FBPase (H-300): sc-66946. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic and membrane staining of glandular cells and cytoplasmic staining of bile duct cells.

RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **FBPase (C-10): sc-166145** or **FBPase (F-9): sc-166097**, our highly recommended monoclonal alternatives to FBPase (H-300).