

PFKL (A-6): sc-393713

BACKGROUND

Phosphofructokinases (PFKs) are regulatory glycolytic enzymes that catalyze the irreversible conversion of fructose-6-phosphate to fructose-1,6-bisphosphate. Mammalian PFK is a tetramer made up of diverse combinations of three isoenzymes: muscle (PFK-1), liver (PFKL) and platelet (PFKP). PFKL (phosphofructokinase, liver), also referred to as PFK-B (phosphofructo-1-kinase isozyme B), phosphofructokinase 1 or phosphohexokinase, predominates in organs with active gluconeogenesis, such as liver and kidney. Overexpression of PFKL in transgenic mice results in a diminished glucose-induced Insulin response, which suggests that PFKL may play a role in glucose-induced Insulin secretion. PFKL is expressed at high levels in Down's syndrome (DS) patients, suggesting a possible role for PFKL in the pathogenesis of DS.

REFERENCES

- Vora, S. and Francke, U. 1981. Assignment of the human gene for liver-type 6-phosphofructokinase isozyme (PFKL) to chromosome 21 by using somatic cell hybrids and monoclonal anti-L antibody. *Proc. Natl. Acad. Sci. USA* 78: 3738-3742.
- Levanon, D., et al. 1986. Genomic clones of the human liver-type phosphofructokinase. *Biochem. Biophys. Res. Commun.* 141: 374-380.
- Levanon, D., et al. 1987. Construction of a cDNA clone containing the entire coding region of the human liver-type phosphofructokinase. *Biochem. Biophys. Res. Commun.* 147: 1182-1187.
- Elson, A., et al. 1994. Overexpression of liver-type phosphofructokinase (PFKL) in transgenic-PFKL mice: implication for gene dosage in trisomy 21. *Biochem. J.* 299: 409-415.

CHROMOSOMAL LOCATION

Genetic locus: PFKL (human) mapping to 21q22.3; Pfk1 (mouse) mapping to 10 C1.

SOURCE

PFKL (A-6) is a mouse monoclonal antibody raised against amino acids 46-81 mapping near the N-terminus of PFKL 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.

PFKL (A-6) is available conjugated to agarose (sc-393713 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393713 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393713 PE), fluorescein (sc-393713 FITC), Alexa Fluor[®] 488 (sc-393713 AF488), Alexa Fluor[®] 546 (sc-393713 AF546), Alexa Fluor[®] 594 (sc-393713 AF594) or Alexa Fluor[®] 647 (sc-393713 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-393713 AF680) or Alexa Fluor[®] 790 (sc-393713 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

PFKL (A-6) is recommended for detection of PFKL 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 PFKL siRNA (h): sc-106400, PFKL siRNA (m): sc-152180, PFKL shRNA Plasmid (h): sc-106400-SH, PFKL shRNA Plasmid (m): sc-152180-SH, PFKL shRNA (h) Lentiviral Particles: sc-106400-V and PFKL shRNA (m) Lentiviral Particles: sc-152180-V.

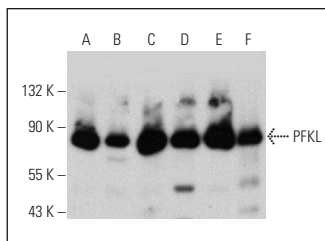
Molecular Weight of PFKL: 80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or A-431 whole cell lysate: sc-2201.

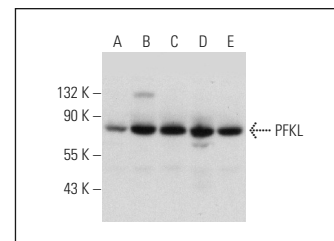
RECOMMENDED SUPPORT REAGENTS

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



PFKL (A-6): sc-393713. Western blot analysis of PFKL expression in MCF7 (A), WI-38 (B), C2C12 (C), RAW 264.7 (D), KNRK (E) and RPE-J (F) whole cell



PFKL (A-6): sc-393713. Western blot analysis of PFKL expression in HeLa (A), Hep G2 (B), SK-BR-3 (C), A-431 (D) and LNCaP (E) whole cell lysates.

SELECT PRODUCT CITATIONS

- Ichhaporia, V.P., et al. 2018. SIL1, the endoplasmic-reticulum-localized BiP co-chaperone, plays a crucial role in maintaining skeletal muscle proteostasis and physiology. *Dis. Model. Mech.* 11 pii: dmm033043.

RESEARCH USE

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

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA