

PFKP (h): 293T Lysate: sc-114281

BACKGROUND

Phosphofructokinases (PFKs) are regulatory glycolytic enzymes which catalyze the irreversible conversion of fructose-6-phosphate to fructose-1,6-bisphosphate, an intermediate in the pathway of glycolysis. Mammalian PFK is a tetramer made of three subunits, namely muscle (PFK-1), liver (PFKL) and platelet (PFKP) phosphofructokinase. PFKP (phosphofructokinase, platelet), also known as PFKF or PFK-C, is a 784 amino acid subunit of the PFK complex. Using magnesium as a cofactor, PFKP functions as an allosteric enzyme that, together with other PFK subunits, catalyzes the ATP-dependent phosphorylation of fructose-6-phosphate. Defects in the gene encoding PFKP may lead to an increased risk of obesity, as PFKP plays a crucial role in carbohydrate metabolism.

REFERENCES

1. Vora, S., Seaman, C., Durham, S. and Piomelli, S. 1980. Isozymes of human phosphofructokinase: identification and subunit structural characterization of a new system. *Proc. Natl. Acad. Sci. USA* 77: 62-66.
2. Nakajima, H., Noguchi, T., Yamasaki, T., Kono, N., Tanaka, T. and Tarui, S. 1987. Cloning of human muscle phosphofructokinase cDNA. *FEBS Lett.* 223: 113-116.
3. Simpson, C.J. and Fothergill-Gilmore, L.A. 1991. Isolation and sequence of a cDNA encoding human platelet phosphofructokinase. *Biochem. Biophys. Res. Commun.* 180: 197-203.
4. Adam, G.C., Sorensen, E.J. and Cravatt, B.F. 2002. Trifunctional chemical probes for the consolidated detection and identification of enzyme activities from complex proteomes. *Mol. Cell. Proteomics* 1: 828-835.
5. Mählknecht, U., Chesney, J., Hoelzer, D. and Bucala, R. 2003. Cloning and chromosomal characterization of the 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase-3 gene (PFKFB3, iPFK2). *Int. J. Oncol.* 23: 883-891.
6. Hannemann, A., Jandrig, B., Gaunitz, F., Eschrich, K. and Bigl, M. 2005. Characterization of the human P-type 6-phosphofructo-1-kinase gene promoter in neural cell lines. *Gene* 345: 237-247.
7. Martínez-Costa, O.H., Sánchez-Martínez, C., Sánchez, V. and Aragón, J.J. 2007. Chimeric phosphofructokinases involving exchange of the N- and C-terminal halves of mammalian isozymes: implications for ligand binding sites. *FEBS Lett.* 581: 3033-3038.
8. Andreasen, C.H., Mogensen, M.S., Borch-Johnsen, K., Sandbaek, A., Lauritzen, T., Sorensen, T.I., Hansen, L., Almind, K., Jorgensen, T., Pedersen, O. and Hansen, T. 2008. Non-replication of genome-wide based associations between common variants in INSIG2 and PFKP and obesity in studies of 18,014 Danes. *PLoS ONE*. 3: e2872.

CHROMOSOMAL LOCATION

Genetic locus: PFKP (human) mapping to 10p15.2.

PRODUCT

PFKP (h): 293T Lysate represents a lysate of human PFKP transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

PFKP (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive PFKP antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.