

# PFKP (C-23): sc-130227

## 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

- Vora, S., et al. 1980. Isozymes of human phosphofructokinase: identification and subunit structural characterization of a new system. Proc. Natl. Acad. Sci. USA 77: 62-66.
- Nakajima, H., et al. 1987. Cloning of human muscle phosphofructokinase cDNA. FEBS Lett. 223: 113-116.
- Simpson, C.J., et al. 1991. Isolation and sequence of a cDNA encoding human platelet phosphofructokinase. Biochem. Biophys. Res. Commun. 180: 197-203.
- Adam, G.C., et al. 2002. Trifunctional chemical probes for the consolidated detection and identification of enzyme activities from complex proteomes. Mol. Cell Proteomics. 1: 828-835.
- Mahlknecht, U., et al. 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.
- Hannemann, A., et al. 2005. Characterization of the human P-type 6-phosphofructo-1-kinase gene promoter in neural cell lines. Gene 345: 237-247.

## CHROMOSOMAL LOCATION

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

## SOURCE

PFKP (C-23) is a purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of PFKP of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml 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.

## RESEARCH USE

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

## APPLICATIONS

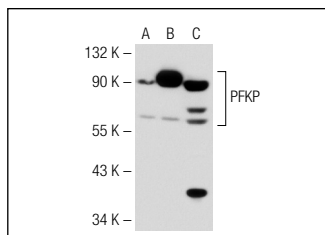
PFKP (C-23) is recommended for detection of PFKP of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (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).

Suitable for use as control antibody for PFKP siRNA (h): sc-106401, PFKP shRNA Plasmid (h): sc-106401-SH and PFKP shRNA (h) Lentiviral Particles: sc-106401-V.

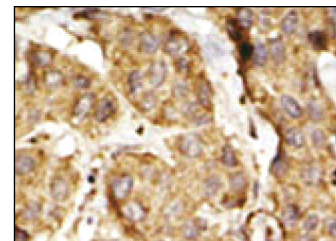
Molecular Weight of PFKP: 86 kDa.

Positive Controls: PFKP (h2): 293T Lysate: sc-170283, Ramos cell lysate: sc-2216 or Jurkat whole cell lysate: sc-2204.

## DATA



PFKP (C-23): sc-130227. Western blot analysis of PFKP expression in non-transfected 293T: sc-117752 (A), human PFKP transfected 293T: sc-170283 (B) and Jurkat (C) whole cell lysates.



PFKP (C-23): sc-130227. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cancer tissue showing cytoplasmic staining.

## SELECT PRODUCT CITATIONS

- Moon, J.S., et al. 2011. Krüppel-like factor 4 (KLF4) activates the transcription of the gene for the platelet isoform of phosphofructokinase (PFKP) in breast cancer. J. Biol. Chem. 286: 23808-23816.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **PFKP (F-7): sc-514824**, our highly recommended monoclonal alternative to PFKP (C-23).