

PFKL Antibody (Center K433) Blocking Peptide
Synthetic peptide
Catalog # BP8136c**Specification**

PFKL Antibody (Center K433) Blocking Peptide - Product InformationPrimary Accession [P17858](#)**PFKL Antibody (Center K433) Blocking Peptide - Additional Information**

Gene ID 5211

Other Names

ATP-dependent 6-phosphofructokinase, liver type {ECO:0000255|HAMAP-Rule:MF_03184},
ATP-PFK {ECO:0000255|HAMAP-Rule:MF_03184}, PFK-L, 27111
{ECO:0000255|HAMAP-Rule:MF_03184}, 6-phosphofructokinase type B, Phosphofructo-1-kinase
isozyme B, PFK-B, Phosphohexokinase {ECO:0000255|HAMAP-Rule:MF_03184}, PFKL

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP8136c](/product/products/AP8136c) was selected from the Center region of human PFKL. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

PFKL Antibody (Center K433) Blocking Peptide - Protein InformationName PFKL ([HGNC:8876](#))**Function**

Catalyzes the phosphorylation of D-fructose 6-phosphate to fructose 1,6-bisphosphate by ATP, the first committing step of glycolysis (PubMed: <http://www.uniprot.org/citations/22923583> target="_blank">22923583). Negatively regulates the phagocyte oxidative burst in response to bacterial infection by controlling cellular NADPH biosynthesis and NADPH oxidase-derived reactive oxygen species. Upon macrophage activation, drives the metabolic switch toward glycolysis, thus preventing glucose turnover that produces NADPH via pentose phosphate pathway (By similarity).

Cellular Location

Cytoplasm {ECO:0000255|HAMAP-Rule:MF_03184}.

PFKL Antibody (Center K433) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

PFKL Antibody (Center K433) Blocking Peptide - Images

PFKL Antibody (Center K433) Blocking Peptide - Background

Phosphofructokinase (PFK), a major regulatory enzyme in all cells of the body, catalyzes the metabolism of sugar, and thereby is pivotal in the production of energy to maintain normal cell function. In human there are three structural loci controlling PFK: M (muscle), L (liver), and P (platelet) type subunits, which are variably expressed in different tissues; human diploid fibroblasts and leukocytes express all three genes. PFK, a tetramer formed by the random association of the products of two separate gene loci to form the five possible tetramers. PFKs of muscle and liver are homotetramers of the M and L subunits, respectively. Red cells have all five isozymes: M4, M3L, M2L2, ML3, and L4. PFK is an allosteric enzyme activated by ADP, AMP, or fructose biphosphate and inhibited by ATP or citrate. PFK catalyzes the key controlling step of glycolytic pathway. PFK deficiency can present as mild to life-threatening episodic illness. A hallmark sign of this disease is intermittent dark urine, with the color of the urine ranging from orange to dark coffee-brown, which commonly develops following strenuous exercise. The mean red cell PFK is elevated in persons with Down syndrome.

PFKL Antibody (Center K433) Blocking Peptide - References

Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002). Hattori, M., et al., Nature 405(6784):311-319 (2000). Elson, A., et al., Genomics 7(1):47-56 (1990). Levanon, D., et al., DNA 8(10):733-743 (1989).