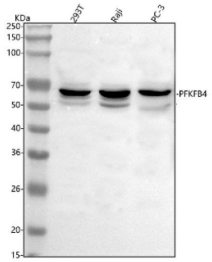
PFKFB4 Antibody / PFK/FBPase 4 (FY12255)

Catalog No.	Formulation	Size
FY12255	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q16877
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This PFKFB4 antibody is available for research use only.



Western blot analysis of PFKFB4 using anti-PFKFB4 antibody. Lane 1: human 293T whole cell lysates, Lane 2: human Raji whole cell lysates, Lane 3: human PC-3 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-PFKFB4 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A specific band was detected for PFKFB4 at approximately 54 kDa. The expected band size for PFKFB4 is at 54 kDa.

Description

PFKFB4 antibody detects 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4, encoded by the PFKFB4 gene on chromosome 3p21.1. PFKFB4 antibody is widely used in studies of glycolysis, metabolic regulation, and cancer biology. PFKFB4 belongs to the family of bifunctional enzymes that regulate intracellular levels of fructose-2,6-bisphosphate, a potent allosteric activator of phosphofructokinase-1, the rate-limiting enzyme of glycolysis. By maintaining fructose-2,6-bisphosphate, PFKFB4 plays a central role in controlling glycolytic flux and energy metabolism under

physiological and pathological conditions.

Structurally, PFKFB4 is a ~52 kDa protein with two distinct catalytic domains: a kinase domain that synthesizes fructose-2,6-bisphosphate and a bisphosphatase domain that hydrolyzes it. These opposing activities allow PFKFB4 to balance glycolysis and gluconeogenesis in response to cellular needs. Isoforms generated by alternative splicing may influence enzyme activity and localization in different tissues. PFKFB4 is primarily expressed in testes, brain, and cancer cells, where high glycolytic demand exists.

Functionally, PFKFB4 supports cellular adaptation to hypoxia and nutrient stress by enhancing glycolysis. It is transcriptionally upregulated by hypoxia-inducible factor 1 (HIF-1) during low oxygen conditions, helping maintain ATP production. In cancer cells, PFKFB4 supports the Warburg effect, promoting survival and growth under metabolic stress. Researchers use PFKFB4 antibody to investigate metabolic reprogramming, glycolysis regulation, and hypoxia responses.

Clinically, PFKFB4 overexpression has been associated with prostate, lung, and brain cancers, where it supports tumor growth and resistance to therapy. Its role in metabolic adaptation makes it a promising therapeutic target, and inhibitors of PFKFB4 are under investigation for anti-cancer therapy. Outside oncology, PFKFB4 contributes to spermatogenesis and neuronal metabolism. NSJ Bioreagents supplies PFKFB4 antibody to support research in metabolism, oncology, and developmental biology.

Experimentally, PFKFB4 antibody is applied in western blotting to detect the ~52 kDa protein, in immunohistochemistry to assess expression in tumors and testes, and in immunofluorescence microscopy to study subcellular localization. Enzyme activity assays in combination with PFKFB4 antibody enable functional studies of glycolytic regulation.

Application Notes

Optimal dilution of the PFKFB4 antibody should be determined by the researcher.

Immunogen

E.coli-derived human PFKFB4 recombinant protein (Position: M1-K298) was used as the immunogen for the PFKFB4 antibody.

Storage

After reconstitution, the PFKFB4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.