

Human PFK2 / PFKFB3 Protein (His & GST Tag)

Catalog Number: 13230-H20B



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

IPFK2; PFK2

Protein Construction:

A DNA sequence encoding the human PFKFB3 isoform 1 (Q16875-1) (Met 1-His 520) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 85 % as determined by SDS-PAGE

Bio Activity:

Kinase activity untested

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant human PFKFB3 /GST chimera consists of 757 amino acids and has a calculated molecular mass of 87.4 KDa. It migrates as an approximately 75 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Supplied as sterile 20mM Tris, 500mM NaCl, pH 7.0, 10% glycerol, 0.3mM DTT

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

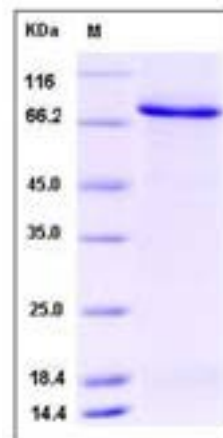
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Fructose-2,6-bisphosphatase 3, also known as 6-phosphofructo-2-kinase or PFK2 or PFKFB3, is a potent activator of phosphofructokinase, which is a rate-limiting enzyme of glycolysis. Highly phosphorylated PFKFB3 protein was found in human tumor cells, vascular endothelial cells, and smooth muscle cells. Fructose 2,6-bisphosphate (Fru-2,6-BP) is an allosteric activator of 6-phosphofructo-1-kinase (PFK-1), a rate-limiting enzyme and essential control point in glycolysis. The concentration of PFK2 depends on the activity of the bifunctional enzyme, 6-phosphofructo-2-kinase / fructose-2,6-bisphosphatase (PFK-2 / FBPase). PFK2 controls the glycolytic flux via the allosteric activator fructose 2,6-bisphosphate. Because of its proto-oncogenic character, the PFK-2/FBPase-2 of the PFKFB3 gene is assumed to play a critical role in tumorigenesis. The hypoxia-inducible form of 6-phosphofructo-2-kinase / fructose-2,6-bisphosphatase (PFKFB3) plays a crucial role in the progression of cancerous cells by enabling their glycolytic pathways even under severe hypoxic conditions.

References

1. Kessler R, et al. (2008) 6-Phosphofructo-2-kinase/fructose-2,6-bisphosphatase (PFKFB3) is up-regulated in high-grade astrocytomas. J Neurooncol. 86(3):257-64.
2. Yalcin A, et al. (2009) Nuclear targeting of 6-phosphofructo-2-kinase (PFKFB3) increases proliferation via cyclin-dependent kinases. J Biol Chem. 284(36):24223-32.
3. Atsumi T, et al. (2002) High expression of inducible 6-phosphofructo-2-kinase / fructose-2,6-bisphosphatase (iPFK-2; PFKFB3) in human cancers. Cancer Res. 62(20): 5881-7.

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