CREATIVE BIOMART®
Assay Kit

PFK Activity Colorimetric Assay Kit

Product Information

Cat.No. Kit-0679

Product Overview

PFK Activity Assay Kit (Colorimetric) is a quantitative colormetric determination of PFK activity at 450 nm.

Description

Phosphofructokinase (PFK) is a key glycolytic enzyme and plays a major regulatory role during glycolysis. This enzyme is present in bacteria, plants and animals. There are 2 types of PFKs - PFK1 and PFK2. In the presence of ATP, PFK1 & PFK2 catalyzes the conversion of fructose-6-phosphate to fructose-1,6-diphosphate and fructose-2,6-diphosphate respectively and ADP. PFK has 3 major isoforms in mammals: PFK-M (muscle), PFK-L (liver) and PFK-P (platelet). In humans, PFK deficiency causes glycogen storage disease, also called Tarui''s disease, which is characterized by exercise-induced muscle weakness and cramps. On the other hand, increased PFK activity contributes to cancer cell proliferation and tumorigenicity. Early detection of abnormal phosphofructokinase activity is crucial for diagnosis, prediction and therapeutic strategy. In PFK Activity Assay Kit (Colorimetric), PFK converts fructose-6-phosphate and ATP to fructose-diphosphate and ADP. The ADP in the presence of substrate and enzyme mix is converted to AMP and NADH, which reduces a colorless probe to a colored product with strong absorbance at 450 nm. PFK activity assay is simple, robust, and rapid and can detect phosphofructokinase activity less than 1 mU.

Applications

Measurement of phosphofructokinase activity in various tissues/cells.Analysis of glucose metabolism and cell signaling in various cell types.Screening anti-cancer drugs.

Usage

For research use only (RUO)

Storage

Store kit at -20°C, protected from light. Warm Assay Buffer to room temperature before use. Briefly centrifuge all small vials prior to opening.

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Kit Components

PFK Assay Buffer. Cap code: WM. 27 mLPFK Substrate (lyophilized). Cap code: blue. 1 vialATP (lyophilized). Cap code: orange. 1 vialPFK Enzyme Mix (Lyophilized). Cap code: green. 1 vialPFK Developer (Lyophilized). Cap code: red. 1 vialNADH Standard (Lyophilized). Cap code: yellow. 1 vialPositive Control (Lyophilized). Cap code: purple. 1 vial

Detection method Colorimetric

Compatible Sample Types

Attached Cell, Suspension Cell, Tissue

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