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www.rockland.com
tech@rockland.com
+1 484.791.3823

Datasheet for 200-1156-0100

# Fructose-6-Phosphate Kinase Antibody

## Overview

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| **Description:** | Anti-Fructose-6-Phosphate Kinase (GOAT) Antibody - 200-1156-0100 |
| **Item No.:** | 200-1156-0100 |
| **Size:** | 100 µg |
| **Applications:** | ELISA, IF, WB, Multiplex |
| **Reactivity:** | Rabbit |
| **Host Species:** | Goat |

## Product Details

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| **Background:** | Fructose-6-Phosphate Kinase -2 (F6PK) also known as Phosphofructokinase (PFK) catalyzes the conversion of ATP + D-fructose 6-phosphate to ADP + D-fructose 1,6-bisphosphate and therefore is a key enzyme in the control of glycolysis and carbohydrate degradation. This is a unidirectional and rate-limiting step in glycolysis. Allosteric kinetics control activation by ADP, AMP, or fructose bisphosphate and inhibition by ATP or citrate. The enzyme exists as a homotetramer. |
| **Synonyms:** | goat anti-Fructose-6-Phosphate Kinase Antibody, 6 Phosphofructokinase Muscle Type antibody, GSD7 antibody, MGC8699 antibody, PFKA antibody, PFKL antibody, PFKM antibody, PFKP antibody, PFKX antibody, Phosphofructo 1 Kinase Isozyme A antibody, Phosphofructokinase 1 antibody |
| **Host Species:** | Goat |
| **Clonality:** | Polyclonal |
| **Format:** | IgG |

## Target Details

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| **Gene Name:** | PFKM |
| **Reactivity:** | Rabbit |
| **Immunogen Type:** | Native Protein |
| **Immunogen:** | Full length native Fructose-6-Phosphate Kinase purified from rabbit muscle |

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| **Purity/Specificity:** | Anti-FRUCTOSE-6-PHOSPHATE KINASE is an IgG fraction antibody purified from monospecific antiserum by a multi-step process which includes delipidation, salt fractionation and ion exchange chromatography followed by extensive dialysis against the buffer stated above. Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Goat Serum as well as purified and partially purified Fructose-6-Phosphate Kinase [Rabbit muscle]. Cross reactivity against Fructose-6-Phosphate Kinase from other sources is expected based on high degrees of sequence homology for muscle derived F6PK. Partial reactivity may occur against F6PK isolated from liver. |
| **Relevant Links:** | • UniProtKB - P00511<br>• NCBI - 125128<br>• GeneID - 100345647 |

## Application Details

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| **Tested Applications:** | ELISA, IF, WB |
| **Suggested Applications:** | Multiplex (Based on references) |
| **Application Note:** | FRUCTOSE-6-PHOSPHATE KINASE antibody has been tested for use in ELISA, immunofluorescence microscopy and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 48 kDa in size corresponding to the processed mature form of F6PK protein by western blotting in the appropriate cell lysate or extract. |
| **Assay Dilutions:** | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below. |
| **ELISA:** | 1:1,000 - 1:,5000 |
| **IF:** | 1:200 - 1:2,000 |
| **WB:** | 1:500 - 1:2,000 |

## Formulation

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| **Physical State:** | Lyophilized |
| **Concentration:** | 1.0 mg/ml by UV absorbance at 280 nm |
| **Buffer:** | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 |
| **Preservative:** | 0.01% (w/v) Sodium Azide |
| **Stabilizer:** | None |
| **Reconstitution Volume:** | 100 µL |
| **Reconstitution Buffer:** | Restore with deionized water (or equivalent) |

## Shipping & Handling

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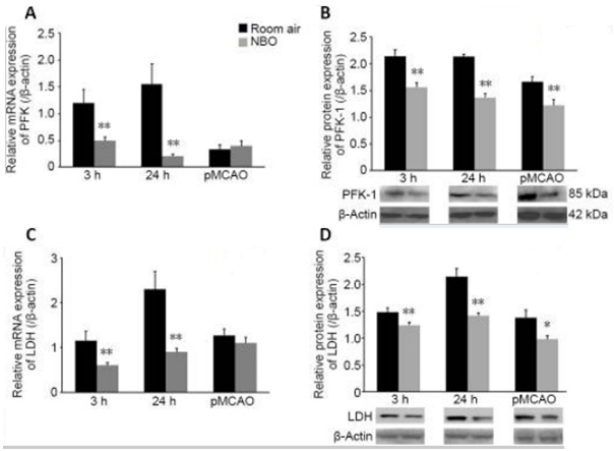
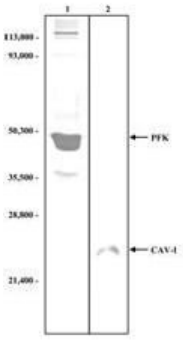
| **Shipping Condition:** | Ambient |
| **Storage Condition:** | Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use. |
| **Expiration:** | Expiration date is one (1) year from date of receipt. |

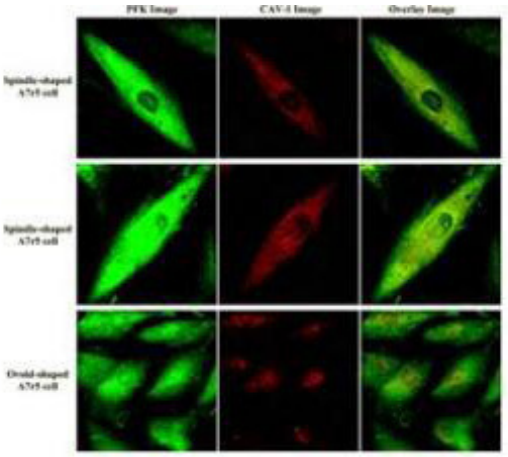
## Images




**Western Blot**
Effect of NBO on PFK-1 and LDH expression in cerebral tissue of ischemic stroke rats.
A real-time reverse-transcription polymerase chain reaction technique and western blot assay were used to quantify mRNA and protein expression at 3 and 24 hours after reperfusion or 28 hours of pMCAO without reperfusion. (A, B) PFK-1 mRNA (A) and protein (B) expression. (C, D) LDH mRNA (C) and protein (D) expression. Data are expressed as the mean ± SEM (n = 8). *P < 0.05, **P < 0.01, vs. room air (one-way analysis of variance followed by the least significant difference test). LDH: Lactate dehydrogenase; MCAO: middle cerebral artery occlusion; NBO: normobaric oxygenation; PFK-1: phosphofructokinase 1; pMCAO: permanent middle cerebral artery occlusion.
Fig 4. PMID: 33269745




**Western Blot**
Western blot analysis demonstrates the labeling specificity of the antibodies used for immunofluorescence (see Fig. 1). Tissue lysate from hog carotid arteries was analyzed by SDS-PAGE. Nitrocellulose membranes were probed with the corresponding antibodies at the same concentrations used for immunofluorescence labeling. 0.05 (PFK) and 0.2 mg (CAV-1) was loaded into lanes 1 and 2, respectively. Western blot development resulted in identification of the proteins of interest at the expected sizes, demonstrating the labeling specificity of the antibodies. Molecular weights are given. Used with permission from Vallejo and Hardin (2004).



**Immunofluorescence Microscopy**
Confocal microscopy images using Rockland's anti-F6PK MAGP-2 antibody shows specific staining. Cultures of A7r5 VSM cells (rat aorta) were labeled with anti-F6PK (PFK) at 1:200 and anti-caveolin (CAV)-1. Images from labeled A7r5 cells were acquired separately for PFK fluorescence (green) and CAV-1 fluorescence (red) from each cell. Used with permission from Vallejo and Hardin (2004).

## References


- Cheng Z et al. Normobaric oxygen therapy attenuates hyperglycolysis in ischemic stroke. *Neural Regan Res.* (2021)
- Vallejo J, Hardin CD. Metabolic organization in vascular smooth muscle: distribution and localization of caveolin-1 and phosphofructokinase. *Am J Physiol Cell Physiol.* (2004)


## Disclaimer