



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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## PFK-1 (G-11): sc-166722

### BACKGROUND

Phosphofructokinases (PFK) are regulatory glycolytic enzymes that convert fructose 6-phosphate and ATP into fructose 1,6-bisphosphate (through PFK-1), fructose 2,6-bisphosphate (through PFK-2), and ADP. Human PFK-1 is tetrameric and isoenzymes include, PFK-1 muscle (PFKM, PFK-A), PFK-1 liver (PFKL, PFK-B), and PFK-1 platelet (PFKP, PFK-C, PFKF). PFK-1 is inhibited by ATP and citrate (from the tricarboxylic acid cycle). PFK-1 undergoes activation in the presence of elevated AMP. The most potent activator is fructose-2,6-bisphosphate, which is produced by PFK-2 from the same substrate, fructose 6-phosphate. PFK-2 is bifunctional and a key regulator for PFK-1. PFK-2 catalyzes the synthesis of fructose-2,6-bisphosphate, and contains fructose-2,6-bisphosphatase activity that catalyzes the degradation of fructose-2,6-bisphosphate. PFK-2 is dimeric and isoenzymes include PFK-2 liver (PFKFB1, PFRX), PFK-2 cardiac (PFKFB2), PFK-2 placental (PFKFB3, Inducible PFK-2) and PFK-2 testis (PFKFB4).

### CHROMOSOMAL LOCATION

Genetic locus: PFKM (human) mapping to 12q13.11; PfkM (mouse) mapping to 15 F1.

### SOURCE

PFK-1 (G-11) is a mouse monoclonal antibody raised against amino acids 676-730 mapping near the C-terminus of PFK-1 of human origin.

### PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PFK-1 (G-11) is available conjugated to agarose (sc-166722 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166722 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166722 PE), fluorescein (sc-166722 FITC), Alexa Fluor<sup>®</sup> 488 (sc-166722 AF488), Alexa Fluor<sup>®</sup> 546 (sc-166722 AF546), Alexa Fluor<sup>®</sup> 594 (sc-166722 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-166722 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-166722 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-166722 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

### APPLICATIONS

PFK-1 (G-11) is recommended for detection of muscle type PFK-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PFK-1 siRNA (h): sc-44561, PFK-1 siRNA (m): sc-44562, PFK-1 shRNA Plasmid (h): sc-44561-SH, PFK-1 shRNA Plasmid (m): sc-44562-SH, PFK-1 shRNA (h) Lentiviral Particles: sc-44561-V and PFK-1 shRNA (m) Lentiviral Particles: sc-44562-V.

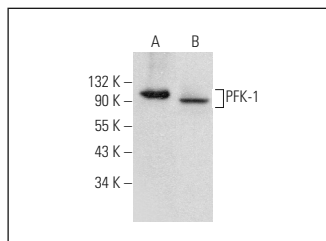
Molecular Weight of PFK-1: 85 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810 or mouse brain extract: sc-2253.

### STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### DATA



PFK-1 (G-11): sc-166722. Western blot analysis of PFK-1 expression in rat skeletal muscle (A) and mouse brain (B) tissue extracts.

### SELECT PRODUCT CITATIONS

- McPhee, J.S., et al. 2011. Variability in the magnitude of response of metabolic enzymes reveals patterns of co-ordinated expression following endurance training in women. *Exp. Physiol.* 96: 699-707.
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- Skovgaard, C., et al. 2014. Concurrent speed endurance and resistance training improves performance, running economy, and muscle NHE1 in moderately trained runners. *J. Appl. Physiol.* 117: 1097-1109.
- Nordsborg, N.B., et al. 2015. Oxidative capacity and glycogen content increase more in arm than leg muscle in sedentary women after intense training. *J. Appl. Physiol.* 119: 116-123.
- Mohr, M., et al. 2016. Muscle variables of importance for physiological performance in competitive football. *Eur. J. Appl. Physiol.* 116: 251-262.
- Hostrup, M., et al. 2018. Chronic  $\beta_2$ -adrenoceptor agonist treatment alters muscle proteome and functional adaptations induced by high intensity training in young men. *J. Physiol.* 596: 231-252.
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- Tiwari, S., et al. 2020. Gender-specific changes in energy metabolism and protein degradation as major pathways affected in livers of mice treated with ibuprofen. *Sci. Rep.* 10: 3386.
- Ogura, Y., et al. 2020. Ketogenic diet feeding improves aerobic metabolism property in extensor digitorum longus muscle of sedentary male rats. *PLoS ONE* 15: e0241382.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

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