PFK-1 (E-4): sc-377346

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 isoforms 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-bisphosphate activity that catalyzes the degradation of fructose-2,6-bisphosphate. PFK-2 is dimeric and isoforms include PFK-2 liver (PFKF81, PFKR), PFK-2 cardiac (PFKF82), PFK-2 placental (PFKF83, inducible PFK-2) and PFK-2 testis (PFKF84).

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

SOURCE
PFK-1 (E-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 681-715 near the C-terminus of PFK-1 of human origin.

PRODUCT
Each vial contains 200 µg IgG kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377346 P (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS
PFK-1 (E-4) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PFK-1 (E-4) is also recommended for detection of muscle type PFK-1 in additional species, including equine, canine and porcine.

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 human skeletal muscle extract: sc-363776.

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 (E-4): sc-377346. Western blot analysis of PFK-1 expression in human skeletal muscle (A) and rat skeletal muscle (B) tissue extracts. Detection reagent used: m lgG BP-HRP: sc-010120.

PFK-1 (E-4): sc-377346. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse skeletal muscle tissue (A) and human heart muscle tissue (B) showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

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