

# PFK-2 tes (D-13): sc-103112

## 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. PFK-2 tes (6PF-2-K/Fru-2,6-P2ASE testis-type isozyme), also known as PFKFB4 (6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 4) is a 469 amino acid cytoplasmic enzyme that is involved in the degradation and synthesis of fructose 2,6-bisphosphate. Specifically expressed in testis, PFK-2 tes functions as a homodimer and is regulated via phosphorylation. Expression of PFK-2 tes is upregulated in response to hypoxic conditions in a HIF-1 $\alpha$  dependent mechanism. Significantly, expression of PFK-2 tes is observed in a variety of cancer cell lines, suggesting that it may play a role in the Warburg effect, the observation that malignant cells produce ATP via glycolysis followed by lactic acid fermentation in the cytosol, rather than via pyruvate in the mitochondria.

## CHROMOSOMAL LOCATION

Genetic locus: PFKFB4 (human) mapping to 3p21.31; Pfkfb4 (mouse) mapping to 9 F2.

## SOURCE

PFK-2 tes (D-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PFK-2 tes of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-103112 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

PFK-2 tes (D-13) is recommended for detection of PFK-2 tes of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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); non cross-reactive with other PFK family members.

PFK-2 tes (D-13) is also recommended for detection of PFK-2 tes in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PFK-2 tes siRNA (h): sc-78392, PFK-2 tes siRNA (m): sc-152179, PFK-2 tes shRNA Plasmid (h): sc-78392-SH, PFK-2 tes shRNA Plasmid (m): sc-152179-SH, PFK-2 tes shRNA (h) Lentiviral Particles: sc-78392-V and PFK-2 tes shRNA (m) Lentiviral Particles: sc-152179-V.

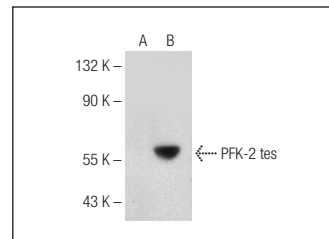
Molecular Weight of PFK-2 tes: 55 kDa.

Positive Controls: PFK-2 tes (h): 293T Lysate: sc-176517.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



PFK-2 tes (D-13): sc-103112. Western blot analysis of PFK-2 tes expression in non-transfected: sc-117752 (A) and human PFK-2 tes transfected: sc-176517 (B) 293T whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


 MONOS  
Satisfaction  
Guaranteed

Try **PFK-2 tes (A-1): sc-514792**, our highly recommended monoclonal alternative to PFK-2 tes (D-13).