

PFK-2 tes (E-16): sc-103113

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 α 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.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: PFKFB4 (human) mapping to 3p21.31.

SOURCE

PFK-2 tes (E-16) 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 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-103113 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PFK-2 tes (E-16) is recommended for detection of PFK-2 tes of human and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (E-16) 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 shRNA Plasmid (h): sc-78392-SH and PFK-2 tes shRNA (h) Lentiviral Particles: sc-78392-V.

Molecular Weight of PFK-2 tes: 55 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

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) 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.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


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Try **PFK-2 tes (A-1): sc-514792**, our highly recommended monoclonal alternative to PFK-2 tes (E-16).