

## PFK-2 br/pl (P-15): sc-10090

### BACKGROUND

Phosphofructokinase-2 (PFK-2) belongs to the phosphoglycerate mutase family and is required for the activation of cellular glycolysis. Within the glycolysis pathway, PFK-2 regulates the synthesis and degradation of fructose 2,6-bisphosphate (F2,6BP) by enzymatically catalyzing the phosphorylation of fructose-6-phosphate to form F2,6BP. F2,6BP functions as a potent activator for 6-phosphofructo-1-kinase that can then activate the glycolysis pathway. Various tissue-specific isoforms of PFK-2 are expressed, including the PFK-2 specific to the brain (br), the liver (liv) and the placenta (pl), and they are also differentially regulated and function as homodimers. A unique isoform, iPFK-2, is induced following proinflammatory stimuli, and it is also constitutively expressed in a variety of carcinoma cell lines, where it leads to an accumulation of intracellular F2,6BP. In addition, the expression of iPFK-2 correlates to increases in DNA synthesis, suggesting that iPFK-2 may contribute to cellular transformation of cells and enhanced cellular proliferation.

### CHROMOSOMAL LOCATION

Genetic locus: PFKFB3 (human) mapping to 10p15.1; Pfkfb3 (mouse) mapping to 2 A1.

### SOURCE

PFK-2 br/pl (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PFK-2 br/pl of human origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-10090 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PFK-2 br/pl (P-15) is recommended for detection of brain and placenta PFK-2 and iPFK-2 of mouse, rat and human 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), 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-2 br/pl (P-15) is also recommended for detection of brain and placenta PFK-2 and iPFK-2 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for PFK-2 br/pl siRNA (h): sc-44011, PFK-2 br/pl siRNA (m): sc-39026, PFK-2 br/pl shRNA Plasmid (h): sc-44011-SH, PFK-2 br/pl shRNA Plasmid (m): sc-39026-SH, PFK-2 br/pl shRNA (h) Lentiviral Particles: sc-44011-V and PFK-2 br/pl shRNA (m) Lentiviral Particles: sc-39026-V.

Positive Controls: ECV304 cell lysate: sc-2269.

### 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

### DATA



PFK-2 br/pl (P-15): sc-10090. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

### SELECT PRODUCT CITATIONS

- Desideri, E., et al. 2014. MAPK14/p38 $\alpha$ -dependent modulation of glucose metabolism affects ROS levels and autophagy during starvation. *Autophagy* 10: 1652-1665.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **PFK-2 br/pl (3F3): sc-293477**, our highly recommended monoclonal alternative to PFK-2 br/pl (P-15).