SANTA CRUZ BIOTECHNOLOGY, INC.

PFK-2 br/pl (L-13): sc-10091

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phosphofructosekinase-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 constituitively expressed in a variety of carcinoma cell lines, where it leads to an accumation of intracellular F2,6BP. In addition, the expression of iPFK-2 correlates to increases in DNA sysnthesis, suggesting that iPFK-2 may contribute to cellular transformation of cells and enhanced cellular proliferation.

REFERENCES

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3. Cifuentes, M.E., et al. 1991. Hormonal control of 6-phosphofructo-2-kinase/ fructose-2,6-bisphosphatase gene expression in rat hepatoma cells. J. Biol. Chem. 266: 1557-1563.
4. Hirata, T., et al. 1998. Expression of human placental-type 6-phosphofructo-2-kinase/fructose 2,6-bisphosphatase in various cells and cell lines. Biochem. Biophys. Res. Commun. 242: 680-684.
5. Bruni, P., et al. 1999. Expression and regulation of 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase isozymes in white adipose tissue. Eur. J. Biochem. 259: 756-761.
6. Watanabe, F., et al. 1999. Tissue-specific alternative splicing of rat brain fructose 6-phosphate 2-kinase/fructose 2,6-bisphosphatase. FEBS Lett. 458: 304-308.
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CHROMOSOMAL LOCATION

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

SOURCE

PFK-2 br/pl (L-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-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-10091 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PFK-2 br/pl (L-13) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PFK-2 br/pl (L-13) is also recommended for detection of brain and placenta PFK-2 and iPFK-2 in additional species, including equine, canine, 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.

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.