SANTA CRUZ BIOTECHNOLOGY, INC.

PYGB/M (10D12): sc-51921

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glycolysis is an evolutionarily conserved series of ten chemical reactions that utilizes eleven enzymes to concomitantly generate pyruvate and ATP from glucose. Phospho-fructose kinase-2/fructose 2,6-bisphosphatase (PFK-2) stimulates the synthesis and degradation of fructose 2,6-bisphosphate. Glycogen phosphorylase (also known as GP) is an allosteric enzyme important in carbohydrate metabolism. Its activity is regulated through either noncovalent binding of metabolites or by covalent modification. Glycogen phosphorylase catalyzes the phosphorylation of glycogen to Glc-1-P. There are three genes which encode the brain, liver and muscle forms of glycogen phosphorylase, PYGB, PYGL and PYGM. Because of its fundamental role in the metabolism of glycogen, glycogen phosphorylase has been a target for the design of inhibitory compounds, which could be valuable in the therapeutic treatment of type 2 diabetes mellitus.

REFERENCES

1. Clark, A.J. 1991. Rec genes and homologous recombination proteins in *Escherichia coli*. Biochimie 73: 523-532.
2. Madiraju, M.V. and Clark, A.J. 1991. Effect of RecF protein on reactions catalyzed by RecA protein. Nucleic Acids Res. 19: 6295-6300.
3. Boldt, J., Rothe, G., Schindler, E., Döll, C., Görlach, G. and Hempelmann, G. 1996. Can clonidine, enoximone, and enalaprilat help to protect the myocardium against ischaemia in cardiac surgery? Heart 76: 207-213.
4. Krause, E.G., Rabitzsch, G., Noll, F., Mair, J. and Puschendorf, B. 1997. Glycogen phosphorylase isoenzyme BB in diagnosis of myocardial ischaemic injury and infarction. Mol. Cell. Biochem. 160-161: 289-295.
5. Mair, J. 1997. Progress in myocardial damage detection: new biochemical markers for clinicians. Crit. Rev. Clin. Lab. Sci. 34: 1-66.
6. Mair, J. 1998. Glycogen phosphorylase isoenzyme BB to diagnose ischaemic myocardial damage. Clin. Chim. Acta 272: 79-86.
7. Lang, K., Börner, A. and Figulla, H.R. 2000. Comparison of biochemical markers for the detection of minimal myocardial injury: superior sensitivity of cardiac Troponin—T ELISA. J. Intern. Med. 247: 119-123.
8. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608455. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
9. Peetz, D., Post, F., Schinzel, H., Schweigert, R., Schollmayer, C., Steinbach, K., Dati, F., Noll, F. and Lackner, K.J. 2005. Glycogen phosphorylase BB in acute coronary syndromes. Clin. Chem. Lab. Med. 43: 1351-1358.

CHROMOSOMAL LOCATION

Genetic locus: PYGB (human) mapping to 20p11.21, PYGM (human) mapping to 11q13.1.

SOURCE

PYGB/M (10D12) is a mouse monoclonal antibody raised against brain glycogen phosphorylase of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

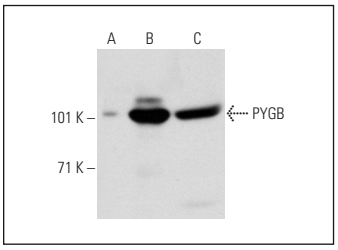
APPLICATIONS

PYGB/M (10D12) is recommended for detection of PYGB and PYGM of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

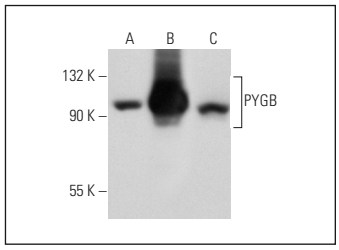
Molecular Weight of PYGB/M: 97 kDa.

Positive Controls: PYGB (h): 293T Lysate: sc-170275, Hep G2 cell lysate: sc-2227 or U-87 MG cell lysate: sc-2411.

DATA



PYGB/M (10D12): sc-51921. Western blot analysis of PYGB expression in non-transfected 293: sc-110760 (**A**), human PYGB transfected 293: sc-111195 (**B**) and Hep G2 (**C**) whole cell lysates.



PYGB/M (10D12): sc-51921. Western blot analysis of PYGB expression in non-transfected 293T: sc-117752 (**A**), human PYGB transfected 293T: sc-170275 (**B**) and A-673 (**C**) whole cell lysates.

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 for detailed protocols and support products.