



Human GLUT1 Polyclonal Antibody

Antigen Affinity-Purified Anti-Human GLUT1 Rabbit Antibody

Catalog Number: GR126001

Background

Glycogen phosphorylase isoenzyme BB (abbreviation: GLUT1) is an isoenzyme of glycogen phosphorylase.[1] This isoform of the enzyme exists in cardiac (heart) and brain tissue. The enzyme is one of the "new cardiac markers" which are discussed to improve early diagnosis in acute coronary syndrome.[2-4] A rapid rise in blood levels can be seen in myocardial infarction and unstable angina. GLUT1 based on its metabolic function is an enzyme for early laboratory detection of ischaemia and infarction.[5] In the aerobic heart muscle GLUT1 together with glycogen is tightly associated with the vesicles of the sarcoplasmic reticulum. Release of GLUT1, the main isoform in the human myocardium, essentially depends on the degradation of glycogen, which is catalyzed by GP. Ischaemia is known to favour the conversion of bound GP in the b form into GP a, thereby accelerating glycogen breakdown, which is the ultimate prerequisite for getting GP into a soluble form being able to move freely in the cytosol. The efflux of GLUT1 into the extracellular fluid follows if ischaemia-induced structural alterations in the cell membrane become manifest. The clinical application of GLUT1 as a marker of ischaemic myocardial injury is a very promising tool for extending our knowledge of the severity of myocardial ischaemic events in the various coronary syndromes. GLUT1 along with cardiac Troponin I elevated after chemotherapy for acute leukemia and thus may serve a potential for detection of acute cardiotoxicity.[6] GLUT1 concentration measurement may be a useful tool for monitoring myocardial ischemia during a transjugular intrahepatic portosystemic shunts procedure.[7]

References

1. Newgard CB, et al. (1988) *J. Biol. Chem.* 263 (8), 3850-3857 (1988)
2. Apple FS, et al. (2005) *Clin. Chem.* 51 (5): 810-24.
3. Peetz D, et al. (2005). *Clin. Chem. Lab. Med.* 43 (12): 1351-8.
4. Lillpopp L, et al.(2012) *Am. J. Cardiol.* 110 (9), 1225-1230.
5. Krause EG¹, (1996) *Mol Cell Biochem.* 160-161:289-95.
6. Horacek JM¹, et al. (2010) *Exp Oncol.* 32(2):97-9.
7. Vasatova M¹, et al. (2015) *Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub.* 159(3):437-41.



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Description

Species reactivity: Human

Specificity: Detects human GLUT1 in direct or indirect ELISAs and Western blots.

Source: Polyclonal rabbit IgG

Purification: Antigen Affinity purified

Immunogen: *E. coli* derived recombinant human GLUT1, Leu176 –Pro271, and Accession # P11166.

Endotoxin Level: <0.10 EU per 1 µg of the antibody by the LAL method.

Formulation: lyophilized from a solution containing PBS and trehalose (100 µg/ml).

Application

Reconstitution: reconstitute at 0.2 mg/ml in sterile PBS

Recommended concentration:

Western blot: >0.2 µg/ml

Immunocytochemistry: 5-15 µg/ml

ELISA: 0.3-1 µg/ml

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months at -20°C as supplied.
- 1 month after reconstitution at 4 °C, from date of receipt.
- 6 months after reconstitution at -20°C to -70°C from date of receipt.

DECLARATION

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

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