

Background

Glycogen phosphorylase isoenzyme BB (abbreviation: GPBB) 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. GPBB based on its metabolic function is an enzyme for early laboratory detection of ischaemia and infarction.[5] In the aerobic heart muscle GPBB together with glycogen is tightly associated with the vesicles of the sarcoplasmic reticulum. Release of GPBB, 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 GPBB into the extracellular fluid follows if ischaemia-induced structural alterations in the cell membrane become manifest. The clinical application of GPBB 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. GPBB along with cardiac Troponin I elevated after chemotherapy for acute leukemia and thus may serve a potential for detection of acute cardiotoxicity.[6] GPBB 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.



Genorise® Recombinant Human GPBB

Catalog Number: GR1119203

Description

Size: 10 µg

Source: *E coli* derived

Component: Lys545-Asp843

Accession # NP_002853.2

Predicted Molecular Mass: 33 kDa (monomer)

Specifications

SDS-PAGE: 35 kDa, reducing conditions

Purity: >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation: Lyophilized from a 0.2 µm filtered PBS with BSA as a carrier protein.

Preparation and Storage

Reconstitution: Reconstitute at 20 µg/mL in sterile PBS.

Shipping: The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage: Use a manual defrost freezer and avoid repeated freeze thaw cycles.

- 6 months from date of receipt, -20 to -70°C as supplied.
- 3 months, -20 to -70°C under sterile conditions after reconstitution.

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.

**FOR LABORATORY RESEARCH USE ONLY
NOT FOR USE IN MICE AND ANIMALS**