

# Recombinant Human Phosphorylase, Glycogen, Muscle

**Cat. No.** PYGM-58H    **Lot. No.** (See product label)

## SPECIFICATION

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| <b>Product Overview</b>    | Recombinant Human Glycogen Phosphorylase produced in <i>E. Coli</i> is a single, non-glycosylated, polypeptide chain having a molecular mass of 97 kDa. The GPBB is purified by proprietary chromatographic techniques.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Species</b>             | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Source</b>              | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Description</b>         | Glycogen phosphorylase is one of the phosphorylase enzymes (EC 2.4.1.1). It breaks up glycogen into glucose subunits. Glycogen is left with one less glucose molecule, and the free glucose molecule is in the form of glucose-1-phosphate. In order to be used for metabolism, it must be converted to glucose-6-phosphate by the enzyme phosphoglucomutase. Glycogen phosphorylase can only act on linear chains of glycogen (a 1-4 glycosidic linkage). Its work will immediately come to a halt four residues away from a 1-6 branch (which are exceedingly common in glycogen). In these situations, a debranching enzyme is necessary, which will straighten out the chain in that area. Additionally, an alpha 1-6 glucosidase enzyme is required to break the remaining 1-6 residue that remains in the new linear chain. After all this is done, glycogen phosphorylase can continue. |
| <b>Physical Appearance</b> | Sterile Filtered colourless liquid formulation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Purity</b>              | Greater than 85.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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|                     |                                                                                                                         |
|---------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Formulation</b>  | 0.8 mg/1ml, each mg of protein contains 50% glycerol.                                                                   |
| <b>Applications</b> | Immunoassays and western blot.                                                                                          |
| <b>Stability</b>    | GPBB although stable at 10°C for 7 days, should be stored desiccated below -18°C.<br>Please prevent freeze-thaw cycles. |

## GENE INFORMATION

|                            |                                                                                                                                                                                                                                                                                                   |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>           | PYGM phosphorylase, glycogen, muscle [ Homo sapiens ]                                                                                                                                                                                                                                             |
| <b>Synonyms</b>            | PYGM; phosphorylase, glycogen, muscle; McArdle syndrome; glycogen storage disease type V; Glycogen phosphorylase, muscle form; Myophosphorylase; EC 2.4.1.1; myophosphorylase; muscle glycogen phosphorylase; phosphorylase, glycogen; muscle (McArdle syndrome, glycogen storage disease type V) |
| <b>Gene ID</b>             | 5837                                                                                                                                                                                                                                                                                              |
| <b>mRNA Refseq</b>         | NM_001164716                                                                                                                                                                                                                                                                                      |
| <b>Protein Refseq</b>      | NP_001158188                                                                                                                                                                                                                                                                                      |
| <b>MIM</b>                 | 608455                                                                                                                                                                                                                                                                                            |
| <b>UniProt ID</b>          | P11217                                                                                                                                                                                                                                                                                            |
| <b>Chromosome Location</b> | 11q12-q13.2                                                                                                                                                                                                                                                                                       |
| <b>Pathway</b>             | Insulin signaling pathway; Starch and sucrose metabolism; Metabolism of carbohydrates                                                                                                                                                                                                             |

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**Function**

AMP binding; drug binding; glycogen phosphorylase activity; nucleotide binding; protein binding; pyridoxal phosphate binding; sugar binding; transferase activity, transferring glycosyl groups

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