

## Recombinant Human phosphoglucomutase 1 Protein, Tag Free

Cat. No. PGM1-33H    Lot. No. (See product label)

### SPECIFICATION

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Overview | Recombinant Human PGM1 Protein without tag was expressed in E. coli.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Species          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Source           | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Description      | <p>The protein encoded by this gene is an isozyme of phosphoglucomutase (PGM) and belongs to the phosphohexose mutase family. There are several PGM isozymes, which are encoded by different genes and catalyze the transfer of phosphate between the 1 and 6 positions of glucose. In most cell types, this PGM isozyme is predominant, representing about 90% of total PGM activity. In red cells, PGM2 is a major isozyme. This gene is highly polymorphic. Mutations in this gene cause glycogen storage disease type 14. Alternativley spliced transcript variants encoding different isoforms have been identified in this gene.</p> |
| Tag              | Non                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Form             | Lyophilized powder                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Bio-activity     | ≥ 400 units/mg protein                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Molecular Mass   | 61.3kDa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Purity           | > 95 % by SDS-PAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <b>Unit Definition</b>         | One unit will convert 1.0 $\mu$ mole of $\alpha$ -D-Glucose-1-Phosphate to $\alpha$ -D-Glucose-6-phosphate per minute at pH 7.4 at 30 centigrade.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Biochem/physiol Actions</b> | Phosphoglucomutase-1 (PGM1) catalyzes the bidirectional interconversion of glucose-1-phosphate (G-1-P) and glucose-6-phosphate (G-6-P). It regulates carbohydrate metabolism, energy production, and protein N-glycosylation. PGM1 participates in the biosynthesis of nucleotide sugars required for glycan biosynthesis. Variation in the PGM1 gene leads to PGM1 deficiency, which is considered an inherited metabolic disorder in humans. PGM1 deficiency causes autosomal recessive diseases such as glycogen storage disease type XIV and congenital disorder of protein N-glycosylation. Affected patients show multiple disease phenotypes, reflecting the central role of the enzyme in glucose homeostasis. The influence of PGM1 deficiency on protein glycosylation patterns is also widespread. PGM1 acts as a metabolic tumor suppressor. |
| <b>Storage</b>                 | At -20 centigrade.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Storage Buffer</b>          | Supplied as a lyophilized powder containing tris-buffered saline, EDTA, DTT and stabilizer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>GENE INFORMATION</b>        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Gene Name</b>               | PGM1 phosphoglucomutase 1 [Homo sapiens (human)]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Official Symbol</b>         | PGM1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Synonyms</b>                | PGM1; phosphoglucomutase 1; phosphoglucomutase-1; PGM 1; glucose phosphomutase 1; GSD14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Gene ID</b>                 | 5236                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|                |                              |
|----------------|------------------------------|
| mRNA Refseq    | <a href="#">NM_001172818</a> |
| Protein Refseq | <a href="#">NP_001166289</a> |
| MIM            | <a href="#">171900</a>       |
| UniProt ID     | <a href="#">P36871</a>       |

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