

## Product datasheet for **RC201232**

### Glucose 6 phosphate isomerase (GPI) (NM\_000175) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Glucose 6 phosphate isomerase (GPI) (NM_000175) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Glucose 6 phosphate isomerase
Synonyms:	AMF; GNPI; NLK; PGI; PHI; SA-36; SA36
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC201232 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGGCCGCTCTCACCCGGGACCCCAAGTCCAGAAGTGCAGCAATGGTACCGCAGCACCGCTCCGAGC  
 TGAACCTGCGCCGCTCTTCGATGCCAACAAAGGACCGCTTCAACCACTTCAGCTTGACCCTCAACACCAA  
 CCATGGGCATATCCTGGTGGATTACTCCAAGAACCTGGTACGGAGGACGTGATCGGGATGCTGGTGGAC  
 TTGGCCAAGTCCAGGGCGTGGAGGCGCCCGGGAGCGGATGTTCAATGGTGAAGAATCAACTACCCG  
 AGGGTCGAGCCGTGCTGCACGTGGCTCTGCGGAACCGGTCAAACACACCCATCCTGGTAGACGGCAAGGA  
 TGTGATGCCAGAGGTCAACAAGTTCTGGACAAGATGAAGTCTTCTGCCAGCGTGTCCGGAGCGGTGAC  
 TGAAGGGGTACACAGGCAAGACCATCACGGACGTCATCAACATTGGCATTGGCGGCTCCGACCTGGGAC  
 CCCTCATGGTACTGAAGCCCTTAAGCCATACTCTCAGGAGTCCCCGCGTCTGGTATGTCTCCAACAT  
 TGATGAACTCACATTGCCAAAACCTGGCCCAGCTGAACCCGAGTCTCCCTGTTTCATCATTGCCTCC  
 AAGACCTTACTACCCAGGAGACCATCACGAATGCAGAGACGGCGAAGGAGTGGTTTCTCCAGGCGGCCA  
 AGGATCCTTCTGCAGTGGCGAAGCACTTGTGGCCTGTCTACTAACACAACCAAAGTGAAGGAGTTTGG  
 AATTGACCCTCAAAACATGTTTCGAGTCTGGGATTGGGTGGGAGGACGCTACTCGCTGTGGTCCGCCATC  
 GGACTCTCATTGCCCTGCACGTGGGTTTTGACAACTTCGAGCAGCTGCTCTCGGGGCTCACTGGATGG  
 ACCAGCACTTCCGCACGACGCCCTGGAGAAGAAGCCCCGCTTGTGGCCCTGCTGGGTATCTGGTA  
 CATCAACTGCTTTGGGTGTGAGACACACGCCATGCTGCCCTATGACCAGTACCTGCACCGCTTTGCTGCG  
 TACTTCCAGCAGGGCGACATGGAGTCCAATGGGAAATACATCACCAAATCTGGAACCCGTGTGGACCACC  
 AGACAGCCCCATTGTGTGGGGGAGCCAGGACCAATGGCCAGCATGCTTTTTACCAGCTCATCCACCA  
 AGGCACCAAGATGATACCTGTGACTTCTCATCCCGGTCCAGACCCAGCACCCCATACGGAAGGGTCTG  
 CATCACAAGATCCTCTGGCCAACTTCTGGCCAGACAGAGGCCCTGATGAGGGGAAAAATCGACGGAGG  
 AGGCCCGAAAGGAGTCCAGGCTGCGGGCAAGAGTCCAGAGGACCTTGAGAGGCTGCTGCCACATAAGGT  
 CTTTGAAGGAAATCGCCCAACCAACTCTATTGTGTTCCACCAAGCTCACACCATTGCTTGGAGCCTTG  
 GTCGCCATGTATGAGCACAAGATCTTCGTTTCAGGGCATCATCTGGGACATCAACAGCTTTGACCAGTGGG  
 GAGTGGAGCTGGAAAGCAGCTGGCTAAGAAAATAGAGCCTGAGCTTGATGGCAGTGTCAAGTACCTC  
 TCACGACGCTTACCAATGGGCTCATCAACTTCAAGCAGCAGCGCGAGGCCAGAGTCCAA

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC201232 protein sequence  
 Red=Cloning site Green=Tags(s)

MAALTRDPQFQKLQQWYREHRSELNLRRLFDANKDRFNHFSLTLNTNHGHILVDYSKNLVTEDVMRMLVD  
 LAKSRGVEAARERMFNGEKINYTEGRAVLHVALRNRSNTPILVDGKDVMPVKNKVLDMKSFQVRVRS  
 WKGYTGKTIITDVINIGIGSDLGPLMVTEALPKPYSSGGPRVWVYSNIDGTHIAKTLAQLNPESLFIAS  
 KTFTTQETITNAETAKEWFLQAAKDPSAVAKHFVALSTNTTKVKEFGIDPQNMFEFWDWVGGRYLSWAI  
 GLSIALHVGFDFEQLLSGAHWMDQHFRTTPELKNAPVLLALLGIWYINCFGCETHAMLPYDQYLHRFAA  
 YFQQGDMEISNGKYYITKSGTRVDHQTGPIVWGEPTNGQHAFYQLIHQGTKMIPCDFLIPVQTQHP  
 IRKGLHHKILLANFLAQTEALMRGKSTEEARKELQAAGKSPEDLERLLPHKVFEGNRPTNSIVFTKLT  
 PFMALGALVAMYEHKIFVQGIWDINSFDQWGVELGKQLAKKIEPELDGSAQVTSHDASTNGLINF  
 IKQQREARVQ

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6150\\_a02.zip](https://cdn.origene.com/chromatograms/mk6150_a02.zip)

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**

**ACCN:** NM\_000175

**ORF Size:** 1674 bp

**OTI Disclaimer:** The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)
**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
  2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
  3. Close the tube and incubate for 10 minutes at room temperature.
  4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
  5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_000175.5](#)
**RefSeq Size:** 4212 bp

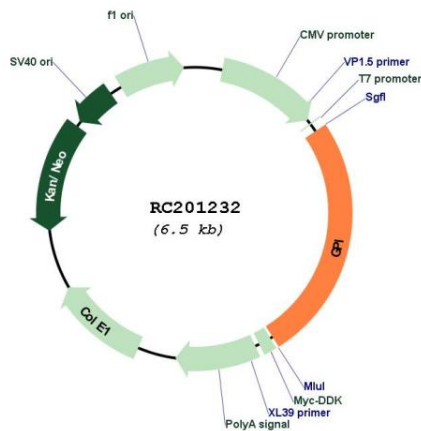
**RefSeq ORF:** 1677 bp

**Locus ID:** 2821

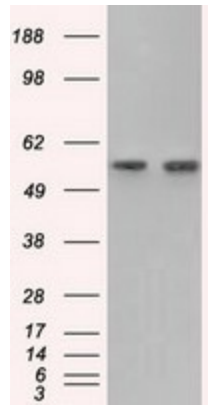
**UniProt ID:** [P06744](#)

<b>Cytogenetics:</b>	19q13.11
<b>Domains:</b>	PGI
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Amino sugar and nucleotide sugar metabolism, Glycolysis / Gluconeogenesis, Metabolic pathways, Pentose phosphate pathway, Starch and sucrose metabolism
<b>MW:</b>	63.1 kDa
<b>Gene Summary:</b>	This gene encodes a member of the glucose phosphate isomerase protein family. The encoded protein has been identified as a moonlighting protein based on its ability to perform mechanistically distinct functions. In the cytoplasm, the gene product functions as a glycolytic enzyme (glucose-6-phosphate isomerase) that interconverts glucose-6-phosphate and fructose-6-phosphate. Extracellularly, the encoded protein (also referred to as neuroleukin) functions as a neurotrophic factor that promotes survival of skeletal motor neurons and sensory neurons, and as a lymphokine that induces immunoglobulin secretion. The encoded protein is also referred to as autocrine motility factor based on an additional function as a tumor-secreted cytokine and angiogenic factor. Defects in this gene are the cause of nonspherocytic hemolytic anemia and a severe enzyme deficiency can be associated with hydrops fetalis, immediate neonatal death and neurological impairment. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Aug 2016]

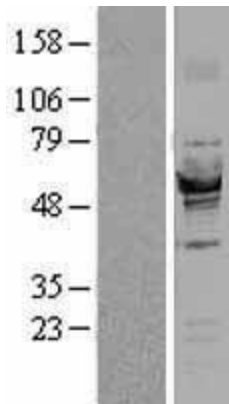
**Product images:**



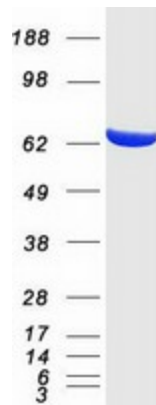
Circular map for RC201232



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY GPI (Cat# RC201232, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-GPI (Cat# [TA501171]). Positive lysates [LY400066] (100ug) and [LC400066] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400066]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC201232 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GPI protein (Cat# [TP301232]). The protein was produced from HEK293T cells transfected with GPI cDNA clone (Cat# RC201232) using MegaTran 2.0 (Cat# [TT210002]).