

Product datasheet for **RG201232**

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:	TurboGFP
Symbol:	GPI
Synonyms:	AMF; GNPI; NLK; PGI; PHI; SA-36; SA36
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG201232 representing NM_000175
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGCCGCTCTCACCCGGGACCCCAAGTCCAGAAGTGCAGCAATGGTACCGCGAGCACCGCTCCGAGC
 TGAACCTGCGCCGCTCTTCGATGCCAACAAAGGACCGCTTCAACCACTTCAAGCTTACCCTCAACACCAA
 CCATGGGCATATCCTGGTGGATTACTCCAAGAACCTGGTACGGAGGACGTGATCGGGATGCTGGTGGAC
 TTGGCCAAGTCCAGGGCGTGGAGGCGCCCGGGAGCGGATGTTCAATGGTGAAGAATCAACTACACCG
 AGGGTCGAGCCGTGCTGCACGTGGCTCTGCGGAACCGGTCAAACACACCCATCCTGGTAGACGGCAAGGA
 TGTGATGCCAGAGGTCAACAAGTTCTGGACAAGATGAAGTCTTCTGCCAGCGTGTCCGGAGCGGTGAC
 TGAAGGGGTACACAGGCAAGACCATCACGGACGTCAACATTGGCATTGGCGGCTCCGACCTGGGAC
 CCCTCATGGTACTGAAGCCCTAAGCCATACTCTCAGGAGTCCCCGCGTCTGGTATGTCTCCAACAT
 TGATGGAACCTCACATTGCCAAAACCTGGCCCAGCTGAACCCGAGTCTCCCTGTTTCATCATTGCCTCC
 AAGACCTTACTACCCAGGAGACCATCACGAATGCAGAGACGGCAAGGAGTGGTTTCTCCAGGCGGCCA
 AGGATCCTTCTGCAGTGGCGAAGCACTTGTGGCCCTGTCTACTAACACAACAAAGTGAAGGAGTTTGG
 AATTGACCCTCAAAACATGTTTCGAGTCTGGGATTGGGTGGGAGGACGCTACTCGCTGTGGTCCGGCCATC
 GGACTCTCCATTGCCCTGCACGTGGGTTTTGACAACTTCGAGCAGCTGCTCTCGGGGCTCACTGGATGG
 ACCAGCACTTCCGCACGACGCCCTGGAGAAGAAGCCCGCTTGTGGCCCTGCTGGGTATCTGGTA
 CATCAACTGCTTTGGGTGTGAGACACACGCCATGCTGCCCTATGACCAGTACCTGCACCGCTTTGCTGCG
 TACTTCCAGCAGGGCGACATGGAGTCCAATGGGAAATACATCACCAAATCTGGAACCCGTGTGGACCACC
 AGACAGGCCCATTTGTGTGGGGGAGCCAGGGACCAATGGCCAGCATGCTTTTTACCAGTCATCCACCA
 AGGCACCAAGATGATACCCTGTGACTTCCCTCATCCCGGTCCAGACCCAGCACCCCATACGGAAGGGTCTG
 CATCACAAAGATCCTCTGGCCAACCTTCTGGCCAGACAGAGGCCCTGATGAGGGGAAAAATCGACGGAGG
 AGGCCCGAAAGGAGCTCCAGGCTGCGGGCAAGAGTCCAGAGGACCTTGAGAGGCTGCTGCCACATAAGGT
 CTTTGAAGGAAATCGCCCAACCACTCTATTGTGTTCCACCAAGCTCACACCATTGCTTGGAGCCTTG
 GTCGCCATGTATGAGCACAAGATCTTCGTTTCAGGGCATCATCTGGGACATCAACAGCTTTGACCAGTGGG
 GAGTGGAGCTGGAAAGCAGCTGGCTAAGAAAATAGAGCCTGAGCTTGATGGCAGTGTCAAGTACCTC
 TCACGACGCTTACCAATGGGCTCATCAACTTCAAGCAGCAGCGCGAGGCCAGAGTCCAA

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>RG201232 representing NM_000175
 Red=Cloning site Green=Tags(s)

MAALTRDPQFQKLQQWYREHSELNLRRLFDANKDRFNHFSLTLNTHGHILVDYSKNLVTEDVMRMLVD
 LAKSRGVEAARERMFNGEKINYTEGRAVLHVALRNRNTPILVDGKDVMPVKNVLDKMKSFQVRVSGD
 WKGYTGKTIITDVINIGIGSDLGPLMVTEALKPYSGGPRVWVYVSNIDGTHIAKTLAQLNPESLFIAS
 KTFTTQETITNAETAKEWFLQAAKDPSAVAKHFVALSTNTTKVKEFGIDPQNMFEFWDWVGGRYSLWSAI
 GLSIALHVGFDFNEQLLSGAHWMDQHFRTTPELKNAPVLLALLGIWYINCFGCETHAMLPYDQYLHRFAA
 YFQQGDMESNGKYITKSGTRVDHQTGPIVWGEPTNGQHAFYQLIHQGTKMIPCDFLIPVQTQHPIRKGL
 HHKILLANFLAQTEALMRGKSTEEARKELQAAGKSPEDLERLLPHKVFEGNRPTNSIVFTKLTPTFMLGAL
 VAMYEHKIFVQGIWDINSFDQWGVELGKQLAKKIEPELDGSAQVTSHDASTNGLINFIKQQREARVQ

TRTRPLE – GFP Tag – V

Restriction Sites:

Sgfl-MluI

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:	<ol style="list-style-type: none">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:	2075 bp
RefSeq ORF:	1677 bp
Locus ID:	2821
UniProt ID:	P06744
Cytogenetics:	19q13.11
Domains:	PGI
Protein Families:	Druggable Genome
Protein Pathways:	Amino sugar and nucleotide sugar metabolism, Glycolysis / Gluconeogenesis, Metabolic pathways, Pentose phosphate pathway, Starch and sucrose metabolism

Gene Summary:

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]