

Product datasheet for **SC119906**

Glucose 6 Phosphate Dehydrogenase (G6PD) (NM_000402) Human Untagged Clone

Product data:

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| Product Type: | Expression Plasmids |
| Product Name: | Glucose 6 Phosphate Dehydrogenase (G6PD) (NM_000402) Human Untagged Clone |
| Tag: | Tag Free |
| Symbol: | Glucose 6 Phosphate Dehydrogenase |
| Synonyms: | G6PD1 |
| Mammalian Cell Selection: | None |
| Vector: | <u>pCMV6-XL5</u> |
| E. coli Selection: | Ampicillin (100 ug/mL) |



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Fully Sequenced ORF: >OriGene ORF sequence for NM_000402 edited
 ATGGGCCGGCGGGGCTCAGCCCCGGAAACGGTCGTACACTTCGGGGCTGCGAGCGCGGA
 GGGCGACGACGACGAAGCGCAGACAGCGTCATGGCAGAGCAGGTGGCCCTGAGCCGGACC
 CAGGTGTGCGGGATCCTGCGGGAAGAGCTTTCCAGGGCGATGCCTTCCATCAGTCGGAT
 ACACACATATTCATCATCATGGGTGCATCGGGTGACCTGGCCAAGAAGAAGATCTACCCC
 ACCATCTGGTGGCTGTTCCGGGATGGCCTTCTGCCCCAAAACACCTTCATCGTGGGCTAT
 GCCCGTTCGCCCTCACAGTGGCTGACATCCGCAAACAGAGTGAGCCCTTCTTCAAGGCC
 ACCCCAGAGGAGAAGCTCAAGCTGGAGGACTTCTTTGCCCGCAACTCCTATGTGGCTGGC
 CAGTACGATGATGCAGCCTCCTACCAGCGCCTCAACAGCCACATGAATGCCCTCCACCTG
 GGGTCACAGGCCAACCGCCTCTTCTACCTGGCCTTGCCCCGACCGTCTACGAGGCCGTC
 ACCAAGAACATTCACGAGTCCTGCATGAGCCAGATAGGCTGGAACCGCATCATCGTGGAG
 AAGCCCTTCGGGAGGGACCTGCAGAGCTTGACCGGCTGTCCAACCACATCTCTCCCTG
 TTCGTGAGGACCAGATCTACCGCATCGACCACTACCTGGCAAGGAGATGGTGCAGAAC
 CTCATGGTGTGAGATTTGCCAACAGGATCTTCGGCCCCATCTGGAACCGGGACAACATC
 GCCTGCGTTATCCTCACCTTCAAGGAGCCCTTTGGCACTGAGGGTCGCGGGGGCTATTTT
 GATGAATTTGGGATCATCCGGGACGTGATGCAGAACCACTACTGCAGATGCTGTGTCTG
 GTGGCCATGGAGAAGCCCGCCTCCACCAACTCAGATGACGTCCGTGATGAGAAGGTCAAG
 GTGTTGAAATGCATCTCAGAGGTGCAGGCCAACAAATGTGGTCTGGGCCAGTACGTGGGG
 AACCCCGATGGAGAGGGCGAGGCCACCAAGGGTACCTGGACGACCCACGGTGCCCCGC
 GGGTCCACCACCGCCACTTTTGCAGCCGTGTCCTCTATGTGGAGAATGAGAGGTGGGAT
 GGGGTGCCCTTTCCTGCGCTGCGGCAAGGCCCTGAACGAGCGCAAGGCCGAGGTGAGG
 CTGCAGTTCATGATGTGGCCGGCAGCATCTTCCACCAGCAGTGAACGCAACGAGCTG
 TGATCCGCGTGCAGCCCAACGAGGCCGTGTACACCAAGATGATGACCAAGAAGCCGGGG
 ATGTTCTTCAACCCGAGGAGTCGGAGCTGGACCTGACCTACGGCAACAGATACAAGAAC
 GTGAAGCTCCCTGACGCCTACGAGCGCCTCATCCTGGACGTCTTCTGCGGGAGCCAGATG
 CACTTCGTGCGCAGCGACGAGCTCCGTGAGGCCTGGCGTATTTTACCCCACTGTGCAC
 CAGATTGAGCTGGAGAAGCCCAAGCCATCCCCTATATTTATGGCAGCCGAGGCCCCACG
 GAGGCAGACGAGCTGATGAAGAGAGTGGGTTTCCAGTATGAGGGCACCTACAAGTGGGTG
 AACCCCAACAAGCTCTGA

5' Read Nucleotide Sequence: >OriGene 5' read for NM_000402 unedited
 AGCATATTTGTATACGACTCACTATTAGGGCGGCCGGAATTCGCACGAGGCCGCCCCCG
 CCGATTAATGGGCCGGCGGGGCTCAGCCCCGGAAACGGTCGTACACTTCGGGGCTGCG
 AGCGCGGAGGGGCGACGACGCAAGCGCAGACAGCGTCATGGCAGAGCAGGTGGCCCTGA
 GCCGGACCCAGGTGTGCGGGATCCTGCGGGAAGAGCTTTCCAGGGCGATGCCTTCCATC
 AGTCGGATACACACATATTCATCATCATGGGTGCATCGGGTGACCTGGCCAAGAAGAAGA
 TCTACCCACCATCTGGTGGCTGTTCCGGGATGGCCTTCTGCCCCAAAACACCTTCATCG
 TGGGCTATGCCCGTTCCCGCCTCACAGTGGCTGACATCCGCAAACAGAGTGAGCCCTTCT
 TCAAGGCCACCCAGAGGAGAAGCTCAAGCTGGAGGACTTCTTTGCCCGCAACTCCTATG
 TGGCTGGCCAGTACGATGATGCAGCCTCCTACCAGCGCCTCAACAGCCACATGAATGCC
 TCCACCTGGGGTCACAGGCCAACCGCCTCTTCTACCTGGCCTTGCCCCGACCGTCTACG
 AGGCCGTACCAAGAACATTCACGAGTCCTGCATGAGCCAGATAGGCTGGAACCGCATCA
 TCGTGGAGAAGCCCTTCGGGAGGGACCTGCAGAGCTTGACCGGCTGTCCAACCACATCT
 CCTCCCTGTTCCGTGAGGACCAGATCTACCGCATCGACCACTACCTGGGCAAGGAGATGG
 TGCAGACCCTCATGGTGTGAGATTTGCCACAGGATCTTTCGCCCATCTGGACCGGGA
 CACATCGNCTGCGTTATCCTCACCTTCAAGNAGCCCTTTTGCACCTGAGGGTCGCGGNGGC
 TATTTTCGATGAATTTGGGAAATTCGGGACGTGATGCAGAACCACTACTGCAGAGCTGNGT
 CTGG

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| 3' Read Nucleotide Sequence: | >OriGene 3' read for NM_000402 unedited CCCCCCAATTAGTGTGCNCCGCGGCCGCTATTCTAGGACTCGGTTTTTTTTTTTT TTTTGGCTGTTGCGGATTTAATGGCAGGGCATTGAGTTGGGAGGGTCCCAGCTGCT GCGTCTGCTTTTCTATAGCAGAGAGGCTGCCTACGGGTGGCACGGGTGGCCATGGAGT GCAGAGTTGGTGGGACAGGGGACATCCAGGGGCTCGAGATGTTGCTGGTGACAAGGAAT GTC AAGTGGCACTGAGGCTGGCGGGCAAGGCCACAGGCAGATTCTCTCACGTGGTGCTC GCCCTTTCCCTCCCCTTGTCCTCCCTCCCACCCTGGCCCCACTCAGGAGTGAGACCCA GTGGCCAATAAGCTCTGGGACAGACGAATGGGCGCCCTCCTCCTTCTGTTGGGCTG GAGTGAGTGGAGGAGGTGACTCAGCTCCTGGGCTCAGGCAGGGTCTGGAGGGCCAGGAT GGTCTCGAGTGCTTGGCAGCTGAGGAATGTAGCTGGGCTCGGGTAGTAGCAGCAGCGAGG GGCGGGCCAGGGTGGCCAGAGCCGGGGCCAGGAATGTGCAGCTGAGGTCAATGGTCCC GAGTCTCCCGACTCGGGTTCGGCGGGCAAGGAGGGTGGCCGTGGCGGGGTGGAGG TGGGTGCCAGGGCTCACAGCTTGTGGGGGTACCCACTGTAGGTGCCCTCATACTGG AAACCACTCTTTCATCAGCTCGTCTGCCTCCGTGGGGCTCCGCTGCCATAATATAGGG GATGGGCTTGGGCTTTCCAGCTCAATCTGGGCCCCCGGGGTAAAAATACGCCAGGC CTACGGAACCTGTGCGTGTGCCCAAGGCATTTGGGTTCTGAGAACACTTCCAGAATG AGCGCT |
| Restriction Sites: | NotI-NotI |
| ACCN: | NM_000402 |
| Insert Size: | 2400 bp |
| OTI Disclaimer: | Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP). |
| OTI Annotation: | This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA. |
| 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: | <u>NM_000402.2</u> , <u>NP_000393.2</u> |
| RefSeq Size: | 2650 bp |
| RefSeq ORF: | 2406 bp |
| Locus ID: | 2539 |
| UniProt ID: | <u>P11413</u> |

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| Cytogenetics: | Xq28 |
| Domains: | G6PD |
| Protein Families: | Druggable Genome |
| Protein Pathways: | Glutathione metabolism, Metabolic pathways, Pentose phosphate pathway |
| Gene Summary: | <p>This gene encodes glucose-6-phosphate dehydrogenase. This protein is a cytosolic enzyme encoded by a housekeeping X-linked gene whose main function is to produce NADPH, a key electron donor in the defense against oxidizing agents and in reductive biosynthetic reactions. G6PD is remarkable for its genetic diversity. Many variants of G6PD, mostly produced from missense mutations, have been described with wide ranging levels of enzyme activity and associated clinical symptoms. G6PD deficiency may cause neonatal jaundice, acute hemolysis, or severe chronic non-spherocytic hemolytic anemia. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]</p> <p>Transcript Variant: This variant (1) represents the longer transcript and encodes the longer isoform (a). This full-length 545 aa form has been reported to be inactive, but may be processed to the smaller (515 aa) active form (PMID:8466644).</p> |