

Product datasheet for **RC220625**

Glucose 6 Phosphate Dehydrogenase (G6PD) (NM_000402) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Glucose 6 Phosphate Dehydrogenase (G6PD) (NM_000402) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Glucose 6 Phosphate Dehydrogenase
Synonyms:	G6PD1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC220625 representing NM_000402
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGGCCGGCGGGCTCAGCCCCGGAAACGGTCTACACTTCGGGGCTCGGAGCGGGAGGGCGACGAC
 GACGAAGCGCAGACAGCGTCATGGCAGAGCAGGTGGCCCTGAGCCGGACCCAGGTGTGCGGGATCCTGCG
 GGAAGAGCTTTTCCAGGGCGATGCCTTCCATCAGTCGGATACACACATATTCATCATCATGGGTGCATCG
 GGTGACCTGGCCAAGAAGAAGATCTACCCACCATCTGGTGGCTGTTCCGGGATGGCCTTCTGCCGAAA
 ACACCTTCATCGTGGGCTATGCCGTTCCCGCCTCACAGTGGCTGACATCCGAAACAGAGTGAGCCCTT
 CTTCAAGGCCACCCAGAGGAGAAGCTCAAGCTGGAGGACTTCTTTGCCGCAACTCCTATGTGGCTGGC
 CAGTACGATGATGCAGCCTCTACCAGCGCCTCAACAGCCACATGAATGCCCTCCACCTGGGGTACAGG
 CCAACCGCCTCTTCTACCTGGCCTTCCCCCGACCGTCTACGAGGCCGTACCAAGAACATTCACGAGTC
 CTGCATGAGCCAGATAGGCTGGAACCGCATCATCGTGGAGAAGCCCTTCGGGAGGGACCTGCAGAGCTCT
 GACCGGCTGTCCAACCACATCTCCTCCCTGTTCCGTGAGGACCAGATCTACCGCATCGACCACTACCTGG
 GCAAGGAGATGGTGCAGAACCTCATGGTGTGAGATTTGCCAACAGGATCTTCGGCCCCATCTGGAACCG
 GGACAACATCGCCTGCGTTATCCTCACCTCAAGGAGCCCTTTGGCACTGAGGGTTCGCGGGGGCTATTTT
 GATGAATTTGGGATCATCCGGGACGTGATGCAGAACCACTACTGCAGATGCTGTGTCTGGTGGCCATGG
 AGAAGCCCGCCTCCACCAACTCAGATGACGTCCGTGATGAGAAGGTCAAGGTGTTGAAATGCATCTCAGA
 GGTGCAGGCCAACAAATGTGGTCTGGGCCAGTACGTGGGAACCCCGATGGAGAGGGCGAGGCCACCAAA
 GGGTACCTGGACGACCCACGGTGCCCGCGGGTCCACCACCGCCACTTTTGCAGCCGTCGTCCTCTATG
 TGGAGAATGAGAGGTGGGATGGGTGCCCTTTCATCTCGCTCGCGCAAGGCCCTGAACGAGCCGCAAGGC
 CGAGGTGAGGCTGCAGTTCCATGATGTGGCCGGGACATCTTCCACCAGCAGTGCAAGCGCAACGAGCTG
 GTGATCCGCGTGCAGCCAACGAGGCCGTGTACACCAAGATGATGACCAAGAAGCCGGGCATGTTCTTCA
 ACCCCGAGGAGTCGGAGCTGGACCTGACCTACGGCAACAGATACAAGAAGCTGAAGCTCCCTGACGCCTA
 CGAGCGCCTCATCCTGGACGTCTTCTGCGGGAGCCAGATGCACTTCGTGCGCAGCGACGAGCTCCGTGAG
 GCCTGGCGTATTTTACCCCACTGCTGCACCAGATTGAGCTGGAGAAGCCCAAGCCCATCCCTATATTT
 ATGGCAGCCGAGGCCACGGAGGCAGACGAGCTGATGAAGAGAGTGGGTTTCCAGTATGAGGGCACCTA
 CAAGTGGGTGAACCCCAAGCTC

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC220625 representing NM_000402
 Red=Cloning site Green=Tags(s)

MGRRRSAPNGRTLRCGERGRRRRSADSVMAEQVALSRTQVCGILREELFQGDFAHQSDTHIFIIIMGAS
 GDLAKKKIYPTIWWLFRDGLLPENTFIVGYARSRLTVADIRKQSEPFKATPEEKLKLEDFFARNYSYVAG
 QYDDAASYQRLNSHMNALHLGSQANRLFYLALPPTVYEAVTKNIHESCMSQIGWNRIIVEKPFGRDLQSS
 DRLSNHISSLFREDQIYRIDHYLGKEMVQNLMLVLRANRIFGPIWNRDNIACVILTFKEPFGTEGRGGYF
 DEFGIIRDVMQNHLQLMLCLVAMEKPASTNSDDVRDEKVKVLCISEVQANNVVLGQYVGNPDGEGEATK
 GYLDDPTVPRGSTTATFAAVVLVENERWDGVPFILRCGKALNERKAEVRLQFHDVAGDIFHQCKRNEL
 VIRVQPNEAVYTKMMTKKPGMFFNPEESELDTYGNRYKNVKLPDAYERLILDVFCGSMHFVRSDELRE
 AWRIFTPLLHQIELEKPKPIPIYIGSRGPTEADELMKRVGFQYEGTYKWNPHKL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6048_g02.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_000402

ORF Size: 1635 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_000402.3](#), [NP_000393.4](#)

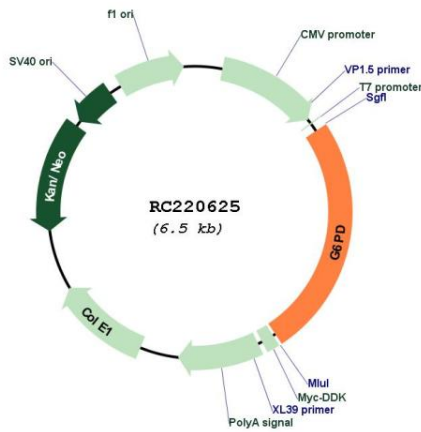
RefSeq Size: 2395 bp

RefSeq ORF: 1638 bp

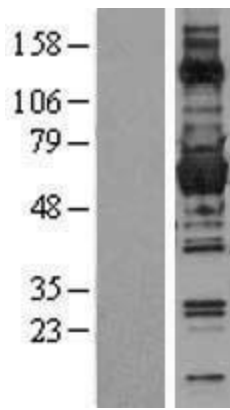
Locus ID: 2539

UniProt ID:	P11413
Cytogenetics:	Xq28
Domains:	G6PD
Protein Families:	Druggable Genome
Protein Pathways:	Glutathione metabolism, Metabolic pathways, Pentose phosphate pathway
MW:	62.3 kDa
Gene Summary:	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]

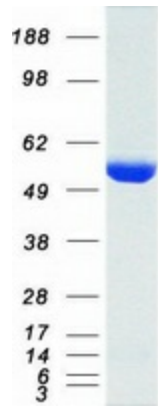
Product images:



Circular map for RC220625



Western blot validation of overexpression lysate (Cat# [LY400142]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC220625 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified G6PD protein (Cat# [TP320625]). The protein was produced from HEK293T cells transfected with G6PD cDNA clone (Cat# RC220625) using MegaTran 2.0 (Cat# [TT210002]).