

Product datasheet for **RC209652**

Glutathione Reductase (GSR) (NM_000637) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Glutathione Reductase (GSR) (NM_000637) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Glutathione Reductase
Synonyms:	GR; GSRD; HEL-75; HEL-S-122m
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC209652 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCCCTGCTGCCCGAGCCCTGAGCGCCGGCGCGGGACCGAGCTGGCGCGGGCGCGCGCCCTTCC
 GAGGCTTCTGCTGCTTCTGCCCGAGCCCGCGGCCCTCACGCGCGCCCTCTCCCGTGCCATGGCCTGCAG
 GCAGGAGCCGCAGCCGCAGGGCCCGCGCCCGCTGCTGGCGCCGTGGCCTCCTATGACTACCTGGTGATC
 GGGGGCGGCTCGGGCGGGCTGGCCAGCGCGCGCAGGGCGGCCGAGCTGGGTGCCAGGGCCCGCTGGTGG
 AGAGCCACAAGCTGGGTGGCACTTGCCTGAATGTTGGATGTGTACCCAAAAAGGTAATGTGGAACACAGC
 TGTCCACTCTGAATTCATGCATGATCATGCTGATTATGGCTTTCCAAGTTGTGAGGGTAAATTCATTTGG
 CGTGTATTAAAGGAAAAGCGGGATGCCTATGTGAGCCGCTGAATGCCATCTATCAAAAACATCTCACCA
 AGTCCCATATAGAAATCATCCGTGGCCATGCAGCCTTCACGAGTGATCCCAAGCCACAATAGAGGTCAG
 TGGGAAAAAGTACACCGCCACACATCCTGATGCCACAGGTGGTATGCCCTCCACCCCTCATGAGAGC
 CAGATCCCGGTGCCAGCTTAGGAATAACCAGCGATGGATTTTTTCAGCTGGAAGAATTGCCCGGCCGCA
 CGTCAATTGTTGGTGCAGGTTACATTGCTGTGGAGATGGCAGGGATCCTGTGAGCCCTGGGTTCTAAGAC
 ATCACTGATGATACGGCATGATAAGGTAAGTACTTAGAAGTTTTGATCAATGATCAGCACCAACTGCACGGAG
 GAGCTGGAGAAGCTGGCGTGGAGGTGCTGAAGTTCTCCAGGTCAAGGAGGTTAAAAAGACTTTGTCCG
 GCTTGGAAAGTCAGCATGGTACTGCAGTCCCGGTAGGCTACCAGTATGACCATGATCCAGATGTTGA
 CTGCTGCTCTGGGCCATTGGGCGGGTCCCGAATACCAAGGACCTGAGTTTAAACAACTGGGGATTCAA
 ACCGATGACAAGGTCATATCATCGTAGACGAATCCAGAATACCAACGTCAAAGGCATCTATGCAGTTG
 GGGATGTATGGAAAAGCTCTTCTTACTCCAGTTGCAATAGCTGGCCGAAAACCTTGCCCATCGACT
 TTTTGAATATAAGGAAGATTCCAATTAGATTATAACAACATCCCAACTGTGGTCTTCAGCCACCCCT
 ATTGGGACAGTGGGACTCACGGAAGATGAAGCCATTCAAAATGGAATAGAAAATGTGAAGACCTATT
 CAACGAGCTTTACCCGATGATCACGCAGTTACCAAAAGGAAAACAAAATGTGTGATGAAAATGGTCTG
 TGCTAACAAAGGAAGAAAAGTGGTGGGATCCATATGCAGGGACTTGGGTGTGATGAAATGCTGCAGGGT
 TTTGCTTGCAGTGAAGATGGGAGCAACGAAGGCAGACTTTGACAACACAGTCGCCATTACCCTACCT
 CTTCAGAAAGAGCTGGTCACACTTCGT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC209652 protein sequence
 Red=Cloning site Green=Tags(s)

MALLPRALSAGAGPSWRRAARAFRGLLLLLPEPAALTRALSRAMACRQEPQPQGGPPAAGAVASYDYLVI
 GGGSGGLASARRAAELGARAAVVESHKLGTCVNVGCVPKVMWNTAVHSEFMHDHADYGFPSCEGKFNW
 RVIKEKRDAYVSRLNAIQNNLTKSHIEIIRGHAAFTSDPKPTIEVSGKKTAPHILIAITGGMPSTPHES
 QIPGASLGITSDGFFQLEELPGRSVIVGAGYIAVEMAGILSALGSKTSLMIRHDKVLRFSFDSMISTNCTE
 ELENAGVEVLKFSQVKEVKKTLGLEVSMVAVPGRLPVMTMIPDVDCLLWAIIGRPNTKDLNLKLGIQ
 TDDKGIHIVDEFQNTNVKGIYAVGDVCGKALLTPVAIAAGRKLHRLFEYKEDSKLDYNNIPTVVFVSHPP
 IGTVGLTEDEAIHKYGIENVKTYSTSTFPMYHAVTKRKTCKVMKMCANKEEKVVGIIHMQLGCDEMLQG
 FAVAVKMGATKADFNTVAIHPTSSEELVTLR

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6832_g01.zip

Restriction Sites:

Sgfl-MluI

Cloning Scheme:



ACCN: NM_000637

ORF Size: 1566 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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).

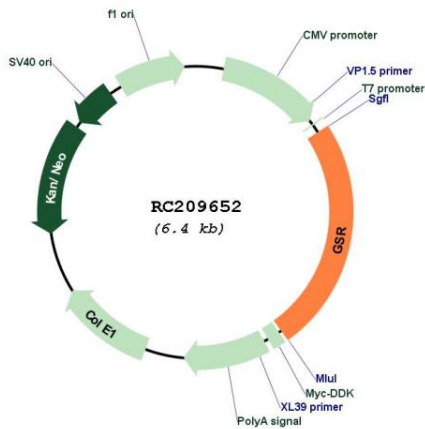
- Reconstitution Method:
1. Centrifuge at 5,000xg for 5min.
 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
 3. Close the tube and incubate for 10 minutes at room temperature.
 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid 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_000637.5](#)

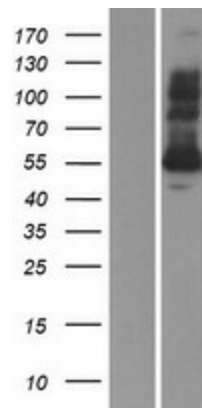
RefSeq Size: 3174 bp
RefSeq ORF: 1569 bp
Locus ID: 2936
UniProt ID: [P00390](#)
Cytogenetics: 8p12
Domains: pyr_redox, pyr_redox_dim
Protein Families: Druggable Genome
Protein Pathways: Glutathione metabolism
MW: 56.3 kDa

Gene Summary: This gene encodes a member of the class-I pyridine nucleotide-disulfide oxidoreductase family. This enzyme is a homodimeric flavoprotein. It is a central enzyme of cellular antioxidant defense, and reduces oxidized glutathione disulfide (GSSG) to the sulfhydryl form GSH, which is an important cellular antioxidant. Rare mutations in this gene result in hereditary glutathione reductase deficiency. Multiple alternatively spliced transcript variants encoding different isoforms have been found. [provided by RefSeq, Aug 2010]

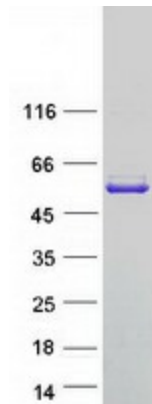
Product images:



Circular map for RC209652



Western blot validation of overexpression lysate (Cat# [LY424558]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC209652 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GSR protein (Cat# [TP309652]). The protein was produced from HEK293T cells transfected with GSR cDNA clone (Cat# RC209652) using MegaTran 2.0 (Cat# [TT210002]).