

## Product datasheet for **RG209652**

### 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:	TurboGFP
Symbol:	GSR
Synonyms:	GR; GSRD; HEL-75; HEL-S-122m
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG209652 representing NM\_000637  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGCCCTGCTGCCCCGAGCCCTGAGCGCCGGCGCGGGACCGAGCTGGCGCGGGCGCGCGCCCTTCC  
 GAGGCTTCTGCTGCTTCTGCCCGAGCCCGCGGCCCTCACGCGCGCCCTCTCCCGTGCCATGGCCTGCAG  
 GCAGGAGCCGCAGCCGCAGGGCCCGCGCCCGCTGCTGGCGCCGTGGCCTCCTATGACTACCTGGTGATC  
 GGGGGCGGCTCGGGCGGGCTGGCCAGCGCGCGCAGGGCGGCCGAGCTGGGTGCCAGGGCCCGCTGGTGG  
 AGAGCCACAAGCTGGGTGGCACTTGCCTGAATGTTGGATGTGTACCCAAAAAGGTAATGTGGAACACAGC  
 TGTCCACTCTGAATTCATGCATGATCATGCTGATTATGGCTTCCAAGTTGTGAGGGTAAATCAATTGG  
 CGTGTATTAAAGAAAAGCGGGATGCCTATGTGAGCCGCTGAATGCCATCTATCAAACAATCTCACCA  
 AGTCCCATATAGAAATCATCCGTGGCCATGCAGCCTTACGAGTGATCCCAAGCCACAATAGAGGTCAG  
 TGGGAAAAAGTACACCGCCACACATCCTGATGCCACAGGTGGTATGCCCTCCACCCCTCATGAGAGC  
 CAGATCCCGGTGCCAGCTTAGGAATAACCAGCGATGGATTTTTTCAGCTGGAAGAATTGCCCGGCCGA  
 CGTCAATTGTTGGTGCAGGTTACATTGCTGTGGAGATGGCAGGGATCCTGTGAGCCCTGGGTTCTAAGAC  
 ATCACTGATGATACGGCATGATAAGGTAAGTACTTAGAAGTTTTGATCAATGATCAGCACCAACTGCACGGAG  
 GAGCTGGAGAAGCTGGCGTGGAGGTGCTGAAGTTCTCCAGGTCAAGGAGGTTAAAAAGACTTTGTCCG  
 GCTTGGAAAGTCAAGTGGTACTGCAGTCCCGGTAGGCTACCAGTCAAGGAGTATCCAGATGTTGATGTTGA  
 CTGCTGCTCTGGGCCATTGGGCGGGTCCCGAATACCAAGGACCTGAGTTTAAACAACTGGGGATTCAA  
 ACCGATGACAAGGTCATATCATCGTAGACGAATCCAGAATACCAACGTCAAAGGCATCTATGCAGTTG  
 GGGATGTATGGAAAAGCTCTTCTTACTCCAGTTGCAATAGCTGGCGGAAAAGTGGCCATCGCCATCG  
 TTTTGAATATAAGGAAGATTCCAATAGATTATAACAACATCCCAACTGTGGTCTTCAGCCACCCCT  
 ATTGGGACAGTGGGACTCACGGAAGATGAAGCCATTCAAAATGGAATAGAAAATGTGAAGACCTATT  
 CAACGAGCTTTACCCGATGATCACGCAGTTACCAAAAGGAAAACAAAATGTGTGATGAAAATGGTCTG  
 TGCTAACAAAGGAAGAAAAGTGGTGGGATCCATATGCAGGGACTTGGGTGTGATGAAATGCTGCAGGGT  
 TTTGCTTGCAGTGAAGATGGGAGCAACGAAGGCAGACTTTGACAACACAGTCGCCATTACCCTACCT  
 CTTCAGAAAGAGCTGGTCACACTTCGT

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>RG209652 representing NM\_000637  
 Red=Cloning site Green=Tags(s)

MALLPRALSAGAGPSWRRAARAFRGLLLLPEPAALTRALSRAMACRQEPQPQGGPPAAGAVASYDYLVI  
 GGGSGGLASARRAAELGARAAVVESHKLGTCVNVGCVPKVMWNTAVHSEFMHDHADYGFPSCEGKFNW  
 RVIKEKRDAYVSRNLNAIYQNNLTKSHIEIIRGHAAFTSDPKPTIEVSGKKYTAPHILIIATGGMPSTPHES  
 QIPGASLGITSDGFFQLEELPGRSVIVGAGYIAVEMAGILSALGSKTSLMIRHDKVLRFSFDSMISTNCTE  
 ELENAGVEVLKFSQVKEVKKTLGLEVSMVAVPGRLPVMTMIPDVDCLLWAIIGRVPNTKDLNLKLGIIQ  
 TDDKGHIIVDEFQNTNVKGIYAVGDVCGKALLTPVAIAAGRKLHRLFEYKEDSKLDYNNIPTVVFVSHPP  
 IGTVGLTEDEAIHKYGIENVKTYSTFTPMYHAVTKRKTCKVMKMCANKEEKVVGIIHMQGLGCDEMLQG  
 FAVAVKMGATKADFDNTVAIHPTSSEELVTLR

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI



<b>ACCN:</b>	NM_000637
<b>ORF Size:</b>	1566 bp
<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>RefSeq:</b>	<a href="#">NM_000637.5</a>
<b>RefSeq Size:</b>	2262 bp
<b>RefSeq ORF:</b>	1569 bp
<b>Locus ID:</b>	2936
<b>UniProt ID:</b>	<a href="#">P00390</a>
<b>Cytogenetics:</b>	8p12
<b>Domains:</b>	pyr_redox, pyr_redox_dim
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Glutathione metabolism

**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]