

## Product datasheet for **RG231255**

### Glutathione Reductase (GSR) (NM\_001195103) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Glutathione Reductase (GSR) (NM_001195103) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Glutathione Reductase
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:**

>RG231255 representing NM\_001195103  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCCCTGCTGCCCGAGCCCTGAGCGCCGGCGCGGGACCGAGCTGGCGCGGGCGCGCGCCCTTCC  
 GAGGCTTCTGCTGCTTCTGCCGAGCCCGCGCCCTCACGCGCGCCCTCTCCCGTGCCATGGCCTGCAG  
 GCAGGAGCCGAGCCGCAGGGCCCGCGCCGCTGCTGGCGCCGTGGCCTCCTATGACTACCTGGTGATC  
 GGGGGCGGCTCGGGCGGCTGGCCAGCGCGCGCAGGGCGGCCGAGCTGGGTGCCAGGGCCCGCTGGTGG  
 AGAGCCACAAGCTGGGTGGCACTTGCCTGAATGTTGGATGTGTACCCAAAAAGGTAATGTGGAACACAGC  
 TGTCCACTCTGAATTCATGCATGATCATGCTGATTATGGCTTCCAAAGTTGTGAGGGTAAATTCAATTGG  
 CGTGTATTAAAGAAAAGCGGGATGCCTATGTGAGCCGCTGAATGCCATCTATCAAACAATCTCACCA  
 AGTCCCATATAGAAATCATCCGTGGCCATGCAGCCTTCACGAGTGATCCCAAGCCACAATAGAGGTCAG  
 TGGGAAAAAGTACACCGCCACACATCCTGATGCCACAGGTGGTATGCCCTCCACCCCTCATGAGAGC  
 CAGATCCCGGTGCCAGCTTAGGAATAACCAGCGATGGATTTTTTCAGCTGGAAGAATTGCCCGGCCGA  
 CGGTCATTGTTGGTGCAGGTTACATTGCTGTGGAGATGGCAGGGATCCTGTGAGCCCTGGGTTCTAAGAC  
 ATCACTGATGATACGGCATGATAAGGTAAGTACTTAGAAGTTTTGATTCAATGATCAGCACCAACTGCACGGAG  
 GAGCTGGAGAACGCTGGCGTGGAGGTGCTGAAGTTCTCCAGGGGATTCAAACCGATGACAAGGGTCATA  
 TCATCGTAGACGAATCCAGAATACCAAGTCAAAGGCATCTATGCAGTTGGGGATGTATGTGAAAAAGC  
 TCTTCTACTCCAGTTGCAATAGCTGCTGGCCGAAAACCTGCCATCGACTTTTTGAATAAAGGAAGAT  
 TCCAAATTAGATTATAACAACATCCCAACTGTGGTCTTCAGCCACCCCTATTGGGACAGTGGGACTCA  
 CGGAAGATGAAGCCATTATAAATAGGAATAGAAAATGTGAAGACCTATTCAACGAGCTTTACCCCGAT  
 GTATCACGCAGTTACCAAAGGAAAACAAAATGTGTGATGAAAATGGTCTGTGCTAACAAAGGAAGAAAAG  
 GTGGTTGGGATCCATATGCAGGGACTTGGGTGTGATGAAATGCTGCAGGGTTTTGCTGTTGCAGTGAAGA  
 TGGGAGCAACGAAGGCAGACTTTGACAACACAGTCGCCATTACCTACCTCTTCAGAAGAGCTGGTCAC  
 ACTTCGT

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>RG231255 representing NM\_001195103  
 Red=Cloning site Green=Tags(s)

MALLPRALSAGAGPSWRRRAARFRGFLLLLPEPAALTRALSRAMACRQEPQPQPPPAAGAVASYDYLVI  
 GGGSSGLASARRAAELGARAAVVESHKLGTCVNVGCVPKVMWNTAVHSEFMHDHADYGFPSCEGKFNW  
 RVIKEKRDAYVSRNLAIYQNNLTKSHIEIIRGHAAFTSDPKPTIEVSGKKYTAPHILIIATGGMPSTPHES  
 QIPGASLGITSDGFFQLEELPGRSVIVGAGYIAVEMAGILSALGSKTSLMIRHDKVLRSFDSMISTNCTE  
 ELENAGVEVLKFSQGIQTDDKGHIIVDEFQNTNVKGIYAVGDVCGKALLTPVAIAAGRKLHRLFEYKED  
 SKLDYNNIPTVVFVSHPPIGTVGLTEDEAIHKYGIENVKTYSTSFPMYHAVTKRKTCKVMKMCANKEEK  
 VVGIIHQGLGCEMLQGFVAVKMGATKADFNTVAIHPTSSEELVTLR

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_001195103

**ORF Size:** 1407 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.

**RefSeq:** [NM\\_001195103.2](#)

**RefSeq Size:** 3015 bp

**RefSeq ORF:** 1410 bp

**Locus ID:** 2936

**UniProt ID:** [P00390](#)

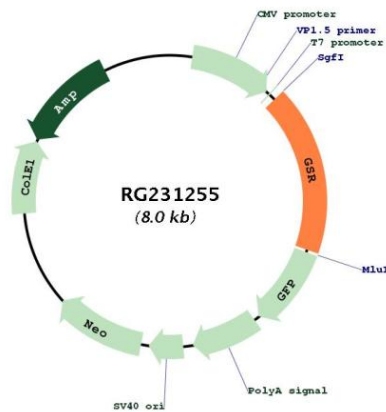
**Cytogenetics:** 8p12

**Protein Families:** Druggable Genome

**Protein Pathways:** 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]

**Product images:**



Circular map for RG231255