

## Product datasheet for **RC231255**

### 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:	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:**

>RC231255 representing NM\_001195103  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGCCCTGCTGCCCGAGCCCTGAGCGCCGGCGCGGGACCGAGCTGGCGCGGGCGCGCGCCCTTCC  
 GAGGCTTCTGCTGCTTCTGCCGAGCCCGCGGCCCTCACGCGCGCCCTCTCCCGTGCCATGGCCTGCAG  
 GCAGGAGCCGCAGCCGCAGGGCCCGCGCCCGCTGCTGGCGCCGTGGCCTCCTATGACTACCTGGTGATC  
 GGGGGCGGCTCGGGCGGGCTGGCCAGCGCGCGCAGGGCGGCCGAGCTGGGTGCCAGGGCCCGCTGGTGG  
 AGAGCCACAAGCTGGGTGGCACTTGCCTGAATGTTGGATGTGTACCCAAAAGGTAATGTGGAACACAGC  
 TGTCCACTCTGAATTCATGCATGATCATGCTGATTATGGCTTTCCAAGTTGTGAGGGTAAATTCAATTGG  
 CGTGTATTAAAGAAAAGCGGGATGCCTATGTGAGCCGCTGAATGCCATCTATCAAACAATCTCACCA  
 AGTCCCATATAGAAATCATCCGTGGCCATGCAGCCTTACGAGTGATCCCAAGCCACAATAGAGGTCAG  
 TGGGAAAAGTACACCGCCACACATCCTGATGCCACAGGTGGTATGCCCTCCACCCCTCATGAGAGC  
 CAGATCCCGGTGCCAGCTTAGGAATAACCAGCGATGGATTTTTTCAGCTGGAAGAATTGCCCGGCCGA  
 CGGTCAATTGTTGGTGCAGGTTACATTGCTGTGGAGATGGCAGGGATCCTGTGAGCCCTGGGTTCTAAGAC  
 ATCACTGATGATACGGCATGATAAGGTAAGTACTTAGAAGTTTTGATCAATGATCAGCACCAACTGCACGGAG  
 GAGCTGGAGAACGCTGGCGTGGAGGTGCTGAAGTCTCCAGGGGATTCAAACCGATGACAAGGGTCATA  
 TCATCGTAGACGAATCCAGAATACCAAGTCAAAGGCATCTATGCAGTTGGGGATGTATGTGGAAAAGC  
 TCTTCTACTCCAGTTGCAATAGCTGCTGGCCGAAAACCTGCCATCGACTTTTTGAATATAAGGAAGAT  
 TCCAAATTAGATTATAACAACATCCCAACTGTGGTCTTCAGCCACCCCTATTGGGACAGTGGACTCA  
 CGGAAGATGAAGCCATTCATAAATAGGAATAGAAAATGTGAAGACCTATTCAACGAGCTTTACCCCGAT  
 GTATCACGCAGTTACCAAAGGAAAACAAAATGTGTGATGAAAATGGTCTGTGCTAACAAAGGAAGAAAAG  
 GTGGTTGGGATCCATATGCAGGGACTTGGGTGTGATGAAATGCTGCAGGGTTTTGCTGTTGCAGTGAAGA  
 TGGGAGCAACGAAGGCAGACTTTGACAACACAGTCGCCATTCACCTACCTCTTCAGAAGAGCTGGTCAC  
 ACTTCGT

**ACGCGT**ACGCGGCCGCTCGAGCAGAAAACCTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC231255 representing NM\_001195103  
 Red=Cloning site Green=Tags(s)

MALLPRALSAGAGPSWRRARAARFRGFLLLLPEPAALTRALSRAMACRQEPQPQGGPPPAAGAVASYDYLV  
 IGGSSGLASARRAAELGARAAVVESHKLGTCVNVGCVPKVMWNTAVHSEFMHDHADYGFPSCEGKFNW  
 RVIKEKRDAYVSRNLNAIYQNNLTKSHIEIIRGHAAFTSDPKPTIEVSGKKTAPHILATGGMPSTPHES  
 QIPGASLGITSDGFFQLEELPGRSVIVGAGYIAVEMAGILSALGSKTSLMIRHDKVLRFSFDSMISTNCTE  
 ELENAGVEVLKFSQGIQTDDKGHIIVDEFQNTNVKGIYAVGDVCGKALLTPVAIAAGRKLHRLFEYKED  
 SKLDYNNIPTVVFVSHPPIGTVGLTEDEAIHKYGIENVKTYSTSFPMYHAVTKRKTCKVMKVCANKEEK  
 VVGIIHQGLGCEMLQGF AVAVKMGATKADFNTVAIHPTSSEELVTLR

**TR**TRPLEQKLI SEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk8062\\_a06.zip](https://cdn.origene.com/chromatograms/mk8062_a06.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**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 ORF:** 1410 bp

**Locus ID:** 2936

**UniProt ID:** [P00390](#)
**Cytogenetics:** 8p12

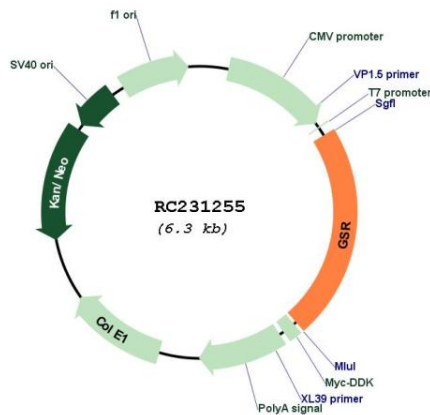
**Protein Families:** Druggable Genome

**Protein Pathways:** Glutathione metabolism

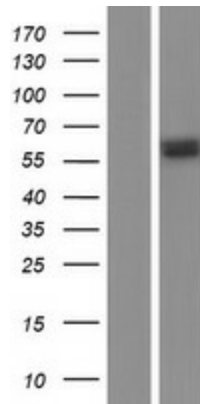
**MW:** 50.9 kDa

**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 RC231255



Western blot validation of overexpression lysate (Cat# [LY434254]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC231255 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).