

Recombinant human Glutathione Reductase protein

Catalog Number: ATGP1318

PRODUCT INFORMATION

Expression system

E.coli

Domain

43-522aa

UniProt No.

P00390

NCBI Accession No.

NP_000628

Alternative Names

Glutathione reductase, GLuR, GRD1

PRODUCT SPECIFICATION

Molecular Weight

54.3 kDa (504aa) confirmed by MALDI-TOF

Concentration

1mg/ml (determined by Bradford assay)

Formulation

Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 1mM DTT, 10% glycerol, 0.1M NaCl

Purity

> 95% by SDS-PAGE

Biological Activity

Specific activity is > 45unit/mg. The unit definition for glutathione reductase activity may be expressed in terms of the oxidation of NADPH or the reduction of GSSG since their molar ratio is 1:1. One unit of glutathione reductase oxidizes 1 umol of NADPH per minute at 37C, pH 7.5.

Tag

His-Tag

Application

Enzyme Activity, SDS-PAGE

Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

Description

Glutathione reductase, also known as GSR, is a member of the class-I pyridine nucleotide-disulfide oxidoreductase family. This enzyme is a homodimeric flavoprotein and plays a role in maintaining glutathione

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(GSH) in its reduced form by catalyzing the reduction of glutathione disulfide (GSSG) : $GSSG + NADPH + H^+ \rightarrow 2GSH + NADP^+$. In most eukaryotic cells, GSR maintains the ratio of [GSH] / [GSSG], and participates in several vital functions such as the detoxification of reactive oxygen species as well as protein and DNA biosynthesis. Recombinant human GSR protein, fused to His-tag at N-terminus, was expressed in *E. coli* and purified by using conventional chromatography techniques.

Amino acid Sequence

MGSSHHHHHH SGLVPRGSH MGSMAMACRQ EPQPQGPPPA AGAVASYDYI VIGGGSGGLA SARAAELGA
RAAVVESHKL GGTCVNVGCV PKKVMWNTAV HSEFMHDHAD YGFPSCEGKF NWRVIKEKRD AYVSRLNAIY QNNLTKSHIE
IIRGHAAFTS DPKPTIEVSG KKYTAPHILI ATGGMPSTPH ESQIPGASLG ITSDGFFQLE ELPGRSVIVG AGYIAVEMAG
ILSALGSKTS LMIRHDKVLR SFDSMISTNC TELENAGVE VLKFSQVKEV KKTLSGLEVS MVTAVPGRLP VMTMIPDVDC
LLWAIGRVPN TKDLSLNKLG IQTDDKGHII VDEFQNTNVK GIYAVGDVCG KALLTPVAIA AGRKLAHRLF EYKEDSKLDY
NNIPTVVFVSH PPIGTVGLTE DEAIHKYIE NVKTYSTSFT PMYHAVTKRK TKCVMKMVCA NKEEKVVGIIH MQGLGCDEML
QGFAVAVKMG ATKADFDNTV AIHPTSSEEL VTLR

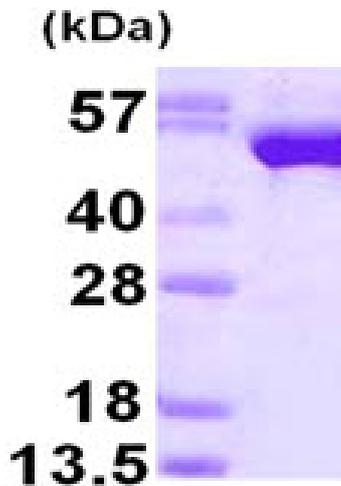
General References

Stoll V S., et al. (1997) *Biochemistry*. 36:6437-6447.
Karplus P A., et al. (1987) *J Mol Biol*. 195:701-729.

DATA

SDS-PAGE

3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.



15% SDS-PAGE (3ug)