Recombinant human Thioredoxin Reductase 1/TXNRD1 (selenocys648cys) protein

Catalog Number: ATGP0844

PRODUCT INFORMATION

Expression system
E.coli

Domain
161-649aa

UniProt No.
Q16881

NCBI Accession No.
NP_001087240

Alternative Names
GRIM 12, KDRF, KM 102 derived reductase like factor, MGC9145, Oxidoreductase, Thioredoxin reductase, Thioredoxin reductase 1, Thioredoxin reductase 1 cytoplasmic, Thioredoxin reductase 1 Gene associated with retinoid IFN induced mortality 12 protein, Thioredoxin reductase GRIM 12, TR, TR 1, TRXR 1, TXNR, TXNRD 1

PRODUCT SPECIFICATION

Molecular Weight
55.9 kDa (510aa) confirmed by MALDI-TOF

Concentration
1mg/ml (determined by BCA assay)

Formulation
Liquid in. 20mM Tris-HCl buffer (pH 8.0) containing 30% glycerol, 0.1mM PMSF, 0.1M NaCl

Purity
> 90% by SDS-PAGE

Biological Activity
Specific activity is > 15unit/mg, and was measured in a coupled assay with 5,5 -Dithiobis(2-nitrobenzoic acid) (DTNB) and NADPH. The amount of TNB generated by NADPH was measured in absorbance at 412 nm.

Tag
His-Tag

Application
SDS-PAGE, Enzyme Activity

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
TXNRD1, also known as Thioredoxin reductase 1, is a part of a selenium-containing pyridine nucleotide-

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disulphide oxidoreductase family, which has a conserved catalytic site of Cys-Val-Asn-Val-Gly-Cys. This protein reduces thioredoxins as well as other substrates, and plays a role in selenium metabolism and protection against oxidative stress. Inhibition of TXNRD1 activity may provide for potential treatments of cancer, AIDS and other autoimmune diseases as well as bacterial infections and parasitic diseases. Recombinant human TXNRD1 protein, fused to His-tag at N-terminus, was expressed in E. coli and purified by using conventional chromatography techniques.

Amino acid Sequence

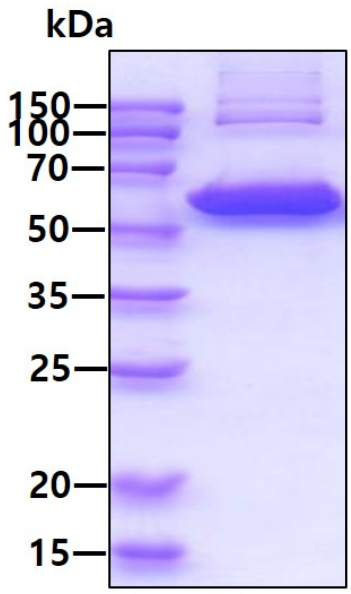
<MGSSHHHHHH SSGLVPRGSH M>YDYDLIIIG GGSGGLAAAK EAAQYGKKVM VLDFVTPTPL GTRWGLGGTC VNVGCIPKKL MHQAALLGQA LQDSRNYGWK VEETVKHDWD RMIEAVQNHI GSLNWGYRVA LREKKVVYEN AYGQFIGPHR IKATNNKGKE KIYSAERFLI ATGERPRYLG IPGDKEYCIS SDDLFSLPYC PGKTLVVGAS YVALECAGFL AGIGLDVTVM VRSILLRGFD QDMANKIGEH MEEHGIKFIR QFVPIKVEQI EAGTPGRLRV VAQSTNSEEI IEGEYNTVML AIGRDACTRK IGLETVGVKI NEKTGKIPVT DEEQTNVPYI YAIGDILEDK VELTPVAIQA GRLLAQRLYA GSTVKCDYEN VPTTVFTPLE YGACGLSEEK AVEKFGEENI EVYHSYFWPL EWTIPSRDNN KCYAKIICNT KDNERVVGFH VLGPNAGEVT QGFAAALKCG LTKKQLDSTI GIHPVCAEVF TTLSVTKRSG ASILQAGCCG

General References

Ma X., et al. (2002) J Biol Chem. 277(25):22460-8.
Javvadi P., et al. (2010) Cancer Res. 70(5):1941-50.

DATA

SDS-PAGE



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