

# Recombinant human NQO1 protein

Catalog Number: ATGP3876

## PRODUCT INFORMATION

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### Expression system

E.coli

### Domain

1-274aa

### UniProt No.

P15559

### NCBI Accession No.

NP\_000894

### Alternative Names

NAD(P)H quinone dehydrogenase 1, NMOR1, DIA4, Diaphorase, NADH/NADPH, Cytochrome b-5 reductase, NAD(P)H dehydrogenase, Quinone 1, DHQU, QR1, Azoreductase, DT-diaphorase, DTD, Menadione reductase, NAD(P)H:quinone oxidoreductase 1, Phylloquinone reductase, Quinone reductase 1

## PRODUCT SPECIFICATION

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### Molecular Weight

33.0 kDa (294aa) confirmed by MALDI-TOF

### Concentration

1mg/ml (determined by Bradford assay)

### Formulation

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

### Purity

> 95% by SDS-PAGE

### Endotoxin level

< 1 EU per 1ug of protein (determined by LAL method)

### Biological Activity

Specific activity is > 1,000pmol/min/ug and is defined as the amount of enzyme that converts 1pmole of resazurin to resorufin per minute at pH 7.5 at 25C.

### 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.

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## BACKGROUND

### Description

NQO1 is a member of the NAD (P) H dehydrogenase (quinone) family and encodes a cytoplasmic 2-electron reductase. This protein apparently serves as a quinone reductase in connection with conjugation reactions of hydroquinones involved in detoxification pathways as well as in biosynthetic processes such as the vitamin K-dependent gamma-carboxylation of glutamate residues in prothrombin synthesis. NQO1 functions as an important part of cellular antioxidant defense by detoxifying quinines thus preventing the formation of reactive oxygen species. Altered expression of NQO1 has been seen in many tumors and is also associated with Alzheimer's disease (AD). Recombinant human NQO1, was expressed in *E. coli* and purified by using conventional chromatography techniques.

### Amino acid Sequence

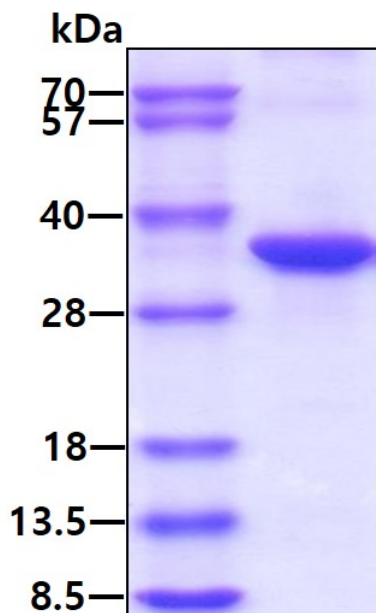
<MGSSHHHHHH SGLVPRGSH> MVGRRALIVL AHSERTSFNY AMKEAAAAAL KKKGWEEVES DLYAMNFNPI  
ISRKDITGKL KDPANFQYPA ESVLAYKEGH LSPDIVAEQK KLEAADLVIF QFPLQWFGVP AILKGWFERV FIGEFAYTYA  
AMYDKGPFRR KKAVLSITTG GSGSMYSLQG IHGDMNVILW PIQSGILHFC GFQVLEPQLT YSIGHTPADA RIQILEGWKK  
RLENIWDETP LYFAPSSLFD LNFQAGFLMK KEVQDEEKNK KFGLSVGHHL GKSIPTDNQI KARK

### General References

Jaiswal AK., et al. (1988) *J Biol Chem.* 263(27):13572-8.  
Traver RD., et al. (1992) *Cancer Res.* 52(4):797-802.

## DATA

### SDS-PAGE



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