# **PRODUCT INFORMATION**

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**

### **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 > 1,000 pmol/min/ug and is defined as the amount of enzyme that converts 1 pmole 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.

# 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 hydroquinons 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**

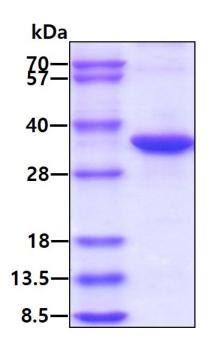
<MGSSHHHHHH SSGLVPRGSH> MVGRRALIVL AHSERTSFNY AMKEAAAAAL KKKGWEVVES DLYAMNFNPI ISRKDITGKL KDPANFQYPA ESVLAYKEGH LSPDIVAEQK KLEAADLVIF QFPLQWFGVP AILKGWFERV FIGEFAYTYA AMYDKGPFRS KKAVLSITTG GSGSMYSLQG IHGDMNVILW PIQSGILHFC GFQVLEPQLT YSIGHTPADA RIQILEGWKK RLENIWDETP LYFAPSSLFD LNFQAGFLMK KEVQDEEKNK KFGLSVGHHL 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.

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