

NADH Dehydrogenase, Quinone 1 (NQO1) Active Protein | NQO1 active protein

Active NADH Dehydrogenase, Quinone 1 (NQO1)

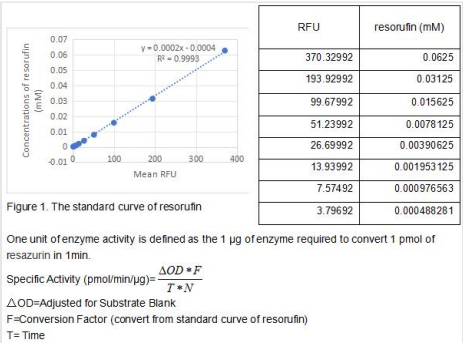
CATALOG # AAA161938	HOST E Coli	APPLICATIONS Activity Assay, Cell Culture
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PRODUCT SYNONYMS

NADH Dehydrogenase; Quinone 1 (NQO1); Active NADH Dehydrogenase; Quinone 1; DHQU; DIA4; DTD; NMOR1; NMORI; QR1; Azoreductase; DT-diaphorase; Menadione reductase; Phylloquinone reductase; Quinone reductase 1; NAD(P)H:quinone oxidoreductase 14; NQO1 active protein

PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	Greater than 95% by SDS-PAGE
Form/Format	Freeze-dried powder; PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Sequence	Val2~Lys27 4
Applicable Applications for NQO1 active protein	Activity Assay, Cell Culture
Species	Human
Expression System	Prokaryotic expression
Tag	N-terminal His Tag
Endotoxin Level	<1.0EU per 1ug (determined by the LAL method)
Isoelectric Point	8.9
Research Area	Enzyme & Kinase
Preparation and Storage	Store at 2-8 degree C for one month, -80 degree C for 12 months

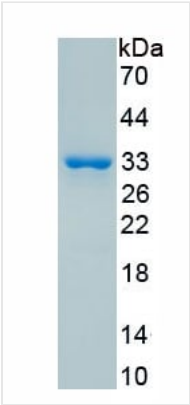


Bioactivity

NAD(P)H:quinone acceptor oxidoreductase 1 (NQO1), also known as DT-diaphorase, is a widely-distributed FAD-dependent flavoprotein that promotes 2-electron reductions of quinones, quinoneimines, nitroaromatics, and azo dyes. As a result it prevents the one electron reduction of quinones that results in the production of radical species. NQO1 is a highly-inducible enzyme that is regulated by the Keap1/Nrf2/ARE pathway. The increase and decrease of NQO1 levels are associated with decreased and increased susceptibilities to oxidative stress, respectively. Thus, NQO1 is a marker cytoprotective enzyme in oxidative stress. Independently of its catalytic function, NQO1 plays a role in regulating the proteasomal degradation of p53, p73a, and p33. NQO1 physically interacts with p53 and p73 in an NADH-dependent manner and protects them from 20S proteasomal degradation in a ubiquitin independent pathway. The activity assay of recombinant human NQO1 was measured by its ability to oxidize the substrate resazurin to resorufin. The rhNQO1 was diluted to 100 ug/ml in the assay buffer 50 mM HEPES, 0.2 M NaCl, 5 uM FAD, 0.05% Tween 20, pH 7.5. 50 ul 100 ug/ml rhNQO1 was added into the microplate and start the reaction by adding 50 ul substrate mixture of 400 uM beta-NADH and 20 uM resazurin which was diluted in assay buffer. Read at excitation and emission wavelengths of 540 nm and 585 nm (top read), respectively, in kinetic mode for 5 minutes. The specific activity of recombinant human NQO1 is >18 pmol/min/ug.

SDS-PAGE

Figure. SDS-PAGE



ADDITIONAL INFORMATION

Product Categories/Family for NQO1 active protein	Active proteins
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NCBI AND UNIPROT INFORMATION

NCBI GI #	118607
NCBI GeneID	1728
UniProt Accession #	P15559; Q86UK1; B2R5Y9; B4DNM7; B7ZAD1
Molecular Weight	274
NCBI Official Full Name	NAD(P)H dehydrogenase
NCBI Official Synonym Full Names	NAD(P)H dehydrogenase, quinone 1
NCBI Official Symbol	NQO1
NCBI Official Synonym Symbols	DTD; QR1; DHQU; DIA4; NMOR1; NMORI
NCBI Protein Information	NAD(P)H dehydrogenase [quinone] 1; NAD(P)H dehydrogenase [quinone] 1; azoreductase; diaphorase-4; DT-diaphorase; dioxin-inducible 1; menadione reductase; quinone reductase 1; phyloquinone reductase; NAD(P)H:quinone oxireductase; NAD(P)H:quinone oxidoredu
UniProt Protein Name	NAD(P)H dehydrogenase [quinone] 1
UniProt Gene Name	NQO1
UniProt Synonym Gene Names	DIA4; NMOR1; DTD; QR1
UniProt Entry Name	NQO1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-active-protein/nadh-dehydrogenase-quinone-1-nqo1/161938>