

Active Recombinant Rat Nqo1 protein, His-tagged

Cat. No. Nqo1-1920R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Active Recombinant Rat Nqo1 protein(P05982)(2-273 aa), fused with N-terminal His tag, was expressed in E.coli.
Species	Rat
Source	E.coli
ProteinLength	2-273 aa
Form	PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
Bio-activity	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 proteosomal 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 rat NQO1 was measured by its ability to oxidize the substrate resazurin to resorufin. The rrNQO1

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was diluted to 100 μ g/ml in the assay buffer 50 mM HEPES, 0.2 M NaCl, 5 μ M FAD, 0.05% Tween 20, pH 7.5. 50 μ l 0.05 μ g/ml rhNQO1 was added into the microplate and start the reaction by adding 50 μ l substrate mixture of 400 μ M beta-NADH and 20 μ M 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 rat NQO1 is >45000 pmol/min/g.


Molecular Mass	34.4kDa
Endotoxin	<1.0EU per 1 μ g (determined by the LAL method).
Purity	> 90%
Storage	Avoid repeated freeze/thaw cycles. Store at 2-8°C for one month. Store at -20°C for 12 months. Aliquot and store at -80°C for 12 months.
Reconstitution	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

GENE INFORMATION

Gene Name	Nqo1 NAD(P)H dehydrogenase, quinone 1 [<i>Rattus norvegicus</i>]
Official Symbol	Nqo1
Synonyms	NQO1; NAD(P)H dehydrogenase, quinone 1; NAD(P)H dehydrogenase [quinone] 1; DTD; QR1; azoreductase; DT-diaphorase; menadione reductase; quinone reductase 1; Diaphorase (NADH/NADPH); phyloquinone reductase; NAD(P)H:menadione oxidoreductase; NAD(P)H:quinone oxidoreductase 1; Dia4; MGC93075;
Gene ID	24314

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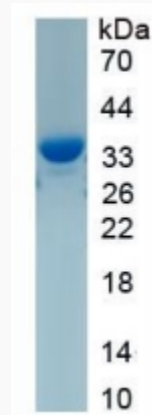
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mRNA Refseq [NM_017000](#)

Protein Refseq [NP_058696](#)

SDS-PAGE



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