

# **NQO1** Antibody

Rabbit mAb Catalog # AP91141

#### **Product Information**

**Application** WB, IF, FC, ICC, IP

Primary Accession P15559

**Reactivity** Rat, Human, Mouse

**Clonality** Monoclonal

Other Names Azoreductase; DT-diaphorase; DTD; QR1; NQO1; DIA4; NMOR1;

IsotypeRabbit IgGHostRabbitCalculated MW30868

### **Additional Information**

**Dilution** WB 1:1000~1:5000 ICC/IF 1:50~1:200 IP 1:50 FC 1:50

**Purification** Affinity-chromatography

**Immunogen** A synthesized peptide derived from human NQO1

**Description** NAD(P)H:quinone oxidoreductase 1 (NQO1) is a flavoprotein that catalyzes the

two-electron reduction of quinones and their derivatives. The enzyme 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.

**Storage Condition and Buffer** Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium

azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term.

Avoid freeze / thaw cycle.

#### **Protein Information**

NQ01 {ECO:0000303 | PubMed:1657151, ECO:0000312 | HGNC:HGNC:2874}

**Function** Flavin-containing quinone reductase that catalyzes two- electron reduction

of quinones to hydroquinones using either NADH or NADPH as electron donors. In a ping-pong kinetic mechanism, the electrons are sequentially transferred from NAD(P)H to flavin cofactor and then from reduced flavin to the quinone, bypassing the formation of semiquinone and reactive oxygen species (By similarity) (PubMed:8999809, PubMed:9271353). Regulates cellular redox state primarily through quinone detoxification. Reduces components of plasma membrane redox system such as coenzyme Q and vitamin quinones, producing antioxidant hydroquinone forms. In the process may function as superoxide scavenger to prevent hydroquinone oxidation

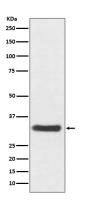
and facilitate excretion (PubMed: 15102952, PubMed: 8999809, PubMed: 9271353). Alternatively, can activate quinones and their derivatives by generating redox reactive hydroquinones with DNA cross-linking antitumor

potential (PubMed:<u>8999809</u>). Acts as a gatekeeper of the core 20S proteasome known to degrade proteins with unstructured regions. Upon oxidative stress, interacts with tumor suppressors TP53 and TP73 in a NADH-dependent way and inhibits their ubiquitin-independent degradation by the 20S proteasome (PubMed:<u>15687255</u>, PubMed:<u>28291250</u>).

#### **Cellular Location**

Cytoplasm, cytosol {ECO:0000250|UniProtKB:P05982}

## **Images**



Western blot analysis of NQO1 expression in SH-SY5Y cell lysate.

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Immunofluorescent analysis of MCF-7 cells, using NQO1 Antibody.

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