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KD-Validated Anti-NAD(P)H Quinone Dehydrogenase 1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1602

Product Information

Application	WB, FC, ICC
Primary Accession	P15559
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	24GB355
Calculated MW	30868
Gene Name	NQO1
Aliases	NAD(P)H Quinone Dehydrogenase 1; QR1; DTD; DT-Diaphorase; NMOR1; DHQU; DIA4; Diaphorase (NADH/NADPH) (Cytochrome B-5 Reductase); NAD(P)H Dehydrogenase [Quinone] 1; NAD(P)H Dehydrogenase, Quinone 1; NAD(P)H:Quinone Oxidoreductase 1; NAD(P)H-Quinone Oxidoreductase; Phylloquinone Reductase; Menadione Reductase; Quinone Reductase 1; Azoreductase; EC 1.6.5.2; NAD(P)H:Quinone Acceptor Oxidoreductase Type 1; NAD(P)H:Menadione Oxidoreductase 1; NAD(P)H:Quinone Oxireductase; Dioxin-Inducible 1; Quinone Reductase; Diaphorase-4; NMORI
Immunogen	A synthesized peptide derived from human NQO1

Additional Information

Gene ID	1728
Other Names	NAD(P)H dehydrogenase [quinone] 1, 1.6.5.2, Azoreductase, DT-diaphorase, DTD, Menadione reductase, NAD(P)H:quinone oxidoreductase 1, Phylloquinone reductase, Quinone reductase 1, QR1, NQO1 {ECO:0000303|PubMed:1657151, ECO:0000312|HGNC:HGNC:2874}

Protein Information

Name	NQO1 {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:8999809). 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:15687255, PubMed:28291250).

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