10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

NQO1 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP7350b

Specification

NQO1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession P15559

NQO1 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 1728

Other Names
NAD(P)H dehydrogenase [quinone] 1, Azoreductase, DT-diaphorase, DTD, Menadione reductase, NAD(P)H:quinone oxidoreductase 1, Phylloquinone reductase, Quinone reductase 1, QR1, NQO1, DIA4, NMOR1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7350b was selected from the C-term region of human NQO1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

NQO1 Antibody (C-term) Blocking Peptide - 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 (PubMed:8999809, PubMed:9271353) (By similarity). 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:<a

href="http://www.uniprot.org/citations/8999809" target="_blank">8999809, PubMed:9271353, PubMed:15102952). 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}

NQO1 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

NQO1 Antibody (C-term) Blocking Peptide - Images

NQO1 Antibody (C-term) Blocking Peptide - Background

NQO1 is a member of the NAD(P)H dehydrogenase(quinone) family and a cytoplasmic 2-electron reductase. This FAD-binding protein forms homodimers and reduces quinones to hydroquinones. This protein's enzymatic activity prevents the one electron reduction of quinones that results in the production of radical species. Altered expression of the protein has been seen in many tumors and is also associated with Alzheimer's disease (AD).

NQO1 Antibody (C-term) Blocking Peptide - References

Hubackova,M., Vaclavikova,R. Pharmacogenet. Genomics 19 (7), 505-512 (2009)Canova,C., Hashibe,M. Cancer Res. 69 (7), 2956-2965 (2009)Li,Y. and Jaiswal,A.K. J. Biol. Chem. 267 (21), 15097-15104 (1992)