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Goat Anti-NQO1 Antibody

Peptide-affinity purified goat antibody
Catalog # AF1745a

Specification

Goat Anti-NQO1 Antibody - Product Information

Application	**WB, IHC, IF**
Primary Accession	P15559
Other Accession	NP_001020605, 1728, 18104 (mouse)
Reactivity	**Human, Mouse, Dog**
Predicted	**Rat, Pig**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5mg/ml**
Isotype	**IgG**
Calculated MW	**30868**

Goat Anti-NQO1 Antibody - 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, DIA4, NMOR1

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-NQO1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-NQO1 Antibody - 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: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}

Goat Anti-NQO1 Antibody - Protocols

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

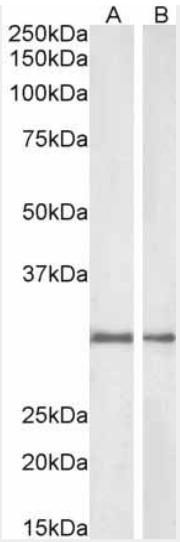
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-NQO1 Antibody - Images

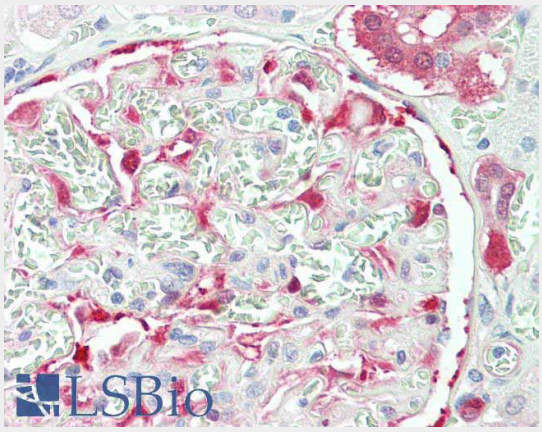


AF1745a staining (0.03 µg/ml) of Human Kidney lysate (RIPA buffer, 35 µg total protein per lane). Primary incubated for 1 hour. Detected by western blot using chemiluminescence.

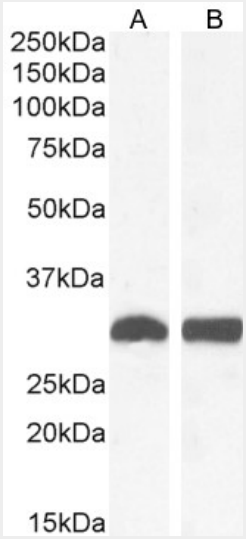
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AF1745a (1 µg/ml) staining of Rat (A) and Pig (B) Kidney lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence

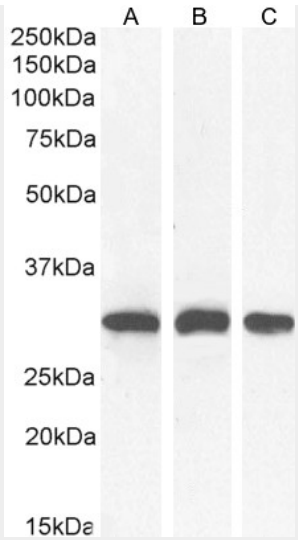


AF1745a (5 µg/ml) staining of paraffin embedded Human Kidney. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

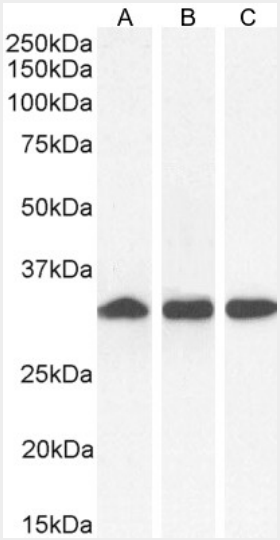


EB05370 (0.3µg/ml) staining of U251 (A) and HepG2 (B) cell lysate. (35µg protein in RIPA buffer). Detected by chemiluminescence.

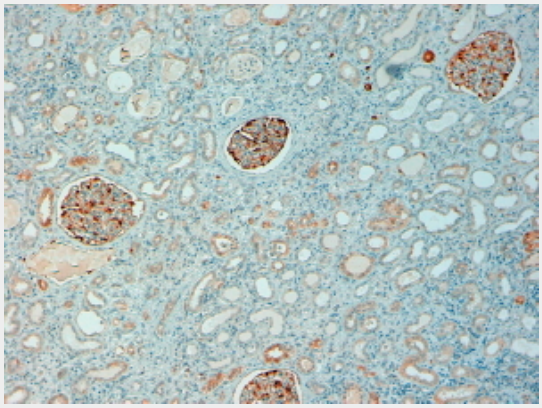
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EB05370 (0.3µg/ml) staining of Human Kidney (A), Lung (B) and Duodenum (C) lysate. (35µg protein in RIPA buffer). Detected by chemiluminescence

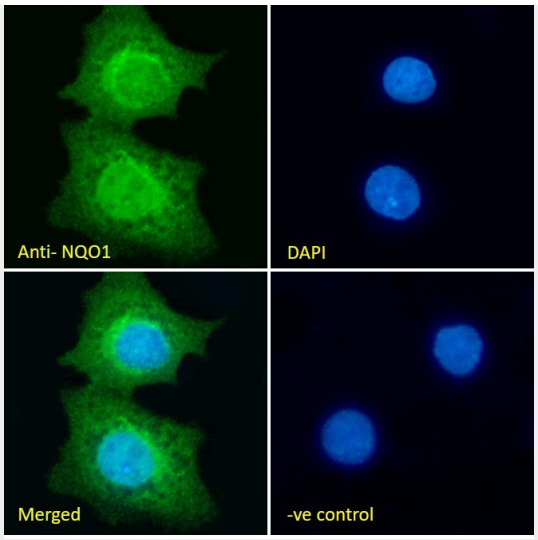


EB05370 (0.3µg/ml) staining of Rat Kidney (A), Lung (B) and Duodenum (C) lysate. (35µg protein in RIPA buffer). Detected by chemiluminescence.



EB05370 (2µg/ml) staining of paraffin embedded Human Kidney. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

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EB05370 Immunofluorescence analysis of paraformaldehyde fixed HepG2 cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml), showing cytoplasmic and some nuclear staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10ug/ml) followed by Alexa Fluor 488 secondary antibody (2ug/ml).

Goat Anti-NQO1 Antibody - Background

This gene is a member of the NAD(P)H dehydrogenase (quinone) family and encodes 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. Mutations in this gene have been associated with tardive dyskinesia (TD), an increased risk of hematotoxicity after exposure to benzene, and susceptibility to various forms of cancer. Altered expression of this protein has been seen in many tumors and is also associated with Alzheimer's disease (AD). Alternate transcriptional splice variants, encoding different isoforms, have been characterized.

Goat Anti-NQO1 Antibody - References

Genetic Polymorphisms of CYP2E1, GSTP1, NQO1 and MPO and the Risk of Nasopharyngeal Carcinoma in a Han Chinese Population of Southern China. Guo X, et al. BMC Res Notes, 2010 Jul 27. PMID 20663217.
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NAD(P)H quinone oxidoreductase protects TAp63gamma from proteasomal degradation and regulates TAp63gamma-dependent growth arrest. Hershkovitz Rokah O, et al. PLoS One, 2010 Jun 30. PMID 20613985.
NAD(P)H:quinone oxidoreductase 1 (NQO1) Pro187Ser polymorphism and colorectal cancer predisposition in the ethnic Kashmiri population. Sameer AS, et al. Asian Pac J Cancer Prev, 2010. PMID 20593958.