



Qty: 100 µg/200 µL

Mouse anti-NQO1

Catalog No. 39-3700

Lot No.

Mouse anti-NQO1

FORM

This monoclonal antibody is supplied as a 200 µL aliquot at a concentration of 0.5 mg/mL in PBS, pH 7.4, containing 0.1% sodium azide. This antibody is highly purified from mouse ascites by protein A chromatography.

CLONE: A180

ISOTYPE: Mouse IgG₁-kappa

IMMUNOGEN

Recombinant human NQO1 protein, which is 86.5% homologous with mouse and 85.4% homologous with rat

SPECIFICITY

This antibody is specific for the human NQO1 (NAD(P)H:quinine oxidoreductase 1, DT-diaphorase) protein, and does not cross-react with NQO2. On Western blots, it identifies the target band at ~31 kDa.

REACTIVITY

Reactivity has been confirmed with human A549, HT-29 and MiaPACA-2 cell lysates and cytosolic preparations from rat liver and lung homogenates by Western blotting, with paraffin-embedded human thyroid, adrenal, breast, ovary, lung, normal eye, corneal tumors⁽¹⁾, frozen aorta and myocardial tissues⁽¹⁾, rat liver, dog liver and monkey aorta by immunohistochemistry, with human HCT-116 cell lysates by immunoprecipitation⁽²⁾ and with human HUVEC, HT-29, MiaPACA-2, BXP3, A549 and H460 cell lysates by immunofluorescence. Based on amino acid sequence homology, reactivity with mouse is expected.

Sample	Immuno-histochemistry (paraffin)	Immuno-histochemistry (frozen)	Western Blotting	Immuno-precipitation	Immuno-fluorescence
Human	+++ ⁽¹⁾	++ ⁽¹⁾	+++ ⁽¹⁾	+++ ⁽²⁾	+++
Mouse	ND	ND	ND	ND	ND
Rat	++	ND	+	ND	ND
Monkey	+++	ND	ND	ND	ND
Dog	+++	ND	ND	ND	ND

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

*For immunohistochemistry with human paraffin-embedded tissues, microwave pretreatment with citrate buffer was performed for two 3 minute cycles.⁽¹⁾

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting: 1-3 µg/mL
Immunoprecipitation: 50 µg/mL
Immunohistochemistry⁽¹⁾: 10 µg/mL
Immunofluorescence: 3-5 µg/mL

STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

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PI393700

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BACKGROUND

NAD(P)H:Quinine Oxidoreductase 1 (NQO1, DT-diaphorase) is a flavoprotein that catalyzes the two-electron reduction of quinones, quinone imines and azo-dyes. This two-electron reduction protects cells against mutagenicity and carcinogenicity resulting from the free radicals and toxic oxygen metabolites generated by the one-electron reductions catalyzed by cytochromes P450 and other enzymes.^{3,4} Recently, NQO1 has been characterized as being capable of generating antioxidant forms of ubiquinone and vitamin E after free radical attack, providing conclusive evidence that this enzyme forms part of the body's antioxidant defense system.¹

NQO1 is expressed ubiquitously in all human tissues, although the level of expression varies among tissues.⁵ The *NQO1* gene is expressed at higher levels in several tumor tissue types, including liver and colon, as compared to normal tissues of similar origin.⁵ *NQO1* gene expression is coordinately induced with other detoxifying enzyme genes in response to xenobiotics, antioxidants, oxidants, heavy metals, and radiations.⁶

REFERENCES

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4. Nioi P & Hayes JD. *Mutat Res* 555(1-2):149-171, 2004.
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6. Smith MT. *PNAS* 96(14):7624-7626, 1999.

RELATED PRODUCTS

Product	Conjugate	Cat. No.
Protein A	Sepharose® 4B	10-1041
rec-Protein G	Sepharose® 4B	10-1241

Conjugate	ZyMAX™ Goat x Rabbit IgG (H+L)	ZyMAX™ Goat x Mouse IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy™3	81-6115	81-6515
Cy™5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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