

Product Information

Anti-NQO1 (C-terminal)

produced in rabbit, affinity isolated antibody

Catalog Number **N5288**

Product Description

Anti-NQO1 (C-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 261-274 of human NQO1 (Gene ID: 1728), with N-terminal added cysteine conjugated to KLH. The corresponding sequence differs by one amino acid in mouse and rat. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-NQO1 (C-terminal) recognizes human, mouse, and rat NQO1. The antibody can be used in several applications including immunoblotting (~28 kDa), immunoprecipitation, and immunofluorescence. Detection of the NQO1 band by immunoblotting is specifically inhibited by the immunizing peptide.

NADPH:quinone oxidoreductase (NQO1, DT-diaphorase) is a 2-electron reductase that detoxifies quinones derived from the oxidation of phenolic metabolites of benzene.¹ NQO1 is a FAD-containing protein that exists as a homodimer and is biochemically characterized by its unique ability to use either NADH or NADPH as reducing cofactors.² NQO1 has a role in antioxidant defense via the generation of antioxidant forms of ubiquinone and vitamin E. NQO1 is involved in chemoprotection and can also bioactivate certain antitumor quinones.³ NQO1 gene is upregulated as a part of the oxidative stress response and is overexpressed in certain types of tumors.⁴ NQO1 is transcriptionally regulated by the antioxidant response element (ARE) that is a cis-acting regulatory enhancer element found in the 5' flanking region of many phase II detoxification enzymes. Up-regulation of ARE-dependent target genes is known to have neuroprotective effects.⁵ NQO1 is ubiquitously expressed. High levels of NQO1 gene expression have been observed in liver, lung, colon and breast tumors as compared to normal tissues of the same origin.¹

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.1-0.2 µg/mL is recommended using a whole extract of rat NRK cells.

Immunoblotting: a working concentration of 0.2-0.5 µg/mL is recommended using a whole extract of mouse 3T3 cells.

Immunoprecipitation: a working amount of 2-5 µg is recommended using a whole extract of human HeLa cells.

Immunofluorescence: a working concentration of 2-5 µg/mL is recommended using human HeLa cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Belinsky, M., and Jaiswal, A.K., *Cancer Metastasis Rev.*, **12**, 103-117 (1993).
2. Siegel, D., et al., *Mol. Pharmacol.*, **65**, 1238-1247 (2004).
3. Ross, D., et al., *Chem. Biol. Interact.*, **129**, 77-97 (2000).
4. Vasiliou, V., et al., *Hum. Genomics*, **2**, 329-335 (2006).
5. Liu, Y., et al., *Proc. Natl. Acad. Sci. USA*, **104**, 5205-5210 (2007).

ST,KAA,PHC 05/08-1