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Product Information

Anti-Peroxiredoxin 2 (C-terminal)
produced in rabbit, affinity isolated antibody

Catalog Number **R8656**

Product Description

Anti-Peroxiredoxin 2 (C-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 184-198 of human Peroxiredoxin 2 (GeneID: 7001), conjugated to KLH. The corresponding sequence is identical in rat and mouse peroxiredoxin 2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Peroxiredoxin 2 (C-terminal) recognizes human, rat, and mouse peroxiredoxin 2 (not tested in other species). The antibody can be used in several immunochemical techniques including immunoblotting (~22 kDa) and immunoprecipitation. Detection of the peroxiredoxin 2 band by immunoblotting is specifically inhibited by the immunizing peptide.

Peroxiredoxin 2 is a cytosolic member of the peroxiredoxin family of antioxidant enzymes.[1] Peroxiredoxins are peroxidases that reduce hydrogen peroxide (H_2O_2) and alkyl hydroperoxides to water and alcohol, respectively. Six mammalian peroxiredoxins have been identified. All peroxiredoxin enzymes exist as homodimers, they contain a conserved Cys residue corresponding to Cys^{51} in mammalian peroxiredoxin 1 and 2, and are distributed differentially within cells.[2] Peroxiredoxin 1 and 2 display more than 90% homology in their amino acid sequences and are part of the 2-Cys subclass of peroxiredoxins, which contain another Cys residue, corresponding to Cys^{172} in mammalian peroxiredoxin 2. The catalytic H_2O_2 reduction is mediated through a disulfide bond formation between Cys^{51} and Cys^{172}, which is reduced afterwards by thioredoxin. When the catalytic Cys is over-oxidized, the peroxidase activity is lost.[3] Peroxiredoxin 2 has dual roles as a peroxireductase in moderately oxidative conditions, and as a molecular chaperone that binds and protects denatured proteins in hyper-oxidative conditions.[4] Peroxiredoxin 2 is involved in PDGF and TNF signaling regulation, and is elevated in several human cancers and neurodegenerative disorders.[5-8]

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 0.5-1.0 µg/mL is recommended using a whole extract of human HeLa cells.

Immunoblotting: a working concentration of 1-2 µg/mL is recommended using a whole extract of rat NRK cells.

Immunoprecipitation: a working amount of 2.0-5.0 µg is recommended using a lysate of mouse 3T3 cells.

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

References

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