

Product Information

Anti-NOX1 (N-terminal)

produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200227**

Product Description

Anti-NOX1 (N-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to the N-terminal region of human NOX1 isoform long (NOX1L) (GeneID 27035), conjugated to KLH. The corresponding sequence is identical in human NOX1 isoform long variant (NOX1LV) and highly conserved in mouse and rat NOX1 (76% sequence identity). The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-NOX1 (N-terminal) specifically recognizes human NOX1. The antibody can be used in several immunochemical techniques including immunoblotting (~72 kDa) and immunohistochemistry. Detection of the NOX1 band by immunoblotting is specifically inhibited by the NOX1 immunizing peptide.

Reactive oxygen species (ROS) are conventionally thought of as cytotoxic and mutagenic and in high levels they induce an oxidative stress response. Recent evidence indicates that lower levels of ROS act as intracellular mediator of growth, apoptosis and senescence. NADPH oxidase 1 (also known as NOX1, MOX1, NOH1, GP91-2), belongs to the family of NADPH oxidases that catalyze the generation of the superoxide ion.¹ In addition to NOX1, the NOX protein family includes the catalytic subunits NOX2/gp91^{phox}, NOX3-5, Duox1 and Duox2, that are thought to play important roles in redox-dependent cell signaling, inflammation and in neurodegenerative diseases. NOX1 is abundantly expressed in the colon, primarily in differentiated epithelial cells, and requires for its activity two cytosolic regulators, NOXA1 and NOXO1 as well as Rac1.² NOX1 is mitogenic and a potent trigger of the angiogenic switch, increasing the vascularity of tumors and inducing molecular markers of angiogenesis.³ NOX1 and NOX2 promote neurotoxic activation of microglia suggesting that they play a central role during neuroinflammatory states and in amyotrophic lateral sclerosis (ALS).⁴ In ALS mice deletion of either NOX1 or NOX2 gene has been shown to significantly slow disease progression and to improve survival.⁵

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: ~1.5 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 1.5-3.0 µg/mL is recommended using HT29 cell extracts.

Immunohistochemistry: a working concentration of 5-10 µg/mL is recommended using formalin-fixed paraffin-embedded human colon.

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

References

1. Nauseef, W.M., *J. Biol. Chem.*, **283**, 16961-16965 (2008).
2. Geiszt, M., et al., *J. Immunol.*, **170**, 299-306 (2003).
3. Arbiser, J.L., et al., *Proc. Natl. Acad. Sci. USA*, **99**, 715-720 (2002).

4. Cheret, C., et al., *J. Neurosci.*, **28**, 12039-12051 (2008).

5. Marden, J.J., et al., *J. Clin. Invest.*, **117**, 2913-2919 (2007).

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