

Product Information

Anti-NOX1

produced in rabbit, affinity isolated antibody

Product Number **SAB4200097**

Product Description

Anti-NOX1 is developed in rabbit using as the immunogen a synthetic peptide corresponding to a fragment of human NOX1 isoform long (NOX1L) (GeneID 27035), conjugated to KLH. The corresponding sequence is identical in human NOX1 isoform long variant (NOX1LV) and in mouse and rat NOX1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-NOX1 specifically recognizes human NOX1. The antibody can be used in several immunochemical techniques including immunoblotting (~72 kDa), immunofluorescence, 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 disease.

NOX1 is abundantly expressed in the colon, primarily in differentiated epithelial cells, and requires two cytosolic regulators NOXA1 and NOXO1 as well as Rac1 for its activity.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 and NOX2 gene have been shown to significantly slowed disease progression and improved 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

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store at -20 °C. For continuous use, the product may be stored at 2-8 °C for up to one month. For extended storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is also 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 antibody concentration of 0.5-1.0 µg/mL is recommended using HS68 cell extracts.

Immunohistochemistry: a working antibody concentration of 10-20 µg/mL is recommended using formalin-fixed, paraffin-embedded human colon.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine 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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