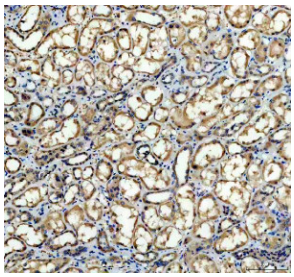
NOX4 Antibody / Reactive Oxygen Species Enzyme Antibody (R31029)

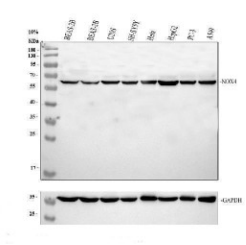
Catalog No.	Formulation	Size
R31029	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

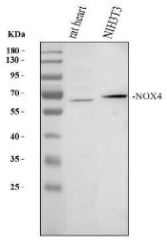
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q9JHI8
Localization	Cytoplasmic and cell surface
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This NOX4 Antibody / Reactive Oxygen Species Enzyme Antibody is available for research use only.



NOX4 Antibody Human Kidney IHC. Immunohistochemistry was performed on FFPE human kidney tissue using NOX4 Antibody. Heat-induced epitope retrieval was performed in pH 8 EDTA buffer prior to incubation with the primary antibody at 2 ug/ml. Bound antibody was visualized using an HRP-conjugated goat anti-rabbit IgG secondary antibody with DAB chromogen. Strong membranous and cytoplasmic staining is observed throughout renal tubular epithelial cells, consistent with the well-established expression pattern of NOX4 in the kidney and its role in regulating reactive oxygen species production. These results demonstrate that this Reactive Oxygen Species Enzyme Antibody is suitable for immunohistochemical detection of NOX4 in formalin-fixed, paraffin-embedded human kidney tissue.



NOX4 Antibody Human Cell Line WB. Western blot analysis was performed using NOX4 Antibody. Lane 1: human BEAS-2B whole cell lysate; lane 2: human BEAS-2B whole cell lysate; lane 3: human U2OS whole cell lysate; lane 4: human SH-SY5Y whole cell lysate; lane 5: human HeLa whole cell lysate; lane 6: human HepG2 whole cell lysate; lane 7: human PC-3 whole cell lysate; lane 8: human A549 whole cell lysate. Proteins were separated on a 10% SDS-PAGE gel, transferred to a nitrocellulose membrane, and incubated with the primary antibody at 0.5 ug/ml overnight at 4Â°C. A specific immunoreactive band is detected at approximately 67 kDa in all tested cell lines, consistent with the expected molecular weight of NOX4. These results demonstrate that this Reactive Oxygen Species Enzyme Antibody is suitable for Western blot detection of NOX4 across multiple human cell lines.



NOX4 Antibody Rat Heart and Mouse NIH/3T3 WB. Western blot analysis was performed using NOX4 Antibody. Lane 1: rat heart tissue lysate; lane 2: mouse NIH/3T3 whole cell lysate. Proteins were separated on a 10% SDS-PAGE gel, transferred to a nitrocellulose membrane, and incubated with the primary antibody at 0.5 ug/ml overnight at 4Â°C. A specific immunoreactive band is detected at approximately 67 kDa in both samples, consistent with the expected molecular weight of NOX4. These results demonstrate that this Reactive Oxygen Species Enzyme Antibody is suitable for Western blot detection of NOX4 in rodent tissues and cell lines.

Description

NOX4 Antibody recognizes NADPH oxidase 4 (NOX4), a member of the NADPH oxidase family of enzymes responsible for generating reactive oxygen species that function as important intracellular signaling molecules. Unlike several other NOX family members that require acute activation, NOX4 exhibits constitutive enzymatic activity, with its output primarily regulated through expression level and subcellular localization. NOX4 is widely expressed in the kidney, cardiovascular system, lung, liver, and numerous additional tissues, where it contributes to regulation of cellular homeostasis, differentiation, proliferation, and stress responses. NSJ Bioreagents supplies NOX4 Antibody for reliable detection of this important reactive oxygen species-producing enzyme in diverse research applications.

NOX4 primarily generates hydrogen peroxide rather than superoxide, distinguishing it from many other NADPH oxidase family members. Through controlled production of reactive oxygen species, NOX4 modulates signaling pathways involved in transforming growth factor beta signaling, hypoxia responses, extracellular matrix remodeling, angiogenesis, autophagy, and apoptosis. Physiological NOX4 activity supports normal tissue development and cellular adaptation to environmental stress, whereas dysregulated NOX4 expression can disrupt redox balance and promote pathological signaling. Consequently, NOX4 Antibody is widely used to investigate oxidative stress, redox biology, and reactive oxygen species-mediated signal transduction.

Aberrant NOX4 activity has been implicated in numerous human diseases, including cardiac hypertrophy, pulmonary fibrosis, chronic kidney disease, diabetic nephropathy, vascular dysfunction, neurodegenerative disorders, and multiple forms of cancer. Because excessive or persistent reactive oxygen species production contributes to inflammation, fibrosis, and tissue remodeling, NOX4 has emerged as an attractive therapeutic target in both cardiovascular and metabolic disease. Researchers also study NOX4 to better understand mechanisms of wound healing, epithelial-to-mesenchymal transition, tumor progression, and cellular senescence. These broad biological roles make NOX4 an important biomarker and experimental target across many areas of biomedical research.

A NOX4 Antibody is a valuable reagent for investigating reactive oxygen species production, oxidative stress signaling, fibrosis, and cellular redox regulation. By enabling reliable detection of NADPH oxidase 4, a NOX4 Antibody supports research into cardiovascular biology, renal disease, pulmonary pathology, cancer progression, and the molecular mechanisms that govern reactive oxygen species-dependent cellular signaling.

Explore additional antibodies involved in cellular signaling and oxidative stress pathways on our Signal Transduction

Antibodies page.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the NOX4 Antibody / Reactive Oxygen Species Enzyme Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An amino acid sequence from the C-terminus of mouse NADPH oxidase 4 (NRNNSYGTKFEYNKES) was used as the immunogen for this NOX4 antibody (100% rat homology).

Storage

After reconstitution, the NOX4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

NADPH Oxidase 4 antibody, Renal NADPH Oxidase antibody, Kidney Oxidase antibody, RENOX antibody, KOX-1 antibody, NOH-4 antibody

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