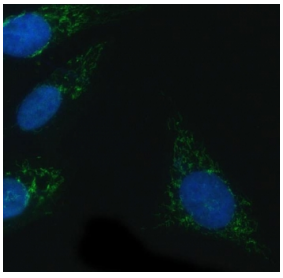
NADPH Oxidase 4 Antibody / NOX4 Antibody (RQ4166)

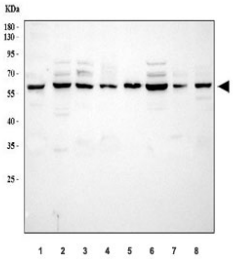
Catalog No.	Formulation	Size
RQ4166	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Monkey
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	Q9NPH5
Localization	Cytoplasmic and cell surface
Applications	Western Blot: 0.5-1ug/ml Immunofluorescence: 5ug/ml
Limitations	This NADPH Oxidase 4 Antibody / NOX4 Antibody is available for research use only.



NADPH Oxidase 4 Antibody U-2 OS Cell IF. Immunofluorescence was performed on FFPE human U-2 OS cells using NADPH Oxidase 4 Antibody (green) following heat-induced epitope retrieval in pH 6 citrate buffer. Nuclei were counterstained with DAPI (blue). Strong cytoplasmic staining with a reticular, perinuclear distribution is observed, consistent with the intracellular localization of NOX4 within endoplasmic reticulum-associated membrane compartments involved in reactive oxygen species generation. These results demonstrate that this NOX4 Antibody is suitable for immunofluorescent detection of NADPH oxidase 4 in formalin-fixed, paraffin-embedded human U-2 OS cells.



NADPH Oxidase 4 Antibody Human Cell Line WB. Western blot analysis was performed using NADPH Oxidase 4 Antibody. Lane 1: human 293T cell lysate; lane 2: human U-87 MG cell lysate; lane 3: human SH-SY5Y cell lysate; lane 4: human U-251 cell lysate; lane 5: human U-2 OS cell lysate; lane 6: human HeLa cell lysate; lane 7: human T-47D cell lysate; lane 8: monkey COS-7 cell lysate. A specific immunoreactive band is detected at approximately 65 kDa in all tested samples, consistent with the expected molecular weight of NOX4, which may also be observed at approximately 75â€“80 kDa due to post-translational modification and glycosylation. These results demonstrate that this NOX4 Antibody is suitable for Western blot detection of NADPH oxidase 4 across multiple human and monkey cell lines.

Description

NADPH Oxidase 4 Antibody recognizes NADPH oxidase 4 (NOX4), an enzyme belonging to the NADPH oxidase family that catalyzes the production of reactive oxygen species for intracellular signaling. Unlike many other NOX family members that require activation by multiple regulatory proteins, NOX4 is constitutively active, with its enzymatic activity governed primarily by expression level and intracellular localization. The protein is broadly expressed in the kidney, cardiovascular system, lung, liver, and numerous additional tissues, where it participates in redox-dependent regulation of cellular homeostasis. NSJ Bioreagents supplies NADPH Oxidase 4 Antibody for dependable detection of this important oxidoreductase in a wide variety of research applications.

NOX4 is unusual among NADPH oxidases because it predominantly generates hydrogen peroxide rather than superoxide, allowing it to function as a sustained regulator of intracellular signaling. Reactive oxygen species produced by NOX4 influence transforming growth factor beta signaling, hypoxia responses, extracellular matrix remodeling, angiogenesis, autophagy, apoptosis, and cellular differentiation. Through reversible oxidation of signaling proteins, NOX4 modulates kinase activity, transcription factor function, and gene expression, thereby integrating oxidative signals with cellular adaptation and survival. Consequently, NADPH Oxidase 4 Antibody is widely used to investigate redox biology, oxidative stress, and reactive oxygen species-mediated signaling pathways.

Aberrant NOX4 expression has been associated with numerous diseases, including pulmonary fibrosis, chronic kidney disease, diabetic nephropathy, cardiac hypertrophy, vascular remodeling, neurodegenerative disorders, and several forms of cancer. Sustained NOX4 activity contributes to inflammation, tissue fibrosis, epithelial-to-mesenchymal transition, and pathological remodeling, making the enzyme an important therapeutic target in both chronic inflammatory and fibrotic diseases. Researchers also investigate NOX4 to understand mechanisms controlling wound healing, metabolism, cellular senescence, and tumor progression, further highlighting its importance across multiple fields of biomedical research.

A NADPH Oxidase 4 Antibody is a valuable reagent for investigating oxidative stress, reactive oxygen species generation, redox signaling, and cellular homeostasis. By enabling reliable detection of NOX4, a NADPH Oxidase 4 Antibody supports research into fibrosis, cardiovascular biology, renal disease, cancer progression, and the molecular pathways that regulate oxidative signaling.

For a broader overview of this reactive oxygen species-producing enzyme and additional validated reagents, visit our NOX4 Antibody / Reactive Oxygen Species Enzyme Antibody page.

Application Notes

Optimal dilution of the NADPH Oxidase 4 Antibody / NOX4 Antibody should be determined by the researcher.

Immunogen

Amino acids ILNTLLDDWKPYKLRRLYFIWVCRDIQSFRWFADLL were used as the immunogen for the NADPH oxidase 4 antibody.

Storage

After reconstitution, the NADPH oxidase 4 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

NOX4 antibody, RENOX antibody, Renal NADPH Oxidase antibody, Kidney Oxidase antibody, KOX-1 antibody, NOH-4 antibody

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