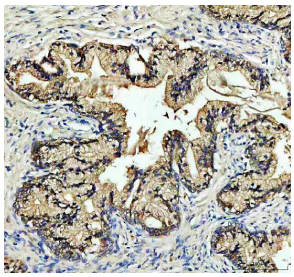
NOX5 Antibody / NADPH Oxidase 5 Antibody (R31049)

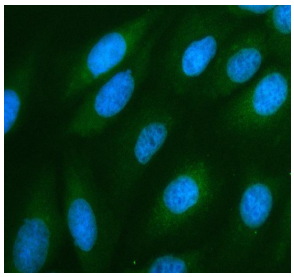
Catalog No.	Formulation	Size
R31049	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

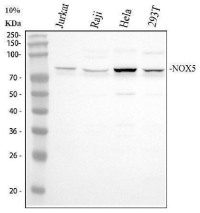
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q96PH1
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml
Limitations	This NOX5 Antibody / NADPH Oxidase 5 Antibody is available for research use only.



NOX5 Antibody Human Prostate Cancer IHC. Immunohistochemical staining of FFPE human prostate cancer tissue with NOX5 / NADPH Oxidase 5 antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed using pH 8 EDTA buffer prior to staining. Strong NOX5 immunoreactivity is observed predominantly within the cytoplasm and along the cell membranes of malignant prostatic epithelial cells, while the surrounding stromal tissue shows comparatively weak staining. Cell nuclei are counterstained with hematoxylin (blue).



NOX5 Antibody Human U-2 OS Cell IF. Immunofluorescent staining of human U-2 OS cells with NOX5 / NADPH Oxidase 5 antibody (green) at 5 ug/ml. Enzyme-mediated antigen retrieval was performed for 15 minutes prior to staining. Nuclei are counterstained with DAPI (blue). NOX5 immunoreactivity is observed predominantly within the cytoplasm with a diffuse distribution throughout the cells, consistent with the expected intracellular localization of this NADPH oxidase family member.



NOX5 Antibody Multi-Human Cell WB. Western blot testing of 1) human Jurkat, 2) human Raji, 3) human HeLa and 4) human 293T whole cell lysates with NOX5 / NADPH Oxidase 5 antibody at 0.5 ug/ml. A specific band is detected at approximately 86 kDa in all four cell lines, consistent with the predicted molecular weight of NOX5. Expression is strongest in HeLa cells, with readily detectable bands also present in Jurkat, Raji and 293T cells, demonstrating specific detection of endogenous NOX5 across multiple human cell lines.

Description

NOX5 Antibody recognizes NADPH Oxidase 5 (NOX5), a member of the NADPH oxidase family that catalyzes the production of reactive oxygen species through the transfer of electrons from NADPH to molecular oxygen. Unlike NOX1 through NOX4, NOX5 possesses amino-terminal EF-hand calcium-binding domains that enable direct activation by intracellular calcium without requiring organizer or activator subunits. This distinctive regulatory mechanism allows NOX5 to rapidly generate reactive oxygen species in response to calcium signaling, making the protein an important mediator of cellular redox homeostasis. Consequently, NOX5 Antibody is widely used to investigate oxidative signaling pathways, calcium-dependent cellular responses, and the biological effects of reactive oxygen species.

NOX5 expression has been identified in numerous human tissues, including the testis, spleen, lymphoid tissues, vascular smooth muscle, endothelial cells, and epithelial cells. The enzyme has also attracted considerable attention in oncology because increased NOX5 expression has been reported in prostate, lung, breast, esophageal, and other human cancers. Elevated NOX5 activity promotes reactive oxygen species production that can stimulate cell proliferation, angiogenesis, migration, and resistance to apoptosis while contributing to genomic instability. Because mice and rats naturally lack the NOX5 gene, human tissues and cultured human cell lines remain especially important for studying NOX5 biology and evaluating its role in disease.

In addition to cancer, NOX5 contributes to cardiovascular disease, chronic inflammation, and metabolic disorders through regulation of intracellular redox signaling. Reactive oxygen species generated by NOX5 influence multiple signaling pathways by modulating kinase activity, transcription factors, ion channels, and gene expression. Physiological NOX5 activation supports normal cellular communication, whereas persistent enzyme activation can drive oxidative stress, endothelial dysfunction, vascular remodeling, and inflammatory responses. These diverse biological functions have made NOX5 an important target for studies of redox biology and disease pathogenesis.

NSJ Bioreagents offers highly validated NOX5 Antibody products for reliable detection of endogenous NOX5 in human tissues and cultured cells. These antibodies support studies of protein expression, localization, and regulation while enabling investigations into oxidative stress, cancer biology, vascular disease, inflammation, and calcium-dependent signaling. Researchers studying reactive oxygen species generation and NADPH oxidase function can rely on NOX5 Antibody for dependable results across a wide range of experimental applications.

Learn more about the role of NOX5 in reactive oxygen species generation and redox signaling on our NOX5 Antibody / Reactive Oxygen Species Enzyme Antibody page.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the NOX5 Antibody / NADPH Oxidase 5 Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An amino acid sequence from the C-terminus of human NADPH Oxidase 5 (KVLKGHCEKFGFRFFQENF) was used as the immunogen for this NOX5 antibody.

Storage

After reconstitution, the NOX5 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 5 antibody, Nicotinamide Adenine Dinucleotide Phosphate Oxidase 5 antibody, Calcium-Dependent NADPH Oxidase antibody, NOX5A antibody, NOX5B antibody, NOX5L antibody

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