

DESCRIPTION

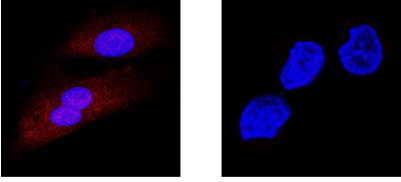
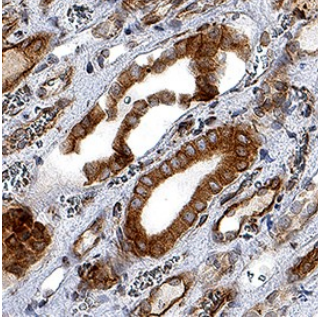
Species Reactivity	Human
Specificity	Detects human NOX4 in direct ELISAs.
Source	Monoclonal Mouse IgG _{2A} Clone # 996715
Purification	Protein A or G purified from ascites
Immunogen	<i>E. coli</i> -derived recombinant human NOX4 Lys450-Ser578 Accession # Q9NPH5
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Immunocytochemistry	5-25 µg/mL	See Below
Immunohistochemistry	1-25 µg/mL	See Below

DATA

Immunocytochemistry	Immunohistochemistry
 <p>Positive (HUVEC cells) Negative (MCF-7 cells)</p> <p>Nox4 in HUVECs. Nox4 was detected in immersion fixed human umbilical vein endothelial cells (HUVECs; left panel) using Mouse Anti-Human Nox4 Monoclonal Antibody (Catalog # MAB8158) at 8 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm and nuclei. MCF-7 human breast cancer cell line is shown as negative staining (right panel). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>	 <p>Nox4 in Human Kidney. Nox4 was detected in immersion fixed paraffin-embedded sections of human kidney using Mouse Anti-Human Nox4 Monoclonal Antibody (Catalog # MAB8158) at 1.7 µg/mL for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm and nuclei. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.</p>

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

NADPH Oxidase 4/NOX4, also known as Renal NADPH Oxidase/RENOX and Kidney Oxidase 1/KOX1, is a 66 to 75 kDa member of the NOX family of NADPH oxidases. NOX family members are a major source of reactive oxygen species (ROS), including hydrogen peroxide and superoxide, and are critical mediators of redox signaling. NOX4 is strongly expressed in the kidney, especially in the proximal convoluted tubule cells of the renal cortex, and may function as an oxygen sensor that regulates the synthesis of erythropoietin. Expression is also high in endothelial cells, and because aortas from deficient mice exhibit increased inflammation, hypertrophy and endothelial dysfunction, NOX4 may function to protect the vasculature during ischemic or inflammatory stress. Human NOX4 is 578 amino acids (aa) in length, with several additional smaller isoforms identified. Over aa 450-578, human NOX4 has 92% sequence identity with mouse NOX4, and 91% identity with rat NOX4.