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[Marker Primary Antibody]

Rabbit Anti-NADPH oxidase 4/AF647 Conjugated antibody

Catalog Number: SL4730R-AF647

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Anti-NADPH oxidase 4/AF647
Immunogen:	KLH conjugated synthetic peptide derived from human NOX4
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Applications:	not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human
Background:	background: Nox4 is a renal gp91-phox homolog highly expressed at the site of erythropoietin production in the proximal convoluted tubule epithelial cells of the renal cortex. Nox4 is also expressed in fetal tissues, placenta, glioblastoma and vascular cells. Like gp91-phox, the enzymatic activity of Nox4 produces superoxide anions. In vascular cells, the addition of angiotensin II increases Nox4 expression, which suggests a role for Nox-4 in vascular oxidative stress response. **Function:** Constitutive NADPH oxidase which generates superoxide intracellularly upon formation of a complex with CYBA/p22phox. Regulates signaling cascades probably through phosphatases inhibition. May function as an oxygen sensor regulating the KCNK3/TASK-1 potassium channel and HIF1A activity. May regulate insulin signaling cascade. May play a role in apoptosis, bone resorption and lipolysaccharide-mediated activation of NFKB. May produce superoxide in the nucleus and play a role in regulating gene expression upon cell stimulation. Isoform 3 is not functional. Isoform 4 displays an increased activity. Isoform 5 and isoform 6 display reduced

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	activity. **Subunit:** Interacts with protein disulfide isomerase (By similarity). Interacts with, relocalizes and stabilizes CYBA/p22phox. Interacts with TLR4. **Subcellular Location:** Endoplasmic reticulum membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein (Probable). Cell junction, focal adhesion (Probable). Nucleus (Probable). Note=May localize to plasma membrane and focal adhesions. According to PubMed:15927447, may also localize to the nucleus. **Tissue Specificity:** Mainly expressed in heart and skeletal muscle. Also strongly expressed in fetal brain and spinal cord. **Post-translational modifications:** Isoform 3 and isoform 4 are N-glycosylated. Isoform 4 glycosylation is required for its proper function. **Similarity:** Contains 1 FAD-binding FR-type domain. Contains 1 ferric oxidoreductase domain. **Database links:** **Entrez Gene:** 50507 Human **Entrez Gene:** 50490 Mouse **Entrez Gene:** 85431 Rat Omim: 605261 Human **SwissProt:** Q9NPH5 Human **SwissProt:** Q9JHI8 Mouse **SwissProt:** Q924V1 Rat **Unigene:** 371036 Human Important **Note:** This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications. Reduced nicotinamide adenine dinucleotide phosphate (NADPH) oxidase 4: Reduced nicotinamide adenine dinucleotide (NADH) is located within the Mitochondrion membrane and is a coenzyme essential for cellular energy metabolism, with its main function being the production of ATP through the electron transport chain. NADH plays an important role in maintaining cell growth, differentiation, and energy metabolism.