

Recombinant Human NOX4 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50733

Size: 10ug, 100ug

Protein Name: NADPH oxidase 4 (EC 1.6.3.1) (Kidney oxidase-1) (KOX-1) (Kidney superoxide-producing NADPH oxidase) (Renal NAD(P)H-oxidase)

Synonym: NOX4, RENOX

UniProt ID: Q9NPH5

UniProt Link: www.uniprot.org/uniprotkb/Q9NPH5/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 578 AA

Molecular Weight: 67 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAVSWRSWLANEGVKHLCLFIWLSMNVLLFWKTFLLYNQGPEYHYLHQMGLGLCLSRASASVLNL
NCSLILLPMCRTLLAYLRGSQKVPSRRTRRLLDKSRTFHITCGVTICIFSGVHVAHLVNALNFSVNYS
EDFVELNAARYRDEDPRKLLFTTVPGLTGVCMVVVLFLMITASTYAIRVSNYDIFWYTHNLFFVFYML
LTLHVSGGLLKYQTNLDTHPPGCISLNRSSQNISLPEYFSEHFHEPFPEGFSKPAEFTQHKFVKICM
EPRFQANFPQTWLWISGPLCLYCAERLYRYIRSNKPVTIISVMSHPSDVMEIRMVKENFKARPGQYI
TLHCPSVSALENHPFTLTMCPTETKATFGVHLKIVGDWTERFRDLLLLPPSSQDSEILPFIQSRNYPKL
YIDGPFSGSPFEESLNYEVS LCVAGGIGVTPFASILNTLLDDWKPYKLRRLYFIWVCRDIQSFRWFADL
LCMLHNKFWQENRPDYVNIQLYLSQTDGIQKIIGEKYHALNSRLFIGRPRWKLLFDEIAKYNRGKTVG
VFCCGPNSLSKTLHKLSNQNNSYGTRFEYNKESFS

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant NADPH oxidase 4 (EC 1.6.3.1) (Kidney oxidase-1) (KOX-1) (Kidney superoxide-producing NADPH oxidase) (Renal NAD(P)H-oxidase) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: NADPH oxidase that catalyzes predominantly the reduction of oxygen to H₂O₂ (PubMed:14966267, PubMed:15356101, PubMed:15927447, PubMed:21343298, PubMed:25062272). Can also catalyze to a smaller extent, the reduction of oxygen to superoxide (PubMed:10869423, PubMed:11032835, PubMed:15155719, PubMed:15572675, PubMed:15927447, PubMed:16019190, PubMed:16179589, PubMed:16230378, PubMed:16324151, PubMed:25062272). May function as an oxygen sensor regulating the KCNK3/TASK-1 potassium channel and HIF1A activity (PubMed:16019190). May regulate insulin signaling cascade (PubMed:14966267). May play a role in apoptosis, bone resorption and lipopolysaccharide-mediated activation of NFκB (PubMed:15356101, PubMed:15572675). May produce superoxide in the nucleus and play a role in regulating gene expression upon cell stimulation (PubMed:16324151). Promotes ferroptosis, reactive oxygen species production and reduced glutathione (GSH) levels by activating NLRP3 inflammasome activation and cytokine release (PubMed:39909992).; [Isoform 4]: NADPH oxidase that catalyzes the generation of superoxide from molecular oxygen utilizing NADPH as an electron donor (PubMed:15721269, PubMed:23393389). Involved in redox signaling in vascular cells (PubMed:23393389). Modulates the nuclear activation of ERK1/2 and the ELK1 transcription factor, and is capable of inducing nuclear DNA damage (PubMed:23393389).; [Isoform 3]: Lacks superoxide-generating NADPH oxidase activity.

Subcellular Localization: Cytoplasm . Endoplasmic reticulum membrane ; Multi-pass membrane protein . Cell membrane ; Multi-pass membrane protein . Cell junction, focal adhesion . Nucleus .; [Isoform 4]: Nucleus . Nucleus, nucleolus . Cytoplasm . Cytoplasm, perinuclear region .; [Isoform 3]: Cytoplasm . Cytoplasm, perinuclear region .; [Isoform 5]: Cytoplasm . Cytoplasm, perinuclear region .; [Isoform 6]: Cytoplasm . Cytoplasm, perinuclear region .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.