

Recombinant Rat NOX4 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52562

Size: 10ug, 100ug

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

Synonym: Nox4, Kox

UniProt ID: Q924V1

UniProt Link: www.uniprot.org/uniprotkb/Q924V1/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 578 AA

Molecular Weight: 66 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MALSWRSWLANEGVKHLCLLVWLSLNVLLFWKTFLLYNQGPEYYYYIHQMLGLGLCLSRASASVLNL
NCSLILLPMCRTVLAYLRGSQKVPSRRTRRLDDKSKTLHITCGITICIFSGVHVAHLVNALNFSVNYS
EHFLALNAARYQNEDPRKLLFTTVPGLTGVCMVVFLMVTASTYAIRVSNDYDFWYTHNLFFVFYML
LLHVSGGLLKYQTNLDTHPPGCISLNRTPSQNMSIADYVSEHFHGSPLPGGFSKLEDHYQKTLVKICL
EPPKFQAHFPQTWIIWISGPLCLYCAERLYRCIRSNNKPVTIISVINHPSDVMELRMKENFKARPGQYIIL
HCPVSVALENHPFTLTMCPTETKATFGVHFKVVGDWTERFRDLLPPSSQDSEILPFIQSRNYPKLYI
DGPFGSPFEESLNYEVSCLVAGGIGVTPFASILNTLLDDWKPYKLRRLYFIWVCRDIQSFWFADLLY
VLHNKFWQENRPDFVNIQLYLSQTDGIQKIIGEKYHTLNSRLFIGRPRWKLLFDEIAKCNRGKTVGVF
CCGPSSISKTLHNLSNRNNSYGTKFEYNKESFS

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) 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 (By similarity). Can also catalyze to a smaller extent, the reduction of oxygen to superoxide (PubMed:15322091, PubMed:16135519). May function as an oxygen sensor regulating the KCNK3/TASK-1 potassium channel and HIF1A activity (By similarity). May regulate insulin signaling cascade (By similarity). May play a role in apoptosis, bone resorption and lipopolysaccharide-mediated activation of NF-κB (By similarity). May produce superoxide in the nucleus and play a role in regulating gene expression upon cell stimulation (By similarity). Promotes ferroptosis, reactive oxygen species production and reduced glutathione (GSH) levels by activating NLRP3 inflammasome activation and cytokine release (By similarity).

Subcellular Localization: Cytoplasm . Endoplasmic reticulum membrane ; Multi-pass membrane protein . Cell membrane ; Multi-pass membrane protein . Cell junction, focal adhesion . Nucleus .

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.