

# Enzymes

Protein Catalogue

## Nox4 - Protein-NADPH oxidase 4

### Product specification

**Acronym:** Nox4  
**Class:** Enzyme  
**Origin:** Mouse  
**Molecular weight:** 67 kDa  
**Application:**

**Purity:** >40%  
**Activity:**  
**Length:**  
**TMD:**  
**Biological function:**

### Product description

Constitutive NADPH oxidase which generates superoxide intracellularly upon formation of a complex with CYBA/p22phox. It will regulate signaling cascades probably through phosphatases inhibition. May function as an oxygen sensor regulating the KCNK3/TASK-1 potassium channel and HIF1A activity. It may regulate insulin signaling cascade. May play a role in apoptosis, bone resorption and lipolysaccharide-mediated activation of NFKB.

**Protein Source:** NADPH oxidase 4 isoform a [Homo sapiens]- NCBI Reference Sequence: NP\_058627.2

*Fig.1: AA sequence of NADPH oxidase 4 protein.*

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10      20      30      40      50
MAVPRRQETA NRTVYHLCGL TWLFINVILP RRTPELLVHQD RRYVYTRQMT
60      70      80      90      100
RIGLQLRRAE RYVNTATQST TTEPMDRTVL AYTRRQKTP RRRTRRTLRF
110     120     130     140     150
SRILHITQGY TICITSGVHY RRLVYKALNF SVNYSEDFLE LNAZRYQKED
160     170     180     190     200
RRRDLRLLP GLEFVQVYVY LELVVIKDTI ALKYSMTLIT MYTRNLEFVY
210     220     230     240     250
YRDLLELVQD GLEKIQVYVD LKFFSCLVLS QDQQRHLP QYDRLMIGD
260     270     280     290     300
LRRGSRRLSD RYKQKLVKIC LRRPKQRLV FQNLNIGSP LKDYCAERLY
310     320     330     340     350
RQTRRKRQPT TITVTHRSD VMLTAMTRF FRARRQVIT LKCRVQATL
360     370     380     390     400
RPFYLLMDF TETNATSGVH RYVYDWRLE RKLLELFFSS QDSEILFFIR
410     420     430     440     450
RSDRFRLLD GFLGDFRSD LKRVVLDVLA GELGYSFVLD LKVTLLRWRK
460     470     480     490     500
RRRDLRLLP RYKQKLVKIC LRRPKQRLV FQNLNIGSP LKDYCAERLY
510     520     530     540     550
RQTRRKRQPT TITVTHRSD VMLTAMTRF FRARRQVIT LKCRVQATL
560     570
RSDRFRLLD GFLGDFRSD LKRVVLDVLA GELGYSFVLD LKVTLLRWRK
580     590     600
RSDRFRLLD GFLGDFRSD LKRVVLDVLA GELGYSFVLD LKVTLLRWRK

```

**Affinity Tag:** Strep tag fused to the C-terminal end of the protein.

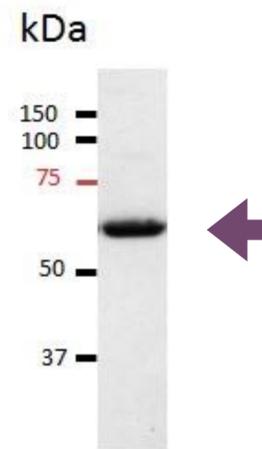
**Production conditions:** NADPH oxidase 4 is expressed in a cell-free expression system in the presence of lipid vesicles. 100 µg can be produced and qualified in about 1 week.

## Quality analysis

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**Purity:** Typically >40% as determined by SDS-Page and Coomassie Blue staining.

**Purification procedure:** As standard, NADPH oxidase 4 proteoliposomes are purified on a sucrose gradient. Further purification steps can be added if required.



*Fig.2: Western Blot identification of NADPH oxidase 4 in proteoliposomes after gradient purification*

After purification on a sucrose gradient, the protein appears at the right size on polyacrylamide gel (band at 67 KDa).

## Formulation

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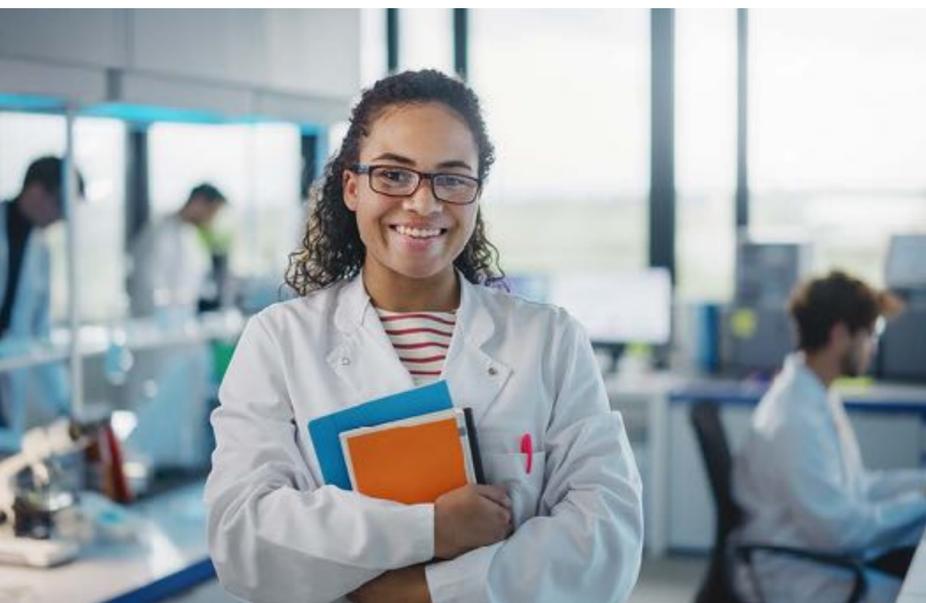
**Buffer:** Available in Tris 50mM, pH 7.5. Other buffers or customized formulation can be provided upon request.

**Customized Hydrophobic matrix:** Customized formulation with specific lipids like PEGylated or biotinylated lipids can be used upon request, as well as targeting molecules.

**Storage/Stability:** Store at +4°C for up to one week or several months at -80°C. Aliquot for storage. Do not freeze-thaw after aliquoting.

**Use restrictions:** For life science research use only.

**Available sizes:** 10µg, 20µg, 100 µg, 200 µg, 500 µg, bulk



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