Datasheet for ABIN3118365

NADPH Oxidase 4 Protein (NOX4) (AA 1-578) (Strep Tag)

1 Image

Go to Product page

Overview

Quantity:	1 mg
Target:	NADPH Oxidase 4 (NOX4)
Protein Characteristics:	AA 1-578
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NADPH Oxidase 4 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA

Product Details

Sequence:	MAVSWRSWLA NEGVKHLCLF IWLSMNVLLF WKTFLLYNQG PEYHYLHQML GLGLCLSRAS ASVLNLNCSL ILLPMCRTLL AYLRGSQKVP SRRTRRLLDK SRTFHITCGV TICIFSGVHV AAHLVNALNF SVNYSEDFVE LNAARYRDED PRKLLFTTVP GLTGVCMVVV LFLMITASTY AIRVSNYDIF WYTHNLFFVF YMLLTLHVSG GLLKYQTNLD THPPGCISLN RTSSQNISLP EYFSEHFHEP FPEGFSKPAE FTQHKFVKIC MEEPRFQANF PQTWLWISGP LCLYCAERLY RYIRSNKPVT IISVMSHPSD VMEIRMVKEN FKARPGQYIT LHCPSVSALE NHPFTLTMCP TETKATFGVH LKIVGDWTER FRDLLLPPSS QDSEILPFIQ SRNYPKLYID GPFGSPFEES LNYEVSLCVA GGIGVTPFAS ILNTLLDDWK PYKLRRLYFI WVCRDIQSFR WFADLLCMLH NKFWQENRPD YVNIQLYLSQ TDGIQKIIGE KYHALNSRLF IGRPRWKLLF DEIAKYNRGK TVGVFCCGPN SLSKTLHKLS NQNNSYGTRF EYNKESFS **Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you**

have a special request, please contact us.

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE.

Product Details

	2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)
Grade:	Crystallography grade

Target Details

Target:	NADPH Oxidase 4 (NOX4)
Alternative Name:	NOX4 (NOX4 Products)
Background:	NADPH oxidase 4 (EC 1.6.3.1) (Kidney oxidase-1) (KOX-1) (Kidney superoxide-producing NADPH oxidase) (Renal NAD(P)H-oxidase),FUNCTION: NADPH oxidase that catalyzes predominantly the reduction of oxygen to H2O2 (PubMed:15356101, PubMed:14966267, PubMed:15927447, PubMed:25062272, PubMed:21343298). Can also catalyze to a smaller extent, the reduction of oxygen to superoxide (PubMed:10869423, PubMed:11032835, PubMed:15155719, PubMed:15572675, PubMed:16230378, PubMed:16179589, PubMed:16324151, PubMed:15927447, PubMed:16019190, 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 lipolysaccharide-mediated activation of NFKB (PubMed:15572675, PubMed:15356101). May produce superoxide in the nucleus and play a role in regulating gene expression upon cell stimulation (PubMed:16324151). {ECO:0000269|PubMed:10869423, ECO:0000269|PubMed:11032835, ECO:0000269|PubMed:14966267, ECO:0000269|PubMed:15155719, ECO:0000269|PubMed:15356101, ECO:0000269|PubMed:15572675, ECO:0000269|PubMed:15927447, ECO:0000269|PubMed:16019190, ECO:0000269|PubMed:16179589, ECO:0000269|PubMed:16230378, ECO:0000269|PubMed:16324151, ECO:0000269|PubMed:21343298, ECO:0000269|PubMed:25062272}., FUNCTION: [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). {ECO:0000269|PubMed:15721269, ECO:0000269|PubMed:23393389}., FUNCTION: [Isoform 3]:

Target Details

	Lacks superoxide-generating NADPH oxidase activity. {ECO:0000269|PubMed:15721269}.
Molecular Weight:	66.9 kDa
UniProt:	Q9NPH5
Pathways:	Carbohydrate Homeostasis, Smooth Muscle Cell Migration

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

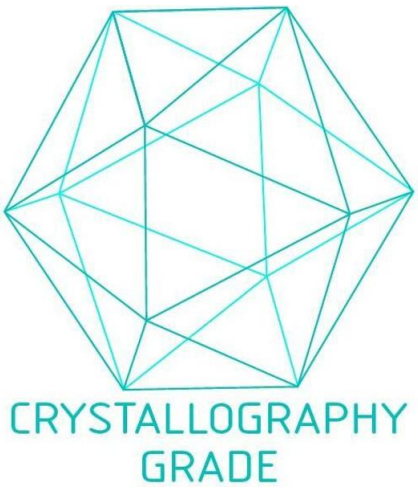

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process

