

## Product datasheet

# Anti-NADPH oxidase 4 antibody [UOTR1B493] ab133303

Recombinant RabMAb

★★★★☆ 14 Abreviews 64 References 7 Images

### Overview

<b>Product name</b>	Anti-NADPH oxidase 4 antibody [UOTR1B493]
<b>Description</b>	Rabbit monoclonal [UOTR1B493] to NADPH oxidase 4
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> IHC-Fr, Flow Cyt, WB, IHC-P, ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Rat, Human
<b>Immunogen</b>	Synthetic peptide within Human NADPH oxidase 4. The exact sequence is proprietary. Database link: <a href="#">Q9NPH5</a> (Peptide available as <a href="#">ab155071</a> )
<b>Positive control</b>	WB: Human fetal kidney tissue lysate, U87-MG, 293 and JAR cell lysates. IHC-P: Human and rat kidney tissues. ICC/IF: U87-MG cells. FC: U87-MG
<b>General notes</b>	Our RabMAb <sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a> .  <b>We are constantly working hard to ensure we provide our customers with best in class antibodies. As a result of this work we are pleased to now offer this antibody in purified format. We are in the process of updating our datasheets. The purified format is designated 'PUR' on our product labels. If you have any questions regarding this update, please contact our Scientific Support team.</b>  This product is a <a href="#">recombinant rabbit monoclonal antibody</a> .

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	pH: 7.40 Preservative: 0.01% Sodium azide Constituents: 40% Glycerol, 0.05% BSA, 59% PBS
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal

**Clone number** UOTR1B493  
**Isotype** IgG

## Applications

Our [Abpromise guarantee](#) covers the use of **ab133303** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-Fr		Use at an assay dependent concentration. PubMed: 21906276
Flow Cyt		Use at an assay dependent concentration.
WB	★★★★★	1/1000 - 1/5000. Predicted molecular weight: 67 kDa. Can be blocked with <a href="#">NADPH oxidase 4 peptide (ab155071)</a> .
IHC-P	★★★★★	1/100 - 1/600. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. See <a href="#">IHC antigen retrieval protocols</a> .
ICC/IF	★★★☆☆	1/500.

## Target

**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 lipopolysaccharide-mediated activation of NFκB. 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 activity.

**Tissue specificity** Expressed by distal tubular cells in kidney cortex and in endothelial cells (at protein level). Widely expressed. Strongly expressed in kidney and to a lower extent in heart, adipocytes, hepatoma, endothelial cells, skeletal muscle, brain, several brain tumor cell lines and airway epithelial cells.

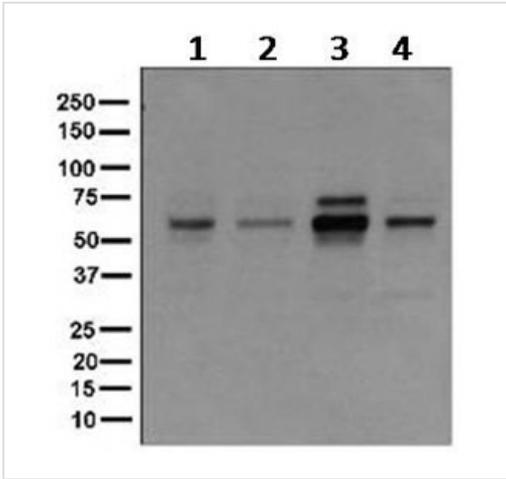
**Sequence similarities** Contains 1 FAD-binding FR-type domain.  
Contains 1 ferric oxidoreductase domain.

**Developmental stage** Expressed in fetal kidney and fetal liver.

**Post-translational modifications** Isoform 3 and isoform 4 are N-glycosylated. Isoform 4 glycosylation is required for its proper function.

**Cellular localization** Endoplasmic reticulum membrane. Cell membrane. Cell junction > focal adhesion. Nucleus. May localize to plasma membrane and focal adhesions. According to PubMed:15927447, may also localize to the nucleus.

## Images



Western blot - Anti-NADPH oxidase 4 antibody [UOTR1B493] (ab133303)

**All lanes :** Anti-NADPH oxidase 4 antibody [UOTR1B493] (ab133303) at 1/1000 dilution (unpurified)

**Lane 1 :** Fetal kidney cell lysates

**Lane 2 :** U87-MG cell lysates

**Lane 3 :** 293 cell lysates

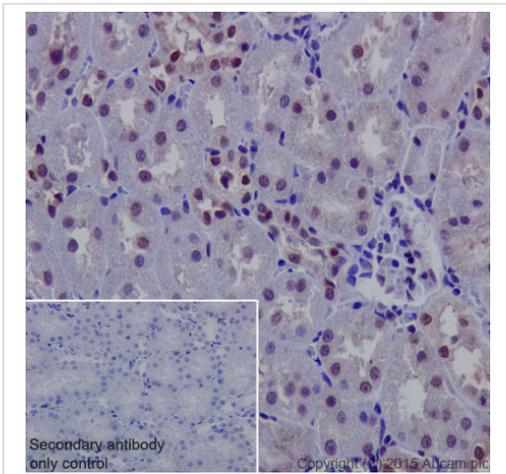
**Lane 4 :** JAR cell lysates

Lysates/proteins at 10 µg per lane.

### Secondary

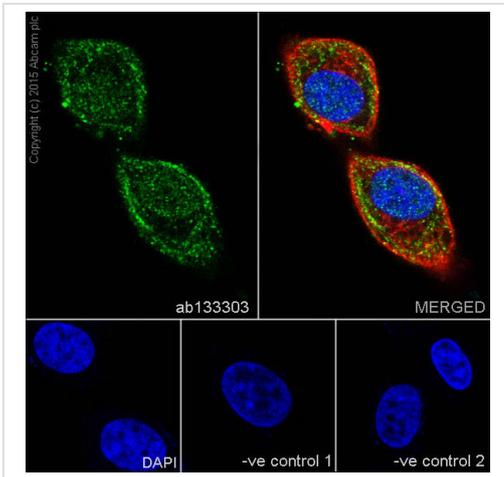
**All lanes :** HRP-conjugated goat anti-rabbit IgG at 1/2000 dilution

**Predicted band size:** 67 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NADPH oxidase 4 antibody [UOTR1B493] (ab133303)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat kidney tissue labelling NADPH oxidase 4 with purified ab133303 at a dilution of 1/600. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. [ab97051](#), a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

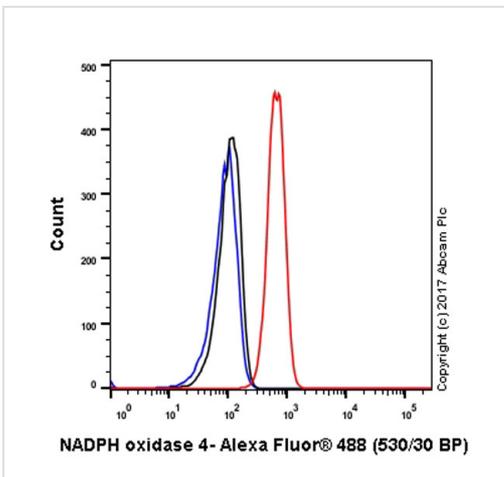


Immunocytochemistry/ Immunofluorescence - Anti-NADPH oxidase 4 antibody [UOTR1B493] (ab133303)

Immunocytochemistry/Immunofluorescence analysis of U87-MG cells labelling NADPH with purified ab133303 at 1/500. Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. **ab150077**, an Alexa Fluor<sup>®</sup> 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain. **ab7291**, a mouse anti-tubulin (1/1000) and **ab150120**, an Alexa Fluor<sup>®</sup> 594-conjugated goat anti-mouse IgG (1/1000) were also used.

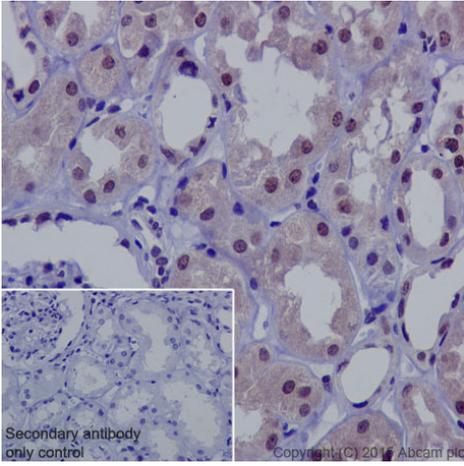
Control 1: primary antibody (1/500) and secondary antibody, **ab150120**, an Alexa Fluor<sup>®</sup> 594-conjugated goat anti-mouse IgG (1/1000).

Control 2: **ab7291** (1/1000) and secondary antibody, **ab150077**, an Alexa Fluor<sup>®</sup> 488-conjugated goat anti-rabbit IgG (1/1000).



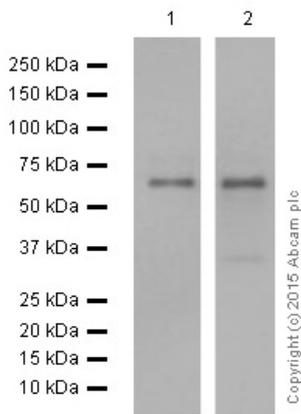
Flow Cytometry - Anti-NADPH oxidase 4 antibody [UOTR1B493] (ab133303)

Flow cytometry analysis of U87-MG (human glioblastoma) cells labelling with purified ab133303 at 1/230 dilution ( 10ug/ml) (Red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor<sup>®</sup> 488) (**ab150077**) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black)(**ab172730**) was used as a isotype control. Cell without incubation with primary antibody and secondary antibody (Blue) were used as unlabeled control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NADPH oxidase 4 antibody [UOTR1B493] (ab133303)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue labelling NADPH oxidase 4 with purified ab133303 at a dilution of 1/600. Heat mediated antigen retrieval was performed using Tris/EDTA buffer pH 9. [ab97051](#), a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Western blot - Anti-NADPH oxidase 4 antibody [UOTR1B493] (ab133303)

**All lanes :** Anti-NADPH oxidase 4 antibody [UOTR1B493] (ab133303) at 1/2000 dilution (purified)

**Lane 1 :** U87-MG whole cell lysate

**Lane 2 :** JAR whole cell lysate

Lysates/proteins at 20 µg per lane.

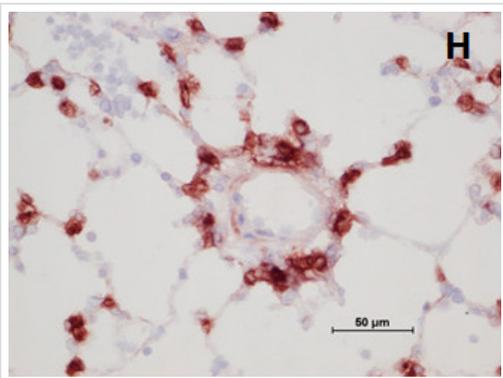
**Secondary**

**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

**Predicted band size:** 67 kDa

**Observed band size:** 67 kDa

Blocking and dilution buffer: 5% NFDM /TBST.



Immunohistochemistry (Frozen sections) analysis of rat lung tissue taken from rats with monocrotaline-exposure/pneumectomy, labelling NOX4 with unpurified ab133303.

Immunohistochemistry (Frozen sections) - Anti-NADPH oxidase 4 antibody [UOTR1B493] (ab133303)

Image from Dorfmueller P et al., Respir Res. 2011 Sep 9;12:119. Fig 4.; doi:10.1186/1465-9921-12-119; 9 September 2011, Respiratory Research 2011, 12:119

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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