abcam

ab308256

Anti-NCF1/p47-phox antibody [EPR27205-231]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR27205-231
Purification technique	Affinity purification Protein A
Concentration	0.501 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat

Dilution info	1/1000
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/250
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Target data

See full target information Ncf1

Function

Subunit of the phagocyte NADPH oxidase complex that mediates the transfer of electrons from cytosolic NADPH to O2 to produce the superoxide anion (O2(-)). In the activated complex, electrons are first transferred from NADPH to flavin adenine dinucleotide (FAD) and subsequently transferred via two heme molecules to molecular oxygen, producing superoxide through an outer-sphere reaction. Activation of the NADPH oxidase complex is initiated by the assembly of cytosolic subunits of the NADPH oxidase complex with the core NADPH oxidase complex to

form a complex at the plasma membrane or phagosomal membrane. This activation process is initiated by phosphorylation dependent binding of the cytosolic NCF1/p47-phox subunit to the C-terminus of CYBA/p22-phox.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	NCF1 also known as p47-phox p47-phox protein or NCF-1 is a cytosolic component of the NADPH oxidase complex. It has a molecular mass of about 47 kDa. NCF1/p47-phox is expressed in neutrophils monocytes and other phagocytic cells. Functionally it plays an important role in the regulation of reactive oxygen species (ROS) production by facilitating the translocation of other subunits to the cell membrane where the NADPH oxidase complex assembles and becomes active.

Biological function summary	The NCF1/p47-phox protein plays a critical role in host defense by generating ROS which are essential for microbial killing. NCF1 is an integral part of the NADPH oxidase complex along with other subunits such as p67-phox p40-phox gp91-phox and p22-phox. When stimulated NCF1 interacts with these subunits to form an active enzyme complex that transfers electrons from NADPH to oxygen producing superoxide anion and other ROS.
Pathways	The NCF1/p47-phox component participates mainly in the NADPH oxidase activation pathway and the respiratory burst pathway. NCF1 is connected to the RAC2 GTPase which upon activation stimulates the assembly and activation of the NADPH oxidase complex at the plasma membrane. This pathway is key for the innate immune response and effective clearance of pathogens by phagocytic cells.
Associated diseases and disorders	Mutations or dysfunction in the NCF1/p47-phox gene can lead to chronic granulomatous disease (CGD) which is characterized by a failure to produce ROS and a consequent inability to kill certain bacteria and fungi. Additionally NCF1 has links to autoimmune conditions such as rheumatoid arthritis where impaired ROS production may contribute to pathogenesis. These disease implications also involve other components of the NADPH oxidase complex such as gp91-phox whose dysfunction similarly contributes to these disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

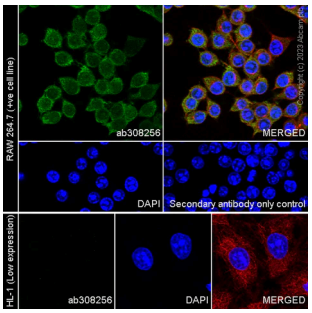
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

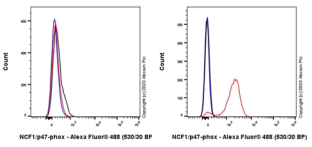
Full details and terms and conditions can be found here:
Terms & Conditions.

4 product images



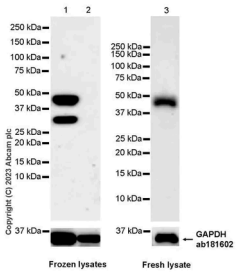
Immunocytochemistry/ Immunofluorescence - Anti-NCF1/p47-phox antibody [EPR27205-231] (ab308256)

Immunofluorescent analysis of 80% Methanol-fixed, 0.1% Triton X-100 permeabilized RAW 264.7 (mouse abelson murine leukemia virus-induced tumor macrophage) cells labelling NCF1/p47-phox with ab308256 at 1/250 dilution (2.004 ug/ml) followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (2 ug/ml) (Green). Confocal image showing cytoplasmic and weak nuclear staining in RAW 264.7 cell line, no staining was observed in HL-1 cell line. Low expression control: HL-1. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (2.5 ug/ml) (Red). The nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (2 ug/ml).



Flow Cytometry (Intracellular) - Anti-NCF1/p47-phox antibody [EPR27205-231] (ab308256)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HL-1 (mouse atrial muscle cell) (Left panel) compared to RAW 264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) (Right panel) cells labelling NCF1/p47-phox with ab308256 at 1/500 dilution (0.1 ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody. Cells were stained with rabbit IgG or ab308256



Western blot - Anti-NCF1/p47-phox antibody [EPR27205-231] (ab308256)

Blocking and diluting buffer and concentration: 5% NFDM/TBST. Low expression: HL-1. The Lane 3 was developed using a high sensitivity ECL substrate. In lanes 1-2, the lysates were stored at -80°C prior to Western Blotting. The bands beneath the target band (32 kDa) are likely to be degradation products. In lane 3, the lysate was freshly made and used for Western Blotting immediately to minimize protein degradation. In Western blot, anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution. Exposure time: 180 seconds.
All lanes:
Western blot - Anti-NCF1/p47-phox antibody [EPR27205-231] (ab308256) at 1/1000 dilution

Lane 1:
RAW 264.7 (mouse Abelson murine leukemia virus-induced tumor macrophage) whole cell lysate at 20 µg

Lane 2:
HL-1 (mouse atrial muscle cell) whole cell lysate at 20 µg

Lane 3:
RAW 264.7 whole cell lysate at 20 µg

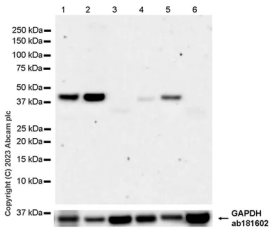
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 44 kDa

Observed band size: 45 kDa

Exposure time: 180s



Western blot - Anti-NCF1/p47-phox antibody [EPR27205-231] (ab308256)

Blocking and diluting buffer and concentration: 5% NFDM/TBST. Low expression: skeletal muscle, brain. In Western blot, anti-GAPDH antibody (ab181602) loading control staining at 1/200000 dilution. Exposure time: 180 seconds.
All lanes:
Western blot - Anti-NCF1/p47-phox antibody [EPR27205-231] (ab308256) at 1/1000 dilution

Lane 1:
Mouse lymph node tissue lysate at 20 µg

Lane 2:
Mouse spleen tissue lysate at 20 µg

Lane 3:
Mouse skeletal muscle tissue lysate at 20 µg

Lane 4:
Mouse brain tissue lysate at 20 µg

Lane 5:
Rat spleen tissue lysate at 20 µg

Lane 6:
Rat skeletal muscle tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 44 kDa

Observed band size: 45 kDa

Exposure time: 180s

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.