BOSTER BIOLOGICAL TECHNOLOGY
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Anti-NOX2/gp91phox/CYBB Antibody Picoband®

Catalog Number: PA1667

About CYBB

NOX2 (NADPH OXIDASE 2), also called CYBB (CYTOCHROME b (-245), BETA SUBUNIT), p91-PHOX or GP91-1, is a human gene encoding a glycoprotein.NOX2 is an essential component of phagocytic NADPH-oxidase, a membrane-bound enzyme complex that generates large quantities of microbicidal superoxide and other oxidants upon activation. It is mapped on Xp11.4. NOX2 is a heterodimer composed of an alpha chain of relative molecular mass 23 kD and a beta chain of 76 to 82 kD. NOX2 assembled on DC phagosomes in a gp91-phox subunit-dependent manner, and that reactive oxygen species were produced in a more sustained manner in immature DC phagosomes than in macrophage phagosomes. As a major player in innate immune responses in neutrophils, NOX2 is also involved in adaptive immunity through its activity in DCs. In heart cells, physiologic stretch rapidly activates reduced-form NOX2 to produce reactive oxygen species (ROS) in a process dependent on microtubules (X-ROS signaling).

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Overview

Product Name	Anti-NOX2/gp91phox/CYBB Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-NOX2/gp91phox/CYBB Antibody catalog # PA1667. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P04839

Technical Details

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Immunogen	A synthetic peptide corresponding to a sequence in the middle region of human NOX2, identical to the related rat and mouse sequences.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human

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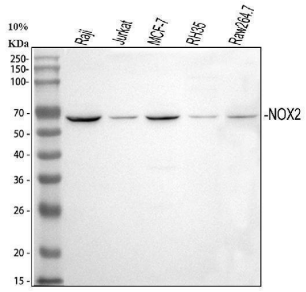
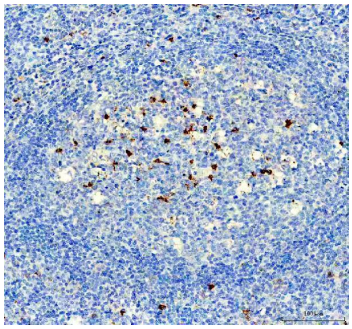
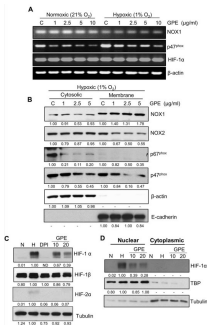
Anti-NOX2/gp91phox/CYBB Antibody Picoband® (PA1667) Images



Western blot analysis of CYBB using anti-CYBB antibody (PA1667). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human Raji whole cell lysates, Lane 2: human Jurkat whole cell lysates, Lane 3: human MCF-7 whole cell lysates, Lane 4: rat RH35 whole cell lysates, Lane 5: mouse RAW264.7 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CYBB antigen affinity purified polyclonal antibody (Catalog # PA1667) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for CYBB at approximately 65 kDa. The expected band size for CYBB is at 65 kDa.



IHC analysis of CYBB using anti-CYBB antibody (PA1667). CYBB was detected in a paraffin-embedded section of human tonsil tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-CYBB Antibody (PA1667) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



Western blot analysis of NOX2/gp91phox/CYBB using anti-NOX2/gp91phox/CYBB antibody(PA1667). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% milk for 1.5 hour at RT. The membrane was incubated with rabbit anti-NOX2/gp91phox/CYBB antibody(PA1667) at 1:1000 overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a Cell Signaling Technology's 7074s murine anti-rabbit conformation specific antibody at a dilution of 1:5000 for 1 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for NOX2/gp91phox/CYBB at approximately 65 kDa. The

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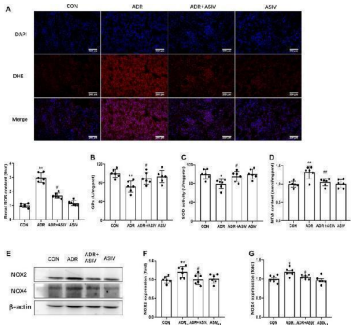
expected band size for NOX2/gp91phox/CYBB is at 65 kDa.



ASIV reduced ADR-induced oxidative stress. (A) Representative images of DHE staining and quantification of ROS production. DHE positive (red), nuclear stained with DAPI (blue). Serum GPx (B) , SOD (C) , and MDA (D) levels among the different groups (n = 3). (E) Protein expression of oxidative stress-associated proteins, including NOX2, NOX4 in kidney tissue. (F,G) The expression of NOX2 and NOX4. Data were expressed as mean ± SD, n = 6. * p < 0.05, ** p < 0.01 vs. CON group. # p < 0.05, ## p < 0.01 vs. ADR group.Index in PubMed under a CC BY license. PMID: 35370757

13 Publications Citing This Product

1. PubMed ID: 10.1152/ajpregu.00207.2021, Fetal e-cigarette exposure programs a neonatal brain hypoxic-ischemic sensitive phenotype via altering DNA methylation patterns and autophagy signaling pathway

2. PubMed ID: 10.1155/2019/5305014, The Protective Roles of Estrogen Receptor beta in Renal Calcium Oxalate Crystal Formation via Reducing the Liver Oxalate Biosynthesis and Renal Oxidative Stress-Mediated Cell Injury

3. PubMed ID: -, Manuel R,Lima MdS,Dilly S,Daunay S,Abbe P,Pramil E,Solier S,Guillaumond F,Tubiana S-S,Escargueil A,Pêgas Henriques JA,Ferrand N,Erdelmeier I,Boucher J-L,Bertho G,Agranat I,Rocchi S,Sabbah M,Slama Schwok A.Distinction between 2′- and 3′-Phosphate Isomers of a Fluorescent NADPH Analogue Led to Strong Inhibition of Cancer Cells Migration.Antioxidants.2021; 10(5):723.https://doi.org/10.3390/antiox10050723

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