BOSTER BIOLOGICAL TECHNOLOGY
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Anti-Heme oxygenase 2/HMOX2 Antibody Picoband®

Catalog Number: PB9213

About HMOX2

Heme oxygenase 2 (HMOX2), also known as HO-2, is an enzyme that in humans is encoded by the HMOX2 gene. It is mapped to 16p13.3. HMOX2 belongs to the heme oxygenase family. Heme oxygenase cleaves the heme ring at the alpha methene bridge to form biliverdin. Biliverdin is subsequently converted to bilirubin by biliverdin reductase. Under physiological conditions, the activity of heme oxygenase is highest in the spleen, where senescent erythrocytes are sequestrated and destroyed. Heme oxygenase 2 could be implicated in the production of carbon monoxide in brain where it could act as a neurotransmitter.

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Overview

Product Name	Anti-Heme oxygenase 2/HMOX2 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Heme oxygenase 2/HMOX2 Antibody Picoband® catalog # PB9213. 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	P30519

Technical Details

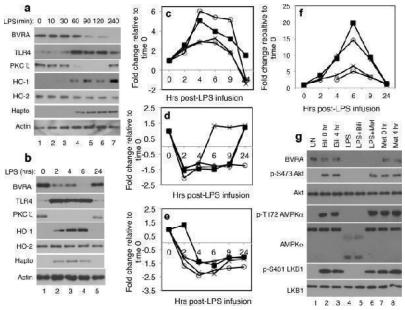
Immunogen	E.coli-derived human HMOX2 recombinant protein (Position: S2-M316). Human HMOX2 shares 89% and 90% amino acid (aa) sequences identity with mouse and rat HMOX2, respectively.

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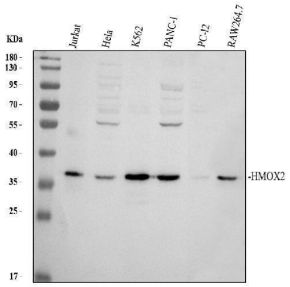
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	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-Heme oxygenase 2/HMOX2 Antibody Picoband® (PB9213) Images

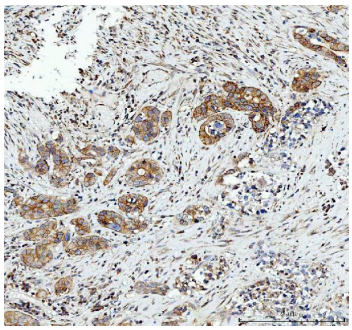


TLR4 is a negative regulator of biliverdin/BVRA signaling. (a) Healthy donor's blood was untreated (lane 1) or treated with LPS (10 ng/ml) for the indicated times (lanes 2–7). Leukocytes were isolated and analyzed. Abbreviations are: Heme oxygenase 1, HO-1; Heme oxygenase 2, HO-2; Haptoglobin, Hapto. (b) In an earlier study , subjects were administered LPS (1 ng/kg) in vivo and blood was drawn at the indicated times post LPS infusion. Leukocyte lysates available from that study were normalized for protein content and analyzed by western blotting. (c – f) In another prior study , leukocytes from four subjects administered LPS in vivo were analyzed for changes in gene expression over a period of 24 hours post LPS infusion. Data from that study , available through GEO dataset GSE3284, revealed a temporal (c) increase in TLR4 mRNA, (d) decline in BVRA mRNA, (e) decrease in PKCzeta mRNA (f) increase in haptoglobin mRNA expression. In (c – f) each symbol represents a subject. (g) At time 0 (0 hr) healthy donor's blood was untreated (UN; lane 1), treated for 1 hour with biliverdin (Bili 0 hr; 50 uM; lane 2), treated for 4 hours with LPS (10 ng/ml; lanes 4–6) to trigger a decline in BVRA expression, or for 1 hour with metformin (Met; 10 uM; lane 7). Four hours later (time 4 hr) blood samples were treated for 1 hour with biliverdin (Bili 4 hr; 50 uM; lane 3) or metformin (Met 4 hr; 10 uM; lane 8). Samples pretreated with LPS for 4 hours (lanes 4–6), were then treated for 1 hr with biliverdin (Bili; 50 uM; lane 5) or metformin (Met; 10 uM; lane 6). Leukocytes were isolated and analyzed by western blotting. Index in PubMed under a CC BY license. PMID: 31065010

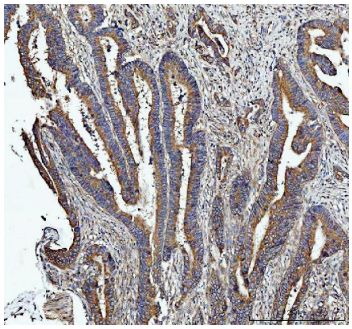


Western blot analysis of PHMOX2 using anti-HMOX2 antibody (PB9213). Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: huamn Jurkat whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human K562 whole cell lysates, Lane 4: human PANC-1 whole cell lysates, Lane 5: rat PC-12 whole cell lysates, Lane 6: 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-HMOX2 antigen affinity purified polyclonal antibody (PB9213) 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 (Catalog # BA1054) at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for HMOX2 at approximately 36 kDa. The expected band size for HMOX2 is at 36 kDa.

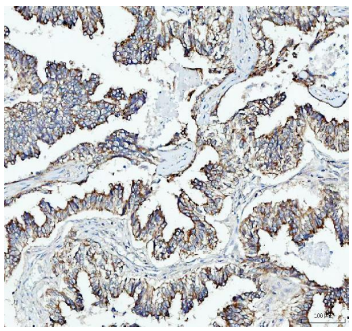
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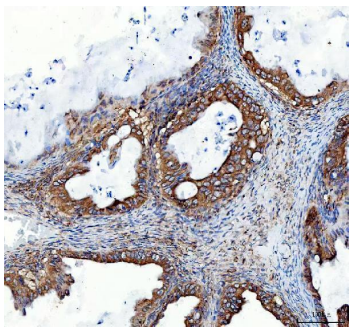
IHC analysis of HMOX2 using anti-HMOX2 antibody (PB9213). HMOX2 was detected in a paraffin-embedded section of human appendix mucinous adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-HMOX2 Antibody (PB9213) 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.



IHC analysis of HMOX2 using anti-HMOX2 antibody (PB9213). HMOX2 was detected in a paraffin-embedded section of human colorectal adenocarcinoma 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-HMOX2 Antibody (PB9213) 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.



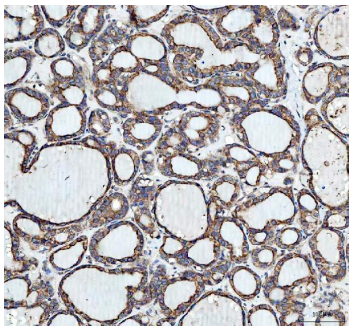
IHC analysis of HMOX2 using anti-HMOX2 antibody (PB9213). HMOX2 was detected in a paraffin-embedded section of human lung adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-HMOX2 Antibody (PB9213) 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.



IHC analysis of HMOX2 using anti-HMOX2 antibody (PB9213). HMOX2 was detected in a paraffin-embedded section of human ovarian serous adenocarcinoma 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-HMOX2 Antibody (PB9213) 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.

IHC analysis of HMOX2 using anti-HMOX2 antibody (PB9213). HMOX2 was detected in a paraffin-embedded section of human thyroid cancer tissue. Heat mediated antigen

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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-HMOX2 Antibody (PB9213) 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.

1 Publications Citing This Product

1. PubMed ID: 10.1038/s41598-019-43347-8, TLR4 counteracts BVRA signaling in human leukocytes via differential regulation of AMPK, mTORC1 and mTORC2

Visit bosterbio.com/anti-hmox2-picoband-trade-antibody-pb9213-boster.html to see all 1 publications.

Anti-Heme oxygenase 2/HMOX2 Antibody

For Research Use Only. Not for use in diagnostic procedures.