

## Anti-COX1/Cyclooxygenase 1/PTGS1 Antibody Picoband™

Catalog Number: PB9002

### About PTGS1

Cyclooxygenase 1 (COX1), also known as Prostaglandin-endoperoxide synthase (PTGS1) or mitochondrial cytochrome c oxidase subunit 1, is the key enzyme in prostaglandin biosynthesis. The gene was approximately 40 kb long, with 11 protein-coding exons. There were 599 amino acid residues with a calculated molecular mass of approximately 68 kD. By analysis of a human/hamster somatic hybrid DNA panel, it was demonstrated that the PTGS1 gene maps to chromosome 9. Human prostaglandin endoperoxide synthase exhibited 91% amino acid identity with the sheep enzyme. Prostaglandin synthase 1 gene disruption in mice reduces arachidonic acid-induced inflammation and indomethacin-induced gastric ulceration.

### Overview

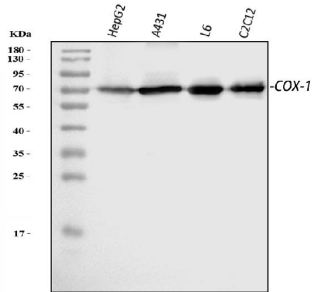
Product Name	Anti-COX1/Cyclooxygenase 1/PTGS1 Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-COX1/Cyclooxygenase 1/PTGS1 Antibody Picoband™ catalog # PB9002. Tested in Flow Cytometry, IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na <sub>2</sub> HPO <sub>4</sub> .
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	P23219

### Technical Details

Immunogen	E.coli-derived human COX1 recombinant protein (Position: E318-L599). Human COX1 shares 90% and 89% amino acid (aa) sequences identity with mouse and rat COX1, respectively.
Predicted Reactive Species	Bovine, Chicken, Horse, Monkey, Rabbit
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	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat</p> <p>Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human, Mouse, Rat, By Heat</p> <p>Flow Cytometry, 1-3 ug/1x10<sup>6</sup> cells, Human</p>

## Anti-COX1/Cyclooxygenase 1/PTGS1 Antibody Picoband™ (PB9002) Images



**Figure 1.** Western blot analysis of COX1/Cyclooxygenase 1/PTGS1 using anti-COX1/Cyclooxygenase 1/PTGS1 antibody (PB9002).

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 HepG2 whole cell lysates,

Lane 2: human A431 whole cell lysates,

Lane 3: rat L6 whole cell lysates,

Lane 4: mouse C2C12 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-

COX1/Cyclooxygenase 1/PTGS1 antigen affinity purified

polyclonal antibody (Catalog # PB9002) 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

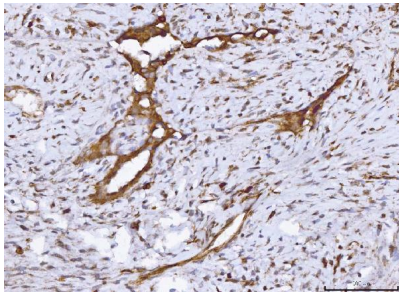
at RT. The signal is developed using an Enhanced

Chemiluminescent detection (ECL) kit (Catalog # EK1002)

with Tanon 5200 system. A specific band was detected for

COX1/Cyclooxygenase 1/PTGS1 at approximately 65-72 kDa.

The expected band size for COX1/Cyclooxygenase 1/PTGS1 is at 69 kDa.



**Figure 2.** IHC analysis of COX1/Cyclooxygenase 1/PTGS1 using anti-COX1/Cyclooxygenase 1/PTGS1 antibody (PB9002).

COX1/Cyclooxygenase 1/PTGS1 was detected in a paraffin-

embedded section of human breast cancer 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-COX1/Cyclooxygenase

1/PTGS1 Antibody (PB9002) overnight at 4°C. Peroxidase

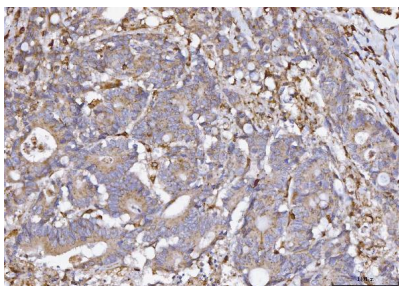
Conjugated Goat Anti-rabbit IgG was used as secondary

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.



**Figure 3.** IHC analysis of COX1/Cyclooxygenase 1/PTGS1 using anti-COX1/Cyclooxygenase 1/PTGS1 antibody (PB9002).

COX1/Cyclooxygenase 1/PTGS1 was detected in a paraffin-

embedded section of human colonic adenoma 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-COX1/Cyclooxygenase

1/PTGS1 Antibody (PB9002) 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.

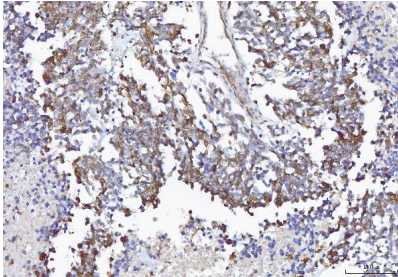


Figure 4. IHC analysis of COX1/Cyclooxygenase 1/PTGS1 using anti-COX1/Cyclooxygenase 1/PTGS1 antibody (PB9002).

COX1/Cyclooxygenase 1/PTGS1 was detected in a paraffin-embedded section of human lung cancer 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-COX1/Cyclooxygenase 1/PTGS1 Antibody (PB9002) 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.

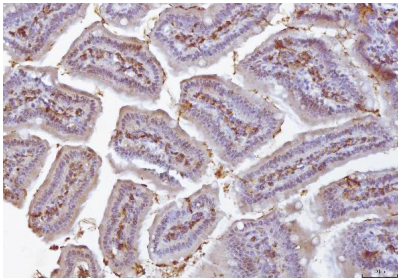


Figure 5. IHC analysis of COX1/Cyclooxygenase 1/PTGS1 using anti-COX1/Cyclooxygenase 1/PTGS1 antibody (PB9002).

COX1/Cyclooxygenase 1/PTGS1 was detected in a paraffin-embedded section of mouse colon 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-COX1/Cyclooxygenase 1/PTGS1 Antibody (PB9002) 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.

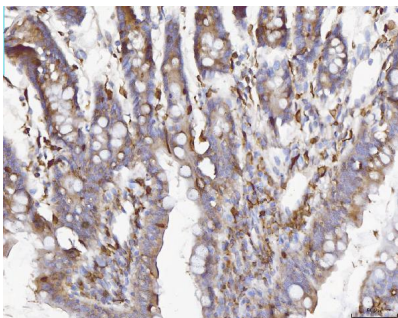
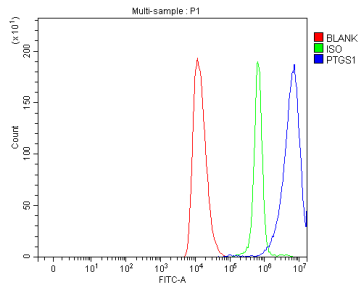


Figure 6. IHC analysis of COX1/Cyclooxygenase 1/PTGS1 using anti-COX1/Cyclooxygenase 1/PTGS1 antibody (PB9002).

COX1/Cyclooxygenase 1/PTGS1 was detected in a paraffin-embedded section of rat colon 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-COX1/Cyclooxygenase 1/PTGS1 Antibody (PB9002) 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.

Figure 7. Flow Cytometry analysis of HEL cells using anti-COX1/Cyclooxygenase 1/PTGS1 antibody (PB9002). Overlay histogram showing HEL cells stained with PB9002 (Blue line). The cells were blocked with 10% normal goat



serum. And then incubated with rabbit anti-COX1/Cyclooxygenase 1/PTGS1 Antibody (PB9002, 1 ug/1x10<sup>6</sup> cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x10<sup>6</sup> cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x10<sup>6</sup>) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

## 7 Publications Citing This Product

1. PubMed ID: 10.1371/journal.pone.0098513, Preparation and Characterization of a Novel Aspirin Derivative with Anti-Thrombotic and Gastric Mucosal Protection Properties
2. PubMed ID: 10.1007/s10557-009-6210-7, Aspirin Inhibits Fractalkine Expression in Atherosclerotic Plaques and Reduces Atherosclerosis in ApoE Gene Knockout Mice
3. PubMed ID: 10.1016/j.livsci.2021.104568, Dietary supplementation with Celecoxib to prevent the welfare problem of tibial dyschondroplasia in broiler chickens

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