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# PTGS1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5276

## Product Information

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| **Application** | IHC-P, IF, WB |
| **Primary Accession** | P23219 |
| **Reactivity** | Human |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 68686 |
| **Isotype** | Rabbit IgG |
| **Antigen Source** | HUMAN |

## Additional Information

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| **Gene ID** | 5742 |
| **Antigen Region** | 571-599 |
| **Other Names** | PTGS1; COX1; Prostaglandin G/H synthase 1; Cyclooxygenase-1; Prostaglandin H2 synthase 1; Prostaglandin-endoperoxide synthase 1 |
| **Dilution** | IHC-P~~1:100~500 IF~~1:10~50 WB~~1:1000 |
| **Target/Specificity** | This PTGS1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 571-599 amino acids from the C-terminal region of human PTGS1. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | PTGS1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | PTGS1 ( HGNC:9604) |
| **Function** | Dual cyclooxygenase and peroxidase that plays an important role in the biosynthesis pathway of prostanoids, a class of C20 oxylipins mainly derived from arachidonate ((5Z,8Z,11Z,14Z)- eicosatetraenoate, AA, C20:4(n-6)), with a |

particular role in the inflammatory response. The cyclooxygenase activity oxygenates AA to the hydroperoxy endoperoxide prostaglandin G2 (PGG2), and the peroxidase activity reduces PGG2 to the hydroxy endoperoxide prostaglandin H2 (PGH2), the precursor of all 2-series prostaglandins and thromboxanes. This complex transformation is initiated by abstraction of hydrogen at carbon 13 (with S-stereochemistry), followed by insertion of molecular O2 to form the endoperoxide bridge between carbon 9 and 11 that defines prostaglandins. The insertion of a second molecule of O2 (bis-oxygenase activity) yields a hydroperoxy group in PGG2 that is then reduced to PGH2 by two electrons (PubMed:7947975). Involved in the constitutive production of prostanoids in particular in the stomach and platelets. In gastric epithelial cells, it is a key step in the generation of prostaglandins, such as prostaglandin E2 (PGE2), which plays an important role in cytoprotection. In platelets, it is involved in the generation of thromboxane A2 (TXA2), which promotes platelet activation and aggregation, vasoconstriction and proliferation of vascular smooth muscle cells (Probable). Can also use linoleate (LA, (9Z,12Z)- octadecadienoate, C18:2(n-6)) as substrate and produce hydroxyoctadecadienoates (HODEs) in a regio- and stereospecific manner, being (9R)-HODE ((9R)-hydroxy-(10E,12Z)-octadecadienoate) and (13S)- HODE ((13S)-hydroxy-(9Z,11E)-octadecadienoate) its major products (By similarity).

**Cellular Location**

Microsome membrane; Peripheral membrane protein. Endoplasmic reticulum membrane; Peripheral membrane protein

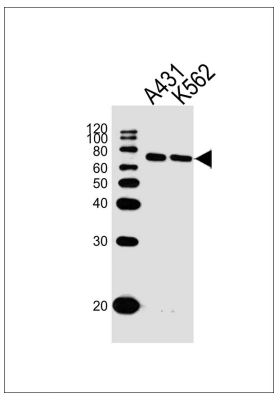
## Background

Prostaglandin-endoperoxide synthase (PTGS), also known as cyclooxygenase, is the key enzyme in prostaglandin biosynthesis, and acts both as a dioxygenase and as a peroxidase. There are two isozymes of PTGS: a constitutive PTGS1 and an inducible PTGS2, which differ in their regulation of expression and tissue distribution. This gene encodes PTGS1, which regulates angiogenesis in endothelial cells, and is inhibited by nonsteroidal anti-inflammatory drugs such as aspirin. PTGS1 is thought to be involved in cell-cell signaling and maintaining tissue homeostasis.

## References

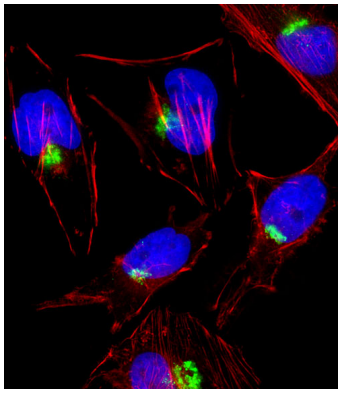
Helmersson,J., Prostaglandins Leukot. Essent. Fatty Acids 80 (1), 51-56 (2009)Malkowski,M.G., Science 289 (5486), 1933-1937 (2000)

## Images

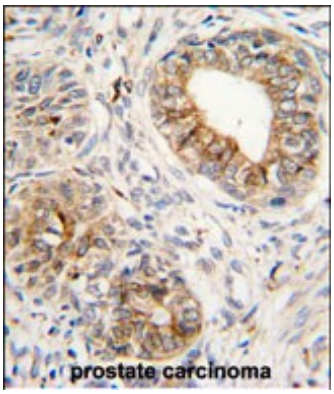



Western blot analysis of lysates from A431,K562 cell line (from left to right), using PTGS1 Antibody (C-term)(Cat. #AW5276). AW5276 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.

Fluorescent image of Hela cell stained with PTGS1 Antibody (C-term)(Cat#AW5276).Hela cells were fixed



with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with PTGS1 primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C).PTGS1 immunoreactivity is localized to Golgi significantly.




Formalin-fixed and paraffin-embedded human prostata carcinoma tissue reacted with PTGS1 antibody (C-term) (Cat. #AW5276), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

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