

**Goat Anti-COX1 / PTGS1 Antibody**  
**Peptide-affinity purified goat antibody**  
**Catalog # AF1270a****Specification**

---

**Goat Anti-COX1 / PTGS1 Antibody - Product Information**

Application	WB, IHC
Primary Accession	<a href="#">P23219</a>
Other Accession	<a href="#">NP_542158</a> , <a href="#">5742</a>
Reactivity	Human
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	68686

**Goat Anti-COX1 / PTGS1 Antibody - Additional Information****Gene ID** 5742**Other Names**

Prostaglandin G/H synthase 1, 1.14.99.1, Cyclooxygenase-1, COX-1, Prostaglandin H2 synthase 1, PGH synthase 1, PGHS-1, PHS 1, Prostaglandin-endoperoxide synthase 1, PTGS1, COX1

**Format**

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Goat Anti-COX1 / PTGS1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Goat Anti-COX1 / PTGS1 Antibody - Protein Information****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 O<sub>2</sub> to form the endoperoxide bridge between carbon 9 and 11 that defines prostaglandins. The insertion of a second molecule of O<sub>2</sub> (bis-oxygenase activity) yields a hydroperoxy group in PGG<sub>2</sub> that is then reduced to PGH<sub>2</sub> by two electrons (PubMed:<a href="http://www.uniprot.org/citations/7947975" target="\_blank">7947975</a>). 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 E<sub>2</sub> (PGE<sub>2</sub>), which plays an important role in cytoprotection. In platelets, it is involved in the generation of thromboxane A<sub>2</sub> (TXA<sub>2</sub>), 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

#### Goat Anti-COX1 / PTGS1 Antibody - Protocols

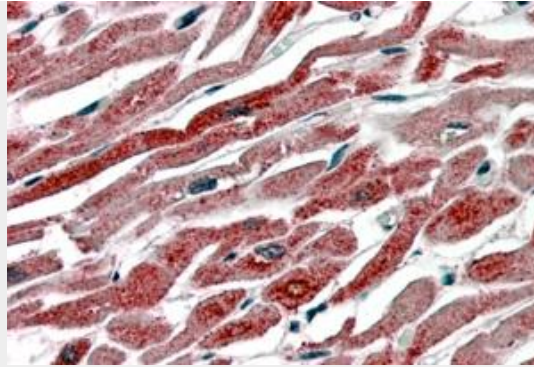
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### Goat Anti-COX1 / PTGS1 Antibody - Images



AF1270a staining (1 µg/ml) of HeLa lysate (RIPA buffer, 30 µg total protein per lane). Primary incubated for 1 hour. Detected by western blot using chemiluminescence.



AF1270a (3.8 µg/ml) staining of paraffin embedded Human Heart. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

#### **Goat Anti-COX1 / PTGS1 Antibody - 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. Alternative splicing of this gene generates two transcript variants. The expression of these two transcripts is differentially regulated by relevant cytokines and growth factors.

#### **Goat Anti-COX1 / PTGS1 Antibody - References**

Prostaglandin-endoperoxide synthase genes COX1 and COX2 - novel modifiers of disease severity in cystic fibrosis patients. Czerska K, et al. J Appl Genet, 2010. PMID 20720307.

Platelet gene polymorphisms and risk of bleeding in patients undergoing elective coronary angiography: A genetic substudy of the PRAGUE-8 trial. Motovska Z, et al. Atherosclerosis, 2010 Jul 16. PMID 20691446.

A genetic association study of maternal and fetal candidate genes that predispose to preterm prelabor rupture of membranes (PROM). Romero R, et al. Am J Obstet Gynecol, 2010 Jul 29. PMID 20673868.

Evaluation of candidate stromal epithelial cross-talk genes identifies association between risk of serous ovarian cancer and TERT, a cancer susceptibility hot-spot. Johnatty SE, et al. PLoS Genet, 2010 Jul 8. PMID 20628624.

Variation at the NFATC2 Locus Increases the Risk of Thiazolinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.