

PTGS1 / COX1 / COX-1 Antibody (aa550-599)
Rabbit Polyclonal Antibody
Catalog # ALS15039

Specification

PTGS1 / COX1 / COX-1 Antibody (aa550-599) - Product Information

Application	WB, IHC
Primary Accession	P23219
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	69kDa KDa

PTGS1 / COX1 / COX-1 Antibody (aa550-599) - 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

Target/Specificity

Cox1 Antibody detects endogenous levels of total Cox1 protein.

Reconstitution & Storage

Store at -20°C for up to one year.

Precautions

PTGS1 / COX1 / COX-1 Antibody (aa550-599) is for research use only and not for use in diagnostic or therapeutic procedures.

PTGS1 / COX1 / COX-1 Antibody (aa550-599) - 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 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

Volume

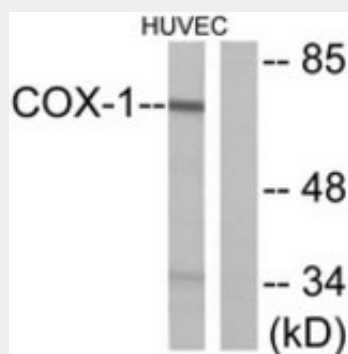
50 µl

PTGS1 / COX1 / COX-1 Antibody (aa550-599) - Protocols

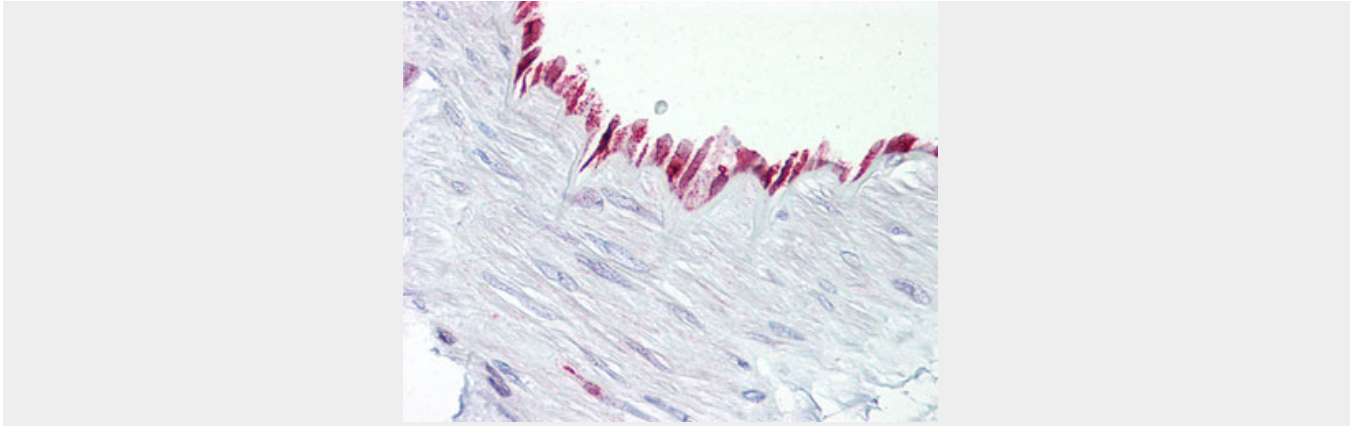
Provided below are standard protocols that you may find useful for product applications.

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

PTGS1 / COX1 / COX-1 Antibody (aa550-599) - Images



Western blot of extracts from HUVEC cells, using Cox1 Antibody.



Anti-PTGS1 / COX-1 antibody IHC of human vessel.

PTGS1 / COX1 / COX-1 Antibody (aa550-599) - Background

Converts arachidonate to prostaglandin H₂ (PGH₂), a committed step in prostanoid synthesis. 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.

PTGS1 / COX1 / COX-1 Antibody (aa550-599) - References

- Yokoyama C., et al. *Biochem. Biophys. Res. Commun.* 165:888-894(1989).
- Funk C.D., et al. *FASEB J.* 5:2304-2312(1991).
- Takahashi Y., et al. *Biochem. Biophys. Res. Commun.* 182:433-438(1992).
- Diaz A., et al. *J. Biol. Chem.* 267:10816-10822(1992).
- Qin N., et al. *J. Pharmacol. Exp. Ther.* 315:1298-1305(2005).