

PTGS1 / COX1 / COX-1 Antibody
Rabbit Polyclonal Antibody
Catalog # ALS15571**Specification**

PTGS1 / COX1 / COX-1 Antibody - Product Information

Application	WB, IHC-P, IP
Primary Accession	P23219
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	69kDa KDa
Dilution	WB~~1:1000 IHC-P~~N/A IP~~N/A

PTGS1 / COX1 / COX-1 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

Target/Specificity

The antibody recognizes 70 kD COX-1 of human, mouse and rat origins. It does not cross-react with COX-2.

Reconstitution & Storage

Long term: -70°C; Short term: -20°C

Precautions

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

PTGS1 / COX1 / COX-1 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 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

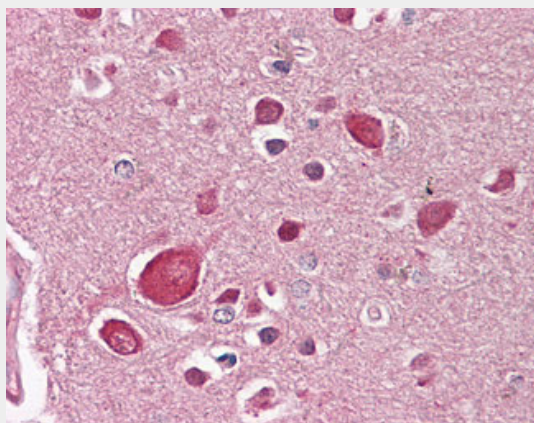
100 µl

PTGS1 / COX1 / COX-1 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](#)

PTGS1 / COX1 / COX-1 Antibody - Images



Anti-PTGS1 / COX1 / COX-1 antibody IHC staining of human brain, cortex.

PTGS1 / COX1 / COX-1 Antibody - 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 - 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).