

PTGS2 / COX2 / COX-2 Antibody (C-Terminus)
Rabbit Polyclonal Antibody
Catalog # ALS11348**Specification****PTGS2 / COX2 / COX-2 Antibody (C-Terminus) - Product Information**

Application	IHC
Primary Accession	P35354
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	69kDa kDa

PTGS2 / COX2 / COX-2 Antibody (C-Terminus) - Additional Information**Gene ID** 5743**Other Names**

Prostaglandin G/H synthase 2, 1.14.99.1, Cyclooxygenase-2, COX-2, PHS II, Prostaglandin H2 synthase 2, PGH synthase 2, PGHS-2, Prostaglandin-endoperoxide synthase 2, PTGS2, COX2

Target/Specificity

GST fusion protein, the epitope of which maps to the carboxy-terminus of human Cox-2.

Reconstitution & Storage

+4°C or -20°C, Avoid repeated freezing and thawing.

Precautions

PTGS2 / COX2 / COX-2 Antibody (C-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

PTGS2 / COX2 / COX-2 Antibody (C-Terminus) - Protein Information**Name** PTGS2 ([HGNC:9605](#))**Function**

Dual cyclooxygenase and peroxidase 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 (PubMed:11939906, PubMed:16373578, PubMed:19540099, PubMed:22942274, PubMed:26859324, PubMed:27226593, PubMed:7592599, PubMed:7947975, PubMed:9261177). 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 (PubMed:16373578, PubMed:22942274, PubMed:26859324, PubMed:27226593, PubMed:7592599, PubMed:7947975, PubMed:9261177). 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:16373578, PubMed:22942274, PubMed:26859324, PubMed:27226593, PubMed:7592599, PubMed:7947975, PubMed:9261177). Similarly catalyzes successive cyclooxygenation and peroxidation of dihomo-gamma-linoleate (DGLA, C20:3(n-6)) and eicosapentaenoate (EPA, C20:5(n-3)) to corresponding PGH₁ and PGH₃, the precursors of 1- and 3-series prostaglandins (PubMed:11939906, PubMed:19540099). In an alternative pathway of prostanoid biosynthesis, converts 2-arachidonoyl lysophospholipids to prostanoid lysophospholipids, which are then hydrolyzed by intracellular phospholipases to release free prostanoids (PubMed:27642067). Metabolizes 2-arachidonoyl glycerol yielding the glyceryl ester of PGH₂, a process that can contribute to pain response (PubMed:22942274). Generates lipid mediators from n-3 and n-6 polyunsaturated fatty acids (PUFAs) via a lipoxygenase-type mechanism. Oxygenates PUFAs to hydroperoxy compounds and then reduces them to corresponding alcohols (PubMed:11034610, PubMed:11192938, PubMed:9048568, PubMed:9261177). Plays a role in the generation of resolution phase interaction products (resolvins) during both sterile and infectious inflammation (PubMed:12391014). Metabolizes docosahexaenoate (DHA, C22:6(n-3)) to 17R-HDHA, a precursor of the D-series resolvins (RvDs) (PubMed:12391014). As a component of the biosynthetic pathway of E- series resolvins (RvEs), converts eicosapentaenoate (EPA, C20:5(n-3)) primarily to 18S-HEPE that is further metabolized by ALOX5 and LTA4H to generate 18S-RvE1 and 18S-RvE2 (PubMed:21206090). In vascular endothelial cells, converts docosapentaenoate (DPA, C22:5(n-3)) to 13R- HDPA, a precursor for 13-series resolvins (RvTs) shown to activate macrophage phagocytosis during bacterial infection (PubMed:26236990). In activated leukocytes, contributes to oxygenation of hydroxyeicosatetraenoates (HETE) to diHETES (5,15-diHETE and 5,11- diHETE) (PubMed:22068350, PubMed:26282205). 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). During neuroinflammation, plays a role in neuronal secretion of specialized preresolving mediators (SPMs) 15R-lipoxin A4 that regulates phagocytic microglia (By similarity).

Cellular Location

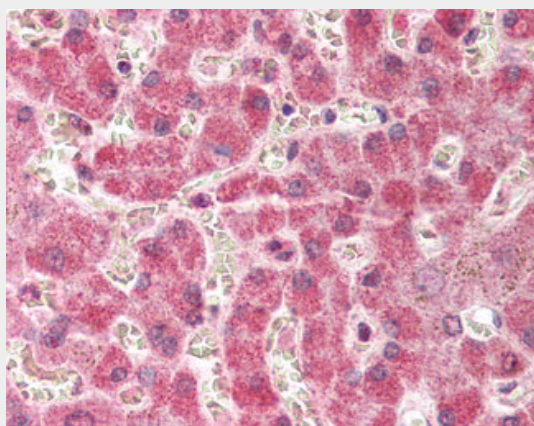
Microsome membrane; Peripheral membrane protein. Endoplasmic reticulum membrane; Peripheral membrane protein. Nucleus inner membrane; Peripheral membrane protein. Nucleus outer membrane; Peripheral membrane protein. Note=Detected on the luminal side of the endoplasmic reticulum and nuclear envelope

PTGS2 / COX2 / COX-2 Antibody (C-Terminus) - 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](#)

PTGS2 / COX2 / COX-2 Antibody (C-Terminus) - Images



Anti-COX-2 antibody IHC of human liver.

PTGS2 / COX2 / COX-2 Antibody (C-Terminus) - Background

Converts arachidonate to prostaglandin H₂ (PGH₂), a committed step in prostanoid synthesis. Constitutively expressed in some tissues in physiological conditions, such as the endothelium, kidney and brain, and in pathological conditions, such as in cancer. PTGS2 is responsible for production of inflammatory prostaglandins. Up-regulation of PTGS2 is also associated with increased cell adhesion, phenotypic changes, resistance to apoptosis and tumor angiogenesis. In cancer cells, PTGS2 is a key step in the production of prostaglandin E₂ (PGE₂), which plays important roles in modulating motility, proliferation and resistance to apoptosis.

PTGS2 / COX2 / COX-2 Antibody (C-Terminus) - References

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