

**PGHS-2 Antibody**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP51459**

**Specification**

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**PGHS-2 Antibody - Product Information**

Application	<b>WB</b>
Primary Accession	<a href="#">P35354</a>
Reactivity	<b>Human, Mouse, Rat</b>
Host	<b>Rabbit</b>
Clonality	<b>Polyclonal</b>
Calculated MW	<b>74 KDa</b>
Antigen Region	<b>541 - 600</b>

**PGHS-2 Antibody - Additional Information**

**Gene ID** 5743

**Other Names**

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

**Target/Specificity**

KLH conjugated synthetic peptide derived from human PGHS-2

**Dilution**

WB~~ 1:1000

**Format**

0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%

**Storage**

Store at -20 °C. Stable for 12 months from date of receipt

**PGHS-2 Antibody - 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:<a href="http://www.uniprot.org/citations/11939906" target="\_blank">11939906</a>, PubMed:<a href="http://www.uniprot.org/citations/16373578" target="\_blank">16373578</a>, PubMed:<a href="http://www.uniprot.org/citations/19540099" target="\_blank">19540099</a>, PubMed:<a href="http://www.uniprot.org/citations/22942274" target="\_blank">22942274</a>, PubMed:<a href="http://www.uniprot.org/citations/26859324" target="\_blank">26859324</a>, PubMed:<a href="http://www.uniprot.org/citations/27226593" target="\_blank">27226593</a>, PubMed:<a

href="http://www.uniprot.org/citations/7592599" target="\_blank">7592599</a>, PubMed:<a href="http://www.uniprot.org/citations/7947975" target="\_blank">7947975</a>, PubMed:<a href="http://www.uniprot.org/citations/9261177" target="\_blank">9261177</a>). 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:<a href="http://www.uniprot.org/citations/16373578" target="\_blank">16373578</a>, PubMed:<a href="http://www.uniprot.org/citations/22942274" target="\_blank">22942274</a>, PubMed:<a href="http://www.uniprot.org/citations/26859324" target="\_blank">26859324</a>, PubMed:<a href="http://www.uniprot.org/citations/27226593" target="\_blank">27226593</a>, PubMed:<a href="http://www.uniprot.org/citations/7592599" target="\_blank">7592599</a>, PubMed:<a href="http://www.uniprot.org/citations/7947975" target="\_blank">7947975</a>, PubMed:<a href="http://www.uniprot.org/citations/9261177" target="\_blank">9261177</a>). 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:<a href="http://www.uniprot.org/citations/16373578" target="\_blank">16373578</a>, PubMed:<a href="http://www.uniprot.org/citations/22942274" target="\_blank">22942274</a>, PubMed:<a href="http://www.uniprot.org/citations/26859324" target="\_blank">26859324</a>, PubMed:<a href="http://www.uniprot.org/citations/27226593" target="\_blank">27226593</a>, PubMed:<a href="http://www.uniprot.org/citations/7592599" target="\_blank">7592599</a>, PubMed:<a href="http://www.uniprot.org/citations/7947975" target="\_blank">7947975</a>, PubMed:<a href="http://www.uniprot.org/citations/9261177" target="\_blank">9261177</a>). 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:<a href="http://www.uniprot.org/citations/11939906" target="\_blank">11939906</a>, PubMed:<a href="http://www.uniprot.org/citations/19540099" target="\_blank">19540099</a>). 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:<a href="http://www.uniprot.org/citations/27642067" target="\_blank">27642067</a>). Metabolizes 2-arachidonoyl glycerol yielding the glyceryl ester of PGH2, a process that can contribute to pain response (PubMed:<a href="http://www.uniprot.org/citations/22942274" target="\_blank">22942274</a>). 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:<a href="http://www.uniprot.org/citations/11034610" target="\_blank">11034610</a>, PubMed:<a href="http://www.uniprot.org/citations/11192938" target="\_blank">11192938</a>, PubMed:<a href="http://www.uniprot.org/citations/9048568" target="\_blank">9048568</a>, PubMed:<a href="http://www.uniprot.org/citations/9261177" target="\_blank">9261177</a>). Plays a role in the generation of resolution phase interaction products (resolvins) during both sterile and infectious inflammation (PubMed:<a href="http://www.uniprot.org/citations/12391014" target="\_blank">12391014</a>). Metabolizes docosahexaenoate (DHA, C22:6(n-3)) to 17R-HDHA, a precursor of the D-series resolvins (RvDs) (PubMed:<a href="http://www.uniprot.org/citations/12391014" target="\_blank">12391014</a>). 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:<a href="http://www.uniprot.org/citations/21206090" target="\_blank">21206090</a>). 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:<a href="http://www.uniprot.org/citations/26236990" target="\_blank">26236990</a>). In activated leukocytes, contributes to oxygenation of hydroxyeicosatetraenoates (HETE) to diHETES (5,15-diHETE and 5,11- diHETE) (PubMed:<a href="http://www.uniprot.org/citations/22068350" target="\_blank">22068350</a>, PubMed:<a href="http://www.uniprot.org/citations/26282205" target="\_blank">26282205</a>). 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

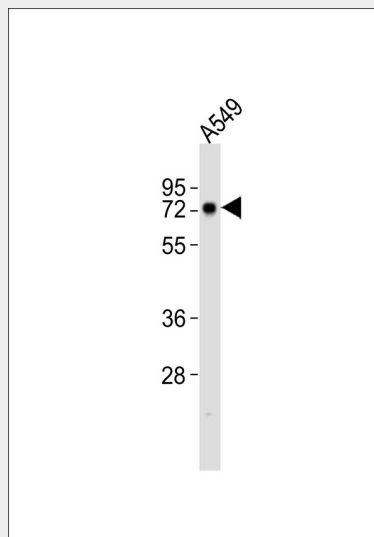
Microsomic membrane; Peripheral membrane protein. Endoplasmic reticulum membrane; Peripheral membrane protein. Nucleus inner membrane; Peripheral membrane protein. Nucleus outer membrane; Peripheral membrane protein. Note=Detected on the luminal side of the endoplasmic reticulum and nuclear envelope

#### PGHS-2 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](#)

#### PGHS-2 Antibody - Images



Anti-PGHS-2 Antibody at 1:1000 dilution + A549 whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 69 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

#### PGHS-2 Antibody - Background

Critical component of colonic mucosal wound repair (By similarity). Mediates the formation of prostaglandins from arachidonate. May have a role as a major mediator of inflammation and/or a role for prostanoid signaling in activity-dependent plasticity.

**PGHS-2 Antibody - References**

- Jones D.A.,et al.J. Biol. Chem. 268:9049-9054(1993).  
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Kosaka T.,et al.Eur. J. Biochem. 221:889-897(1994).  
Appleby S.B.,et al.Biochem. J. 302:723-727(1994).  
Sharma S.V.,et al.Submitted (NOV-2003) to the EMBL/GenBank/DDBJ databases.