

Cyclooxygenase 2 Rabbit mAb
Catalog # AP75283**Specification****Cyclooxygenase 2 Rabbit mAb - Product Information**

Application	WB, IHC
Primary Accession	P35354
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Monoclonal Antibody
Calculated MW	68996

Cyclooxygenase 2 Rabbit mAb - Additional Information

Gene ID 5743

Other Names

PTGS2

Dilution

WB~~1/500-1/1000

IHC~~1/50-1/100

Format

Liquid

Cyclooxygenase 2 Rabbit mAb - Protein InformationName 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](http://www.uniprot.org/citations/11939906), PubMed:[16373578](http://www.uniprot.org/citations/16373578), PubMed:[19540099](http://www.uniprot.org/citations/19540099), PubMed:[22942274](http://www.uniprot.org/citations/22942274), PubMed:[26859324](http://www.uniprot.org/citations/26859324), PubMed:[27226593](http://www.uniprot.org/citations/27226593), PubMed:[7592599](http://www.uniprot.org/citations/7592599), PubMed:[7947975](http://www.uniprot.org/citations/7947975), PubMed:[9261177](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/16373578), PubMed:[22942274](http://www.uniprot.org/citations/22942274), PubMed:[22942274](http://www.uniprot.org/citations/22942274), PubMed:[22942274](http://www.uniprot.org/citations/22942274)).

href="http://www.uniprot.org/citations/26859324" target="_blank">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

Cyclooxygenase 2 Rabbit mAb - 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](#)

Cyclooxygenase 2 Rabbit mAb - Images



