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Cyclooxygenase 1 Rabbit mAb

Catalog # AP75281

Product Information

Application	WB, IHC-P, IHC-F, FC, IP
Primary Accession	P23219
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	68686

Additional Information

Gene ID	5742
Other Names	PTGS1
Dilution	WB~~1:1000-1:5000 IHC-P~~N/A IHC-F~~N/A FC~~1:10-1:100 IP~~1:10-1:100
Format	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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

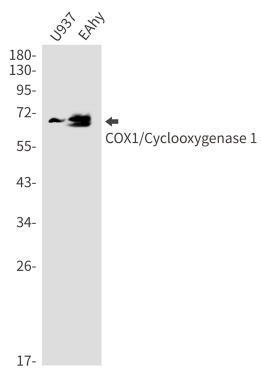
prostaglandins, such as prostaglandin E2 (PGE2), which plays an important role in cytoprotection. In platelets, it is involved in the generation of thromboxane A2 (TXA2), which promotes platelet activation and aggregation, vasoconstriction and proliferation of vascular smooth muscle cells (Probable). 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

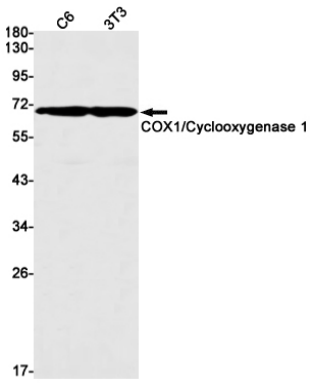
Background

This is one of two genes encoding similar enzymes that catalyze the conversion of arachidonate to prostaglandin. The encoded protein regulates angiogenesis in endothelial cells, and is inhibited by nonsteroidal anti-inflammatory drugs such as aspirin. Based on its ability to function as both a cyclooxygenase and as a peroxidase, the encoded protein has been identified as a moonlighting protein. The protein may promote cell proliferation during tumor progression. Alternative splicing results in multiple transcript variants.

Images

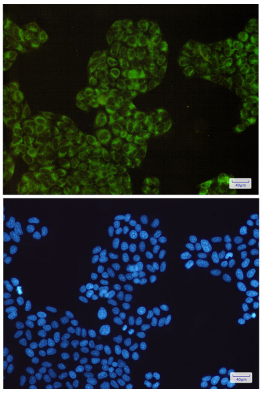


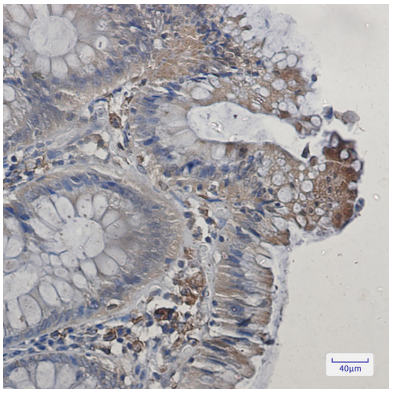
Western blot analysis of COX1/Cyclooxygenase 1 in U937, EAhy lysates using Cyclooxygenase 1 antibody.

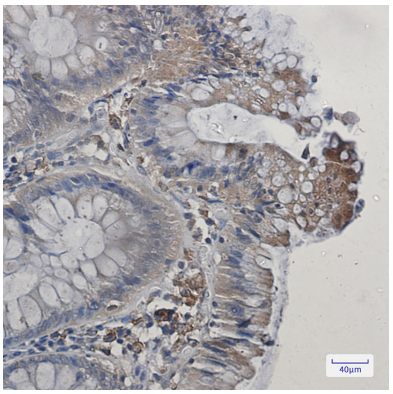


Western blot analysis of COX1/Cyclooxygenase 1 in C6, 3T3 lysates using COX1/Cyclooxygenase 1 antibody.

Immunocytochemistry analysis of COX1/Cyclooxygenase 1(green) in Hela using COX1/Cyclooxygenase 1 antibody,and DAPI(blue)







Immunohistochemistry analysis of paraffin-embedded Human colon cancer using COX1/Cyclooxygenase 1 antibody.High-pressure and temperature Sodium Citrate pH 6.0 was used for antigen retrieval.

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