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COX2 Polyclonal Antibody

Catalog Number PA5-17614

Product data sheet

Details	
Size	100 µL
Host/Isotope	Rabbit / IgG
Class	Polyclonal
Type	Antibody
Immunogen	Synthetic peptide corresponding to the sequence of human Cox2
Conjugate	Unconjugated
Form	Liquid
Concentration	21.4 µg/mL
Purification	Antigen affinity chromatography
Storage buffer	0.01M HEPES, pH 7.5, with 0.15M NaCl, 100µg/mL BSA, 50% glycerol
Contains	no preservative
Storage Conditions	-20°C

Species Reactivity	
Species reactivity	Human, Mouse
Published species	Rat, Mouse, Human, Not Applicable

Tested Applications	Dilution *
Immunohistochemistry (Paraffin) (IHC (P))	1:200
Western Blot (WB)	1:1,000
Immunocytochemistry (ICC/IF)	Assay-dependent

Published Applications	
Western Blot (WB)	See 1 publications below
Immunohistochemistry (IHC)	See 1 publications below
Flow Cytometry (Flow)	See 1 publications below
Miscellaneous PubMed (Misc)	See 1 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

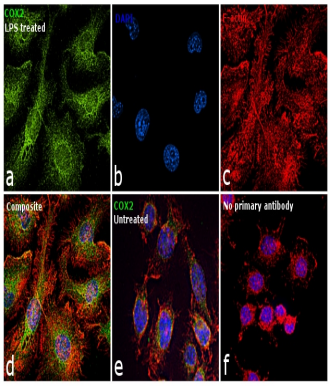
Antibodies to this protein (and modification) were previously sold as part of a Thermo Scientific Cellomics High Content Screening Kit. This replacement antibody is now recommended for researchers who need an antibody for high content cell based assays. It has been thoroughly tested and validated for cellular immunofluorescence (IF) applications. Further optimization including the selection of the most appropriate fluorescent Dylight conjugated secondary antibody may have to be performed for your high content assay. It is not recommended to aliquot this antibody.

Background/Target Information

COX2 converts arachidonate to prostaglandin H2 (PGH2), a committed step in prostanoid synthesis, including production of inflammatory prostaglandins. The conversion of arachidonate to prostaglandin H2 is a 2 step reaction: a cyclooxygenase (COX) reaction which converts arachidonate to prostaglandin G2 (PGG2) and a peroxidase reaction in which PGG2 is reduced to prostaglandin H2 (PGH2). It is constitutively expressed in some tissues in physiological conditions, such as the endothelium, kidney and brain, and is up-regulated under pathological conditions, such as in cancer and inflammation (in contrast to the iso-enzyme PTGS1, which is expressed ubiquitously). Up-regulation of COX2 is also associated with increased cell adhesion, phenotypic changes, resistance to apoptosis and tumor angiogenesis. In cancer cells, COX2 is a key step in the production of prostaglandin E2 (PGE2), which plays important roles in modulating motility, proliferation and resistance to apoptosis. COX2 is naturally inhibited by calcitriol (the active form of Vitamin D). Glucocorticoids chronically trans-repress PTGS2 gene activity in vivo in part by interfering with transcription initiation and elongation. COX2 is a target of NSAID such as aspirin, which can reduce pain and swelling from inflammation driven by COX2.

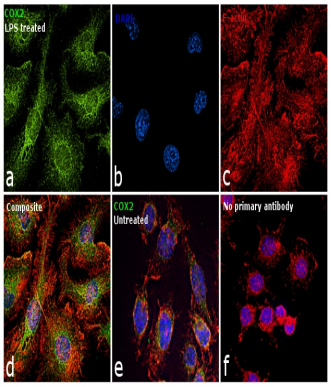
For Research Use Only. Not for use in diagnostic procedures. Not for resale without express authorization.

Product Images For COX2 Polyclonal Antibody



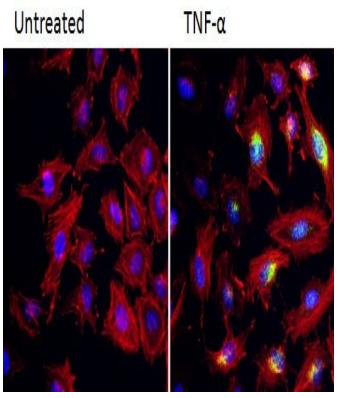
COX2 Antibody (PA5-17614)

Altered expression of proteins upon cell treatment demonstrates antibody specificity. Immunofluorescence analysis using COX2 Polyclonal Antibody (Product # PA5-17614) shows increased expression of COX2 protein in RAW 264.7 cell line upon LPS treatment. {TM}



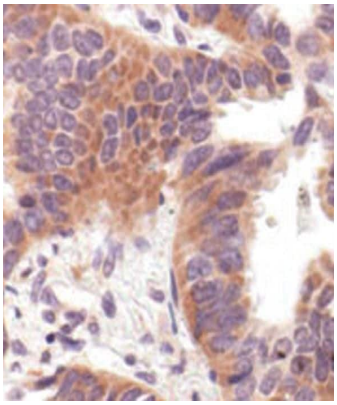
COX2 Antibody (PA5-17614) in ICC/IF

Immunofluorescence analysis of COX2 was performed using RAW 264.7 cells treated with LPS (1 µg/mL for 24h). The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 1% BSA for 1 hour at room temperature. The cells were labeled with COX2 Polyclonal Antibody (Product # PA5-17614) at 1:100 dilution in 0.1% BSA, incubated at 4 degree Celsius overnight and then labeled with Goat anti-Rabbit IgG (Heavy Chain) Superclonal™ Secondary Antibody, Alexa Fluor® 488 conjugate (Product # A27034) at a dilution of 1:2000 for 45 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with ProLong™ Diamond Antifade Mountant with DAPI (Product # P36962). F-actin (Panel c: red) was stained with Rhodamine Phalloidin (Product # R415). Panel d represents the merged image showing cytoplasmic localization. Panel e represents untreated cells with reduced expression of COX2. Panel f shows cells without the primary antibody to assess background. The images were captured at 60X magnification.



COX2 Antibody (PA5-17614) in ICC/IF

Immunofluorescent analysis of COX-2 (green) in HeLa cells either left untreated (left lane) or treated with 100 ng/mL TNF-alpha for 20 hours. Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA (Product # 37525) for 15 minutes at room temperature. Cells were probed with a COX-2 polyclonal antibody (Product # PA5-17614) at a dilution of 1:50 for at least 1 hour at room temperature, washed with PBS, and incubated with DyLight 488 goat anti-rabbit IgG secondary antibody (Product # 35552) at a dilution of 1:400 for 30 minutes at room temperature. F-Actin (red) was stained with Dylight 554 Phalloidin (Product # 21834) and nuclei (blue) were stained with Hoechst 33342 dye (Product # 62249). Images were taken on a Thermo Scientific ArrayScan or a ToxInsight Instrument at 20X magnification.



COX2 Antibody (PA5-17614) in IHC (P)

Immunohistochemistry was performed on paraffin-embedded human lung carcinoma tissue. To expose target proteins heat induced antigen retrieval was performed using 10mM sodium citrate (pH 6.0) buffer at 95C for 10 minutes. Following antigen retrieval tissues were incubated in 3% hydrogen peroxide, blocked in 5% normal goat serum in TBST for 1 hour, and then probed with a COX2 polyclonal antibody (Product # PA5-17614) at a dilution of 1:200 overnight at 4C. Detection was performed using a peroxidase conjugated secondary reagent followed by colorimetric detection using DAB.

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PubMed References For COX2 Polyclonal Antibody

1 Western Blot References

Species / Dilution	Summary
Mouse / 1:1500	PA5-17614 was used in Western Blotting to identify SGLT3a as a key molecule involved in the cross-talk between EECs and ESCs during the process of uterine decidualization. Journal of cellular physiology (2022; 237: 1532) **"Activation of SGLT3a in endometrial epithelial cells induces paracrine stromal cell decidualization."** Author(s):Liu M,Wang Y,Ma Y,Zhang X,Zhang L,Nie L,Guo W,Zhao D,Zhang J,Yuan D,Yue L PubMed Article URL:http://dx.doi.org/10.1002/jcp.30629

1 Immunohistochemistry References

Species / Dilution	Summary
Mouse / 1:500	PA5-17614 was used in Immunohistochemistry to test the hypothesis that Met would prevent mechanical overloading-induced tendinopathy in a mouse model of tendinopathy created by intensive treadmill running (ITR). Foot & ankle international (2020; 41: 1455) **"Effect of Metformin on Development of Tendinopathy Due to Mechanical Overloading in an Animal Model."** Author(s):Zhang J,Li F,Nie D,Onishi K,Hogan MV,Wang JH PubMed Article URL:http://dx.doi.org/10.1177/1071100720966318

1 Flow Cytometry References

Species / Dilution	Summary
Mouse / 1:80	PA5-17614 was used in Flow Cytometry to perform 1H and 2D-NMR profiling of C. vulgare to identify anti-inflammatory compounds that repress Cox-2 expression in neutrophils. Food and chemical toxicology : an international journal published for the British Industrial Biological Research Association (2019; 124: 1) **"Clinopodium vulgare L. (wild basil) extract and its active constituents modulate cyclooxygenase-2 expression in neutrophils."** Author(s):Amirova KM,Dimitrova P,Marchev AS,Aneva IY,Georgiev MI PubMed Article URL:http://dx.doi.org/10.1016/j.fct.2018.11.054

1 Miscellaneous PubMed References

Species / Dilution	Summary
Not Applicable / Not Cited	PA5-17614 was used in immunocytochemistry and western blot to study the mechanism by which Wnt signaling controls radiosensitivity in head and neck cancer International journal of cancer (2008; 122: 100) **"Wnt signaling controls radiosensitivity via cyclooxygenase-2-mediated Ku expression in head and neck cancer."** Author(s):Chang HW,Roh JL,Jeong EJ,Lee SW,Kim SW,Choi SH,Park SK,Kim SY PubMed Article URL:http://dx.doi.org/10.1002/ijc.23069

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