PRODUCT INFORMATION

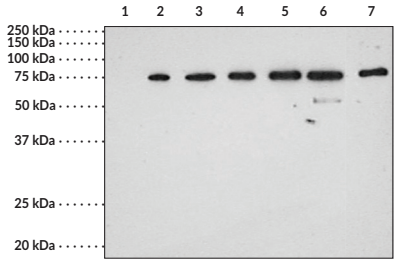
COX-2 (mouse) Polyclonal Antibody (aa 584-598)

Item No. 160126

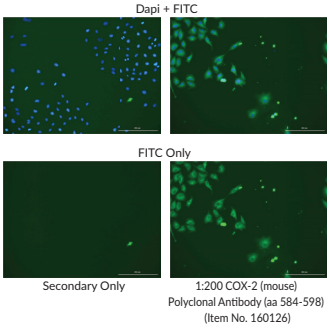
Overview

Contents:	This vial contains peptide affinity-purified polyclonal antibody.
Synonyms:	Cyclooxygenase-2, PGHS-2, Prostaglandin H Synthase
Immunogen:	Synthetic peptide corresponding to the C-terminal region of mouse COX-2
Cross Reactivity:	(+) COX-2; (-) COX-1 (all species)
Species Reactivity:	(+) Human, macaque monkey, mouse, ovine, rat
Uniprot No.:	Q05769
Form:	Liquid
Storage:	-20°C (as supplied)
Storage Buffer:	PBS, pH 7.2 with 50% glycerol and 0.02% sodium azide
Stability:	≥3 yearsS
Host:	Rabbit
Isotype:	IgG
Applications:	Immunofluorescence (IF), immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution is 1:200 for IF and IHC and 1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

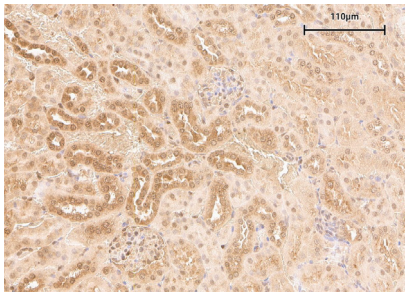
Images



Lane 1: COX-1 (ovine recombinant) (100 ng)
Lane 2: COX-2 (ovine recombinant) (10 ng)
Lane 3: COX-2 (ovine recombinant) (20 ng)
Lane 4: COX-2 (ovine recombinant) (30 ng)
Lane 5: COX-2 (ovine recombinant) (50 ng)
Lane 6: COX-2 (ovine recombinant) (100 ng)
Lane 7: RAW 264.7 microsomes (25 µg)



Immunofluorescence analysis of paraformaldehyde-fixed, A549 cells. After incubation with COX-2 (mouse) Polyclonal Antibody (aa 584-598) (Item No. 160126), at a 1:200 dilution (or negative control) cells were incubated with FITC labeled anti-rabbit IgG (Item No. 10006588), followed by DAPI nuclear stain. Images show FITC alone or both fluorescence channels to highlight nuclear staining (where applicable).



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) mouse kidney tissue after heat induced antigen retrieval in pH 6.0 citrate buffer. After incubation with COX-2 (mouse) Polyclonal Antibody (aa 584-598) (Item No. 160126) at a 1:200 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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Description

Cyclooxygenase 2 (COX-2) is a bifunctional enzyme that exhibits both COX and peroxidase activities and catalyzes the first step in the biosynthesis of prostaglandins, thromboxanes, and prostacyclins.[1,2] The COX component converts arachidonic acid to the hydroperoxy endoperoxide prostaglandin G_2 (PGG_2; Item No. 17010), and the peroxidase component reduces the endoperoxide to the corresponding alcohol PGH_2(Item No. 17020). *COX2* expression is induced by a variety of stimuli, including phorbol esters, LPS, and cytokines and is responsible for the biosynthesis of PGs under acute inflammatory conditions.[3,4] Thus, COX-2 has been the focus of attention for nonsteroidal anti-inflammatory drug (NSAID) development. Cayman's COX-2 (mouse) Polyclonal Antibody (aa 584-598) can be used for immunofluorescence (IF), immunohistochemistry (IHC), and Western blot (WB) applications. The antibody recognizes a unique C-terminal region of COX-2 that is not present in COX-1, specifically detecting COX-2 at 72 kDa from human, macaque monkey, mouse, ovine, and rat samples.

References

1. Nugteren, D.H. and Hazelhof, E. Isolation and properties of intermediates in prostaglandin biosynthesis. *Biochim. Biophys. Acta* **326(3)**, 448-461 (1973).
2. Hamberg, M. and Samuelsson, B. Detection and isolation of an endoperoxide intermediate in prostaglandin biosynthesis. *Proc. Natl. Acad. Sci. USA* **70(3)**, 899-903 (1973).
3. Kang, Y.-J., Mbonye, U.R., DeLong, C.J., *et al.* Regulation of intracellular cyclooxygenase levels by gene transcription and protein degradation. *Prog. Lipid Res.* **46(2)**, 108-25 (2007).
4. Blobaum, A.L. and Marnett, L.J. Structural and functional basis of cyclooxygenase inhibition. *J. Med. Chem.* **50(7)**, 1425-1441 (2007).

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