PRODUCT INFORMATION

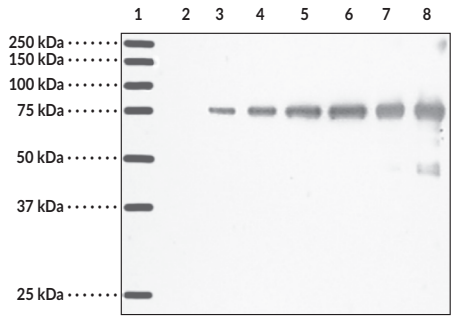
COX-2 (human) Monoclonal Antibody (Clone CX229)

Item No. 160112

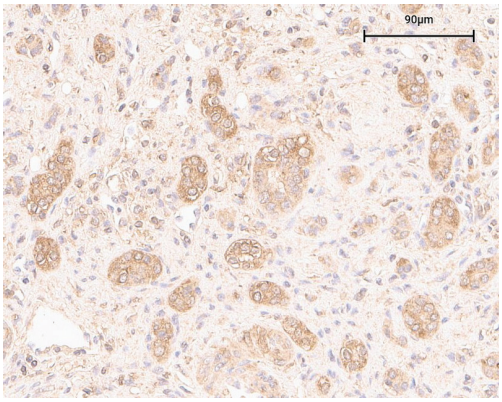
Overview and Properties

Contents:	This vial contains 50 µg of protein G-purified monoclonal antibody.
Synonyms:	Cyclooxygenase-2, PGHS-2, Prostaglandin H Synthase 2
Immunogen:	Synthetic peptide from the C-terminal region of human protein COX-2
Cross Reactivity:	(-) COX-1
Species Reactivity:	(+) Human and ovine; (-) Mouse and rat
Uniprot No.:	P35354
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Clone:	CX229
Host:	Mouse
Isotype:	IgG1
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100 for IHC and 1:1,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: Precision Plus Protein Standard
Lane 2: COX-1 (ovine) Electrophoresis Standard (1 µg)
Lane 3: COX-2 (ovine) Electrophoresis Standard (0.01 µg)
Lane 4: COX-2 (ovine) Electrophoresis Standard (0.02 µg)
Lane 5: COX-2 (ovine) Electrophoresis Standard (0.05 µg)
Lane 6: COX-2 (ovine) Electrophoresis Standard (0.1 µg)
Lane 7: Human COX-2 microsomes (5 µg)
Lane 8: Human COX-2 microsomes (10 µg)



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) human kidney tissue after heat-induced antigen retrieval in pH 6.0 citrate buffer. After incubation with COX-2 Monoclonal Antibody (Clone CX229) (Item No. 160112) at a 1:100 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 (Item Nos. 90010 | 90010.1 | 10006607) to the hydroperoxy endoperoxide prostaglandin G2 (PGG2; Item No. 17010), and the peroxidase component reduces the endoperoxide to the corresponding alcohol PGH2 (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 (human) Monoclonal Antibody (Clone CX229) can be used for 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 ~70 kDa from human and ovine 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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