PRODUCT INFORMATION

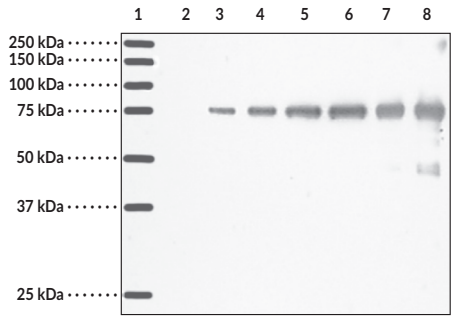
COX-2 (human) Monoclonal Antibody (Clone CX229)

Item No. 160112

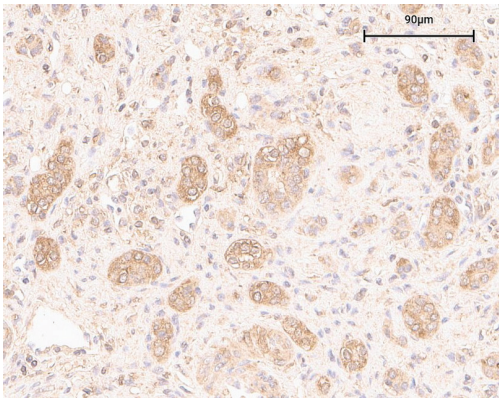
Overview and Properties

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:	≥3 years
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).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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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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