PRODUCT INFORMATION

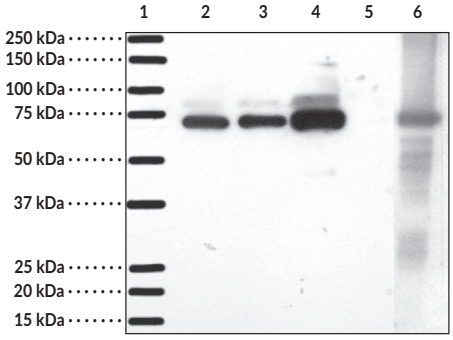
COX-2 (mouse) Polyclonal Antiserum

Item No. 160116

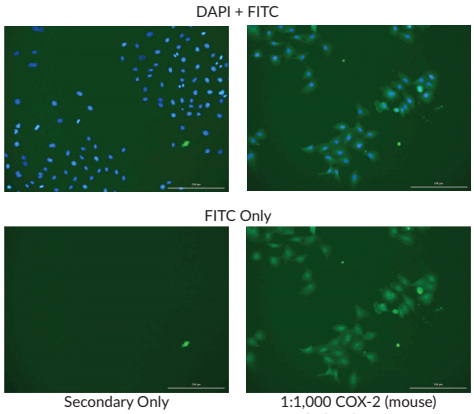
Overview and Properties

Contents: This vial contains 100 µl of lyophilized antiserum.
Synonyms: Cyclooxygenase 2, Prostaglandin H Synthase 2 (PGHS-2)
Immunogen: Peptide from the C-terminal region of mouse COX-2
Cross Reactivity: (+) COX-2; (-) COX-1
Species Reactivity: (+) Human, mouse, ovine; other species not tested
Uniprot No.: Q05769
Form: Solid
Storage: -20°C (as supplied)
Stability: ≥1 year
Storage Buffer: Polyclonal antiserum when reconstituted in 100 µl of double distilled water
Host: Rabbit
Applications: Immunofluorescence (IF), immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution for IHC is 1:300 and 1:1,000 for IF and 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-2 (ovine) (0.05 µg)
Lane 3: COX-2 (ovine) (0.1 µg)
Lane 4: COX-2 (human recombinant) (5 µg)
Lane 5: COX-1 (ovine) (0.1 µg)
Lane 6: RAW264.7 microsomes (40 µg)



Secondary Only

1:1,000 COX-2 (mouse) Polyclonal Antiserum (Item No. 160116)

Immunofluorescence analysis of paraformaldehyde-fixed, A549 cells. After incubation with 1:1,000 COX-2 (mouse) Polyclonal Antiserum (Item No. 160116), at a 1:1,000 dilution (or negative control) cells were incubated with Goat Anti-Rabbit IgG FITC (Item No. 10006588), followed by DAPI nuclear stain. Images show FITC alone or both fluorescence channels to highlight nuclear staining (where applicable).

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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 Antiserum can be used for immunofluorescence (IF), immunohistochemistry (IHC), and Western blot (WB) applications. The antiserum recognizes a unique C-terminal region of COX-2 that is not present in COX-1, specifically detecting COX-2 at 70 kDa from human, mouse, 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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