# PRODUCT INFORMATION

## COX-1 (ovine) Polyclonal Antibody

*Item No. 160108*

### Overview and Properties

| | |
|---|---|
| **Contents:** | This vial contains 200 µl of lyophilized antiserum. |
| **Synonyms:** | Cyclooxygenase-1, PGHS-1, Prostaglandin Endoperoxide Synthase 1, Prostaglandin G/H Synthase 1, Prostaglandin H2 Synthase 1 |
| **Immunogen:** | Peptide from an internal region of ovine COX-1 |
| **Cross Reactivity:** | (-) Ovine, human, and mouse COX-2 |
| **Species Reactivity:** | (+) Human, bovine, ovine, and porcine; (-) Mouse and rat COX-1 |
| **Uniprot No.:** | P05979 |
| **Form:** | Solid |
| **Storage:** | -20°C (as supplied) |
| **Storage Buffer:** | Lyophilized from serum, resuspend in 200 µl double distilled water. |
| **Stability:** | ≥3 years |
| **Host:** | Rabbit |
| **Applications:** | Western blot (WB); the recommended starting dilution for WB is 1:500. Suitable for immunofluorescence and immunohistochemistry working dilution should be determined empirically. |

### Description

Cyclooxygenase 1 (COX-1) is a bifunctional enzyme that exhibits both COX and peroxidase activities.[1,2] It is composed of an N-terminal signal peptide, an EGF-like domain, a membrane binding domain, a catalytic domain, and a C-terminal tail.[3] COX-1 is constitutively expressed in the gastrointestinal tract, kidney, spleen, liver, and lung and localizes to the endoplasmic reticulum.[4,5] The COX component converts arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607) to a hydroperoxyl 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), the precursor of PGs, thromboxanes, and prostacyclins.[1,2] COX-1 is the target of many non-steroidal anti-inflammatory drugs (NSAIDs) and is responsible for the undesirable gastrointestinal and renal side effects, such as ulcer formation and reductions in the glomerular filtration rate, respectively.[6,7] Cayman's COX-1 (ovine) Polyclonal Antiserum can be used for Western blot (WB). The antibody recognizes COX-1 at 70 kDa from human, porcine, bovine endothelial, and ovine seminal vesicle 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. Smith, W.L. and DeWitt, D.L. Prostaglandin endoperoxide H synthases-1 and -2. *Adv. Immunol.* **62,** 167-215 (1995).
4. Seibert, K., Zhang, Y., Leahy, K., *et al.* Pharmacological and biochemical demonstration of the role of cyclooxygenase 2 in inflammation and pain. *Proc. Natl. Acad. Sci. USA* **91(25),** 12013-12017 (1994).
5. Morita, I., Schindler, M., Regier, M.K., *et al.* Different intracellular locations for prostaglandin endoperoxide H synthase-1 and -2. *The Journal of Biological Chemisty* **270(18),** 10902-10908 (1995).
6. Gierse, J.K., Hauser, S.D., Creely, D.P., *et al.* Expression and selective inhibition of the constitutive and inducible forms of human cyclo-oxygenase. *Biochem. J.* **305(Pt. 2),** 379-484 (1995).
7. Frölich, J.C. A classification of NSAIDs according to the relative inhibition of cyclooxygenase isoenzymes. *Trends Pharmacol. Sci.* **18(1),** 30-34 (1997).





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