

# PRODUCT INFORMATION



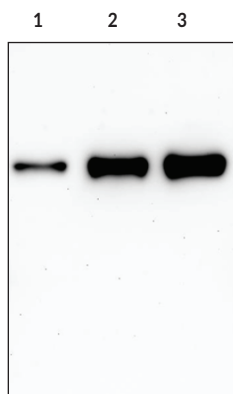
## COX-2 (ovine) Electrophoresis Standard

Item No. 360120

### Overview and Properties

<b>Contents:</b>	This vial contains 5 µg of purified COX-2
<b>Synonyms:</b>	Cyclooxygenase 2 (ovine) Electrophoresis Standard, Prostaglandin H Synthase 2 (ovine) Electrophoresis Standard
<b>Source:</b>	Isolated from sheep placenta. <sup>1</sup>
<b>MW:</b>	72 kDa/subunit
<b>Storage:</b>	-80°C (as supplied)
<b>Stability:</b>	≥3 years
<b>Purity:</b>	≥95%
<b>Storage Buffer:</b>	Laemmli buffer (2% SDS, 10% glycerol, 0.70 M Tris-HCl, pH 6.8, 1.5% 2-mercaptoethanol, 0.04 % bromophenol blue)
<b>Applications:</b>	This enzyme has been denatured and has no catalytic activity. It can be used as a standard for western blots and electrophoresis.

### Image



Lane 1: COX-2 Standard (10 ng)  
Lane 2: COX-2 Standard (50 ng)  
Lane 3: COX-2 Standard (100 ng)

Probed with COX-2 Polyclonal Antibody (Item No. 160126)

**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

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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.<sup>1,2</sup> The COX component converts arachidonic acid to the hydroperoxy endoperoxide prostaglandin G<sub>2</sub> (PGG<sub>2</sub>; Item No. 17010), and the peroxidase component reduces the endoperoxide to the corresponding alcohol PGH<sub>2</sub> (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.<sup>3,4</sup> Thus, COX-2 has been the focus of attention for nonsteroidal anti-inflammatory drug (NSAID) development. This product is intended to be used as a standard for Western blot (WB) and electrophoresis. This enzyme has been carefully purified to exclude all unrelated proteins and may not be catalytically active.

## References

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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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