

COX-2 monoclonal antibody (AS66)

Cyclooxygenases-1 and 2 (COX-1 and COX-2), also known as prostaglandin endoperoxide H synthases-1 and 2, are integral membrane proteins which catalyze the first step of prostaglandin, thromboxane and prostacyclin production from arachidonic acid. Both COX-1 and COX-2 catalyze a cyclooxygenase (bis-oxygenase) reaction in which arachidonate plus two molecules of O₂ are converted to PGG₂ (prostaglandin G₂), and a peroxidase reaction in which PGG₂ undergoes a two-electron reduction to PGH₂. COX-1 and COX-2 proteins are encoded by separate genes located on different chromosomes, and both enzymes are very similar in structure. They are homodimeric, heme containing, glycosylated proteins with two catalytic sites, but they differ substantially in their pattern of expression and biology. COX-1 is expressed constitutively in most tissues and at high levels in selected cells and tissues, including endothelium, monocytes, platelets, renal collecting tubules and seminal vesicles. COX-1 is thought to regulate a number of housekeeping activities involved in renal, gastrointestinal and platelet function. Inducible COX-2 is undetectable in most mammalian tissues but its expression can be induced rapidly (2-6h) in fibroblasts, endothelial cells, monocytes and ovarian follicles in response to growth factors, tumor promoters, hormones, bacterial endotoxin and cytokines. COX-2 is also expressed constitutively in specialized cell types or tissues where it plays specific functions in individual biological processes. These include reproduction, immunity, renal physiology, neurotransmission, bone resorption and pancreatic secretion. The COX-1 and COX-2 enzymes are important pharmacologically as targets of nonsteroidal anti-inflammatory drugs (NSAIDs) including aspirin, ibuprofen and the COX-2 inhibitors. Inhibition of cyclooxygenases with NSAIDs acutely reduces inflammation, pain and fever. Some methods to determine COX activity include measuring uptake of oxygen using an oxygraph, measuring the conversion of radioactive arachidonic acid, or measuring prostaglandins formed from PGH₂ (such as determining PGH₂ using immunoassays). These methods can be complex, time consuming and prone to interferences.

This antibody is covered by our [Worry-Free Guarantee](#).

Ordering Information

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ADI-COX-030-E	100µg
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Manuals, SDS & CofA

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Handling & Storage

Long Term Storage -20°C

Shipping Blue Ice

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	Cyclooxygenase 2, Prostaglandin H synthase 2
Application	ELISA, Flow Cytometry, WB
Application Notes	Detects a band of ~68-70kDa by Western blot.
Clone	AS66
Crossreactivity	Zero percent cross-reactivity to human recombinant COX-1 by ELISA.
Formulation	Liquid. In PBS containing 0.05% sodium azide.
Host	Mouse
Immunogen	Recombinant human COX-2 (cyclooxygenase-2).
Isotype	IgG1
Positive Control	EHY-926 human endothelial cell lysate can be used as positive control.
Purity Detail	Purified.
Recommendation Dilutions/Conditions	Western Blot (1-5 µg/ml)Suggested dilutions/conditions may not be available for all applications.Optimal conditions must be determined individually for each application.
Species Reactivity	Human
UniProt ID	P35354

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ENZO LIFE SCIENCES,
INC.
Phone: 800.942.0430
info-usa@enzolifesciences.com

European Sales Office
ENZO LIFE SCIENCES
(ELS) AG
Phone: +41 61 926 8989
info-eu@enzolifesciences.com

Belgium, The Netherlands
& Luxembourg
Phone: +32 3 466 0420
info-be@enzolifesciences.com

France
Phone: +33 472 440 655
info-fr@enzolifesciences.com

Germany
Phone: +49 7621 5500 526
info-de@enzolifesciences.com

UK & Ireland
Phone (UK customers):
0845 601 1488
Phone: +44 1392 825900
info-uk@enzolifesciences.com