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

Order Online »

ADI-COX-030-E	100µg

Manuals, SDS & CofA

View Online »

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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