

Cox-1 (AS70): sc-52757

BACKGROUND

Prostaglandins are a diverse group of autocrine and paracrine hormones that mediate many cellular and physiologic processes. Prostaglandin H₂ (PGH₂) is an intermediate molecule in formation of the prostaglandins. Cyclooxygenase-1 (Cox-1) and Cyclooxygenase-2 (Cox-2) are prostaglandin synthases that catalyze the formation of PGH₂ from arachidonic acid (AA). Cox-1 and Cox-2 are isoforms of prostaglandin-endoperoxidase synthase (PTGS). Cox-1 is constitutively expressed in most tissues and is thought to serve in general "house-keeping" functions. Cox-2 is efficiently induced in migratory cells responding to pro-inflammatory stimuli and is considered to be an important mediator of inflammation. Both enzymes are targets for the nonsteroidal therapeutic anti-inflammatory drugs, NSAIDs.

REFERENCES

1. O'Neill, P.O. and Ford-Hutchinson, A.W. 1993. Expression of mRNA for Cyclooxygenase-1 and Cyclooxygenase-2 in human tissues. *FEBS Lett.* 330: 156-160.
2. O'Neill, G.P., et al. 1994. Overexpression of human prostaglandin G/H synthase-1 and -2 by recombinant Vaccinia virus: inhibition by nonsteroidal anti-inflammatory drugs and biosynthesis of 15-hydroeicosatetraenoic acid. *Mol. Pharm.* 45: 245-254.
3. Morham, S.G., et al. 1995. Prostaglandin synthase 2 gene disruption causes severe renal pathology in the mouse. *Cell* 83: 473-482.
4. Langenbach, R., et al. 1995. Prostaglandin synthase 1 gene disruption in mice reduces arachidonic acid-induced inflammation and indomethacin-induced gastric ulceration. *Cell* 83: 483-492.
5. Tsujii, M. and DuBois, R.N. 1995. Alterations in cellular adhesion and apoptosis in epithelial cells overexpressing prostaglandin endoperoxidase synthase 2. *Cell* 83: 493-501.
6. Adams, J., et al. 1996. Cyclooxygenase-2 induction in cerebral cortex: an intracellular response to synaptic excitation. *J. Neurochem.* 66: 6-13.
7. Berenbaum, F., et al. 1996. Synergistic effect of interleukin-1 β and tumor necrosis factor α on PGE₂ production by articular chondrocytes does not involve PLA₂ stimulation. *Exp. Cell Res.* 222: 379-384.

CHROMOSOMAL LOCATION

Genetic locus: PTGS1 (human) mapping to 9q33.2.

SOURCE

Cox-1 (AS70) is a mouse monoclonal antibody raised against Cox-1 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

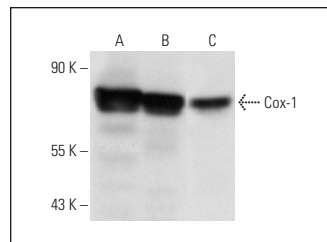
Cox-1 (AS70) is recommended for detection of Cox-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Cox-1 siRNA (h): sc-29277, Cox-1 shRNA Plasmid (h): sc-29277-SH and Cox-1 shRNA (h) Lentiviral Particles: sc-29277-V.

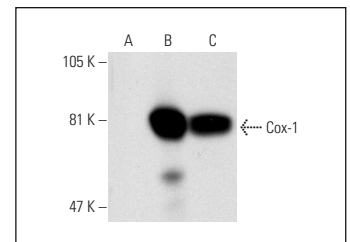
Molecular Weight of Cox-1: 72 kDa.

Positive Controls: U-937 cell lysate: sc-2239, CCD-1064Sk cell lysate: sc-2263 or Cox-1 (h): 293T Lysate: sc-114480.

DATA



Cox-1 (AS70): sc-52757. Western blot analysis of Cox-1 expression in CCD-1064Sk (A), U-937 (B) and human platelet (C) whole cell lysates.



Cox-1 (AS70): sc-52757. Western blot analysis of Cox-1 expression in non-transfected 293T: sc-117752 (A), human Cox-1 transfected 293T: sc-114480 (B) and U-937 (C) whole cell lysates.

SELECT PRODUCT CITATIONS


1. Vadrot, N., et al. 2012. Mitochondrial DNA maintenance is regulated in human hepatoma cells by glycogen synthase kinase 3 β and p53 in response to tumor necrosis factor α . *PLoS ONE* 7: e40879.
2. Pogue, A.I., et al. 2015. Progressive inflammatory pathology in the retina of aluminum-fed 5xFAD transgenic mice. *J. Inorg. Biochem.* 152: 206-209.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **Cox-1 (11): sc-19998** for Cox-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.