

Cox-1 (4i272): sc-70878

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 isozymes of prostaglandin-endoperoxidase synthase (PTGS). Cox-1 is constitutively expressed in most tissues and is thought to serve in general "housekeeping" 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. Pharmacol.* 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 endoperoxide 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; Ptgs1 (mouse) mapping to 2 B.

SOURCE

Cox-1 (4i272) is a mouse monoclonal antibody raised against a preparation of intracellular proteins from cell line HL-60 of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

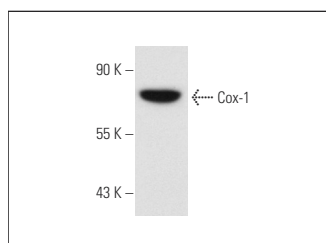
Cox-1 (4i272) is recommended for detection of Cyclooxygenase-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)]; non cross-reactive with cyclooxygenase-2.

Suitable for use as control antibody for Cox-1 siRNA (h): sc-29277, Cox-1 siRNA (m): sc-35097, Cox-1 shRNA Plasmid (h): sc-29277-SH, Cox-1 shRNA Plasmid (m): sc-35097-SH, Cox-1 shRNA (h) Lentiviral Particles: sc-29277-V and Cox-1 shRNA (m) Lentiviral Particles: sc-35097-V.

Molecular Weight of Cox-1: 72 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, U-937 cell lysate: sc-2239 or CCD-1064Sk cell lysate: sc-2263.

DATA



Cox-1 (4i272): sc-70878. Western blot analysis of Cox-1 expression in U-937 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Di, J.M., et al. 2010. Toll-like receptor 9 agonists up-regulates the expression of cyclooxygenase-2 via activation of NF κ B in prostate cancer cells. *Mol. Biol. Rep.* 37: 1849-1855.
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.

STORAGE

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

PROTOCOLS

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

CONJUGATES

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.