SANTA CRUZ BIOTECHNOLOGY, INC.

Cox-1 (AS70): sc-52757

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. 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 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 PGE_2 production by articular chondrocytes does not involve PLA_2 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 µg IgG_1 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

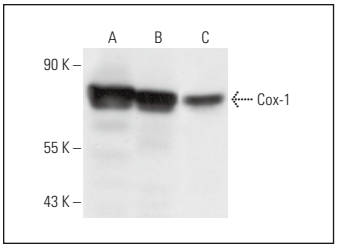
Cox-1 (AS70) is recommended for detection of Cox-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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.

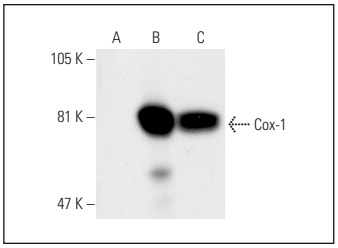
Molecular Weight of Cox-1: 72 kDa.

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 3β 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.

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.