

# Cox-2 (29): sc-19999

## BACKGROUND

Prostaglandins are a diverse group of autocrine and paracrine hormones that mediate many cellular and physiologic processes. Prostaglandin H<sub>2</sub> (PGH<sub>2</sub>) is an intermediate in formation of the prostaglandins. Two prostaglandin synthases that catalyze the formation of PGH<sub>2</sub> from arachidonic acid (AA) are cyclooxygenase-1 and cyclooxygenase-2. Cyclooxygenase-2, or Cox-2, is efficiently induced in migratory cells responding to pro-inflammatory stimuli and is considered to be an important mediator of inflammation. An alternative form of the protein, designated Cox-1, is constitutively expressed in most tissues and is thought to serve in general "housekeeping" functions. Both enzymes are targets for the nonsteroidal therapeutic anti-inflammatory drugs, NSAIDs.

## REFERENCES

- 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.
- Morham, S.G., et al. 1995. Prostaglandin synthase 2 gene disruption causes severe renal pathology in the mouse. *Cell* 83: 473-482.

## CHROMOSOMAL LOCATION

Genetic locus: PTGS2 (human) mapping to 1q31.1; Ptg2 (mouse) mapping to 1 H1.

## SOURCE

Cox-2 (29) is a mouse monoclonal antibody raised against amino acids 580-598 of Cox-2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as PE conjugate for flow cytometry, sc-19999 PE, 100 tests.

## APPLICATIONS

Cox-2 (29) is recommended for detection of Cox-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for Cox-2 siRNA (h): sc-29279, Cox-2 siRNA (m): sc-29278, Cox-2 shRNA Plasmid (h): sc-29279-SH, Cox-2 shRNA Plasmid (m): sc-29278-SH, Cox-2 shRNA (h) Lentiviral Particles: sc-29279-V, Cox-2 shRNA (m) and Lentiviral Particles: sc-29278-V.

Molecular Weight of Cox-2: 70-72 kDa.

Positive Controls: RAW 264.7 + LPS/PMA cell lysate: sc-2212, A549 cell lysate: sc-2413 or Cox-2 (h): 293 Lysate: sc-113099.

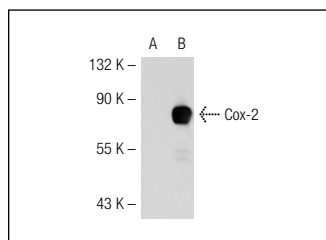
## STORAGE

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

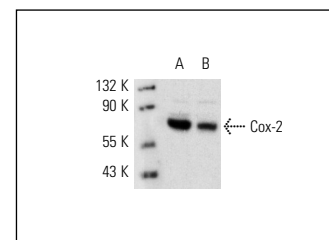
## RESEARCH USE

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

## DATA



Cox-2 (29): sc-19999. Western blot analysis of Cox-2 expression in non-transfected: sc-110760 (A) and human Cox-2 transfected: sc-113099 (B) 293 whole cell lysates.



Cox-2 (29): sc-19999. Western blot analysis of Cox-2 expression in A549 (A) and CCD-1064Sk (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Liou, J., et al. 2001. Colocalization and interaction of cyclooxygenase-2 with caveolin-1 in human fibroblasts. *J. Biol. Chem.* 276: 34975-34982.
- Peng, J., et al. 2002. Overexpression of Cyclo-oxygenase 2 in squamous cell carcinoma of the hypopharynx. *Hum. Pathol.* 33: 100-104.
- Mitchell, R.A., et al. 2002. Macrophage migration inhibitory factor (MIF) sustains macrophage proinflammatory function by inhibiting p53: Regulatory role in the innate immune response. *Proc. Natl. Acad. Sci. USA* 99: 345-350.
- Sandur, S.K., et al. 2006. Plumbagin (5-hydroxy-2-methyl-1,4-naphthoquinone) suppresses NF-κB activation and NF-κB-regulated gene products through modulation of p65 and IκB-α kinase activation, leading to potentiation of apoptosis induced by cytokine and chemotherapeutic agents. *J. Biol. Chem.* 281: 17023-17033.
- Mongini, P.K.A., et al. 2006. APRIL and BAFF promote increased viability of replicating human B2 cells via mechanism involving cyclooxygenase 2. *J. Immunol.* 176: 6736-6751.
- Sung, B., et al. 2010. Noscapiene, a benzyloquinoline alkaloid, sensitizes leukemic cells to chemotherapeutic agents and cytokines by modulating the NF-κB signaling pathway. *Cancer Res.* 70: 3259-3268.
- Harikumar, K.B., et al. 2010. Escin, a pentacyclic triterpene, chemosensitizes human tumor cells through inhibition of nuclear factor-κB signaling pathway. *Mol. Pharmacol.* 77: 818-827.
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- Tung, W.H., et al. 2010. EV71 induces COX-2 expression via c-Src/PDGFR/PI3K/Akt/p42/p44 MAPK/AP-1 and NF-κB in rat brain astrocytes. *J. Cell. Physiol.* 224: 376-386.