

Cox-2 (29): sc-19999

BACKGROUND

Prostaglandins are a diverse group of autocrine and paracrine hormones that mediate many cellular and physiologic processes. Prostaglandin H₂ (PGH₂) is an intermediate in formation of the prostaglandins. Two prostaglandin synthases that catalyze the formation of PGH₂ 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.

CHROMOSOMAL LOCATION

Genetic locus: PTGS2 (human) mapping to 1q31.1; Ptgs2 (mouse) mapping to 1 G1.

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 IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cox-2 (29) is available conjugated to either phycoerythrin (sc-19999 PE), fluorescein (sc-19999 FITC), Alexa Fluor® 546 (sc-19999 AF546) or Alexa Fluor® 594 (sc-19999 AF594), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-19999 AF680) or Alexa Fluor® 790 (sc-19999 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for Cox-2 siRNA (h): sc-29279, Cox-2 siRNA (m): sc-29278, Cox-2 siRNA (r): sc-270376, Cox-2 shRNA Plasmid (h): sc-29279-SH, Cox-2 shRNA Plasmid (m): sc-29278-SH, Cox-2 shRNA Plasmid (r): sc-270376-SH, Cox-2 shRNA (h) Lentiviral Particles: sc-29279-V, Cox-2 shRNA (m) Lentiviral Particles: sc-29278-V and Cox-2 shRNA (r) Lentiviral Particles: sc-270376-V.

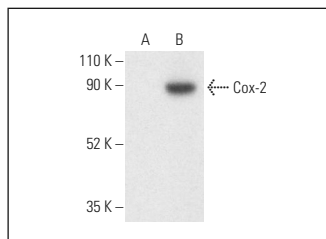
Molecular Weight of Cox-2: 70-72 kDa.

Positive Controls: CCD-1064Sk cell lysate: sc-2263, A549 cell lysate: sc-2413 or Cox-2 (h): 293 Lysate: sc-113099.

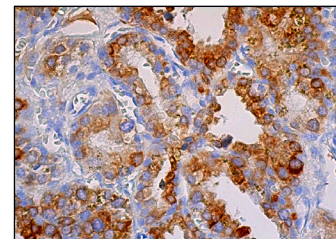
STORAGE

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

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. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.



Cox-2 (29): sc-19999. Immunoperoxidase staining of formalin fixed, paraffin-embedded human seminal vesicle tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Liou, J., et al. 2001. Colocalization and interaction of cyclooxygenase-2 with caveolin-1 in human fibroblasts. *J. Biol. Chem.* 37: 34975-34982.
- Kim, J., et al. 2015. Nuclear receptor expression and function in human lung cancer pathogenesis. *PLoS ONE* 10: e0134842.
- Dinicola, S., et al. 2016. Inositol induces mesenchymal-epithelial reversion in breast cancer cells through cytoskeleton rearrangement. *Exp. Cell Res.* 345: 37-50.
- Shin, M.R., et al. 2017. Banhasasim-tang treatment reduces the severity of esophageal mucosal ulcer on chronic acid reflux esophagitis in rats. *Biomed Res. Int.* 2017: 7157212.
- Park, J., et al. 2018. Novel identification of Stat1 as a crucial mediator of ETV6-NTRK3-induced tumorigenesis. *Oncogene* 37: 2270-2284.
- Wu, C.H., et al. 2019. Estradiol induces cell proliferation in MCF7 mammospheres through HER2/Cox-2. *Mol. Med. Rep.* 19: 2341-2349.
- Ju, H., et al. 2020. TLR4 activation leads to anti-EGFR therapy resistance in head and neck squamous cell carcinoma. *Am. J. Cancer Res.* 10: 454-472.
- Liu, L., et al. 2021. Proliferation, migration and invasion of triple negative breast cancer cells are suppressed by berbamine via the PI3K/Akt/MDM2/p53 and PI3K/Akt/mTOR signaling pathways. *Oncol. Lett.* 21: 70.
- Lee, D.Y., et al. 2022. Associations between local acidosis induced by renal LDHA and renal fibrosis and mitochondrial abnormalities in patients with diabetic kidney disease. *Transl. Res.* 249: 88-109.
- Chen, Y., et al. 2023. Structure-directed discovery of potent soluble epoxide hydrolase inhibitors for the treatment of inflammatory diseases. *J. Med. Chem.* 66: 2979-3009.

RESEARCH USE

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