SANTA CRUZ BIOTECHNOLOGY, INC.

Cox-2 (29): sc-19999

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 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 IgG_1 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.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

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 10^6 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.

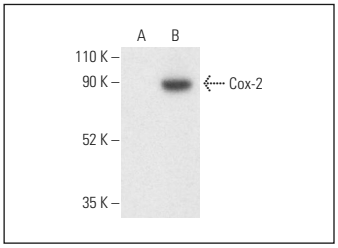
Molecular Weight of Cox-2: 70-72 kDa.

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

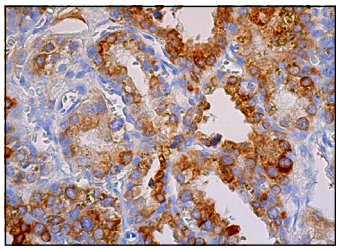
STORAGE

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-IgG_1 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

1. Liou, J., et al. 2001. Colocalization and interaction of cyclooxygenase-2 with caveolin-1 in human fibroblasts. J. Biol. Chem. 37: 34975-34982.
2. Kim, J., et al. 2015. Nuclear receptor expression and function in human lung cancer pathogenesis. PLoS ONE 10: e0134842.
3. Dinicola, S., et al. 2016. Inositol induces mesenchymal-epithelial reversion in breast cancer cells through cytoskeleton rearrangement. Exp. Cell Res. 345: 37-50.
4. 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.
5. Park, J., et al. 2018. Novel identification of Stat1 as a crucial mediator of ETV6-NTRK3-induced tumorigenesis. Oncogene 37: 2270-2284.
6. Wu, C.H., et al. 2019. Estradiol induces cell proliferation in MCF7 mammospheres through HER2/Cox-2. Mol. Med. Rep. 19: 2341-2349.
7. 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.
8. 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.
9. 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.
10. 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.