

Cox-2 (D-12): sc-166475



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 "house-keeping" 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.

CHROMOSOMAL LOCATION

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

SOURCE

Cox-2 (D-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 580-604 at the C-terminus of Cox-2 of mouse 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 (D-12) is available conjugated to agarose (sc-166475 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166475 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166475 PE), fluorescein (sc-166475 FITC), Alexa Fluor® 488 (sc-166475 AF488), Alexa Fluor® 546 (sc-166475 AF546), Alexa Fluor® 594 (sc-166475 AF594) or Alexa Fluor® 647 (sc-166475 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166475 AF680) or Alexa Fluor® 790 (sc-166475 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166475 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

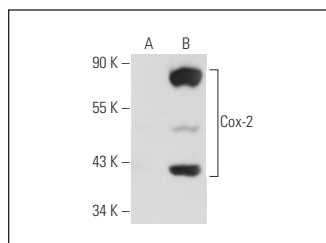
Cox-2 (D-12) is recommended for detection of Cox-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

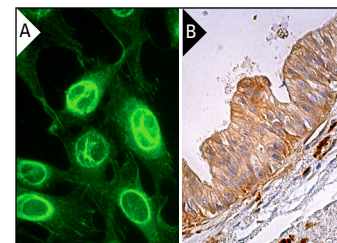
Molecular Weight of Cox-2: 70-72 kDa.

Positive Controls: Cox-2 (h): 293 Lysate: sc-113099, A549 cell lysate: sc-2413 or NIH/3T3 whole cell lysate: sc-2210.

DATA



Cox-2 (D-12): sc-166475. 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 (D-12): sc-166475. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing membrane and nuclear envelope localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Liu, X.H., et al. 2012. Leonurine attenuates lipopolysaccharide-induced inflammatory responses in human endothelial cells: involvement of reactive oxygen species and NFκB pathways. *Eur. J. Pharmacol.* 680: 108-114.
2. Hung, Y.L., et al. 2017. Corylin protects LPS-induced sepsis and attenuates LPS-induced inflammatory response. *Sci. Rep.* 7: 46299.
3. Lin, J.Z., et al. 2018. Efficacy of gefitinib-celecoxib combination therapy in docetaxel-resistant prostate cancer. *Oncol. Rep.* 40: 2242-2250.
4. Cuoghi, O.A., et al. 2019. Correlation between pain and hyalinization during tooth movement induced by different types of force. *Angle Orthod.* 89: 788-796.
5. Huang, M., et al. 2020. Jmjd3 regulates inflammasome activation and aggravates DSS-induced colitis in mice. *FASEB J.* 34: 4107-4119.

RESEARCH USE

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