

Cox2 (D5H5) XP® Rabbit mAb



- ☐ Small 100 µl
(10 western blots)
- ☐ Petite 40 µl
(4 western blots)

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For Research Use Only. Not For Use In Diagnostic Procedures.

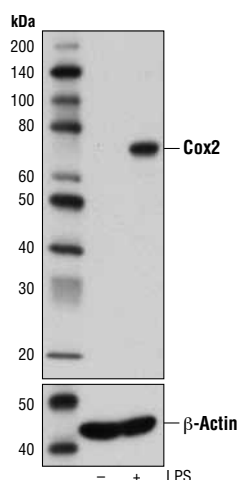
Entrez-Gene ID #5743
Swiss-Prot Acc. #P35354

Applications W, IHC-P, IF-IC, F Endogenous	Species Cross-Reactivity* H, M, R	Molecular Wt. 74 kDa	Isotype Rabbit IgG**
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Background: Cyclooxygenase1 (Cox1) and cyclooxygenase2 (Cox2), family members with 60% homology in humans, catalyze prostaglandin production from arachidonic acid (1,2). While Cox1 expression is constitutive in most tissues, Cox2 expression is induced by lipopolysaccharide (LPS) and peptidoglycan (PGN) (3). PGN activates Ras, leading to phosphorylation of Raf at Ser338 and Erk1/2 at Tyr204. The activation of MAP kinase signaling results in subsequent activation of IKKα/β, phosphorylation of IκBα at Ser32/36, and NF-κB activation. Finally, activation of the transcription factor NF-κB is responsible for the induction of Cox2 expression (4). Investigators have shown that LPS and PGN induce the clinical manifestations of arthritis and bacterial infections, such as inflammation, fever, and septic shock (5). Research studies have indicated that Cox1 and Cox2 may also play a role in the neuropathology of Alzheimer's disease by potentiating γ-secretase activity and β-amyloid generation (6).

Specificity/Sensitivity: Cox2 (D5H5) XP® Rabbit mAb recognizes endogenous levels of total Cox2 protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding His108 of human Cox2 protein.



Western blot analysis of extracts from Raw 264.7 cells, untreated (-) or LPS-treated (1 µg/ml, 24 hr; +), using Cox2 (D5H5) XP® Rabbit mAb or β-Actin (D6A8) Rabbit mAb #8457.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting 1:1000
 Immunohistochemistry (Paraffin) 1:600†

Unmasking buffer: Citrate

Antibody diluent: SignalStain® Antibody Diluent #8112

Detection reagent: SignalStain® Boost (HRP, Rabbit) #8114

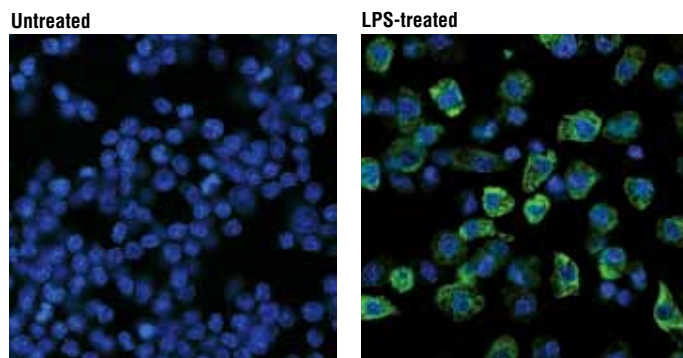
†Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.

Immunofluorescence (IF-IC) 1:800

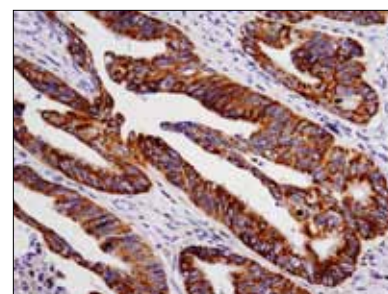
Flow Cytometry 1:200

For product specific protocols please see the web page for this product at www.cellsignaling.com.

Please visit www.cellsignaling.com for a complete listing of recommended complementary products.



Confocal immunofluorescent analysis of Raw 264.7 cells, untreated (left; -) or LPS-treated (right; 1 µg/ml, 24 hrs; +), using Cox2 (D5H5) XP® Rabbit mAb (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Immunohistochemical analysis of paraffin-embedded human colon carcinoma using Cox2 (D5H5) XP® Rabbit mAb.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide

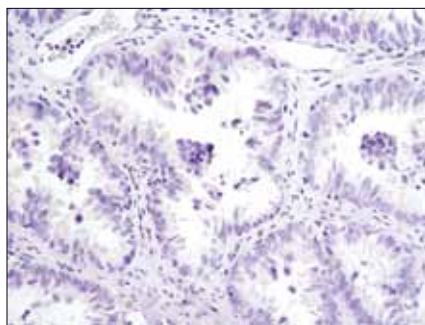
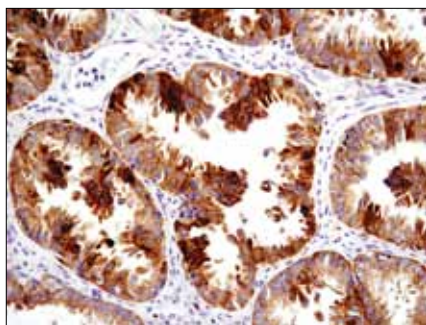
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine

Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.

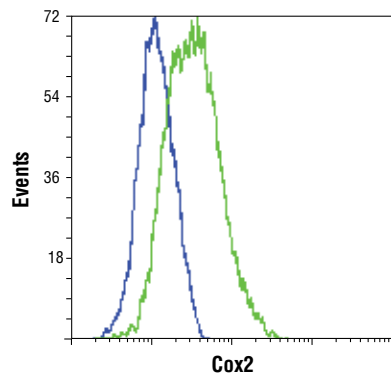
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Alexa Fluor® is a registered trademark of Life Technologies Corporation.

Tween® is a registered trademark of ICI Americas, Inc.



Immunohistochemical analysis of paraffin-embedded human ovarian carcinoma using Cox2 (D5H5) XP[®] Rabbit mAb in the presence of control peptide (left) or antigen-specific peptide (right).



Flow cytometric analysis of Raw 264.7 cells, untreated (blue) or LPS-treated (1 μg/ml, 24 hrs; green), using Cox2 (D5H5) XP[®] Rabbit mAb. Anti-rabbit IgG (H+L), F(ab')₂ Fragment (Alexa Fluor[®] 488 Conjugate) #4412 was used as a secondary antibody.

Background References:

- (1) Xie, W.L. et al. (1991) *Proc Natl Acad Sci USA* 88, 2692-6.
- (2) Vane, J.R. et al. (1998) *Annu Rev Pharmacol Toxicol* 38, 97-120.
- (3) O'Neill, G.P. et al. (1994) *Mol Pharmacol* 45, 245-54.
- (4) Chen, B.C. et al. (2004) *J Biol Chem* 279, 20889-97.
- (5) Wang, Q. et al. (2001) *Infect Immun* 69, 2270-6.
- (6) Qin, W. et al. (2003) *J Biol Chem* 278, 50970-7.