

#4842 Store at -20°C

Cox2 Antibody



100 µl
 (10 western blots)

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rev. 08/02/10

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IHC-P Endogenous	H, M, (R)	74 kDa	Rabbit**

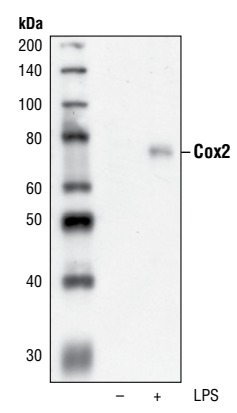
Background: Cyclooxygenase1 (Cox1) and cyclooxygenase2 (Cox2), family members with 60% homology in humans, catalyze prostaglandin production from arachidonic acid (1,2). Cox1 is expressed constitutively in most tissues, while Cox2 expression is induced by lipopolysaccharide (LPS) and peptoglycan (PGN) (3). PGN activates Ras, leading to phosphorylation of Raf at Ser338 and Erk 1/2 at Tyr204). The activation of MAP kinase signaling results in subsequent activation of IKKα/β, phosphorylation of IκB-α at Ser32/36) and NF-κB activation. Finally, activation of the transcription factor NF-κB is responsible for the induction of Cox2 expression (4). LPS and PGN induce the clinical manifestations of arthritis and bacterial infections, such as inflammation, fever and septic shock (5), making Cox2 a useful target for therapeutic anti-inflammatory drugs (3). Both Cox1 and Cox2 also play a role in the neuropathology of Alzheimer's disease by potentiating γ-secretase activity and β-amyloid generation (6).

Specificity/Sensitivity: Cox2 Antibody detects endogenous levels of total Cox2 protein.

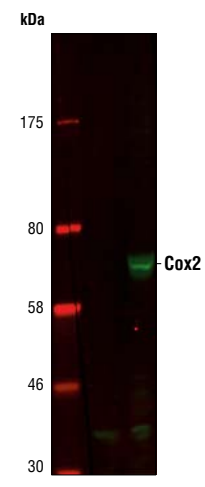
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequence of human Cox2. Antibodies are purified by protein A and peptide affinity chromatography.

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.



Western blot analysis of extracts from Raw264.7 cells, untreated or LPS-treated (1 µg/ml for 6 h), using Cox2 Antibody.



Western blot analysis of extracts from Raw264.7 cells, untreated or LPS-treated (1 µg/ml for 6 h), using Cox2 Antibody.

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

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. 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:

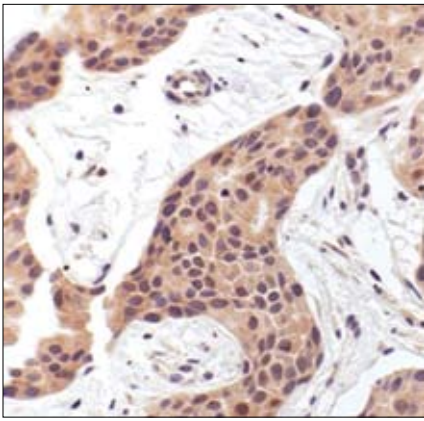
Western blotting	1:1000
Immunohistochemistry (Paraffin)	1:200
Unmasking buffer:	Citrate
Antibody diluent:	SignalStain® Antibody Diluent #8112

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

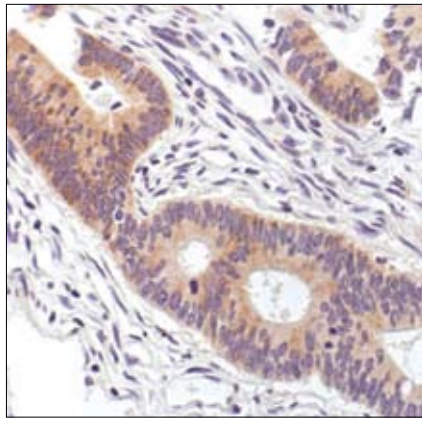
Please visit www.cellsignal.com for a complete listing of recommended companion products.

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

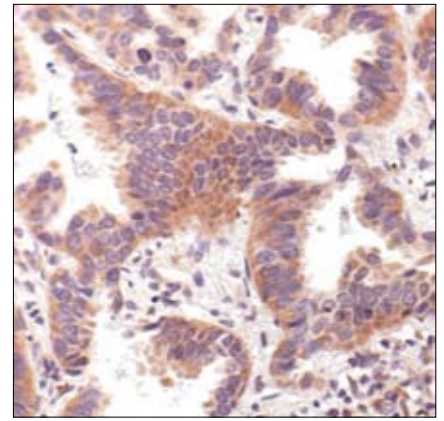
Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA—Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 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.



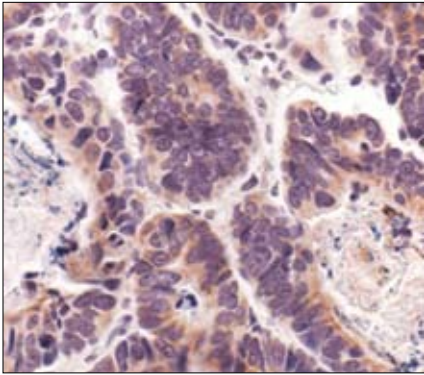
Immunohistochemical analysis of paraffin-embedded human breast carcinoma using Cox2 Antibody.



Immunohistochemical analysis of paraffin-embedded human colon carcinoma using Cox2 Antibody.



Immunohistochemical analysis of paraffin-embedded human lung carcinoma, showing cytoplasmic localization using Cox2 Antibody.



Immunohistochemical analysis of paraffin-embedded human renal cell carcinoma using Cox2 Antibody.