Cox2 (D5H5) XP® Rabbit mAb (No. 12282) Datasheet Without Images

**Applications:**
- Western Blotting
- Immunohistochemistry (Paraffin)
- Immunofluorescence (Immunocytochemistry)
- Flow Cytometry

**Dilution:**
- Western Blotting: 1:1000
- Immunohistochemistry (Paraffin): 1:600
- Immunofluorescence (Immunocytochemistry): 1:800
- Flow Cytometry: 1:200

**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.

**Specificity / Sensitivity:**
Cox2 (D5H5) XP® Rabbit mAb recognizes endogenous levels of total Cox2 protein. Non-specific labeling of centrioles may be observed by immunofluorescence in human cells.

**Species Reactivity:**
Human, Mouse, Rat

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

**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 IKKa/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).


**Species Reactivity is determined by testing in at least one approved application (e.g., western blot).**

**IMPORTANT:** For primary antibodies recommended for western blotting applications, we recommend incubating the membrane with diluted antibody at 4°C with gentle shaking overnight. Please refer to the western blot protocol found on the product web page for the antibody-specific diluent recommendation.
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