

Product Information

Anti-COX2

produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200576**

Product Description

Anti-COX2 is produced in rabbit using as immunogen a synthetic peptide corresponding to an internal sequence of human COX2 (GeneID: 5743), conjugated to KLH. The corresponding sequence has high homology to rat COX2 (83% identity) and to mouse COX2 (82% identity). The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-COX2 specifically recognizes human and mouse COX2. The antibody may be used in several immunochemical techniques including immunoblotting (~75 kDa) and immunofluorescence. Detection of the COX2 band by immunoblotting is specifically inhibited by the COX2 immunizing peptide.

Cyclooxygenases (COXs) are key enzymes in the conversion of prostaglandins (PGs) from arachidonic acid.¹ Several PGs including PGE₂ can affect cell proliferation and promote tumorigenesis by stimulating angiogenesis and inhibiting the immune surveillance. Two COX isoforms have been identified, COX1 and COX2. COX1 is constitutively expressed and is responsible for cytoprotection of the gastric epithelium, vasodilation in the kidney, and the production of thromboxane by platelets.¹ COX2 expression can be induced by a variety of inflammatory mediators, cytokines, mitogens, growth factors, oncogenes and carcinogens and has been shown to inhibit apoptosis.¹⁻³ COX2 is involved in many inflammatory processes, and has been shown to regulate cellular processes that contribute to the progression and metastatic spread of several tumors, through the action of PGs. COX2 been shown to be over-expressed in several tumors, including colon, prostate, lung and breast cancers.⁴⁻⁶ COX2 has become a target for chemoprevention of colon carcinoma. Increasing evidence indicates that COX2 inhibitors including non-steroidal anti-inflammatory drugs (NSAIDs) can reduce the risk of colorectal cancer.^{2,3}

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1.5-3.0 µg/mL is recommended using lysates of RAW-264.7 cells stimulated with LPS, and of HEK-293T cells over-expressing human COX2.

Immunofluorescence: a working concentration of 5-10 µg/mL is recommended using RAW-264.7 cells stimulated with LPS.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Simmons, D.L., et al., *Pharmacol. Rev.*, **56**, 387-437 (2004).
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3. Turini, M.E., et al., *Ann. Rev. Med.*, **53**, 35-57 (2002).
4. Fujita, T., et al., *Cancer Res.*, **58**, 4823-4826 (1998).
5. Soslow, R.A., et al., *Cancer*, **89**, 2637-2645 (2000).
6. Li, F., et al., *J. Exp. Clin. Cancer Res.*, **30**, 32 (2011).

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