ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Cycoloxygenase-2 (COX-2 PGHS-2;PHS-2;Prostaglandin-endoperoxide synthase-2)

Cat. COX21-P	Human CoX-2 Control/blocking Peptide # 1	**SIZE**: 100 ug
Cat. COX21-S	Rabbit Anti-Human COX2 antiserum # 1	**SIZE**: 100 ul
Cat. COX21-A	Rabbit Anti-Human COX2 IgG # 1 (aff pure)	**SIZE**: 100 ug
Cat. COX21-C	**Ovine** COX2 protein for Wb +ve control	**SIZE**: 100 ul

Prostaglandins are important regulators of immune responses, fever, and pain. Two isoforms of Prostaglandin H synthase are well characterized, namely COX1 (also called PGHS-1; PHS-1; Prostaglandin-endoperoxide synthase-1) and COX2 (also called PGHS-2; Prostaglandin-endoproxide synthase-2 and PHSII). Both forms of COX proteins are membrane associated heme proteins containing Cyclooxygenase and peroxidase activities. These enzymes are targets of NSAID (Non steroidal anti-inflammatory drugs) such as aspirin. Cox-1 (human 599 aa; rat 602 aa) is homodimer of 70KD subunits (1). COX1 is constitutively expressed although significant enhancement of COX1 expression can be induced in some cell types. High expression is observed in gastrointestinal tissues. COX2 is a 72KD protein having 60% homology to COX1. It is induced by cytokines and mitogens and is likely to play a role in inflammatory diseases such as rheumatoid arthritis.

Source of Antigen and Antibodies

Antigen	17-aa peptide of Human Cox-2 (1) ; **Designated (COX21-P or control peptide).** conjugated to KLH; epitope location ~ C-terminus
Ab Host/type	Rabbit, Polyclonal antiserum (#COC21-S) and IgG, purified over antigen-agarose (Cat # **COX21**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

Ovine Cox-2 protein for Western blot +ve control (**Cat # COX21-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **COX21**-C for good visibility with antibody Cat # **COX21**-S. Store at –20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **COX21**-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. This preparation is intended for qualitative purpose and not to serve as standard of known concentration. Do not freeze, thaw, or hear repeatedly

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for antiserum and 1-10 ug/ml for affinity pure using Chemiluminescence technique). COX21-A detected ~70 kDa band in LPS+PMA induced RAW 264.7 cells and not in non-induced cells.

ELISA (1:10K-1:100K) using 100 ng antigen/well.

Histochemistry & Immunofluorescence: Not tested. We recommend the testing of antibody at 2-20 ug/ml. Cells can be induced with LPS+PMA prior to fixing.

Specificity & Cross-reactivity

The COX21-P peptide sequence is identical in mice, rat and human. The antibodies react with COX-2 of murine, ovine, bovine and human origin. Cross-reactivity with cell lines such as 3T3 cells, BMMC, L-929, PC-12, C127, CEF-147 is also expected.. There is no reactivity to purified COX-1. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).).

General References: (1). Hla, T. & Neilson, K. (1992) *PNAS USA*, **89**, 7384-7388; Jones et al (1993) JBC 268, 9049; Yamagata K et al (1993) Neuron 11, 371.

2. Citations of for ADI Antibodies (see updates at the web site)

DiPerna CA, 2003, J. Thoracic Cardiovascular Surgery, 126, 1129-1133, , IHC
DiPerna CA, 2002, Chest. 122(4) Supplement:165S-166S, , IHC
Carlson NG, 2006, Journal of Neuroimmunology, 174, 21-31, , IHC
Castle PE, 2003, Cancer Epidemiol. Biomarkers Prev., 12: 1449 - 1456, WB,

*This Product is for *in vitro* research use only.

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