

Product Specification Sheet

EP2 receptor Antibodies

Cat. # EP22-P	Human EP2 Control Peptide # 2	SIZE: 100 ug
Cat. # EP22-S	Rabbit Anti-Human EP2 antiserum # 2	SIZE: 100 ul
Cat. # EP22-A	Rabbit Anti-Human EP2 IgG # 2 (aff pure)	SIZE: 100 ug

Prostanoids are the cyclooxygenase metabolites derived from C-20 unsaturated fatty acids (arachidonic acid) and include prostaglandin (PG) D₂, PGE₂, PGF₂ alpha, PGI₂, and thromboxane (Tx) A₂. **Prostaglandin PGE₂** is one of the major prostaglandin produced during inflammation. A variety of PGE₂-mediated effects on vascular smooth muscle tonus, glomerular cell function, renin release, and renal salt and water transport have been described. PGs also influence neuronal activity by modulating neurotransmitter release, sensitizing secretory fibers to noxious stimuli, or inducing fever and sleep. The actions of PGE₂ are mediated by rhodopsin-type; G-protein coupled membrane receptors, termed **E-prostanoid (EP) receptors or PTGERs**. There are four subtypes of PGE receptors designated as **EP1, EP2, EP3, and EP4** that are encoded by different genes and expressed differently in each tissue. The intracellular signaling also differs among the receptor subtypes. In general, EP receptors display a protein topology typical of GPCR - 7 TM domain, an extracellular N-terminus, and a large intracellular C-terminus.

EP2 or PTGER2 (rat 357 aa, mouse 362 aa, and human 358 aa; chromosome 14; ~85% interspecies homology) has wide tissue distribution, with high expression in lung and placenta. Ep2 -/- females are infertile secondary to failure of the released ovum to become fertilized in vivo. Mice deficient in the EP2 receptor displayed resting systolic blood pressure that was significantly lower than that in wild type controls. LPS induces EP2 in macrophages.

Source of Antigen and Antibodies

Antigen	A 14 AA peptide (designated EP22-P, control peptide of human EP2 (1) conjugated to KLH; epitope location ~ N-terminus, Extracellular domain
Ab Host/type	Rabbit, Polyclonal Unpurified antiserum (cat # EP22-S) and aff pure IgG (cat # EP22-A)
2-ab	Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

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.

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique). In the kidney, the EP2 has been shown to be ~67 kDa (2)

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 2-20 ug/ml in paraformaldehyde fixed sections of tissues.

Specificity & Cross-reactivity

The human EP22-P control peptide is 85% homologous in rabbit, 71% conserved in canine EP2. EP22-P sequence is not conserved in other species. It has no appreciable sequence homology with EP1 or EP3-4 or other GPCR. Antibody cross-reactivity in various species is not established. The EP22-P 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: Nemoto K et al (1997) Prostaglandins 54, 713; Boie Y et al (1997) Eur. J. Pharmacol. 340, 227; Narumiya S et al (1995) FEBS Lett. 372, 151; Regan JW et al (1994) Mol. Pharamcol. 46, 213; Smock TA et al (1999) Gene 237, 393;

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

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Walch L, 2003, Endocrinol., 144: 1284 - 1291, WB
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*This product is for In vitro research use only.

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