

Product Specification Sheet

**EP1 Receptor Antibodies**

Cat. # EP11-P	Mouse EP1 Control Peptide # 1	<b>SIZE:</b> 100 ug
Cat. # EP11-S	Rabbit Anti-Mouse EP1 antiserum # 1	<b>SIZE:</b> 100 ul
Cat. # EP11-A	Rabbit Anti-Mouse EP1 IgG # 1 (affinity pure)	<b>SIZE:</b> 100 ug

Prostanoids are the cyclooxygenase metabolites derived from C-20 unsaturated fatty acids (arachidonic acid) and include prostaglandin (PG) D<sub>2</sub>, PGE<sub>2</sub>, PGF<sub>2</sub> alpha, PGI<sub>2</sub>, and thromboxane (Tx) A<sub>2</sub>. **Prostaglandin PGE<sub>2</sub>** is one of the major prostaglandin produced during inflammation. A variety of PGE<sub>2</sub>-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 PGE<sub>2</sub> 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 **EP<sub>1</sub>, EP<sub>2</sub>, EP<sub>3</sub>, and EP<sub>4</sub>** 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.

**EP<sub>1</sub>** (mouse/rat 405 aa, human 402 aa, chromosome 19p13.1; ~84% interspecies homology) expression is restricted to kidney (papillary collecting ducts), lung, and stomach (muscularis mucosae layer), spleen, skeletal muscle, testis, and uterus. EP<sub>1</sub> has also been localized in neurons of the DRG. An alternatively spliced variant, a 366-aa protein carrying a specific change of 49 aa from the middle of TM VI to C-terminus, has also been described in rat uterus. The variant is also expressed in the kidney.

**Source of Antigen and Antibodies**

<b>Antigen</b>	15-aa peptide of Mouse EP <sub>1</sub> ; <b>Designated (EP11-P or control peptide)</b> . epitope location ~C-terminus, extracellular domain
<b>Ab Host/type</b>	Rabbit, polyclonal Unpurified antiserum (cat #EP11-S) Aff pure IgG (cat #EP11-A) purified over antigen-agarose column
<b>-ve control IgG</b>	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control
<b>2-ab</b>	Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)

**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 -200C 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 neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique). An antibody made to this epitope has been shown to detect ~ 65 kDa protein in the kidney (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 as described (2) or paraformaldehyde fixed tissues.

**Specificity & Cross-reactivity**

The mouse EP11-P control peptide is 100% conserved in rat, 72% in canine and human, 73% in rabbit and ovine EP<sub>1</sub>. It has no appreciable sequence homology with EP<sub>2-4</sub> or other GPCR. Antibody cross-reactivity in various species is not established. The 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. Watabe A et al (1993) JBC 268, 20175; Batshake B et al (1995) Eur. J. Biochem. 231, 809; Boie Y et al (1997) Eur. J. Pharmacol. 340, 227; Okuda-Ashitaka E et al (1996) JBC 271, 31255; Narumiya S et al (1999) Physiol. Rev. 79, 1193; Morath R et al (1999) J Am. Soc. Nephrol. 10, 1860.

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

Aronoff DM, 2004, J. Immunol., 173: 559 - 565, WB  
Tober KL, 2006, J of Investigative Dermatology, 126, p205-211,  
Biswas S, 2004, Prostaglins, Leukotrienes Essential Fatty Acids, 71, 277-278,  
white ES, 2004, Am. J. Respir. Cell Mol. Biol 32, 135-141, WB  
Walch L, 2003, Endocrinol., 144: 1284 - 1291, WB  
Aronff DM, 2004, J. Immunol., 173: 559 - 565., WB

\*This product is for In vitro research use only.

**Related material available from ADI**

Antibodies Cox 1, 2; EP1-4  
EP11-S-A-P 71217A

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