

Product Specification Sheet

**Preadipocyte factor-1 (Pref-1) Antibodies**

<b>Cat #</b> PREF12-P	Mouse Pref-1 control/blocking peptide # 2	<b>SIZE:</b> 100 ug
<b>Cat #</b> PREF12-A	Rabbit Anti-Mouse Pref-1 IgG # 2, aff. Pure IgG	<b>SIZE:</b> 100 ug

Adipose tissue is the largest reservoir of fuel, storing energy in the form of rapidly utilizable triglycerides. Adipocytes synthesize and store energy in periods of nutritional abundance and mobilize lipids during starvation and other times of need. In order to accomplish these complex tasks energy balance, adipocytes express many genes, including Pref-1, involved in lipid metabolism and glucose homeostasis.

**Preadipocyte factor-1 (Pref-1)**, an epidermal growth factor-like domain-containing transmembrane protein is implicated in inhibiting preadipocytes differentiation. Pref-1 (mouse 385-aa, rat 383-aa, human 383-aa, chromosome 14q32), also known as **fetal antigen 1 (FA1)**, **Delta Drosophila homolog-like 1 (DLK1)** or **Zona glomerulosa-specific factor (ZOG)**, is synthesized as a membrane protein in preadipocytes but it is not detectable in mature adipocytes. Dexamethasone, a promoter of adipocyte differentiation, down regulates Pref-1. Pref-1 is proteolytically cleaved to generate a biologically active 50-kDa ectodomain (24-303 aa) or soluble form. Constitutive expression of Pref-1 or addition of its ectodomain inhibits adipogenesis. There are at least four major isoforms (45-60 kDa) of Pref-1 generated by alternatively splicing. Pref-1/DLK is expressed in tumors with neuroendocrine features, such as neuroblastoma, pheochromocytoma, and a subset of small cell lung carcinoma cell lines. Its expression in normal tissues is restricted to the adrenal gland and placenta.

**Sources of antigen and antibodies**

<b>Antigen</b>	16-aa peptide of mouse Pref1/Dlk (protein accession #Q09163, refs 1) ; <b>Designated (PREF12-P or control peptide) conjugated to KLH</b>
<b>Location</b>	near the <b>cytoplasmic, C-terminus</b>
<b>Ab Host/type</b>	Rabbit, Polyclonal IgG, purified over antigen-agarose (Cat # <b>PREF12-A</b> )
<b>2-Ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
<b>-ve</b>	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

**Form & Storage of Antibodies/Peptide Control**

**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 blot:** Optimal dilution must be determined by user. We suggest initial testing of aff pure IgG at 1-5 ug/ml using ECL.

**ELISA** (1:10-50K; 10-100 ng of control peptide/well).

**Immunohistochemistry:** not tested. We suggest testing of aff pure IgG at 2-20 ug/ml.

**Specificity and crossreactivity**

Mouse PREF12-P sequence is 93% conserved in human and rat, and 87% in bovine Pref-1. Since the epitope of PREF12-S antibody is located near the cytoplasmic C-terminus, this antibody will not detect the ectodomain/soluble forms of Pref-1. Antibody cross-reactivity in various other species has not been studied. 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: [www.4adi.com/data/abblock.html](http://www.4adi.com/data/abblock.html)).

**General References:** (1) Laborda J et al (1993) JBC 268, 3817; Lee YH et al (1995) BBA 1261, 223; Jensen CH et al (1994) Eur. J. Biochem. 225, 83; Smas CM et al (1993) Cell 73, 725; Smas M et al (1998) JBC 273, 31751; Smas CM et al (1999) JBC 274, 12632; Smas CM et al (1997) Mol Cell Biol 17, 977;

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

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