ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

Adiponectin Receptor 1 (ADIPOR1) Antibodies

Cat. # ADIPOR12-A	Rabbit Anti-Mouse ADIPOR1 IgG # 2 (aff pure)	**SIZE**: 100 ug
Cat. # ADIPOR12-P	Mouse ADIPOR1 Control/blocking Peptide #2	**SIZE**: 100 ug

Acrp30 (adipocyte complement-related protein of 30 kDa), also known as AdipoQ, APM1, Adiponectin, Gelatin binding protein 28 kDa/GBP28 or adipocyte most abundant gene transcript) was identified as a novel adipocyte-specific synthesized and secreted protein with structural resemblance to complement factor C1q. Like adipsin, Acrp30 secretion is induced ~10-fold during adipocyte differentiation. Plasma levels are reduced in obese humans, and low levels are associated with insulin-resistance. Treatment of db/db mice with TZD increased Acrp30 levels. Acrp30 is proteolytically cleaved at 104 aa to generate the **globular Acrp30 (gAcrp30).** Administration of gAcrp30 into mice fed a diet high in fat and sugar caused substantial weight loss. A marked reduction in plasma triglycerides, glucose, and free fatty acids was attributed due in part to increased fatty acid oxidation by muscle. Full length Acrp30 was less potent than gAcrp30.

The adiponectin receptors, ADIPOR1 and ADIPOR2, serve as receptors for globular and full-length adiponectin and mediate increased AMPK and PPAR-alpha (PPARA) ligand activities, as well as fatty acid oxidation and glucose uptake by adiponectin. ADIPOR1 and ADIPOR2 are highly related structurally, and mouse Adipor1 and Adipor2 share 66.7% identity. ADIPOR1 and ADIPOR2 are 7-transmembrane domain proteins, but they are structurally, topologically, and functionally distinct from G protein-coupled receptors (GPCRs). The mouse, human, and rat Adipor1 protein (ADIPOR1) contains 375 amino acids (~a predicted mol wt of 42.4 kD. Human and mouse ADIPOR1 are 96.8% identity. ADIPOR1 has high-affinity receptor for globular adiponectin (gACRP30) but low-affinity receptor for full-length adiponectin. ADIPOR1 is Widely expressed. Highly expressed in skeletal muscle. Expressed at intermediate level in brain, heart, spleen, kidney, liver, placenta, lung and peripheral blood leukocytes. It is Weakly expressed in colon, thymus and small intestine.

Source of Antigen and Antibodies

Antigen	18-aa peptide from Mouse **ADIPOR1 (protein accession #** Q3TI02, refs 1), **designated ADIPOR12-P** or Control Peptide/blocking peptide) conjugated to KLH. Epitope location ~ C-terminus, Extracellular domain
Ab Host/type	Rabbit, Polyclonal Aff pure IgG (**cat # ADIPOR12-A**) purified over antigen-agarose column
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control	# 20009-1, Rabbit (non-immune) 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 Blotting (1-10 ug/ml for affinity pure antibody using ECL technique). (see published refs using this antibody in 2).

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

Histochemistry & Immunofluorescence: Not tested. We recommend the use of aff pure IgG at 2-20 ug/ml.

Cross-reactivity

Mouse ADIPOR12-P is 100% conserved in rat, pig, green puffer, chicken, duck, bovine, 94% in human, chimp, zebra fish, and frog, ADIPOR1. No significant sequence homology is seen with ADIPOR2. Antibody crossreactivity in various other 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: Strausberg R.L et .al (2002) PNAS 99 (26), 16899-16903; Yamauchi, T et al (2003) Nature 423, 762-769.

(2) Citations of ADI's Antibodies (see web site for updated list)

Hattori Y 2007, Diabetes, Mar 2007; 56: 804 - 808.
Bub JD 2006, BBRC 340, 1158-1166 WB
Inukai K 2005, Am J Physiol Endocrinol Metab 288: 876, WB
Ding X 2005, Am. J. Pathol., 166: 1655 – 1669; WB
Mistry T 2006, BBRC 348, 832-838 IF
Fujioka D 2006, Am J Physiol Heart Circ Physiol, 290: H2409 -
Yamaguchi N, 2006, FEBS Lett. 579, 6821-6826
Takemura Y, 2006, Endocrinology, 318, 117-123 WB

*This product is for In vitro research use only.

Related material available from ADI

Adipsin, Acrp30, and Preadipocyte factor-1.antibodies
Adiponectin, Leptin ELISA kits

ADIPOR12-A-P 70808A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email**: service@4adi.com

India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com