

Product Specification Sheet

Leptin/Obese receptor (OBR/LEPR) Antibodies

Cat # OBR11-P	Mouse OBR control/blocking peptide # 1	SIZE: 100 ug
Cat # OBR11-S	Rabbit Anti-Mouse OBR antiserum # 1	SIZE: 100 ul
Cat # OBR11-A	Rabbit Anti-Mouse OBR IgG # 1, aff. pure	SIZE: 100 ug

Obesity, a common nutritional disorder, is associated with diabetes, hypertension, hyperlipidemia, cancer and many other health related problems. At least five genes, Obese (ob), diabetes (db), fat (fat), agouti yellow (Ay), and tubby (tub) have been linked to obesity. Obese gene encodes an adipocyte-tissue derived secreted protein Ob protein/Leptin (167 amino acid, ~16 kDa) that controls body weight homeostasis. Leptin mediates its effects via the Leptin receptor or Obese receptors (OBR or LR) that is expressed in several tissues including hypothalamus. The Ob-R has at least 6 alternatively spliced forms (**OBRa-f** or **LRA-f**) that contain a common extracellular domain. The OBRa represents the initially identified mouse Ob-R (short form, 894 AA). **OBRa, -c, -d, and -f** differ in sequence after Lys889 and have short (30-40 aa) cytoplasmic extension. Mouse Ob-Rb (long form) displays ~78% homology to the human Ob-R (long form, 1165 AA). Expression of Ob-Rb and other forms have been detected in hypothalamus and other tissues. OBRc lacks the transmembrane domain. The soluble Ob-Re is found in adipose tissues, hypothalamus, heart, and testes. Ob-R is abnormally spliced in db/db mice (truncation of cytoplasmic domain) that are important for leptin signaling. The absence of functional leptin in ob/ob and the long form OBRb in db/db mice due to abnormal splicing produces severe obesity.

Sources of antigen and antibodies

Antigen	15-aa peptide from mouse OBR; Designation (OBR11-P, control/blocking peptide); epitope location ~ N-terminus, Extracellular domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (OBR11-S) and IgG, purified over antigen-agarose (Cat # OBR11-A) supplied in PBS+0.1% BSA+0.05% azide
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (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 -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: Working antibody dilution for 1:1000 for antiserum and 1-10 ug/ml for aff pure IgG may be used. Actual antibody dilution of antibody may be adjusted according to the sample composition, and technique employed. This antibody has been used in western (2).

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

Specificity and crossreactivity

Mouse OBR11-P sequence is common in all six alternatively spliced mouse/rat obese receptors (a-e forms). It is 86% conserved in human, pig, monkey, and African elephant OBR isoforms. OBR11-P has no significant homology to gp130. Antibody cross-reactivity in various 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 see detailed protocol at the web site).

General References: (1) Tartaglia, LA (1995) Cell 83, 1263; Chen, H (1995) Cell 84, 491; Lee, G-H, et al (1996) Nature 379, 632; Cioffi JA (1996) Nature Med. 2, 585; Taky K (1996) BBRC 225, 75; Considine, R.V et al (1996) Diabetes 45, 992; Ghilardi N (1996) PNAS 93, 6231; Considine, R.V (1997) BBRC 233, 248;

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

Obradovic, T, 2002 ALCOHOLISM: CLINICAL AND EXPERIMENTAL RESEARCH 2002;26:255-262 WB, Nilsson, C, 2001, Endocrinology 2001 142: 2622-2630, WB, Maroni P 2003, Mol. Cell. Endocrinology, 201, 109-121, IP Zhang EE2004, PNAS, Nov 2004; 101: 16064 – 16069, WB, IP
This product is for In vitro research use only.

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