

Product Specification Sheet

**Obese Receptor Peptides & Antibodies**

- Cat #** OBR13-P      Mouse OBR control/blocking peptide # 3      **SIZE:** 100 ug
- Cat #** OBR13-S      Rabbit Anti-Mouse OBR13 antiserum # 3      **SIZE:** 100 ul
- Cat #** OBR13-A      Rabbit Anti-Mouse OBR13 Antibody # 3, 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). OBRb has ~300 aa intracellular tail. 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**

<b>Antigen</b>	18-aa peptide from mouse <b>OBR-b (long form)(1); Designation (#OBR13-P, control/blocking peptide)</b> conjugated to KLH; epitope location ~ C-terminus
<b>Ab Host/type</b>	Rabbit, Polyclonal unpurified antiserum ( <b>#OBR13-S</b> ) and IgG, purified over antigen-agarose (Cat # <b>OBR13-A</b> )
<b>2-Ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
<b>-ve control IgG</b>	# 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.

**Shipping:** 4oC for solutions and room temp for powder

**Recommended Usage**

Working antibody dilution (1:500-3K) should be optimized. Actual dilution of antibody may be adjusted according to the sample composition, and technique employed (Western blotting, immunoprecipitations, histochemistry) and sensitivity of detection (colorimetric or Chemiluminescent substrates).

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

**Specificity and crossreactivity**

Mouse OBR13-P sequence is unique to the OBRb long form. It is not found in OBR isoforms a, and c-f. It is 94% conserved rat, 88% in monkey, human, and 77% in pig OBRb. OBR13-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:** Tartaglia, LA (1995) Cell 83, 1263-1271; Chen, H (1995) Cell 84, 491-495; Lee, G-H, (1996) Nature 379, 632-6352; Cioffi JA (1996) Nature Med. 2, 585-589; Takya K (1996) BBRC 225, 75-83; Considine,R.V (1996) Diabetes 45, 992-994

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

Obradovic, T, 2002, Alcoholism Clin. Exp. Res. 26:255-262, WB,  
Nilsson, C, 2001, Endocrinology 142: 2622-2630, WB,  
Maroni P, 2003, Molecular and Cell Endocrinology, 201, 109-121, IP  
Zhang EE, 2004, PNAS, Nov 2004; 101: 16064 - 16069, WB, IP

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

OBR13-S-A-P      71212A

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