

Product Specification Sheet

Human Leptin Antibody

Cat # LEP12-S	Rabbit Anti-Human Leptin antiserum	SIZE: 100 ul
Cat # LEP12-A	Rabbit Anti-Human Leptin antiserum, Ig G aff pure	SIZE: 100 ug
Cat. # LEP12-C	Human Leptin Western Blot Positive Control,	SIZE 100 ul

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. Recently, **Ob genes** (mouse and human) have been cloned. Obese gene encodes an adipocyte-tissue derived secreted **Ob protein/Leptin** (167 amino acid, ~16 kDa) that controls body weight homeostasis. Exogenous administration of recombinant Ob protein can reduce food intake and body weight. However, Ob protein had no effect in db/db mice suggesting a defect in leptin signaling mechanism. The **Obese receptors (Ob-R)** have now been cloned from mouse choroid plexus and it is expressed in several tissues including hypothalamus. The Ob-R has been shown to be a product of db gene that has long been thought to encode the receptor for a weight-controlling hormone. The Ob-R has at least 6 alternatively spliced forms with modifications at the amino and C-terminus (Fig 2). The Ob-R varies in length after Lysine889. The **Ob-Ra** represents the initially identified mouse Ob-R (short form, 894 AA). **Ob-Rb** 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. The soluble Ob-Re is found in adipose tissues, hypothalamus, heart, and testes. Ob-R is abnormally spliced in db/db mice and missing the cytoplasmic domain thought to be important for leptin signaling.

Source of Antigen and Antibody

Antigen	Purified, Human recombinant leptin
Ab Host/type	Rabbit, Polyclonal antiserum # LEP12-S and IgG, purified over antigen-agarose (Cat # LEP12-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Human Leptin is an 167 Amino acid residue, ~16 kDa, adipocyte derived, secreted protein (1). Human Leptin was cloned, expressed in E. Coli and purified. The purity of Leptin is greater than 95% as determined by SDS-PAGE. The identity of protein has been confirmed by N-Terminal sequence analyses. Endotoxin level in the final preparation is less than 1 pg/μg of murine Leptin. For Western blot +ve control (**Cat # LEP12-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **LEP12-C** for good visibility with antibody Cat # **LEP12-S**. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **LEP12-C** solution

prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

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

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 (1:1K-5K using neat serum) with Chemiluminescence technique. The obese protein is predicted to be secretory protein with a molecular weight of ~ 16 kDa (refs. 1, 2).

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

Species Crossreactivity

Leptin is very conserved in various species. Antibodies made to whole human leptin protein cross reacts with rat and human. Antibody crossreactivity in all species not tested. Purified recombinant mouse, rat, and human leptin proteins are available for controls for ELISA or Western.

General References: Zhang, Y (1994) Nature 372, 425-431.

This product is for In vitro research use only.

Related material available from ADI

Human, Mouse, and rat leptin ELISA kits
Mouse Recombinant Leptin (Obese Protein)
Rabbit Anti-Mouse Leptin Protein (recombinant)
Obese Protein Peptides Antibodies (AbOb1 and AbOb2)
and Control Peptides (Ob1-P and Ob2-P)

LEP12-S-A-C

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