Human Leptin R Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF389

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Leptin R in direct ELISAs and Western blots. In direct ELISAs, approximately 15% cross-reactivity with recombinant mouse Leptin R is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Leptin R Thr20-Asp839 Accession # P48357
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

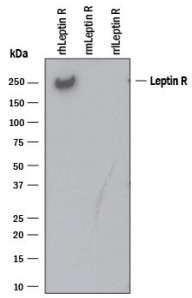
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	See Below
Immunohistochemistry	15-30 µg/mL	See Below

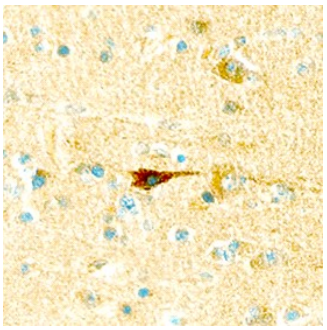
DATA

Western Blot



Detection of Recombinant Human Leptin R by Western Blot. Western blot shows 25 ng of Recombinant Human Leptin R Fc Chimera (Catalog # 389-LR), Recombinant Mouse Leptin R Fc Chimera (Catalog # 7814-LR) and Recombinant Rat Leptin R. PVDF Membrane was probed with 0.1 µg/mL of Goat Anti-Human Leptin R Antigen Affinity-purified Polyclonal Antibody (Catalog # AF389) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for Leptin R at approximately 250 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 3.

Immunohistochemistry



Leptin R in Human Brain. Leptin R was detected in immersion fixed paraffin-embedded sections of human brain using Goat Anti-Human Leptin R Antigen Affinity-purified Polyclonal Antibody (Catalog # AF389) at 25 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to neurons. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

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BACKGROUND

Leptin receptor (OB-R), also named B219, is a type I cytokine receptor family protein with significant amino acid sequence identity with gp130, G-CSF receptor, and the LIF receptor. Multiple isoforms of human and mouse OB-R, including a long form (OB-R_L) with a large cytoplasmic domain capable of signal-transduction, and several receptor isoforms with short cytoplasmic domains (OB-R_s) lacking signal-transducing capabilities, have been identified. The extracellular domains of the short and long forms of OB-R are identical. An OB-R transcript, lacking a transmembrane domain and potentially encoding a soluble form of the receptor, has also been described. OB-R_L transcripts were reported to be expressed predominantly in regions of the hypothalamus previously thought to be important in body weight regulation. Expression of OB-R_s transcripts have been found in multiple tissues, including the choroid plexus, lung, kidney, and primitive hematopoietic cell populations. OB-R has been shown to be encoded by the mouse diabetes (*db*) and rat fatty (*fa*) genes. Rodents homozygous for the *db* or *fa* mutations have been known to exhibit an obesity phenotype.

Human OB-R long form encodes a 1165 amino acid (aa) residue precursor protein with a 22 aa residue signal peptide, an 819 aa residue extracellular domain, a 21 aa residue transmembrane domain, and a 303 aa residue cytoplasmic domain. The extracellular domain of OB-R contain two hemopoietin receptor domains, a fibronectin type III domain and the WSXWS domain. Recombinant soluble OB-R has been shown to bind Leptin with high affinity and is a potent Leptin antagonist.

References:

1. Tartaglia, L.A. *et al*. (1995) Cell **83**:1263.
2. Cioffi, J.A. *et al*. (1996) Nature Medicine **2**:585.
3. Tartaglia, L.A. (1997) J. Biol. Chem. **272**:6093.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956