

Ob-R (M-18): sc-1834

BACKGROUND

Although there is substantial evidence that body weight is physiologically regulated, the molecular basis of obesity is unknown. Five single-gene mutations in mice that result in an obese phenotype have been identified. The first such recessive obesity mutation, the obese mutation (Ob), was identified in 1950. Mutation of Ob results in profound obesity and type II diabetes as part of a syndrome that resembles morbid obesity in humans. It has been postulated that the Ob gene product may function as a component of a signaling pathway in adipose tissue that functions to regulate body fat depot size. The cloning and sequence analysis of the mouse Ob gene and its human homolog has recently been described. Ob encodes an adipose tissue-specific mRNA with a highly conserved 167 amino acid open reading frame. The predicted amino acid sequence is 84% identical between human and mouse and has the features of a secreted protein. A nonsense mutation in codon 105 has been found in the original congenic C57BL/6J Ob/Ob mouse strain. The Ob gene encodes the protein leptin. The leptin receptor, designated Ob-R, has been shown to be a single membrane-spanning receptor that most resembles the gp130 signal transducing component of the IL-6, G-CSF and LIF receptor. Ob-R mRNA is expressed in the choroid plexus and hypothalamus.

CHROMOSOMAL LOCATION

Genetic locus: LEPR (human) mapping to 1p31.3; Lepr (mouse) mapping to 4 C6.

SOURCE

Ob-R (M-18) is available as either goat (sc-1834) or rabbit (sc-1834-R) polyclonal affinity purified antibody raised against a peptide mapping at the C-terminus of the short form of Ob-R of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1834 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ob-R (M-18) is recommended for detection of short and long forms of Ob-R of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Ob-R (M-18) is also recommended for detection of short and long forms of Ob-R in additional species, including canine and bovine.

Suitable for use as control antibody for Ob-R siRNA (h): sc-36115, Ob-R siRNA (m): sc-36116, Ob-R shRNA Plasmid (h): sc-36115-SH, Ob-R shRNA Plasmid (m): sc-36116-SH, Ob-R shRNA (h) Lentiviral Particles: sc-36115-V and Ob-R shRNA (m) Lentiviral Particles: sc-36116-V.

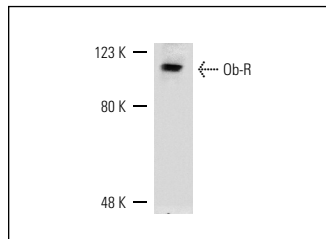
Molecular Weight of Ob-R short form: 100 kDa.

Molecular Weight of Ob-R long form: 125 kDa.

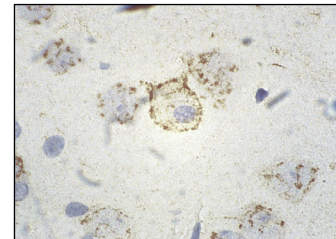
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Ob-R (M-18): sc-1834. Western blot analysis of Ob-R expression in COLO 320DM whole cell lysate.



Ob-R (M-18): sc-1834. Immunoperoxidase staining of formalin-fixed, paraffin-embedded normal rat brain. Note distinct membrane localization of Ob receptor.

SELECT PRODUCT CITATIONS

- Shioda, S., et al. 1998. Immunohistochemical localization of leptin receptor in the rat brain. *Neurosci. Lett.* 243: 41-44.
- Morton, N.M., et al. 1998. Leptin action in intestinal cells. *J. Biol. Chem.* 273: 26194-26201.
- Hakansson, M.L., et al. 1998. Leptin receptor immunoreactivity in chemically defined target neurons of the hypothalamus. *J. Neurosci.* 18: 559-572.
- Xu, L., et al. 2009. Sex-specific effects of fasting on urocortin 1, cocaine- and amphetamine-regulated transcript peptide and nesfatin-1 expression in the rat Edinger-Westphal nucleus. *Neuroscience* 162: 1141-1149.
- Hsouchou, H., et al. 2009. Obesity induces functional astrocytic leptin receptors in hypothalamus. *Brain* 132: 889-902.
- Horner, K.C., et al. 2010. Receptors for leptin in the otic labyrinth and the cochlear-vestibular nerve of guinea pig are modified in hormone-induced anorexia. *Hear. Res.* 270: 48-55.
- Palianopoulou, M., et al. 2011. The activation of leptin-mediated survivin is limited by the inducible suppressor SOCS-3 in MCF-7 cells. *Exp. Biol. Med.* 236: 70-76.
- Dall'Aglio, C., et al. 2012. Immunohistochemical distribution of leptin receptor in the major salivary glands of horses. *Res. Vet. Sci.* 93: 1116-1118.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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