

Ob (Y-20): sc-843

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 (also designated leptin) 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 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.

CHROMOSOMAL LOCATION

Genetic locus: LEP (human) mapping to 7q32.1; Lep (mouse) mapping to 6 A3.3.

SOURCE

Ob (Y-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of Ob of human 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-843 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ob (Y-20) is recommended for detection of precursor and mature Ob of human and, to a lesser extent, mouse and rat 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).

Suitable for use as control antibody for Ob siRNA (h): sc-37189, Ob siRNA (m): sc-37190, Ob shRNA Plasmid (h): sc-37189-SH, Ob shRNA Plasmid (m): sc-37190-SH, Ob shRNA (h) Lentiviral Particles: sc-37189-V and Ob shRNA (m) Lentiviral Particles: sc-37190-V.

Molecular Weight of Ob: 16 kDa.

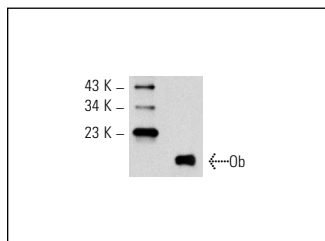
STORAGE

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

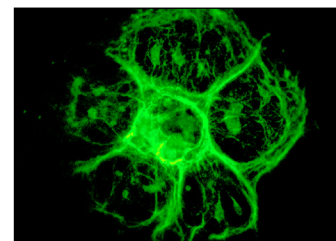
RESEARCH USE

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

DATA



Ob (Y-20): sc-843. Western blot analysis of human recombinant Ob protein (leptin).



Ob (Y-20): sc-843. Immunofluorescence staining of methanol-fixed JAR cells showing cell surface and extracellular localization.

SELECT PRODUCT CITATIONS

- Cioffi, J.A., et al. 1997. The expression of leptin and its receptors in pre-ovulatory human follicles. *Mol. Hum. Reprod.* 3: 467-472.
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- Morais, C., et al. 2009. Anti-angiogenic actions of pyrrolidine dithiocarbamate, a nuclear factor κ B inhibitor. *Angiogenesis* 12: 365-379.
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- SHI, Z., et al. 2010. The neuroprotective effect of batch-2, an aqueous extract from cat's claw (*Uncaria tomentosa*) on 6-OHDA-Induced SH-SY5Y cell damage. *Prog. Biochem. Biophys.* 37: 769-778.
- Perez-Perez, A., et al. 2013. Insulin enhances leptin expression in human trophoblastic cells. *Biol. Reprod.* 89: 20.
- Perez-Perez, A., et al. 2013. Activated translation signaling in placenta from pregnant women with gestational diabetes mellitus: possible role of leptin. *Horm. Metab. Res.* 45: 436-442.



Try **Ob (F-3): sc-48408** or **Ob (B-4): sc-28344**, our highly recommended monoclonal alternatives to Ob (Y-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Ob (F-3): sc-48408**.