SANTA CRUZ BIOTECHNOLOGY, INC.

Ob-R (C-20): sc-1832

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

SOURCE

Ob-R (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Ob-R 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-1832 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Ob-R (C-20) is recommended for detection of long form of Ob-R of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (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 (C-20) is also recommended for detection of long form of Ob-R in additional species, including equine, canine, bovine and porcine.

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

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

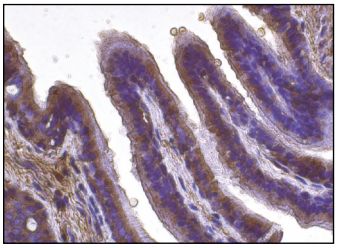
Molecular Weight of Ob-R long form: 125 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226.

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 (C-20): sc-1832. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing cytoplasmic staining of respiratory epithelial cells.

SELECT PRODUCT CITATIONS

1. Breidert, M., et al. 1999. Leptin and its receptor in normal human gastric mucosa and in *Helicobacter pylori*-assosiated gastritis. Scand. J. Gastroenterol. 34: 954-961.
2. Schlabritz-Loutsevitch, N.E., et al. 2009. The prolonged effect of repeated maternal glucocorticoid exposure on the maternal and fetal leptin/insulin-like growth factor axis in *Papio* species. Reprod Sci. 16: 308-319.
3. Farley, D.M., et al. 2010. Placental amino acid transport and placental leptin resistance in pregnancies complicated by maternal obesity. Placenta 31: 718-724.
4. Cheng, S.P., et al. 2010. Differential roles of leptin in regulating cell migration in thyroid cancer cells. Oncol. Rep. 23: 1721-1727.
5. Cheng, S.P., et al. 2011. Leptin enhances migration of human papillary thyroid cancer cells through the PI3K/AKT and MEK/ERK signaling pathways. Oncol. Rep. 26: 1265-1271.
6. Porzionato, A., et al. 2011. Expression of leptin and leptin receptor isoforms in the rat and human carotid body. Brain Res. 1385: 56-67.
7. Wang, P., et al. 2011. Involvement of leptin receptor long isoform (LepRb)-STAT3 signaling pathway in brain fat mass- and obesity-associated (FTO) downregulation during energy restriction. Mol. Med. 17: 523-532.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **Ob-R (B-3): sc-8391**, our highly recommended monoclonal alternative to Ob-R (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Ob-R (B-3): sc-8391**.