SANTA CRUZ BIOTECHNOLOGY, INC.

Ob (F-3): sc-48408

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 1,950. 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 have 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.

SOURCE

Ob (F-3) is a mouse monoclonal antibody raised against amino acids 92-145 of human Ob.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ob (F-3) is available conjugated to agarose (sc-48408 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-48408 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-48408 PE), fluorescein (sc-48408 FITC), Alexa Fluor® 488 (sc-48408 AF488), Alexa Fluor® 546 (sc-48408 AF546), Alexa Fluor® 594 (sc-48408 AF594) or Alexa Fluor® 647 (sc-48408 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-48408 AF680) or Alexa Fluor® 790 (sc-48408 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

Ob (F-3) is recommended for detection of Ob of 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).

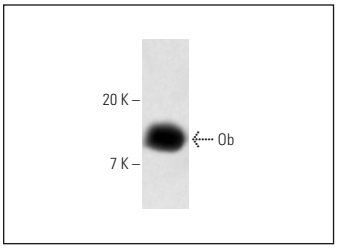
Suitable for use as control antibody for Ob siRNA (h): sc-37189, Ob shRNA Plasmid (h): sc-37189-SH and Ob shRNA (h) Lentiviral Particles: sc-37189-V.

Molecular Weight of Ob: 16 kDa.

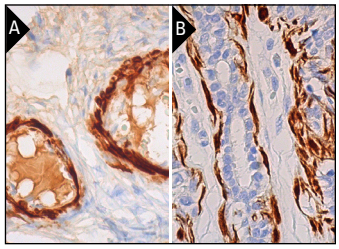
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Ob (F-3): sc-48408. Western blot analysis of human recombinant Ob.



Ob (F-3): sc-48408. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing cytoplasmic staining of endothelial cells and staining of plasma in blood vessels (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic and membrane staining of myoepithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Iván, J., et al. 2017. The short-chain fatty acid propionate inhibits adipogenic differentiation of human chorion-derived mesenchymal stem cells through the free fatty acid receptor 2. Stem Cells Dev. 26: 1724-1733.
2. Han, M.H., et al. 2018. Inhibition of adipocyte differentiation by anthocyanins isolated from the fruit of *Vitis coignetiae* Pulliat is associated with the activation of AMPK signaling pathway. Toxicol. Res. 34: 13-21.
3. Nogues, P., et al. 2019. Maternal obesity influences expression and DNA methylation of the adiponectin and leptin systems in human third-trimester placenta. Clin. Epigenetics 11: 20.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.