

Lipotropin γ (E-19): sc-33036

BACKGROUND

Pro-opiomelanocortin (POMC) is a precursor hormone of the pituitary gland that undergoes enzymatic cleavage to yield active ligands for melanocortin receptors. These peptides include adrenocorticotropin (ACTH), corticotropin-like intermediate lobe peptide (CLIP), melanotropins (α , β , γ -MSH), lipotropin β (β -LPH), Lipotropin γ (γ -LPH) and endorphins. ACTH stimulates the adrenal glands to release cortisol and is produced by the pituitary gland. MSH (melanocyte-stimulating hormone) is also produced by the pituitary gland and functions by increasing skin pigmentation by increasing melanocyte melanin production. Defects in the POMC gene may cause a genetic predisposition to obesity. Lipotropin γ , also known as γ -LPH, is a 56 amino acid active peptide which is the N-terminal peptide fragment of Lipotropin β . Lipotropin β stimulates melanocytes to produce melanin.

REFERENCES

1. Millington, G.W., et al. 2001. Differential effects of α -, β - and γ (2)-melanocyte-stimulating hormones on hypothalamic neuronal activation and feeding in the fasted rat. *Neuroscience* 108: 437-445.
2. Grassel, S., et al. 2009. The melanocortin system in articular chondrocytes: melanocortin receptors, pro-opiomelanocortin, precursor proteases, and a regulatory effect of α -melanocyte-stimulating hormone on proinflammatory cytokines and extracellular matrix components. *Arthritis Rheum.* 60: 3017-3027.
3. McLaughlin, P.J., et al. 2009. Growth inhibition of thyroid follicular cell-derived cancers by the opioid growth factor (OGF)-opioid growth factor receptor (OGFr) axis. *BMC Cancer* 9: 369.
4. Belgardt, B.F., et al. 2009. Hormone and glucose signalling in POMC and AgRP neurons. *J. Physiol.* 587: 5305-5314.

CHROMOSOMAL LOCATION

Genetic locus: POMC (human) mapping to 2p23.3; Pomc (mouse) mapping to 12 A1.1.

SOURCE

Lipotropin γ (E-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of POMC of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-33036 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Lipotropin γ (E-19) is recommended for detection of POMC and the processed active peptide Lipotropin γ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for POMC siRNA (h): sc-37277, POMC siRNA (m): sc-37278, POMC shRNA Plasmid (h): sc-37277-SH, POMC shRNA Plasmid (m): sc-37278-SH, POMC shRNA (h) Lentiviral Particles: sc-37277-V and POMC shRNA (m) Lentiviral Particles: sc-37278-V.

Molecular Weight of POMC precursor: 30 kDa.

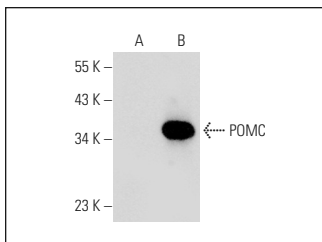
Molecular Weight of Lipotropin γ : 5 kDa.

Positive Controls: POMC (h): 293T Lysate: sc-111490.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Lipotropin γ (E-19): sc-33036. Western blot analysis of POMC expression in non-transfected: sc-117750 (A) and human POMC transfected: sc-111490 (B) whole cell lysates.

PROTOCOLS

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