SANTA CRUZ BIOTECHNOLOGY, INC.

γ-MSH (Y-17): sc-16959

BACKGROUND

POMC (pro-opiomelanocortin), also known as corticotropin-lipotropin, is a 267 amino acid polypeptide hormone precursor that goes through extensive, tissue-specific posttranslational processing by prohormone convertases. POMC is cleaved into ten hormone chains named NPP, γ-MSH, ACTH, α-MSH, CLIP (corticotropin-like intermediary peptide), Lipotropin β, Lipotropin γ, β-MSH, β endorphin and Met-enkephalin. Defects in the gene that encodes POMC are the cause of POMC deficiency, which is characterized by red hair and adrenal insufficiency. Mutations in the POMC gene have also been linked to susceptibility to obesity. γ-MSH is an 11 amino acid active peptide that stimulates adrenal steroidogenesis. γ-MSH also has regulatory roles in renal and cardiovascular systems.

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. Grässel, 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.
5. Fehér, P., et al. 2010. Dephosphorylation/inactivation of tyrosine hydroxylase at the median eminence of the hypothalamus is required for suckling-induced prolactin and adrenocorticotrop hormone responses. Brain Res. Bull. 82: 141-145.

CHROMOSOMAL LOCATION

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

SOURCE

γ-MSH (Y-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Corticotropin-Lipotropin Precursor (POMC) of human origin.

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 or our catalog for detailed protocols and support products.

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-16959 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

γ-MSH (Y-17) is recommended for detection of POMC and the processed active peptide γ-MSH 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

γ-MSH (Y-17) is also recommended for detection of POMC and the processed active peptide γ-MSH in additional species, including canine.

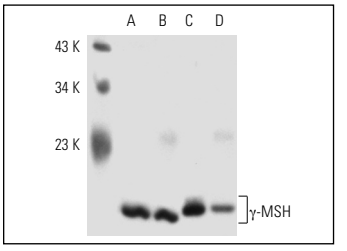
Suitable for use as control antibody for POMC siRNA (h): sc-37277, POMC siRNA (m): sc-37278, POMC shRNA Plasmid (h): sc-37277-SH, POMC shRNA Plasmid (m): sc-37278-SH, POMC shRNA (h) Lentiviral Particles: sc-37277-V and POMC shRNA (m) Lentiviral Particles: sc-37278-V.

Molecular Weight of POMC precursor: 30 kDa.

Molecular Weight of γ-MSH: 18 kDa.

Positive Controls: SW-13 cell lysate: sc-24778, mouse lung extract: sc-2390 or mouse pituitary.

DATA



γ-MSH (Y-17): sc-16959. Western blot analysis of γ-MSH expression in SW-13 whole cell lysate (**A**) and rat adrenal gland (**B**), mouse pituitary (**C**) and mouse lung (**D**) tissue extracts.

RESEARCH USE

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