

ACTH/CLIP (E-15): sc-18262

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. ACTH, also known as corticotropin, is a 39 amino acid active peptide that stimulates the secretion of cortisol by the adrenal gland. CLIP is a 21 amino acid neuropeptide secreted by corticotrope cells of adenohypophysis.

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

ACTH/CLIP (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of POMC of mouse 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-18262 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

ACTH/CLIP (E-15) is recommended for detection of POMC and the processed active peptides ACTH and CLIP 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).

ACTH/CLIP (E-15) is also recommended for detection of POMC and the processed active peptides ACTH and CLIP in additional species, including bovine.

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.

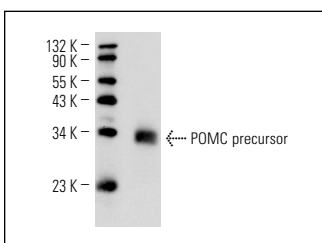
Molecular Weight of POMC precursor: 30 kDa.

Molecular Weight of ACTH: 5 kDa.

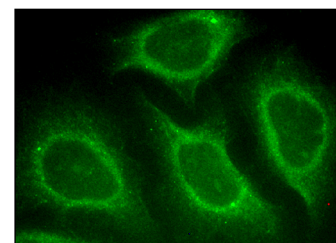
Molecular Weight of CLIP: 3 kDa.

Positive Controls: rat pituitary tissue extract or AtT-20/D16vF2 whole cell lysate: sc-364367.

DATA



ACTH/CLIP (E-15): sc-18262. Western blot analysis of POMC precursor expression in rat pituitary tissue extract.



ACTH/CLIP (E-15): sc-18262. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Reaux-Le Goazigo, A., et al. 2011. Apelin and the proopioidmelanocortin system: a new regulatory pathway of hypothalamic α -MSH release. *Am. J. Physiol. Endocrinol. Metab.* 301: E955-E966.

PROTOCOLS

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



Try **ACTH/CLIP (F-3): sc-373878** or **ACTH/CLIP (E-12): sc-365831**, our highly recommended monoclonal alternatives to ACTH/CLIP (E-15). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **ACTH/CLIP (F-3): sc-373878**.