

ACTH/CLIP (G-11): sc-373879

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 -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. Höftberger, R., et al. 2010. Peroxisomal localization of the proopiome-lanocortin-derived peptides β -lipotropin and β -endorphin. *Endocrinology* 151: 4801-4810.

CHROMOSOMAL LOCATION

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

SOURCE

ACTH/CLIP (G-11) is a mouse monoclonal antibody raised against a peptide mapping within an internal region of POMC of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-373879 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

ACTH/CLIP (G-11) 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 1:100, 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 ACTH: 5 kDa.

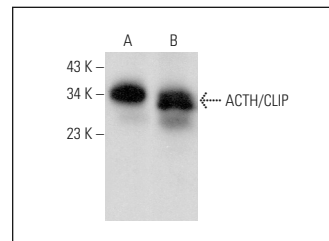
Molecular Weight of CLIP: 3 kDa.

Positive Controls: AtT-20/D16vF2 whole cell lysate: sc-364367, rat pituitary tissue extract or mouse pituitary gland extract: sc-364246.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ACTH/CLIP (G-11): sc-373879. Western blot analysis of ACTH/CLIP expression in rat pituitary (A) and mouse pituitary gland (B) tissue extracts.

STORAGE

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

CONJUGATES

See **ACTH/CLIP (F-3): sc-373878** for ACTH/CLIP antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.