

# ACTH (2F6): sc-69648

## 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,  $\gamma$ -MSH, ACTH,  $\alpha$ -MSH, CLIP (corticotropin-like intermediary peptide), Lipotropin  $\beta$ , Lipotropin  $\gamma$ ,  $\beta$ -MSH,  $\beta$  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. ACTH is often produced in response to biological stress.

## CHROMOSOMAL LOCATION

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

## SOURCE

ACTH (2F6) is a mouse monoclonal antibody raised against amino acids 1-24 mapping to the N-terminus of ACTH of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ACTH (2F6) is available conjugated to agarose (sc-69648 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-69648 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-69648 PE), fluorescein (sc-69648 FITC), Alexa Fluor<sup>®</sup> 488 (sc-69648 AF488), Alexa Fluor<sup>®</sup> 546 (sc-69648 AF546), Alexa Fluor<sup>®</sup> 594 (sc-69648 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-69648 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-69648 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-69648 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

ACTH (2F6) is recommended for detection of POMC and the processed active peptide ACTH of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

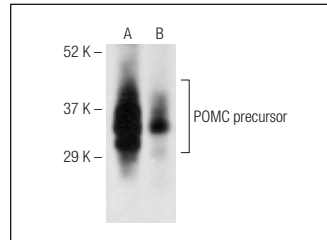
Molecular Weight of ACTH: 5 kDa.

Positive Controls: POMC (h): 293T Lysate: sc-111490, AtT-20/D16vF2 whole cell lysate: sc-364367 or mouse pituitary gland extract: sc-364246.

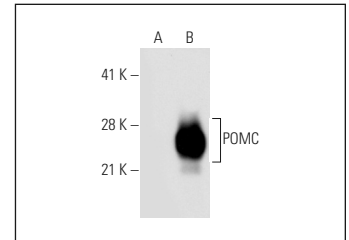
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



ACTH (2F6): sc-69648. Western blot analysis of POMC/ACTH expression in AtT-20/D16vF2 whole cell lysate (A) and mouse pituitary gland tissue extract (B).



ACTH (2F6): sc-69648. Western blot analysis of POMC expression in non-transfected: sc-117752 (A) and human POMC transfected: sc-111490 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Mathioudakis, N., et al. 2015. Expression of the pituitary stem/progenitor marker GFR $\alpha$ 2 in human pituitary adenomas and normal pituitary. *Pituitary* 18: 31-41.
- Tagiguchi, T., et al. 2017. Multihormonal pituitary adenoma concomitant with Pit-1 and Tpit lineage cells causing acromegaly associated with subclinical Cushing's disease: a case report. *BMC Endocr. Disord.* 17: 54.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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