SANTA CRUZ BIOTECHNOLOGY, INC.

ACTH (SPM333): sc-52980

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. ACTH is often produced in response to biological stress.

CHROMOSOMAL LOCATION

Genetic locus: POMC (human) mapping to 2p23.3; Pomc1 (mouse) mapping to 12 A1.1.

SOURCE

ACTH (SPM333) 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 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ACTH (SPM333) is available conjugated to HRP (sc-52980 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

STORAGE

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

APPLICATIONS

ACTH (SPM333) 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 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 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.

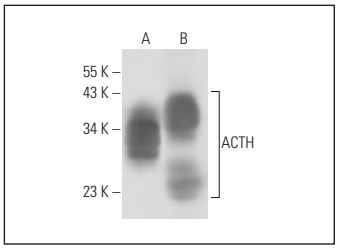
Molecular Weight of ACTH: 5 kDa.

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

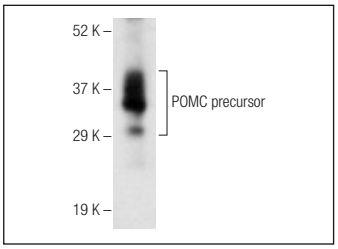
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ACTH (SPM333): sc-52980. Western blot analysis of ACTH expression in AtT-20/D16vF2 whole cell lysate (**A**) and rat pituitary tissue extract (**B**).



ACTH (SPM333): sc-52980. Western blot analysis of POMC/ACTH expression in mouse pituitary gland tissue extract.

SELECT PRODUCT CITATIONS

1. Gallelli, M.F., et al. 2016. Immunohistochemical analysis of the hypothalamic-pituitary-adrenal axis in dogs: sex-linked and seasonal variation. Res. Vet. Sci. 104: 10-16.
2. Mercau, M.E., et al. 2016. Moderate exercise prevents functional remodeling of the anterior pituitary gland in diet-induced Insulin resistance in rats: role of oxidative stress and autophagy. Endocrinology 157: 1135-1145.
3. Mercau, M.E., et al. 2018. Melatonin prevents early pituitary dysfunction induced by sucrose rich diets. J. Pineal Res 26: e12545.

RESEARCH USE

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

PROTOCOLS

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