**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 intermediate 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.

**REFERENCES**


**CHROMOSOMAL LOCATION**

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

**SOURCE**

ACTH (O2A3) is a mouse monoclonal antibody raised against amino acids 1-39 of ACTH of human origin.

**PRODUCT**

Each vial contains 200 \( \mu \)g IgG1 in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

**STORAGE**

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

**APPLICATIONS**

ACTH (O2A3) is recommended for detection of POMC and the processed active peptide ACTH of mouse, rat, human and avian 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); non cross-reactive with flLPH.

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: rat pituitary tissue extract or human pituitary tissue extract.

**RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-mouse IgG-FITC: sc-2048 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

**DATA**

ACTH (O2A3): sc-57018. Western blot analysis of ACTH expression in rat pituitary tissue extract.

ACTH (O2A3): sc-57018. Western blot analysis of POMC/AcTTh expression in human pituitary tissue extract.

**RESEARCH USE**

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

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