

# New Item

INTERNATIONAL

## Pituitary related Antibodies

### Adenocorticotropin Hormone (ACTH) antibodies (Cat # ACTH-101AP, P-ACTH, PC-ACTH)

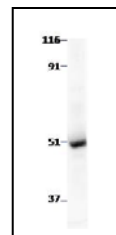
*Alternate nomenclature: adrenocorticotrophin hormone. Pro-opiomelanocortin product*

The pro-opiomelanocortin (POMC) is the precursor of many pituitary hormones including Adenocorticotrophin (ACTH). The POMC was first identified in the anterior intermediate lobe of pituitary but is expressed in many other tissues including CNS, skin, and placenta. Following synthesis POMC undergoes extensive post-translational modifications and proteolysis producing not only ACTH but also a number of other biological active peptides. The proteolysis and post-translational modification are dependent upon tissue thus producing a different combination of peptides from the same precursor protein. These biological active peptides have diverse range of function ranging from pigmentation to adrenal and regulation of feeding behavior (1). ACTH is produced in the anterior intermediate lobe of the pituitary and in neurons in the brain. ACTH regulate the corticosteroid/glucocorticoid production in the adrenal cortex. Other hormones that are produced by POMC gene are beta endorphins, met enkephalin (endogenous opioids), melanocyte stimulating hormone that increase the pigmentation of skin by increasing the production of melanin in melanocytes. Other hormones are corticotrophin like intermediate lobe peptide (CLIP), Lipotrophins and endorphins. Defects in the POMC gene have been known to cause several defects including obesity. Ectopic immunodeficiency has been found in many tumors including prostate carcinoma, thymoma, pancreatic tumors. The testicular adrenal rest tumors are frequently associated with hyper adrenal hyperplasia, and ACTH-dependent tumors can be easily detected from leydig-cell tumors by ACTH staining (2). The serum levels of ACTH are stimulated by adrenal-hypothalamic-pituitary axis, ACTH levels are also positively correlated with stress levels.

ACTH is a 39 amino acid peptide hormone derived from POMC gene (268 amino acids). The ACTH (39 amino acids) resides between amino acids 138-176 on pro-ACTH a 22 kDa polypeptide. ACTH has MW of about 4-5 kDa on denatured SDS-PAGE gel. The ACTH-selective antibodies were generated against full length synthetic ACTH peptide corresponding human ACTH sequence. ACTH antibodies were affinity purified on immobilized antigen based affinity matrix. The affinity purified antibodies are stabilized in antibody stabilization buffer for long-term storage. The ACTH antibodies strongly label a beta 4-5kDa ACTH band in PC-ACTH samples. FabGennix Inc. also has FITC conjugated ACTH antibodies for direct visualization of ACTH positive cells in IHC and fluorescence microscopy. FabGennix, Inc., provides Western blot positive controls for ACTH in ready-to-use buffer for easy identification of target protein is also available. Limited quantities of antigenic blocking peptide is also available. Please enquire for their availability before ordering.

R = rat; M = mouse; H = human; C = chicken; monk = monkey; \* not all variants are labeled equally

Immunogen:	Synthetic peptide corresponding to 1-39 amino acids of ACTH (sys meh frw gpk vgk krr pvk vvp nga ede sae afp lef). The peptide was covalently modified to achieve desired antigenicity before coupling to carrier protein.
Concentration:	ACTH-101AP IgG concentration 0.68-0.71 mg/ml. FITC-ACTH IgG concentration 0.63-0.69mg/ml
Applications:	Antibodies ACTH-101AP or FITC-ACTH are ideal for WB applications, dot blotting and IHC applications. Application of these antibodies in methodology ( confocal, biacore etc., ) has not been tested. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay. WB; 1:1000; IMM & i.p pull-down assays:>1:200. IHC 1:250 in diluObuffer (Cat # FGI-1963) Application of this antibody in protocols not listed here does not necessarily exclude its use in such procedures. It is highly recommended that user titrate and the use of this antibody in a particular application with positive and negative controls.
Reactivity:	This antibody detects a single 4-5kDa human ACTH band in PC-ACTH samples. The antibody does not react to other cellular proteins that are tested during characterization of this antibody. .
Protocols:	General information on this antibody is provided in the specification sheet, all standard protocols for various applications (WB, IMM and IHC) of this or other catalog antibodies can be obtained by calling our technical support line. FabGennix strongly recommends that investigators standardized the optimal conditions for their applications.
Form/Storage:	The antiserum is supplied in antibody stabilization buffer with 0.02% sodium azide. For long-term storage of antibodies, store at -20°C. FabGennix Int. Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DilUbuffer). Working solutions of antibodies in DilUbuffer should be filtered through 0.45µ filter after every use for long-term storage.
References:	<ol style="list-style-type: none"><li>1. Bicknell AB. The tissue-specific processing of pro-opiomelanocortin. J Neuroendocrinol. 2008 Jun;20(6):692-9. Links</li><li>2. Fenichel P, Bstandig B, Roger C, Chevallier D, Michels JF, Sadoul JL, Hieronimus S, Brucker-Davis F. Unilateral testicular tumour associated to congenital adrenal hyperplasia: Failure of specific tumoral molecular markers to discriminate between adrenal rest and leydigoma. Ann Endocrinol (Paris). 2008 Jul 10. [Epub ahead of print]Links</li></ol>



Western blot of ACTH antibody (ACTH-101AP) with PC-ACTH sample. Antibody dilution 1:1000 in diluObuffer (Cat # FGI-1963)

\*For users who may require large amounts of ACTH-101AP and FITC-ACTH, please enquire about bulk material discounts.  
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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