

## Product datasheet for **AM33348PU-S**

### ACTH (POMC) (N-term) Mouse Monoclonal Antibody [Clone ID: 57]

#### Product data:

Product Type:	Primary Antibodies
Clone Name:	57
Applications:	FC, IF, IHC, IP, WB
Recommended Dilution:	<b>ELISA:</b> Use Antibody without BSA for Coating. <b>Western Blot:</b> 0.5-1 µg/ml. <b>Flow Cytometry:</b> 0.5-1 µg/10 <sup>6</sup> cells. <b>Immunofluorescence:</b> 0.5-1 µg/ml. <b>Immunoprecipitation:</b> 0.5-1 µg/500 µg protein lysate. <b>Immunohistochemistry on Frozen and Formalin-Fixed Paraffin Sections:</b> 0.5-1 µg/ml for 30 minutes at RT. No special pretreatment is required for staining of formalin-fixed, paraffin-embedded tissues. <b>Recommended Positive Control:</b> Normal pituitary gland or pituitary tumor.
Reactivity:	Human, Rat
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Immunogen:	N-terminal fragment of Human ACTH conjugated to KLH



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<b>Specificity:</b>	<p>ACTH (same as Corticotropin) is a 39 amino acid active peptide produced by the anterior pituitary.</p> <p>This Monoclonal Antibody is specific to Synacthen (aa1-24 of ACTH); does not react with CLIP (aa17-39 of ACTH). POMC (pro-opiomelanocortin or corticotropin-lipotropin) is a 267 amino acid polypeptide hormone precursor that goes through extensive, tissue-specific post-translational processing by convertases. POMC is cleaved into ten hormone chains named NPP, ACTH, alpha-MSH (Melanocyte Stimulating Hormone), beta-MSH, gamma-MSH, CLIP (corticotropin-like intermediary peptide), Lipotropin-beta, Lipotropin-gamma, beta-endorphin and Met-enkephalin. ACTH is also produced by cells of immune system (T-cells, B-cells, and macrophages) in response to stimuli associated with stress. Anti-ACTH is a useful marker in classification of pituitary tumors and the study of pituitary disease. It reacts with ACTH-producing cells (corticotrophs). It also may react with other tumors (e.g. some small cell carcinomas of the lung) causing paraneoplastic syndromes by secreting ACTH.</p> <p><b>Cellular Localization:</b> Cytoplasmic.</p>
<b>Formulation:</b>	<p>10mM PBS State: Purified State: Liquid purified IgG fraction from Bioreactor Concentrate Stabilizer: 0.05% BSA Preservative: 0.05% Sodium Azide</p>
<b>Concentration:</b>	lot specific
<b>Purification:</b>	Protein A/G Chromatography
<b>Conjugation:</b>	Unconjugated
<b>Storage:</b>	Store undiluted at 2-8°C.
<b>Stability:</b>	Shelf life: one year from despatch.
<b>Predicted Protein Size:</b>	5 kDa ( ACTH), ~30 kDa (POMC precursor). The Molecular Weight of POMC may vary depending on isoform variation and post-translational modifications.
<b>Gene Name:</b>	proopiomelanocortin
<b>Database Link:</b>	<a href="#">Entrez Gene 5443 Human P01189</a>

**Background:**

ACTH (Adrenocorticotrophic hormone) is produced and secreted by the anterior pituitary gland, and is a key component of the hypothalamic-pituitary-adrenal axis. ACTH is synthesized from the precursor molecule pre-opiomelanocorin (POMC). POMC undergoes proteolytic cleavages and processing to generate not only ACTH but also a number of other small biologically active peptides including alpha-MSH and beta-endorphin, all in cell type specific manners. The production of ACTH is triggered by biological stress. ACTH, in turn, then stimulates the secretion of corticosteroids by the adrenal cortex. The half-life of ACTH in human blood is only about ten minutes. An excess of ACTH can cause Cushing's syndrome whereas ACTH deficiency can result in secondary adrenal insufficiency.

ACTH consists of 39 amino acids (aa), and can be proteolytically cleaved into different active fragments including CLIP (corticotropin-like intermediate lobe peptide), consisting of aa 17-39, which stimulates insulin production. Synacthen is an active synthetic form of ACTH, corresponding to the first 24 aa, which is used to conduct ACTH stimulation tests.

**Synonyms:**

Corticotropin, POMC, Adrenocorticotrophic hormone