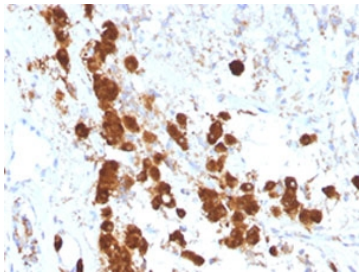
ACTH Antibody / Adrenocorticotropic hormone / Synacthen [clone SPM333] (V9067)

Catalog No.	Formulation	Size
V9067-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V9067-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V9067SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	SPM333
Purity	Protein G affinity chromatography
UniProt	P01189
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This ACTH/Adrenocorticotropic hormone antibody is available for research use only.



Immunohistochemistry analysis of ACTH in human pituitary tissue. Formalin-fixed, paraffin-embedded human pituitary gland tissue was stained using ACTH/Adrenocorticotropic hormone antibody (clone SPM333), showing granular cytoplasmic staining in scattered pituitary cells consistent with hormone-containing corticotrophs. Antigen retrieval was performed by heating sections in 10 mM Tris with 1 mM EDTA, pH 9.0, at 95oC for 45 minutes, followed by cooling at room temperature for 20 minutes.

Description

ACTH antibody targets Adrenocorticotropic hormone, a peptide hormone derived from the larger precursor protein Proopiomelanocortin (POMC) and primarily produced by corticotroph cells of the anterior pituitary gland. Adrenocorticotropic hormone is also commonly referred to as Corticotropin and plays a central role in the regulation of adrenal gland function and the hypothalamic-pituitary-adrenal (HPA) axis. Following synthesis, POMC undergoes tissue-specific proteolytic processing to generate multiple biologically active peptides, including Adrenocorticotropic hormone, melanocyte-stimulating hormones, and beta-endorphin.

Adrenocorticotropic hormone is secreted into the circulation in response to corticotropin-releasing hormone (CRH) released from the hypothalamus. Once released, Adrenocorticotropic hormone binds to the melanocortin 2 receptor (MC2R) on cells of the adrenal cortex, stimulating the synthesis and secretion of glucocorticoids, particularly cortisol. Through this mechanism, ACTH antibody-based detection is widely used to study endocrine signaling, stress response pathways, and pituitary-adrenal communication.

At the cellular level, Adrenocorticotropic hormone is localized within secretory granules of pituitary corticotrophs and is released in a pulsatile manner influenced by circadian rhythms and physiological stressors. Expression is highest in pituitary tissue, with additional relevance in ectopic hormone production observed in certain neuroendocrine tumors. Because of its peptide nature and regulated secretion, ACTH antibody reagents are commonly applied in research focused on hormone biosynthesis, secretion dynamics, and endocrine pathology.

Clinically and biologically, dysregulated Adrenocorticotropic hormone production is associated with several disease states. Excess ACTH production is characteristic of Cushing disease, typically resulting from pituitary adenomas, while ectopic ACTH secretion can occur in small cell lung carcinoma and other neuroendocrine malignancies. Conversely, reduced ACTH levels may be observed in secondary adrenal insufficiency due to pituitary dysfunction. These associations make ACTH antibody detection highly relevant in both basic research and translational studies examining pituitary disorders and adrenal hormone regulation.

Clone SPM333 is designed to recognize Adrenocorticotropic hormone in research applications. ACTH antibody reagents are suitable for detecting hormone expression and distribution in endocrine tissues and tumor samples, supporting investigations into pituitary biology, hormone processing from Proopiomelanocortin, and stress-related signaling pathways. ACTH antibody use is also valuable for distinguishing corticotroph-derived lesions from other pituitary or neuroendocrine cell types in experimental settings.

Application Notes

The optimal dilution of the ACTH/Adrenocorticotropic hormone antibody for each application should be determined by the researcher.

Immunogen

Amino acids 1-24 of the human protein were used as the immunogen for this ACTH/Adrenocorticotropic hormone antibody. This is the Synacthen region of the protein.

Storage

Store the ACTH/Adrenocorticotropic hormone antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Copyright © NSJ Bioreagents. All rights reserved.