EPITOMICS
an abcam company

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IVD DATA SHEET

ACTH

Concentrated Rabbit Monoclonal Antibody

Intended Use:
For in Vitro Diagnostic Use

Epitomics' Rabbit Monoclonal Anti-Human ACTH, Clone EP390, is intended for use to qualitatively identify ACTH by light microscopy in sections of formalin-fixed, paraffin-embedded tissue using immunohistochemical detection methodology. Interpretation of any positive or negative staining must be complemented with the evaluation of proper controls and must be made within the context of the patient's clinical history and other diagnostic tests. Evaluation must be performed by a qualified pathologist.

Catalog number	Description	Dilution
AC-0362A	0.1 ml, concentrated	1:100-1:200
AC-0362B	0.5 ml, concentrated	1:100-1:200
AC-0362	1 ml, concentrated	1:100-1:200
AC-0362BULK	2 ml or more, concentrated	1:100-1:200

Immunogen: A synthetic peptide corresponding to residues of human ACTH protein
Source: Rabbit Monoclonal Antibody
Clone ID: EP390
Isotype: Rabbit IgG
Application: Immunohistochemistry for formalin-fixed paraffin-embedded tissue

Summary and Explanation:
Adrenocorticotropic hormone (ACTH), also known as corticotropin, is produced from corticotropes in the anterior lobe of the pituitary gland. ACTH is released by corticotropin-releasing hormone stimulation by the hypothalamus in response to biological stress.

Identifying ACTH is useful in the classification of pituitary tumors and diseases. Cushing's disease derived from ACTH producing adenomas represents 10-15% of pituitary tumors. By immunohistochemistry (IHC), these tumors are immunoreactive for ACTH, beta-Lipotropin, and beta-endorphin. ACTH is also detected in a subset of growth hormone (GH), thyroid-stimulating hormone (TSH) and follicle-stimulating hormone (FSH) secreting adenomas. With the exception for ACTH secreting adenomas, most functioning adenomas are usually macroadenomas; tumors larger than 10 mm.

A combination of ACTH IHC and reticulin staining also provides utility in the differential diagnosis between pituitary adenoma versus corticotroph hyperplasia. Breakdown of acinar structure and ACTH immunoreactivity are suggestive of adenoma.

Reagent Provided:
Antibody to ACTH is affinity purified and diluted in 10 mM phosphate buffered saline (PBS), pH 7.2 containing 1% bovine serum albumin (BSA) and 0.09% sodium azide (NaN_3).

Storage and Stability:
Store at 2-8 °C. Don't use after expiration date provided on the vial. End user must validate any storage conditions other than those specified.

Procedures Recommended:
1. Pretreatment: Epitope retrieval using Tris/EDTA buffer (catalog #: SP-0004) with a pressure cooker.
2. Endogenous peroxidase block: Block for 10 minutes at room temperature using peroxidase solution (catalog #: SP-0002).
3. Protein block: Block for 10 minutes at room temperature using blocking solution (catalog #: SP-0003).
4. Primary antibody: Incubate for 30 minutes.
5. Detection: Follow instructions from the selected detection system (EpiPrecision™, a Biotin Streptavitin-HRP Detection, catalog #: DK-0001, 0003, or EpiVision™, a Rabbit Polymer Detection, catalog # DK-0002, 0004).

The antibody dilution and protocol may vary depending on the specimen preparation and specific application. Optimal conditions should be determined by the individual laboratory.

Performance Characteristics:
This antibody gives cytoplasm staining in positive cells. The recommended positive controls are pituitary for normal tissue and corticotroph adenoma for abnormal tissue.

Limitations:
Immunohistochemistry is a complex process. Variation in tissue selection, tissue processing, antigen retrieval, peroxidase activity, detection systems and improper counterstaining may cause variation in results.

References:
1. Al-Brahim NY, *et al.: J Clin Pathol.* 2006;59(12):1245-53.
2. Asa SL*: Arch Pathol Lab Med.* 2008;132(8):1231-40.
3. Osamura RY, *et al.: Histochem Cell Biol.* 2008;130(3):495-507.

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