IHC PANEL MARKERS

Pituitary Gland Cancer

BioGenex offers wide-ranging antibodies for several IHC panel for initial differentiation, tumor origin, treatment methods, and prognosis. All BioGenex antibodies are validated on human tissues to ensure sensitivity and specificity. BioGenex comprehensive IHC panels include a range of mouse monoclonal, rabbit monoclonal, and polyclonal antibodies to choose from.

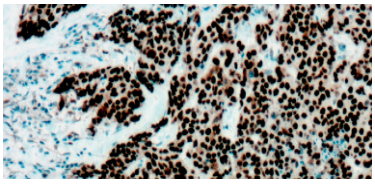
BioGenex offers a vast spectrum of high-quality antibodies for both diagnostic and reference laboratories. BioGenex strives to support efforts in clinical diagnostics and drug discovery development as we continue to expand our antibody product line offering in both ready-to-use and concentrated formats for both manual and automation systems.

Antibodies for Pituitary Gland Cancer
FSH, ACTH, LH, TSH, Prolactin, HGH, p53, Topoisomerase II alpha, Ki67, VEGF

BioGenex

IHC PANEL MARKERS - Pituitary Gland

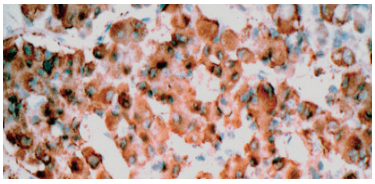
Follicle Stimulating Hormone (FSH)



Follicle stimulating hormone enables ovarian folliculogenesis to the antral follicle stage and is essential for Sertoli cell proliferation and maintenance of sperm quality in the testis. Members of the pituitary glycoprotein hormone family, of which FSH is one (see also luteinizing hormone, chorionic gonadotropin, and thyroid stimulating hormone),consist of a shared alpha chain and a beta chain encoded by a separate gene. The FSHB gene encodes the beta subunit of follicle stimulating hormone.Tumors that do not consist of adenohypophysial cells neither produce nor contain pituitary hormone, and thus immunoperoxidase techniques are helpful in distinguishing them from those pituitary tumors that store various hormones in the cell cytoplasm. FSH, a glycoprotein hormone, stimulates the graafian follicles of the ovary and assists subsequently in follicular maturation and the secretion of estradiol. In the male, it stimulates the epithelium of the seminiferous tubules and is partially responsible for inducinga spermatogenesis.

Antibody	Clone	Localization	Catalog Family
FSH	Polyclonal	Cytoplasm	AR766, AW766, PU766

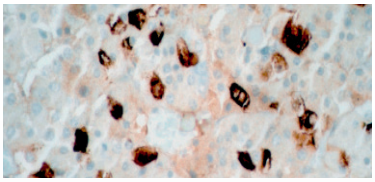
Adrenocorticotropic Hormone (ACTH)



Adrenocorticotropic hormone (ACTH or Corticotropin) is a polypeptide tropic hormone produced and secreted by the anterior pituitary gland. It is an important component of the hypothalamic-pituitary-adrenal axis and is often produced in response to biological stress (along with corticotrophin-releasing hormone from the hypothalamus). Its principal effects are increased production of androgens and as its name suggests, cortisol from the adrenal cortex. It labels corticotrophs in the adenohypophysis and is useful in the classification of pituitary adenomas.

Antibody	Clone	Localization	Catalog Family
ACTH	AH26	Cytoplasm	AM487, AX487, MU487

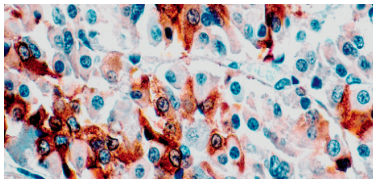
Luteinizing Hormone (LH)



Luteinizing hormone (LH, also known as lutropin) is a tropic hormone which modulates the secretory activity of other endocrine glands. LH functions to stimulate ovulation, corpus luteum formation, estrogen and progesterone synthesis by the ovary and androgen synthesis by the interstitial cells of the testes. It is produced in the anterior hypophysis of the pituitary gland. The glycoprotein hormone, LH, like follicle stimulating hormone and thyroid stimulating hormone, is composed of a common alpha-subunit but also a specific beta-subunit, which characterizes each of these hormones.

Antibody	Clone	Localization	Catalog Family
LH	SP132	Cytoplasm	AN787, AY787, NU787

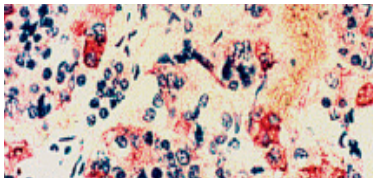
Thyroid Stimulating Hormone (TSH)



Thyrotrophs produce Thyroid Stimulating Hormone (TSH). TSH is a 28 kD glycoprotein that contains 201 amino acid residues and is composed of alpha and beta subunits. The alpha subunit (MW 13kD) is immunologically similar to the alpha subunit of the other anterior pituitary hormones. The beta subunit is unique to TSH and is responsible for the specific biological activity of TSH. To identify thyrotrophs without cross-reactivity with gonadotrophs, antibodies directed to the TSH beta subunit must be used. This antibody stains TSH and b-TSH in cytoplasm of postive cells.

Antibody	Clone	Localization	Catalog Family
TSH	5404	Cytoplasm	AM033, AX033, MU033
TSH	Polyclonal	Cytoplasm	AR033, AW033, PU033

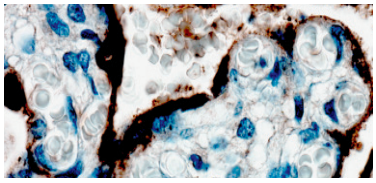
Prolactin



Malignant pituitary adenomas or pituitary carcinomas arise from and consist of adenohypophysial cells. They can produce various hormones such as ACTH, Growth hormone, TSH, FSH, LH and Prolactin. Tumors that do not consist of adenohypophysial cells neither produce nor contain pituitary hormone, and thus immuno-peroxidase techniques are helpful in distinguishing from those pituitary tumors that store various hormones in the cell cytoplasm.

Antibody	Clone	Localization	Catalog Family
Prolactin	ME-121	Cytoplasm and Membrane	AM031, AX031, MU031
Prolactin	Prolactin	Cytoplasm	AM978, AX978, MU978.

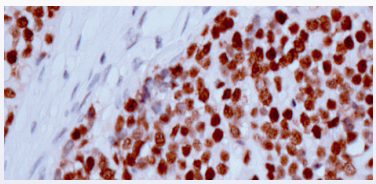
Growth Hormone (hGH)



Growth Hormone (GH, somatotropin) is the primary hormone responsible for regulating overall body growth and is also important in organic metabolism. It is synthesized by acidophilic or somatotropic cells of the anterior pituitary gland. Human GH has a molecular weight of 22 kD. GH stimulates growth indirectly by promoting the liver's production of somatomedins, which act directly on bone and soft tissue to cause growth. GH exerts direct metabolic effects on the liver, adipose tissue and muscle. In general, growth hormone enhances protein synthesis, conserves carbohydrates and uses up fat stores.

Antibody	Clone	Localization	Catalog Family
hGH	Polyclonal	Cytoplasm	AR707, AW707, PU707

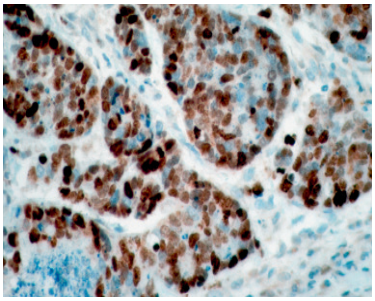
p53



p53 is a tumor suppressor gene product identified in a wide variety of tumors. p53 protein is present in low concentration in normal cells, but elevated levels of mutant p53 have been found in many common cancers. Accumulation of mutant p53 detected by immunohistochemical staining has been reported in breast, lung, colon, stomach, bladder, and testis carcinomas, soft-tissue sarcomas, and melanomas. This antibody stains positive in nucleus of a variety of tumor cells.

Antibody	Clone	Localization	Catalog Family
p53	BP53-12-1	Nucleus	AM195, AX195, MU195
p53	DO7	Nucleus	AM239, AX239, MU239
p53	1801	Nucleus	AM240, AX240, MU240

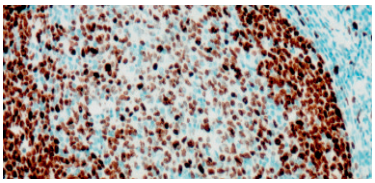
Topoisomerase II alpha



DNA topoisomerase II alpha (Topo-IIα) is an essential nuclear enzyme with its up-regulation demonstrated in different tumors. Topo II is required in chromatin condensation and segregation during mitosis. Topo II α is cell cycle regulated and its level peaks between G2 and M phase. It has been linked to cell proliferation and it may be the main isoform of Topo II involved mitotic processes. Topo II α passes one strand of DNA through a reversible break in a second DNA strand, which catalyzes the topological isomerization of DNA during cell cycle. Topo II α overexpression has been linked to a number of human malignancies and is the target for many chemotherapeutic agents. The majority of anticancer drugs targeting Topo IIα initiate apoptosis by stabilizing the covalent complex formed between DNA and Topo IIα.

Antibody	Clone	Localization	Catalog Family
Topoisomerase II alpha	EP93	Nucleus and Cytoplasm	AN823, AY823, NU823

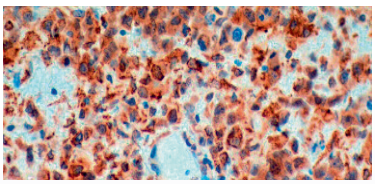
Ki-67



Ki-67 is one of the most widely studied proliferating cell antigens. The expression of Ki-67 antigen is limited to cells in phase G1, S and G2 with the highest levels present in the M phase. Ki-67 is more likely to be expressed in aneuploid tumors compared to diploid tumors, and it is associated with a high mitotic count and high histology grade.This monoclonal antibody enables detection of Ki-67 in proliferating cell populations in routine paraffin sections. The antibody stains positive in the nucleus of proliferation cells.

Antibody	Clone	Localization	Catalog Family
Ki-67	MIB-1	Nucleus	AM297, AX297, MU297
Ki-67	Ki88	Nucleus	AM370, AX370, MU370
Ki-67	K-2	Nucleus	AM410, AX410, MU410
Ki-67	EP5	Nucleus	AN727, AY727, NU727

Vascular Endothelial Growth Factor (VEGF)



Vascular endothelial factors (VEGFs) are a family of closely related growth factors having a conserved pattern of eight cysteine residues and sharing common VEGF receptors. VEGF receptors stimulate the proliferation of endothelial cells, induce angiogenesis, and increase vascular permeability in both large and small vessels. The mitogenic activity of VEGFs appears to be mediated by specific VEGF receptors.

Antibody	Clone	Localization	Catalog Family
VEGF	Polyclonal	Cytoplasm	AR483, AW483, PU483

BioGenex Primary Antibody Format and Pack Size

BioGenex antibodies are optimized to provide a maximum signal with the minimum background for immunohistochemical staining. All our antibodies are optimized and recommended for use with all Super Sensitive™ Detection Systems to provide optimum staining.

BioGenex Ready-to-Use (RTU) antibodies are fully optimized for use with BioGenex Detection Systems without the need for further dilution or titration. BioGenex concentrated antibodies are provided with recommended dilutions for optimal use with BioGenex Detection Systems, allowing rapid titration and testing.

Prefix	Type	Species	Suffix	Volume and Format
AM/AN	Monoclonal	AM-Mouse/AN-Rabbit	-5M/5ME	6 mL - Ready-to-use (manual)
AM/AN	Monoclonal	AM-Mouse/AN-Rabbit	-10M/10ME	10 mL - Ready-to-use (i6000™)
AX/AY	Monoclonal	AX-Mouse/AY-Rabbit	-YCD/YCDE and -50D/50DE	16 mL and 5 mL Ready-to-use (Xmatrx®)
AR	Polyclonal	Rabbit	-5R/5RE	6 mL - Ready-to-use (manual)
AR	Polyclonal	Rabbit	-10R/10RE	10 mL - Ready-to-use (i6000™)
AW	Polyclonal	Rabbit	-YCD/YCDE and -50D/50DE	16 mL and 5 mL Ready-to-use (Xmatrx®)
MU/NU	Monoclonal	AM- Mouse/AN-Rabbit	-UC/UCE and -5UC/5UCE	1 mL and 0.5 mL Concentrate
PU	Polyclonal	Rabbit	-UC/UCE and -5UC/5UCE	1 mL and 0.5 mL Concentrate

Other Panel Markers from BioGenex	
Breast cancer panel	Neuroendocrine tumor
B&T cell Associated Lymphoma	Pancreas tumor
Cervical cancer	Liver cancer
Colorectal and stomach cancer	Kidney cancer
Lung cancer	Head & neck cancer
Melanoma	Bladder cancer
Muscle cancer	Germ cell tumor
Ovarian cancer	Vascular tumor
Prostate/Testicular cancer	Esophagus cancer

For specific information on the individual antibody, please refer to the datasheets available on www.biogenex.com or call BioGenex Technical Support at **1(800)421-4149** or write to support@biogenex.com.

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