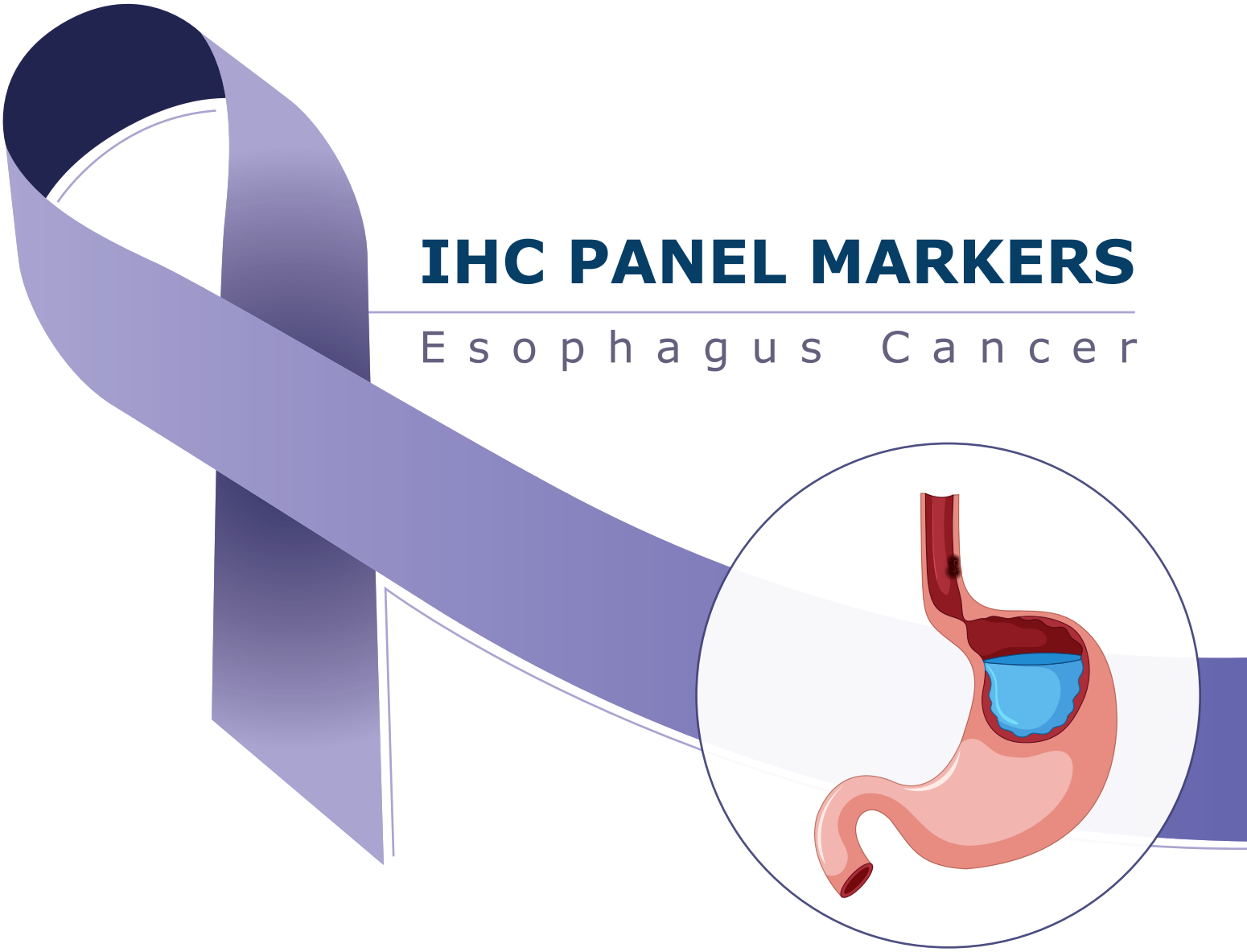
IHC PANEL MARKERS

Esophagus 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 Esophagus
p63, CK HMW, CK Pan, CK5&6, CK14, CK17, CDX2, MUC2, MUC5AC,EGFR, p53,VEGF, ER

BioGenex

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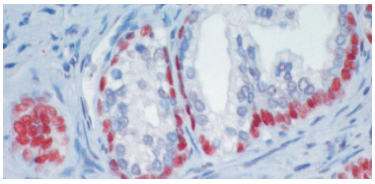
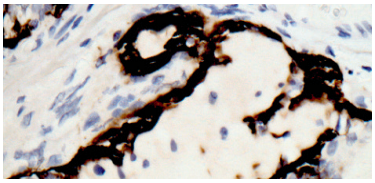
p63



This antibody will detect all isoforms of p63 since the epitope is within the DNA binding domain. The p63 protein is a member of the p53 family, which also includes p73. p63 protein is detected in proliferating cells of epithelium, cervix, urothelium and prostate.

Antibody	Clone	Localization	Catalog Family
p63	4A4	Nucleus	AM418, AX418, MU418

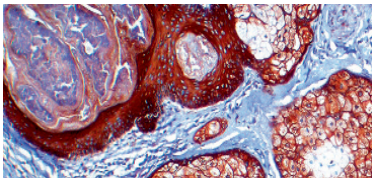
CK HMW



Monoclonal antibody 34βE12 is specific for "high molecular weight" cytokeratins 1, 5, 10, 14, corresponding to molecular weights of 68, 58, 56.5, and 50 kD, respectively, which are characteristically found in complex epithelium. The antibody reacts with all squamous and ductal epithelium and stains carcinomas. It reacts with benign small-acinar lesions of the prostate. This antibody stains positive in cytoplasm of epithelial cells.

Antibody	Clone	Localization	Catalog Family
CK HMW	34βE12	Cytoplasm	AM291, AX291, MU291
CK HMW	AE3	Cytoplasm	AM133, AX133, MU133

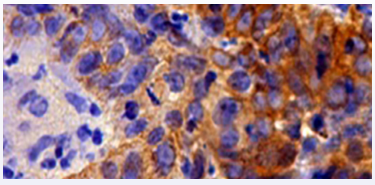
CK pan



The Lu-5 antibody recognizes an epitope on the surface of cytokeratin filaments which is present in a wide range of cytokeratins, except in intermediate-size filament proteins. This epitope may be found in all human epithelia and carcinomas and is resistant to formalin-fixation. The Lu-5 antibody was determined a useful pan cytokeratin marker for the detection of both normal and malignant epithelial and mesothelial cells. The Lu-5 antibody stains surface of cytokeratin filaments in a wide variety of normal and tumor tissues.

Antibody	Clone	Localization	Catalog Family
CK pan	Lu-5	Cytoplasm	AM181, AX181, MU181
CK pan	C11	Cytoplasm	AM357, AX357, MU357

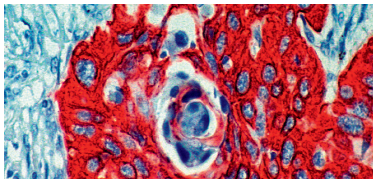
Cytokeratin 5 & 6



Cytokeratins are intermediate filament proteins expressed in cytoplasm of epithelial cells. The mitotically active basal layers of most stratified squamous epithelia express 10% to 30% of their total protein as keratin. The two keratins specifically type II keratin CK5 and type II CK6, which essentially form 8-nm filaments. CK5 is a useful immunohistochemical marker in different studies of mesothelioma, and the expression is key tool for the histological differential diagnosis with adenocarcinomas, especially when confronting with metastatic tumors of unknown origin. CK5 labels myoepithelial cells of breast and prostate basal cells.

Antibody	Clone	Localization	Catalog Family
Cytokeratin 5 & 6	EP24 & EP67	Cytoplasm	AN892, AY892, NU892

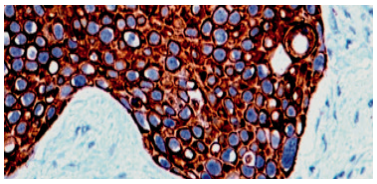
Cytokeratin 14



Cytokeratin 14 (molecular weight 50 kD), an acidic (Type I) cytokeratin protein, is one of the cytokeratin pairs (50/ 58 kD) that distinguishes stratified epithelial cell types from simple epithelial types. Cytokeratin 14 is homogeneously expressed in all cells of the keratinizing squamous epithelium and is confined to the basal and parabasal cells in the nonkeratinizing squamous epithelium of the normal adult urinary tract. The monoclonal antibody to Cytokeratin 14 may be helpful in distinguishing the cell types of the human mammary gland, thus it may also be used to study histogenesis of breast carcinoma. This antibody stains Cytokeratin 14 in cytoplasm of epithelial cells.

Antibody	Clone	Localization	Catalog Family
Cytokeratin 14	LL002	Cytoplasm	AM416, AX461, MU416
Cytokeratin 14	EP61	Cytoplasm	AN831, AY831, NU831

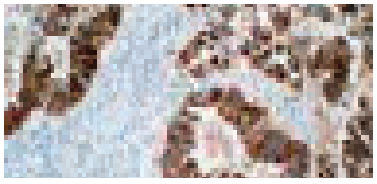
Cytokeratin 17



Cytokeratin 17 is 46 kD intermediate filament found in simple epithelia sometimes in association with Cytokeratin 7. This antibody has been used to distinguish cervical immature squamous metaplasia from high grade cervical intraepithelial neoplasia (CIN III). Anti-CK17 also labels myoepithelial cells in the benign breast tissue. CK17 labelling of breast carcinoma cells (so-called basal phenotype) has been associated with a poor prognosis.

Antibody	Clone	Localization	Catalog Family
Cytokeratin 17	E27	Cytoplasm	AM572, AX572, MU572

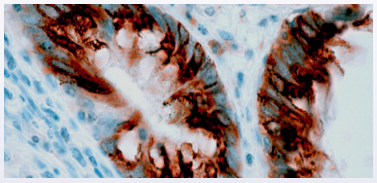
CDX-2



CDX2, a member of the caudal-related homeobox family, is an intestine-specific transcription factor that regulates both proliferation and differentiation in intestinal epithelial cells. It plays an important role in triggering cells towards the phenotype of differentiated villus enterocytes as well as in the maintenance of the phenotype. Clone CDX2-88 reacts with a conserved epitope of the 40kD CDX2 protein localized in the nucleus. It exclusively marks nuclei of colonic epithelial cells and colorectal cancers on formalin-fixed, paraffin-embedded tissue sections.

Antibody	Clone	Localization	Catalog Family
CDX-2	CDX2-88	Nucleus	AM392, AX392, MU392
CDX-2	EP25	Nucleus	AN777, AY777, NU777

MUC2



Mucins are a group of high molecular weight, highly glycosylated proteins expressed in normal and carcinogenic colon. MUC2 is a 520-kD glycoprotein of the gastrointestinal tract. The core of the glycoprotein consists of a variable number of tandem repeats of a 23 amino acid sequence. Mucin 2 is found in normal epithelial cells of the colon or in colon carcinoma. MUC2 glycoprotein is expressed in mucinous tumors but not in serous tumors. This antibody stains positive for colon gastric cancer cells, normal intestine, colon and salivary glands, and some human colon carcinoma cell lines (LS174T). This antibody localizes Mucin 2 (MUC2) protein in cytoplasm.

Antibody	Clone	Localization	Catalog Family
MUC2	CCP58	Cytoplasm	AM358, AX358, MU358

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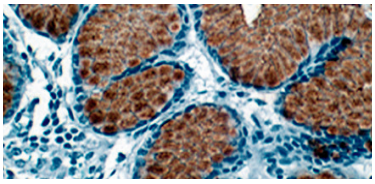
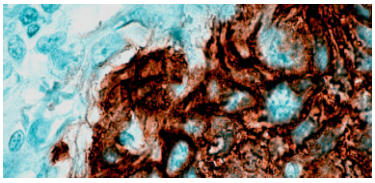
MUC5AC



Mucins are high molecular weight glycoproteins with 80% carbohydrates and 20% core protein. Gastric Mucin 5AC antigen is found in columnar mucus cells of surface gastric epithelium and in goblet cells of the fetal and precancerous colon but not in normal colon. Resurgence of gastric mucin during colonic carcinogenesis is suggestive of either re-expression of the peptide core of gastric mucin in the adult colon or due to changes in the glycosylation pattern of mucin, which expose the hidden Mucin 5AC antigen.

Antibody	Clone	Localization	Catalog Family
MUC5AC	45M1	Cytoplasm	AM456, AX456, MU456

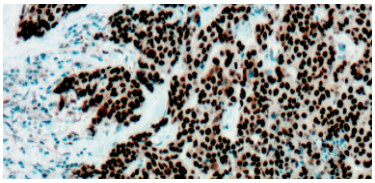
EGFR



Epidermal growth factor receptor (EGFR) is a 170 kDa transmembrane glycoprotein receptor tyrosine kinase that, activated by epidermal growth factor (EGF), affects cell growth and differentiation. The antibody detects both EGFR phosphorylated on Tyr1068 of the nature human isoform 1 (corresponding to Y1092 from the precursor form P00533-1/p170), and also unphosphorylated EGFR. It is associated with a number of cancers, including lung cancer, anal cancers[7] and glioblastoma multiforme. In breast cancer, EGFR is predorminately expressed in basal cell-like carcinoma; it has been recommendated for identification of basal-like breast carcinoma along with Cytokeratin 5/6.

Antibody	Clone	Localization	Catalog Family
EGFR	EP22	Membrane and Cytoplasm	AN781, AY781, NU781
EGFR	Polyclonal	Membrane and Cytoplasm	AR335, AW335, PU335

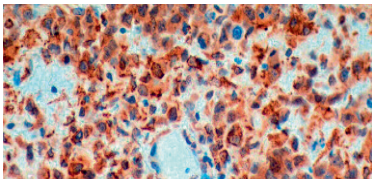
p53



Tumor protein p53, a nuclear protein, plays an essential role in the regulation of cell cycles, specifically in the transition from G0 to G1. It is found in very low levels in normal cells, and it functions as a tumor suppressor within a variety of tumors by either stimulating apoptosis or growth arrest in deference to cell type and physiological factors. p53 is overexpressed in over 50% of human cancers. Positive staining of p53 detected by immunohistochemistry has been observed in colon cancer, breast cancer, lung cancer, prostate cancer and ovary cancer.

Antibody	Clone	Localization	Catalog Family
p53	EP9	Nucleus	AN728, AY728, NU728
p55	BP53-12-1	Nucleus	AM195, AX195, MU195
p53	DO7	Nucleus	AM239, AX239, MU239
p53	1801	Nucleus	AM240, AX240, MU240

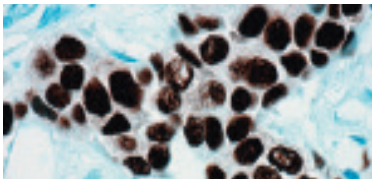
VEGF



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

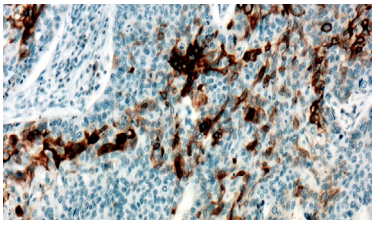
ER



Estrogen receptor (ER) content of breast cancer tissue is an important parameter in the prediction of prognosis and response to endocrine therapy. Highly specific monoclonal antibodies to ER have allowed the determination of receptor status of breast tumors to be carried out. This antibody stains the nucleus of receptor positive cells.

Antibody	Clone	Localization	Catalog Family
Estrogen Receptor	ER88	Nucleus	AM368, AX368, MU368
Estrogen Receptor-beta	Polyclonal	Nucleus	AR385, AW385, PU385
Estrogen Receptor-alpha	EP1	Nucleus	AN710, AY710, NU710

Cytokeratin 4



Cytokeratin 4 (CK4) is a 59kDa intermediate filament protein associated with cytokeratin 13. It is expressed in suprabasal cells of non-keratinized stratified squamous epithelium of esophagus, cornea, anus, pharynx and tongue. A mutation in CK4 gene causes white sponge nevus. A decreased expression of CK4 is associated with head and neck squamous carcinoma. Antibody to CK4 is helpful in differentiation of squamous cell carcinoma of esophagus origin from thyroid origin.

Antibody	Clone	Localization	Catalog Family
Cytokeratin 4	EP4	Nucleus	AN717, NU717, AY717

TEF-3

TEF-3, alternatively named TEAD4 (TEA domain family member 4), RTEF1, EFTR-2, TEFR-1, TCF13L1, or hRTEF-1B, is a 427-amino acid protein belonging to the transcriptional enhancer factor (TEF) family. Serving as a transcriptional regulator, TEF-3 is expressed in the nucleus of skeletal muscle. Its specific and non-cooperative binding to the M-CAT motif in the promoters of muscle-specific genes plays a crucial role in directing the subsequent expression of these genes.

Antibody	Clone	Localization	Catalog Family
TEF-3	B-5	Nucleus	AMD58, MUD58, AXD58

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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	Pituitary gland

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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