

# IHC

## A-AT/a-1 Antitrypsin (AAT)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Alpha-1-Antitrypsin (AAT) is useful in the study of inherited AAT deficiency, benign and malignant hepatic tumors and yolk sac carcinoma. Sensitivity and specificity of the results have made this antibody a useful tool in the screening of patients with cryptogenic cirrhosis or other forms of liver disease with portal fibrosis of uncertain etiology.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	2-4 days

## ACTH/Adrenocorticotropin Hormone

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Anti-adrenocorticotropin hormone (ACTH) is a useful marker in the 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.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Actin-HHF-35

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Four muscle actins have been identified; skeletal alpha, cardiac alpha, vascular smooth muscle alpha and enteric alpha actin. This antibody recognizes the alpha and gamma isotypes of skeletal, cardiac, and smooth muscle cells. It is non-reactive with other mesenchymal cells and all epithelial cells except for myoepithelium. MSA antibody is useful in the identification of tumors with muscle differentiation and detection of myoepithelial cells. Actin is one of two major cytoskeletal proteins involved in cell motility. Smooth muscle actin binds to smooth muscle cells and myoepithelial cells. It stains the muscularis and muscularis mucosae of the gastrointestinal tract, the uterine myometrium, medial layer of blood vessels, myoepithelial cells of salivary glands and other organs. The antibody does not stain skeletal and cardiac muscle, endothelium, connective tissue, epithelium or nerve. The antibody can be used to identify smooth muscle tumors. It stains leiomyomas and leiomyosarcomas but does not stain carcinomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Adenovirus

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Adenovirus infection. Useful in identification of adenovirus.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Adipophilin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Sebaceous carcinoma is a relatively uncommon cutaneous malignancy and mimics other malignant neoplasms, such as basal and squamous cell carcinomas, and benign processes, such as chalazions and blepharitis, sometimes resulting in delayed diagnosis and suboptimal treatment. 1 Adipophilin is present in milk fat globule membranes and on the surface of lipid droplets in various normal cell types..2 Expression of adipophilin with a membranous pattern of staining was not seen in any of the other clear cell lesions of the skin, including basal and squamous cell carcinomas, trichilemmomas, clear cell hidradenomas, or balloon cell nevi. Interestingly, a nonspecific granular uptake of anti-adipophilin was seen in adjacent macrophages, keratohyalin granules of epithelial squamous cells, and some tumor cells. Therefore, this anti-adipophilin is suitable for immunostaining formalin-fixed, paraffin-embedded tissue and is helpful in the identification of intracytoplasmic lipids, as seen in sebaceous lesions. It is especially helpful in identifying intracytoplasmic lipid vesicles in poorly differentiated sebaceous carcinomas in challenging cases such as small periocular biopsy specimens.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req. Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
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## AE1/AE3

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Useful in distinguishing and classifying epithelial carcinoma from non-epithelial malignancies, metastatic malignant tumors.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req. Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
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<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## AFP

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Useful in the detection of hepatocellular carcinomas, germ cell neoplasms, yolk sac tumors Alpha-1-fetoprotein (AFP) is a 64 kD tumor-associated embryonal antigen produced by fetal liver, hepatoma, yolk sac tumor and several germ cell tumors of testicular and ovarian origin. About 70% of non-seminomatous germ cell tumors produce AFP. AFP is of importance in diagnosing hepatocellular carcinoma. Occasionally, a slight AFP elevation is found in other cancers as a result of metastasis to the liver resulting in regeneration of hepatic parenchyma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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## ALK 1

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Reacts with Anaplastic Large Cell Lymphomas
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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## Alpha-1-Antichymotrypsin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## Amyloid A

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	This antibody reacts with amyloid deposits in all tissues including kidney and rectum.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## Amyloid P

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Amyloid subtyping. The antibody reacts with amyloid P component in all tissues.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global
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<b>Turnaround Time:</b>	24-48 Hours

## Androgen Receptor

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Androgen receptor is responsible for the regulation of the growth of the prostate epithelial cells. In untreated prostate carcinoma, androgen receptor positive cells are more likely to be responsive to hormonal therapy. In patients with hormone refractory prostate carcinoma, the presence of androgen receptor has a negative prognostic impact.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342, 88360
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Anti-Pancreatic Polypeptide

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	PPY / Pancreatic Polypeptide belongs to the NPY family and it encodes a protein that is synthesized as a 95 aa polypeptide precursor in the pancreatic islets of Langerhans. It is cleaved into two peptide products; the active hormone of 36 aa and an icosapeptide of unknown function. PP is produced by pancreatic islet F-cells and released to the circulation following a meal. It slows stomach emptying time and insulin secretion and is thought to inhibit further food intake. It stains the periphery of islets, exocrine pancreatic parenchyma and the epithelium of small and medium sized ducts and acinar cells.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## BCA-225

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Indicates breast cancer metastatic lesions, adenocarcinoma. This antibody recognizes a human breast carcinoma associated glycoprotein BCA-225 (220-225kD). This protein differs in size and distribution from other breast carcinoma antigens. It does not react with benign or malignant gastrointestinal tissues. It can be used to identify skin carcinomas with sweat gland and sebaceous differentiation.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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## BCL-2

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Useful in distinguishing reactive and neoplastic follicular proliferation and between follicular lymphomas expressing bcl-2 protein. Useful in the identification of follicular lymphomas. Overexpression of BCL2 is in higher grade tumors and may predict disease progression.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## BCL-6

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma typing. BCL6 is a transcriptional regulator gene that codes for a 706-amino-acid nuclear zinc finger protein. Antibodies to this protein stain the germinal center cells in lymphoid follicles, the follicular cells and interfollicular cells in follicular lymphoma, diffuse large B-Cell lymphomas, and Burkitt lymphoma, the majority of Reed-Sternberg cells in nodular lymphocyte predominant Hodgkin lymphoma. In contrast, BCL6 rarely stains mantle cell lymphoma and MALT lymphoma. BCL6 expression is seen in approximately 45% of CD30+ anaplastic large cell lymphomas but is absent in other peripheral T-cell lymphomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req. Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
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<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Ber-EP4

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Epithelial antigen is a transmembrane glycoprotein functioning as a cellular adhesion molecule. This epithelium-specific antigen is broadly distributed in epithelial cells, and displays a highly conserved expression in carcinomas. The antibody is useful in the differential diagnosis of adenocarcinoma versus malignant mesothelioma. Anti-Epithelial Antigen may also aid in detection of micrometastases in lymph nodes of patients with esophageal carcinoma as well as in differentiation between basal and squamous cell carcinomas of the skin.
<b>Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req. Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
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<b>Turnaround Time:</b>	

## Beta-Catenin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	b-Catenin is an important regulator of cellcell adhesion and embryogenesis and there is evidence that mutations of b-catenin could lead to some human cancers. Beta-catenin binds to the cytoplasmic domain of E-cadherin, forming a component of cell-cell adhesion. Normal cells show membrane staining for b-catenin, while cytoplasmic and/or nuclear staining is abnormal. Dysregulation of b-catenin occurs in Gardners syndrome, where it leads to both familial adenomatous polyposis and fibromatosis. Nuclear location of b-catenin also occurs in colon and endometrioid ovarian carcinomas as well as in synovial sarcoma, osteosarcoma, liposarcoma and malignant fibrous histiocytoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and on accompanying req. Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
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<b>Turnaround Time:</b>	24-48 Hours

*The CPT codes provided with our test descriptions are based on AMA guidelines and are for informational purposes only. Correct CPT coding is the sole responsibility of the billing party. Please direct any questions regarding coding to the pay or being billed. \*Tests are sent to CBLPath's preferred laboratory.*

## BOB-1

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	BOB.1/OBF.1 is a transcriptional coactivator that interacts with the transcription factors Oct1 or Oct2 in regulating transcription of immunoglobulin genes. In normal tonsil, the germinal center B cells all express BOB.1, while only scattered cells in the mantle zone express this protein. On immunohistochemistry, there is strong nuclear staining and weak cytoplasmic staining. Expression of BOB.1/OBF.1, Oct2, and PU.1 transcription factors are often down-regulated in classical Hodgkin lymphomas, in contrast to many cases of nodular lymphocyte-predominant Hodgkin lymphoma. This property can be useful in the diagnosis of nodular lymphocyte predominant Hodgkin lymphoma (both markers expressed).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CA 125

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Useful in the detection of ovarian tumors of serous, endometrioid and clear cell types. Breast cancer and adenocarcinoma. CA-125 reacts with approximately 80% of epithelial ovarian neoplasms of serous, endometrioid, clear cell and undifferentiated types. Several studies have shown that CA-125 is useful tumor marker for ovarian carcinomas; however, CA-125 has also been described in other neoplasms such as seminal vesicle and anaplastic lymphomas. No reactivity has been shown for mucinous ovarian tumors. It reacts with both normal tissues and neoplasms of fallopian tube, endometrium, endocervix and mesothelioma. It does not react with colon cancer. Normal tissues such as breast, liver, skin, kidney and spleen are negative.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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## CA 19.9

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Gastrointestinal, pancreatic adenocarcinomas, salivary gland mucoepidermoid carcinomas. Mucin secreting cells and squamous cell CA may also be labeled. In normal tissues, the CA19-9 antigen has been demonstrated in ductal epithelium of the breast, kidney, salivary gland and sweat glands, respiratory epithelium of the lung, colon epithelium, pancreatic acini and ducts, biliary epithelium in the liver and prostate epithelium. Gastrointestinal carcinomas are positive as well as transitional cell carcinomas of the bladder, endometrial adenocarcinomas, thyroid papillary, gallbladder carcinomas and lung carcinomas, including adenocarcinomas, bronchoalveolar cell carcinomas, squamous and small cell carcinomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## Calcitonin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Calcitonin producing cells in the thyroid, medullary thyroid carcinomas Calcitonin is secreted by thyroidal parafollicular cells of neuroectodermal origin, probably in response to hypercalcemia. Both in C-cell hyperplasia and medullary thyroid carcinoma (MTC), individual secretory granules exhibit considerable variations in size, shape and density. The IHC demonstration of calcitonin is important: (1) For identification of early or microscopic MTC, (2) To identify an MTC in the absence of amyloid deposits, (3) To distinguish non-typical forms of MTC (e.g., predominantly spindle cell or small cell patterns) from anaplastic carcinoma or malignant lymphoma, (4) To differentiate MTC with microfollicular or papillary patterns from thyroid follicular and papillary neoplasms and (5) To identify C-cell hyperplasia in association with hypercalcemia of diverse etiologies.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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## Caldesmon

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Caldesmon is a developmentally regulated protein involved in smooth muscle and non-muscle contraction. Two closely related variants of human caldesmon have been identified. The h-caldesmon variant (120-150kDa) is predominantly expressed in smooth muscle and subset of myoepithelial cells whereas l-caldesmon (70-80kDa) is found in non-muscle tissue and cells. Neither of the two variants has been detected in skeletal muscle.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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## Calponin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Developing smooth muscles of various phenotype. Calponin, a calmodulin, is involved in the regulation of smooth muscle contraction. The expression of calponin is restricted to smooth muscle cells. Two isoforms of calponin exist with molecular weights of 34kDa and 29kDa. Expression of the 29kDa form is primarily restricted to muscle of the urogenital tract. Calponin also labels myoepithelial cells and can be useful in distinguishing in situ from infiltrating breast carcinoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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## Calretenin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Useful in distinguishing mesothelioma from adenocarcinomas Calretenin is the most specific and reproducible positive marker of epithelial mesothelioma. Calretenin is a calcium-binding protein similar to S100 protein. It is found in the central and peripheral nervous system and in a wide spectrum of non-neural cells, including steroid-producing cells of ovaries and testes, fat cells, renal tubular epithelial cells, eccrine glands, thymic epithelial cells and mesothelial cells. Calretenin immunostaining was found in 95-100% of epithelial mesotheliomas and 3-9% of adenocarcinomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## CAM 5.2

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	The keratin antibody clone CAM 5.2 reacts with the low-molecular-weight (LMW) cytokeratins CK8 and CK7. All simple (one-layered, polar) epithelial cells contain the paired CK8 and CK18, representing the primary (constitutive) CKs of simple epithelia. These LMW CKs are the only CKs found in some simple epithelium (hepatocytes, pancreatic acini, most endocrine cells and proximal renal tubules). CAM 5.2 reacts with cells in a filamentous pattern within the cytoplasm. Useful in distinguishing carcinomas from non -epithelial tumors
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## CAM 5.2/AE1

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Useful in distinguishing carcinomas from non -epithelial tumors
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## CD10

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/Leukemia typing. CD10, also known as Common Acute Lymphocytic Leukemia Antigen (CALLA), is expressed in early lymphoid progenitors and normal germinal center cells. It is almost always present on the surface of precursor B-lymphoblastic and Burkitt lymphomas and much less frequently on precursor T-lymphoblastic leukemia-lymphoma. Many follicular lymphoma and some diffuse large B-cell lymphomas, along with multiple myeloma are positive. CD10 is also present on breast myoepithelial cells, bile canaliculi, fibroblasts and with especially high expression on the brush border of kidney and gut epithelial cells.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD117/c-kit

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	c-kit is a transmembrane receptor tyrosine kinase. c-kit is expressed in many tissues and cells. c-kit is involved in the development of several lineages of stem cells, such as germ cells, neural crest derived melanocytes and hematopoietic precursor cells. This antibody can be used in the identification of gastrointestinal stromal tumors (Gist tumor).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## CD138

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Plasma cells. CD138 (Syndecan-1) mediates cell adhesion, growth factors. Positive staining (normal): B-cell precursors, plasma cells. Positive staining (tumors): myeloma, primary effusion lymphoma. Negative staining: mature B-cells, lymphomas (even plasmacytoid lymphomas).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## CD15

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD15 (X-Hapten) plays a role in mediating phagocytosis, bactericidal activity, and chemotaxis. It is present on >95% of granulocytes including neutrophils and eosinophils and to a lesser degree on monocytes. CD15 is also expressed in Reed-Sternberg cells and some epithelial cells. CD15 antibody is very useful in the identification of Hodgkin lymphoma. CD15 is occasionally expressed in large cell lymphomas of both B- and T- phenotypes that otherwise have a quite distinct histological appearance.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD19

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD19 is the broadest lineage-specific surface marker for B cells. CD19 is present on the surface of virtually all B lymphocytes, including early B-progenitor cells, but it is lost upon terminal differentiation to plasma cells. CD19 is also expressed on follicular dendritic cells. Results aid in the classification of B-lineage leukemias and lymphomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global
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<b>Turnaround Time:</b>	24-48 Hours

## CD163

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD163 antigen is restricted in its expression to the monocytic/macrophage lineage. It is present on all circulating monocytes and most tissue macrophages except those found in the mantle zone and germinal centres of lymphoid follicles, interdigitating reticulum cells and Langerhans cells.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global
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<b>Turnaround Time:</b>	24-48 Hours

## CD1a

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Useful in distinguishing leukemias and lymphomas At least five CD1 genes (CD1a, b, c, d, and e) have been identified. CD1a is expressed on cortical thymocytes, Langerhans cells, and dendritic cells. It is absent on mature peripheral blood T-cells, but cytoplasmic expression is detected on activated T-lymphocytes. CD1a is found on a subset of T-lymphoblastic lymphoma-leukemia.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD2

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/Leukemia typing. CD2, the E-rosette receptor, is an extremely broad T-cell marker. This antibody immunolabels the vast majority of T-cells and a subset of natural killer (NK)- cell malignancies. Some thymic B-cells (50%) are also CD2 positive.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD20

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/Leukemia typing. Positive staining (normal): Most B-cells (after CD19 and CD10 expression, before CD21/22 expression and surface immunoglobulin expression), retained on mature B-cells until plasma cell development; also follicular dendritic cells. Positive staining (disease): 90% of B-cell lymphomas, 40% of pre B-ALL/LBL; 80% of lymphocyte predominant Hodgkin lymphoma, dimly expressed in T-cells (benign and neoplastic), spindle cell thymomas. Negative staining: non-hematopoietic cells, most T-cells and plasma cells.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD21

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD21 (CR2, C3d receptor and EBV receptor) is expressed strongly on mature B-cells, follicular dendritic cells (FDC) and weakly on immature thymocytes and T-lymphocytes. In B-cell ontogeny, CD21 appears after the pre-B-stage, is maintained during peripheral B-cell development and is lost upon terminal differentiation into plasma cells. Immunohistological analysis of FDC in paraffin sections of NHL with this antibody demonstrates a nodular and usually dense and sharply defined FDC meshwork in follicular lymphomas and a loose, ill-defined FDC of varying size in some diffuse lymphoma types. Precursor B-cell lymphoma (lymphoblastic lymphomas), Burkitt lymphomas, plasmacytomas and hairy cell leukemias constantly lack FDC.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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## CD22

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD22 expression is restricted to normal and neoplastic B-cells and is absent from other hemopoietic cell types. In B-cell ontogeny, CD22 is first expressed in the cytoplasm of pro-B and pre-B-cells and on the surface as B-cells mature to become IgD+. It is not expressed by plasma cells. CD22 is found highly expressed in follicular, mantle and marginal zone B-cells, while germinal center B-cells are relatively weak. Its expression roughly parallels that of CD19. It is strongly expressed in hairy cell leukemia.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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## CD23

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/Leukemia typing. CD23 is identical to low affinity IgE receptor found on B-cells. CD23 is expressed on a subpopulation of peripheral blood cells, B-lymphocytes and on EBV transformed B-lymphoblastoid cell lines. CD23 is most useful in distinguishing B-cell chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL) from other entities and remains present in CLL/SLL that has undergone large cell transformation.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD25

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	The interleukin-2 receptor is designated CD25. Originally isolated from T-lymphocytes, it is now known to be expressed on hairy cell leukemia and adult T-cell leukemia/lymphoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD3

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/ Leukemias typing. Labels T cell neoplasms. The CD3 antigen is first detectable in early thymocytes and its appearance probably represents one of the earliest signs of commitment to the T-cell lineage. It has a cytoplasmic expression at early T-cell differentiation, then membranous expression. CD3 is the most specific T-cell antibody. Positive staining (normal): thymocytes, peripheral T-cells, NK cells; also Purkinje cells of cerebellum. Positive staining (disease): 80% of T-cell lymphomas. Negative staining: gamma/delta T-cell receptors and most B-cell lymphomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD30

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/Leukemia typing. CD30 is a lymphocyte activation antigen, related to tumor necrosis factor. Positive staining (normal): granulocytes, plasma cells, activated B-, T- and NK cells. Positive staining (disease): infectious mononucleosis, lymphocytes infected with HIV, HTLV-1, EBV, HHV8 or hepatitis B; Reed-Sternberg cells, 90% of anaplastic large cell lymphomas, lymphomatoid papulosis, peripheral T-cell lymphomas, germ cell tumors and some melanomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD31

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD31 is a 130-kd transmembrane glycoprotein that is shared by vascular lining cells, megakaryocytes and platelets. This marker is highly restricted to endothelial neoplasms among all tumors of the soft tissue and its sensitivity is excellent. 100% of angiosarcomas and hemangiomas are CD31 positive. However, KS is labeled more consistently by CD34 than by CD31. CD31 has also been used as a prognostic marker measuring tumor angiogenesis.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours



## CD34

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD34, a single chain transmembrane glycoprotein, is selectively expressed on human lymphoid and myeloid hematopoietic progenitor cells and endothelial cells. CD34 antibody labels all gastrointestinal stromal tumors (GIST), dermatofibrosarcoma protuberans, solitary fibrous tumor and a subset of sarcomas. CD34 staining has been also used to measure angiogenesis.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## CD35

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD35 antigen is a transmembrane protein of 160-250 kD that binds complement components C3b and C4b. It mediates phagocytosis by neutrophils and monocytes. CD35 is found on erythrocytes, B-cells, a subset of T-cells, monocytes, macrophages cultured in vitro, neutrophils, eosinophils, glomerular podocytes and follicular dendritic cells. CD35 antibody is useful in the diagnosis of MALT lymphoma and in the study of inflammatory disorders.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## CD38

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD38 is a transmembrane protein, that is highly expressed on thymocytes. It is also present on activated T-cells and terminally differentiated B-cells (plasma cells). Other reactive cells include NK cells, monocytes, macrophages and dendritic cells. CD38 may be detected on cells from multiple myeloma, ALL (B and T) and some AML.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD4

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/Leukemia typing. CD4, a single chain transmembrane glycoprotein, is found on a T-cell subset (helper/inducer). It is also present on a variety of monocyte-derived cells, including Langerhans and other dendritic cells. The CD4 epitope is absent from immature thymocytes and is expressed during T-cell development. Precursor T-lymphoblastic lymphomas are therefore variable in their expression of CD4, but most mature T-cell lymphomas are positive, with the exception of aggressive NK-cell leukemia, extranodal NK-cell lymphoma, gamma delta T-cell lymphomas and enteropathy-type T-cell lymphoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req. Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
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## CD43

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/Leukemia typing CD43 (leukosialin, sialophorin, or leukocyte sialoglycoprotein) is a cell surface glycoprotein that is expressed on all thymocytes, T-cells and cells of myeloid lineage. CD43 antibody can be useful in diagnosis of T-cell lymphoma and a subset of B-cell lymphoma. CD43 expression in lymphomas is highly correlated with CD5; thus, most of T-cell malignancies and a group of small lymphocyte B-cell malignancies (CLL/SLL, mantle cell lymphoma, prolymphocytic leukemia (PLL)) are often positive, whereas follicular lymphoma is rarely positive.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req. Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
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<b>Turnaround Time:</b>	24-48 Hours

## CD44

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	It is a transmembranous glycoprotein (80 kDa) present on T lymphocytes, granulocytes, red blood cells, brain, and epithelial cells. The standard isoform, CD44s, is expressed in a wide range of normal tissues such as tonsil, skin, bladder, and cervical squamous epithelium. In breast cancer studies, CD44 expression, demonstrated a favorable prognostic factor in patients with node-negative invasive breast carcinoma. Further studies have shown a subpopulation of CD44+/CD24- cells in breast cancer have stem/progenitor cell properties. Anti-CD44 may be useful in discrimination of urothelial carcinoma in-situ from non-neoplastic changes in the urothelium.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## CD45RO

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/Leukemia typing. CD45RO (an isoform of leukocyte common antigen) reacts with mature activated T-cells, most thymocytes, and a sub-population of resting T-cells within both CD4 and CD8 subsets. CD45RO antibody marks many T-cell lymphomas but also identifies granulocytes, histiocytes and some B-cells. It rarely stains B-cell lymphomas
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## CD5

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/Leukemia typing. CD5, a transmembrane protein, is found on most thymocytes and immature peripheral T-cells. Positive staining (normal): B-cells of mantle zone of spleen and lymph nodes; B-cells in peritoneal and pleural cavities; almost all T-cells; In fetus, most B-cells in spleen and cord blood are CD5 positive. Positive staining (disease): B-cell CLL/SLL, mantle cell lymphoma (MCL), hairy cell leukemia (HCL), most T-malignancies, thymic carcinomas (most). Negative staining: Spindle cell thymomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global
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<b>Turnaround Time:</b>	24-48 Hours

## CD56/Leu 6

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/Leukemia typing. CD56 recognizes two proteins of the neural cell adhesion molecule, the basic molecule expressed on most neuroectodermally derived cell lines, tissues and neoplasms (e.g. retinoblastoma, medulloblastomas, astrocytomas, and neuroblastomas). It is also expressed on some mesodermally derived tumors (rhabdomyosarcoma) and on natural killer cells. CD56 could be used as a marker for NK-like T-Cell Lymphoma. Some benign and malignant plasma cells are also positive.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD57

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD57 is expressed on a subpopulation of 15-20% of peripheral blood mononuclear cells, about 60% of NK active cells and on a subset of T-cells. Hematopoietic malignancies that are CD57+ include a minority of T-lymphoblastic leukemias, roughly three quarters of the indolent T-cell large granular lymphocytic leukemias and small portion of NK-cell lymphomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD61

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD61 (GPIIb) is a glycoprotein found on megakaryocytes, platelets and their precursors. CD61 antigen plays a role in platelet aggregation and also as a receptor for fibrinogen, fibronectin, von Willebrand factor and vitronectin. This antibody is useful in detecting neoplastic platelet precursors, normal platelets and most cases of megakaryocytic leukemias.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD63(NKI/C3)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Its reactivity is seen in the cytoplasm of many cell types including lymphoid, myeloid, endothelial cells and the majority of malignant melanomas. CD63 is a 53kDa lysosomal membrane protein in the family of tetraspan moieties, and characterized as an activation dependent platelet surface antigen. It is a useful marker for the identification of malignant melanoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD68

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD68 is important for identifying macrophages in tissue sections. It stains macrophages in a wide variety of human tissues, including Kupffer cells and macrophages in the red pulp of the spleen, in lamina propria of the gut, in lung alveoli, and in bone marrow. This antibody reacts with myeloid precursors and peripheral blood granulocytes. It shows strong granular cytoplasmic staining of chronic and acute myeloid leukemia and also reacts with rare cases of true histiocytic neoplasia. Tumors of lymphoid origin are usually not stained.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD7

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/Leukemia typing. CD7 is expressed on the majority of immature and mature T-lymphocytes and T-cell leukemia. It is also found on natural killer cells, a small subpopulation of normal and malignant B-cells. CD7 antibody can be useful for detection of T-cell leukemias and myeloid leukemias.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD79a

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Lymphoma/Leukemia typing. CD79a first appears at the pre B-cell stage and persists until the plasma cell stage where it is found as an intracellular component. CD79a is found in the majority of acute leukemias of precursor B-cell type, in B- cell lines, B-cell lymphomas, and in some myelomas. It is not present in myeloid or T-cell.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## CD8

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD8 is a T-cell marker for the detection of cytotoxic/suppressor T-cells. CD8 is also detected on NK cells, most thymocytes, a subpopulation of null cells and bone marrow cells. This antibody is useful in evaluating T-cell lymphomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CD99/MIC2/P30

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD99 (MIC2 gene product, E2) antigen is strongly expressed by Ewings sarcoma cells, primitive peripheral neuroectodermal tumors and lymphoblastic leukemia/lymphoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CDX2

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CDX2 is an intestine specific transcription factor that regulates both the proliferation and the differentiation in intestinal epithelial cells. It is expressed in the nuclei of epithelial cells throughout the intestine, from duodenum to rectum. The CDX2 protein is expressed in primary and metastatic colorectal carcinomas and has also been demonstrated in the intestinal metaplasia of the stomach and intestinal-type gastric cancer, while it is not expressed in the normal gastric mucosa. CDX2-88 may be used in identifying metastatic carcinoma of colonic origin in the setting of an unknown primary tumor.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CDX2/CK7

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CDX2 protein is expressed in primary and metastatic colorectal carcinomas and has also been demonstrated in the intestinal metaplasia of the stomach and intestinal-type gastric cancer. It is not expressed in the normal gastric mucosa. Cytokeratin 7 is a basic cytokeratin and is expressed in epithelial cells of ovary, lung, and breast, but not of the colon or gastrointestinal tract. This antibody cocktail of CDX2 and CK7 can be used simultaneously to distinguish stomach and colon cancers from breast, lung and ovarian cancers.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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## CEA (Mono)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	The antibody shows a strong reaction with CEA and CEA-like proteins, such as CEACAM1 (biliary glycoprotein, BGP1) and CEACAM6 (non-specific cross-reacting antigen, NCA).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CEA (Poly)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Carcinoembryonic antigen (CEA) is a heterogeneous cell surface glycoprotein produced by cells of fetal colon. Low levels are also found on normal mucosal epithelia of the adult colon and a variety of other normal tissues. CEA is encoded by the CEA gene that is located on chromosome 19. It is a member of the CEA gene family, which in turn is a subfamily of the immunoglobulin superfamily. Cell adhesion properties are now well recognized for CEA. It is believed that the expression of this glycoprotein in conjunction with other known adhesion molecules will influence the cell-cell interaction.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## Chromogranin A

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Neuroendocrine differentiation. Chromogranin is present in several elements of the diffuse neuroendocrine system (DNES), including anterior pituitary, thyroid perifollicular C cells, parathyroid chief cells, pancreatic islet cells, intestinal enterochromaffin cells and tumors derived from these cells. Chromogranin immunoreactivity was also seen in thymus, spleen, lymph nodes, fetal liver, neurons, the inner segment of rods and cones, the submandibular gland and the central nervous system. This marker is useful in evaluating neuroendocrine tumors.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CK 5/6

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CK5/6 positivity is seen in nearly 100% of malignant mesotheliomas and in almost no lung adenocarcinomas. CK5/6 positivity can be seen in undifferentiated large cell carcinoma as well as squamous carcinoma. Less than 10% of carcinomas of the breast, colon and prostate stain positively for this marker.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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## CK19

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Cytokeratin 19 is a member of type I acidic subfamily of keratins. It is expressed in various different human tissues. CK19 labels ductal and glandular epithelia, prostatic epithelia, and non-keratinizing squamous epithelia. This antibody is useful in the diagnosis of breast and cervical carcinoma. CK19 is not expressed in hepatocytes, therefore antibody to keratin 19 is also useful in the distinction of liver metastasis from hepatocellular carcinomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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## CK20

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CK20 positivity is seen in the majority of adenocarcinomas of the colon, mucinous ovarian carcinomas, transitional cell and Merkel cell carcinomas and frequently in adenocarcinomas of the stomach, bile system and pancreas. The primary sites of adenocarcinoma causing the most cancer deaths are the lung and colon. However, pathological differentiation of these two neoplasms can be difficult. Cytokeratin 7 is usually present in pulmonary but not colonic adenocarcinomas. CK7/CK20 immunostaining patterns may be helpful in separating pulmonary from colonic adenocarcinomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CK34BE12

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CK 903 (34betaE12) is a high molecular weight cytokeratin that reacts with all squamous epithelium and their carcinomas. This antibody recognizes cytokeratins 1, 5, 10 and 14 that are found in complex epithelia. CK903 shows no reactivity with hepatocytes, pancreatic acinar cells, proximal renal tubes or endometrial glands. There has been no reactivity with cells derived from simple epithelia. Mesenchymal tumors, lymphomas, melanomas, neural tumors and neuroendocrine tumors are unreactive with this antibody. One useful application is the identification of basal cell layer in prostate tissue in the determination of carcinoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

*The CPT codes provided with our test descriptions are based on AMA guidelines and are for informational purposes only. Correct CPT coding is the sole responsibility of the billing party. Please direct any questions regarding coding to the pay or being billed. \*Tests are sent to CBLPath's preferred laboratory.*

## CK5

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	<p>It is a type II cytokeratin. CK5 is expressed in many non-keratinizing stratified squamous epithelia as well as basal cells in prostate glands and myoepithelial cells in mammary glands. It has been useful in the differential diagnosis of metastatic carcinoma in the pleura versus epithelial mesothelioma. Anti-Cytokeratin 5, along with anti-cytokeratin 14, has been found to have an application in identifying the basal-like phenotype of breast carcinoma. Helps define a basal-like subtype of invasive ductal carcinoma of the breast that is usually CK5/6+, ER-, PR-, HER2-, EGFR+ with poorer prognosis.</p> <p>Distinguish breast usual ductal hyperplasia (strong staining) from solid papillary DCIS (negative), p63+ and CK5/6+ poorly differentiated metastatic carcinomas are likely to have squamous carcinoma primaries.</p> <p>Distinguish epithelioid mesothelioma (CK5/6+ cytoplasmic staining with perinuclear enhancement) from lung adenocarcinoma (usually CK5/6 negative).</p> <p>Distinguish cutaneous spindled squamous cell carcinoma (CK5/6+ in 100%) from superficial epithelioid sarcoma (rare focal positivity).</p>
<b>Specimen Requirements:</b>	<p>One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&amp;E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or</p> <p>A formalin-fixed, paraffin-embedded (FFPE) tissue block</p> <p>All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.</p>
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## CK7

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	<p>This antibody reacts with proteins that are found in most ductal, glandular and transitional epithelium of the urinary tract and bile duct epithelial cells. Cytokeratin 7 distinguishes between lung and breast epithelium that stain positive, and colon and prostate epithelial cells that are negative. It also reacts with many benign and malignant epithelial lesions, e.g. adenocarcinomas of the ovary, breast and lung. Transitional cell carcinomas are positive and most prostate cancers are negative. This antibody does not recognize other intermediate filament proteins.</p>
<b>Specimen Requirements:</b>	<p>One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&amp;E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or</p> <p>A formalin-fixed, paraffin-embedded (FFPE) tissue block</p> <p>All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.</p>
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<b>Turnaround Time:</b>	24-48 Hours

## CK8 – 18

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Cytokeratin 8, 35betaH11 antibody, is reactive with the majority of epithelium and epithelial tumors and stains positive in non-squamous epithelial tumors and is negative in squamous cell carcinomas. This antibody stains positive for adenocarcinomas of the breast, ovary, gastrointestinal tract, thyroid, pancreas, bile duct, and salivary glands. It does not react with skeletal muscle or nerve cells. Stains most epithelial-derived tumors.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## CMV

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Reacts with CMV immediate early antigen and early antigen. The antibody shows no cross-reaction with other herpesviruses or with adenovirus. In CMV-infected cells, the antibody gives a nuclear staining pattern early during the infection; at a later stage, a diffuse nuclear and apparent cytoplasmic staining is observed.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Collagen IV

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Collagen IV is a major constituent of the basement membranes along with laminins and enactins. In kidney, the antibody reacts with glomerular and tubular basement membranes, parts of mesenchymal matrix and the Bowmans capsule. It also reacts with basal lamina of capillaries as well as basement membranes in a variety of tissues. Antibody to collagen IV is useful in detecting the loss of parts of basement membrane in carcinomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Cyclin D1

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Cyclin D1, one of the key cell cycle regulators, is a putative proto-oncogene overexpressed in a wide variety of human neoplasms. Cyclins are proteins that govern transitions through distinct phases of the cell cycle by regulating the activity of the cyclin-dependent kinases. In mid to late G1, Cyclin D1 shows a maximum expression following growth factor stimulation. Cyclin D1 has been successfully employed and is a promising tool for further studies in both cell cycle biology and cancer associated abnormalities. This antibody is useful for separating mantle cell lymphomas (Cyclin D1 positive) from SLLs and small cleaved cell lymphomas (Cyclin D1 negative).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Cytokeratin (AE1)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Its reactivity is seen mostly in normal and neoplastic cells of epithelial origin. It is useful for distinguishing between poorly differentiated carcinomas and non-epithelial neoplasms. Diagnostically, antikeratin antibodies are usually applied as part of a panel to determine cell lineage of poorly differentiated malignant tumors.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global
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<b>Turnaround Time:</b>	24-48 Hours

## Cytokeratin (AE3)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Recognize all basic keratins. It is a broadly reactive antibody staining most epithelia and their neoplasms. It is used to observe the distribution of keratin-containing cells in normal epithelia and to identify neoplasm derived from such epithelium. Diagnostically, antikeratin antibodies are usually applied as part of a panel to determine cell lineage of poorly differentiated malignant tumors.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## c-MYC(Y69)

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Proto-oncogene at 8q24.1 produces short lived nuclear phosphoprotein. It activates the transcription of growth related genes. It has a crucial role in cellular metabolism and apoptosis and is associated with variety of tumors. Overexpressed by t(8;14)(q24;q32.3), t(8;22)(q24;11) and t(2;8)(p11-12;q24), which translocate c-myc gene next to immunoglobulin genes in Burkitt's lymphoma. The antibody stains also this protein from colorectal adenocarcinoma, breast invasive ductal carcinoma, prostate adenocarcinoma, neuroblastoma, AIDS-related lymphomas, diffuse large-cell lymphomas, posttransplant lymphoproliferative disease, B-ALL (leukemic counterpart of Burkitt's lymphoma)
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## D2-40

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	D2-40 identifies a 40 kDa O-linked sialoglycoprotein expressed by a variety of tissues, including fetal testes and testicular germ cell tumors. Anti-D2-40 has also been demonstrated to label lymphatic endothelium whereas it is unreactive with vascular endothelium. In neoplastic tissue, immunostaining of lymphatic endothelium by Anti-D2-40 can be useful in identifying lymphatic invasion of primary tumors
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## DESMIN

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Desmin is an intermediate filament protein of both smooth and striated muscles. Antibody to desmin reacts with striated (skeletal and cardiac) as well as smooth muscle cells. Anti-desmin antibody is useful in identification of tumors of myogenic origin. It reacts with leiomyosarcomas (smooth muscle) as well as rhabdomyosarcomas (striated muscle).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## DOG1

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Anti-DOG1 antibody has been shown to be highly specific and sensitive in the diagnosis of Gastrointestinal Stromal Tumors. Approximately 4-15% of GIST, stain weakly or are negative for c-kit by immunohistochemistry. In the vast majority of these cases, DOG1 is expressed by IHC. Such testing has important implications regarding treatment via imatinib therapy.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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## E Cadherin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	E-Cadherin is an adhesion protein that is expressed in cells of epithelial lineage. It stains positively in glandular epithelium as well as adenocarcinomas of the lung and G.I. tract and ovary. It is useful in distinguishing adenocarcinoma from mesothelioma. It has also been shown to be positive in some thyroid carcinomas. Breast carcinomas with ductal and lobular features show two staining patterns: (1) complete or almost complete lack of membrane staining in lobular carcinomas and (2) uniform membrane expression throughout the tumor in ductal carcinomas. Immunohistochemical detection of E-Cadherin expression can be a useful diagnostic tool for the differentiation of ductal and lobular carcinomas of the breast.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## EGFR

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	EGFR (H11) reacts with a 170 kDa (wild type) and 145 kDa (VIII variant), identified as the first member (EGR-Receptor) of type I family of growth factor receptors. It shows no cross-reaction with c-erbB-2, c-erbB-3 or c-erbB-4. Over-expression of EGFR is reported in tumors of breast (25%), brain, bladder, lung, gastric, esophagus, cervix, ovary and endometrium.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## Epithelial Membrane Antigen (EMA)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	EMA antibody is a useful marker for staining many carcinomas. It stains normal and neoplastic cells from various tissues, including mammary epithelium, sweat glands and squamous epithelium. Hepatocellular carcinoma, adrenal carcinoma and embryonal carcinomas are consistently EMA negative, therefore keratin positivity with negative EMA favors one of these tumors. EMA is frequently positive in meningioma, which can be useful when distinguishing it from other intracranial neoplasms, e.g. Schwannomas. The absence of EMA can also be of value since negative EMA is characteristic of tumors such as adrenal carcinoma, seminomas, paraganglioma and hepatoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Level of Service:</b>	Global
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<b>Turnaround Time:</b>	24-48 Hours

## ERG

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Anti-ERG (EPR3864) Rabbit Monoclonal Primary Antibody (anti-ERG (EPR3864)) is directed against the C-terminus of the ETS transcription regulator, ERG, and is capable of detecting both wildtype ERG, and truncated ERG resulting from ERG gene rearrangement. This antibody exhibits a nuclear staining pattern and may be used to aid in the identification of prostate adenocarcinomas through the detection of truncated ERG.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## Estrogen Receptor (ER) – Quantitative

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Anti-ER (SP1) is directed against an epitope present on human ER protein located in the nucleus of ER positive normal and neoplastic cells. Anti-ER (SP1) is indicated as an aid in the management, prognosis, and prediction of therapy outcome of breast cancer
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88360
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Factor XIIIa

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Factor XIIIa is a blood proenzyme that has been identified in platelets, megakaryocyte, and fibroblast-like mesenchymal or histiocytic cells present in the placenta, uterus, and prostate; it is also present in monocytes and macrophages and dermal dendritic cells. Anti- Factor XIIIa has been found to be useful in differentiating between dermatofibroma (90% (+)), dermatofibrosarcoma protuberans (25%(+)) and desmoplastic malignant melanoma (0%(+)). Factor XIIIa positivity is also seen in capillary hemangioblastoma (100%(+)), hemangioendothelioma (100%(+)), hemangiopericytoma (100%(+)), xanthogranuloma (100%(+)), xanthoma (100(+)), hepatocellular carcinoma (93%(+)), glomus tumor (80%(+)), and meningioma (80 % (+)).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## Factor VIII

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Factor VIII-related antigen is a component of Factor VIII complex. Factor VIII-related antigen is one of the available immunohistochemical markers of endothelial cells. It has also been demonstrated in platelets and megakaryocytes. IHC staining of Factor VIII-related antigen is useful for diagnosis of vascular neoplasms and for identification of vascular invasion by neoplasms. Specimen Requirements: Formalin fixed paraffin-embedded tissue block; 1 H&E slide plus 3 unstained charged slides; fine needle aspirate in RPMI; bone marrow core fixed in formalin; bone marrow clot fixed in formalin.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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## FASCIN

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Human fascin is a highly conserved actin-bundling protein. It is expressed predominantly in dendritic cells. Lymphoid cells, myeloid cells and plasma cells are negative. However, Reed-Sternberg cells in Hodgkin lymphoma are positive for fascin staining. Epstein-Barr virus may induce expression of fascin in B-cells
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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## FLI-1

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Labels Ewing's Kaposis sarcoma, Hemangiomas Angiosarcomas and Merkel cell carcinoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## Galectin-3

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Galectin-3 has been associated with binding to the basement membrane glycoprotein laminin. Anti-Galectin-3 has been demonstrated to be valuable in differentiating between benign and malignant thyroid neoplasms in both histologic sections and fine needle aspiration biopsy material. Anti-Galectin-3 antibody has also been useful in identifying anaplastic large cell lymphoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## Gastrin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Gastrin, a polypeptide hormone, occurs naturally in three forms: gastrin-14, gastrin-17 and gastrin-34. This antibody labels gastrin or gastrin-analogue producing cells in gastrin-secreting tumors and G cell hyperplasia.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## GATA3

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	GATA3 (GATA binding protein 3) is a member of the GATA family of transcription factors. Among several other roles, GATA3 is involved in luminal cell differentiation in the mammary gland and appears to control a set of genes involved in the differentiation and proliferation of breast cancer. The expression of GATA3 is associated with the expression of estrogen receptor-alpha (ER) in breast cancer. GATA3 has been shown to be a useful in the characterization of carcinomas, including primary bladder and breast carcinomas, and some types of mesenchymal and neuroectodermal tumors (ie, paragangliomas).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## GLUCAGON

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Glucagon is used for the identification of tumors and hyperplasias of pancreatic islets. Antibody labels A cells of the endocrine mammalian pancreas. It reacts with glucagon in a large number of mammalian species.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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## Glycophorin-A

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Glycophorin A (sialoglycoprotein alpha) is one of two transmembrane proteins exposed on the outer surface of normal human erythrocytes. This monoclonal antibody reacts with an epitope located on the extracellular domain of glycophorin A and does not cross-react with glycophorin D (glycophorin delta). In normal human erythrocytes, glycophorin A is expressed during all stages of differentiation, from the normoblast to the mature erythrocyte. Once maximally expressed, the quantity of glycophorin A in each red blood cell remains constant. Glycophorin A has also been located in the blast cells of cases of erythroleukemia. Cases of acute lymphoblastic and myeloblastic leukemia are not reactive.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## Glypican-3

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	A useful marker to differentiate between benign (negative) and malignant (positive) liver diseases (HCCs).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>Turnaround Time:</b>	24-48 Hours

## Granzyme-B

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Granzyme B, a 29 kDa monomer protein, labels activated human cytotoxic T-lymphocytes (CTL) and natural killer (NK) cells and is a useful tool for the identification of anaplastic large cell lymphoma (ALCL), large granular lymphocytic leukemias, hepatosplenic T-cell lymphomas, intestinal T-cell lymphomas, NK-like T-cell lymphomas, NK-cell lymphomas, nasal T/NK-cell lymphomas, subcutaneous T-cell lymphomas and pulmonary angiocentric lymphomas of T or NK phenotype. Labels activated human cytotoxic T-lymphocytes (CTL) and natural killer (NK) cells.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Gross Cystic Fluid Protein 15(GCDFP15)

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	This antibody is specific to a 15 kDa monomer protein called Gross Cystic Disease Fluid Protein-15 (GCDFFP-15). GCDFFP15 is expressed in apocrine epithelia, lacrimal, ceruminous and Moll's glands as well as in numerous serous cells of the submandibular, tracheal, bronchial, sublingual and minor salivary glands. It can be of use in the identification of breast carcinoma, salivary duct carcinoma and apocrine epithelia.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Helicobacter Pylori

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	This antibody reacts with H. pylori on the surface and in the cytoplasm of epithelial cells of stomach biopsies. Studies have shown that H. pylori plays an important role in the etiology of chronic active gastritis and the development of peptic ulcer disease. Immunohistochemistry is a good choice for rapid detection of these bacteria.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## HEPPAR-1 (hepatocyte)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Anti-Hepatocyte Specific Antigen (HepPar1) recognizes both benign and malignant liver derived tumors such as hepatoblastoma, hepatocellular carcinoma and hepatic adenoma. It recognizes both adult and fetal liver tissue. The typical pattern is a granular cytoplasmic staining. This antibody is useful in differentiating hepatocellular carcinomas from adenocarcinomas, either primary or metastatic. HepPar1 also can be used in differential diagnostic separation of hepatoblastoma versus other small round cell tumors. HepPar1 is also expressed in a subset of gastric carcinoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## HER2 (4B5))

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	The HER2 oncogene is over-expressed in some breast carcinomas. The expected over-expression rate varies based on the grade and type of breast cancer. Tumors showing 3+ over-expression of HER2 may benefit from trastuzumab therapy. Borderline results (2+) show a significantly reduced response rate to trastuzumab therapy. Assessment of the HER2 gene status may provide additional therapeutic information in some cases. Known artifacts such as edge artifact, tissue retraction and tissue crush may give the false impression of over-expression. Care should be taken to avoid assessing these areas, especially in needle core biopsies that generally harbor all of these artifacts.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88360
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Herpes Simplex, Type 1 (HSV 1)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Antibody reacts with HSV type 1 specific antigens and with antigens common for HSV types 1 and 2. The antibody reacts with all the major glycoproteins present in the viral envelope and at least one core protein as determined by crossed immunoelectrophoresis. This antibody does not cross-react with cytomegalovirus and Epstein-Barr virus. It is well suited for detection of HSV in human cellular material obtained from superficial lesions or biopsies and for the early identification of HSV in infected tissue cultures.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Herpes Simplex, Type 2 (HSV 2)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	This antibody reacts with HSV type 2 specific antigens and with antigens common for HSV types 1 and 2. The antibody reacts with all the major glycoproteins present in the viral envelope and at least one core protein as determined by crossed immunoelectrophoresis. It does not cross react with cytomegalovirus and Epstein-Barr virus. The antibody is well-suited for detection of HSV in human cellular material obtained from superficial lesions or biopsies and for the early identification of HSV in infected tissue cultures.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## HMB-45

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Clone HMB45 recognizes a melanoma-specific antigen by reacting with melanoma cells, nevus cells and neonatal melanocytes. HMB45 expresses on the majority of malignant melanoma cases as well as on tumors of melanocytic differentiation.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Human Chorionic Gonadotropin (hCG)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	hCG is secreted in large quantities by the placenta and normally is found in maternal circulation during early fetal development. The presence of hCG in maternal blood and urine provides a convenient basis for early recognition of pregnancy. hCG has been detected in several cases of germ cell tumors of the ovary and testis. Furthermore, gestational trophoblastic tumors (hydatidiform mole and choriocarcinoma) derived from the placenta are invariably associated with abnormally high levels of hCG.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Human Herpes Virus, Type 8 (HHV-8)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Human herpesvirus type 8 (HHV-8) is the likely etiological agent of Kaposi's sarcoma (KS). HHV-8 DNA sequences have been found in Kaposi's sarcoma lesions, primary effusion lymphoma, and multicentric Castleman's disease via polymerase chain reaction and in situ hybridization. Latent nuclear antigen (LNA-1, LNA, LANA-1), also known as ORF73, is a 222- or 234 kD protein that is consistently expressed in HHV-8 infected cells. Anti-HHV-8 labels the latent nuclear antigen protein via immunohistochemistry.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## IGG4

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Autoimmune pancreatitis typically produces an enlarged pancreas with narrowing of the pancreatic duct, and can mimic carcinoma. It was shown that the pancreatic tissue from patients with autoimmune pancreatitis often shows moderate or marked infiltration by IgG4-positive plasma. IgG4 staining in patients with chronic alcoholic pancreatitis and pancreatic ductal adenocarcinoma was rarely observed. IgG4-positive plasma cells are a useful marker for the tissue diagnosis of autoimmune pancreatitis. Elevated IgG4+ to IgG+ plasma cell ratio (IgG4/IgG ratio) is helpful in distinguishing IgG4-related from non IgG4-related inflammatory conditions.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Immunoglobulin A (IgA)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	IgA antibody reacts with immunoglobulin Ig alpha chains. It is useful in identifying leukemias, plasmacytomas and B-cell lineage derived lymphomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Immunoglobulin D (IgD)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	IgD antibody reacts with immunoglobulin Ig delta chains. This antibody is useful when identifying leukemias, plasmacytomas and B-cell lineage derived lymphomas (in particular Marginal Zone Lymphoma). Cytoplasmic staining is easily identified on paraffin tissue.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Immunoglobulin G (IgG)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	IgG antibody reacts with immunoglobulin Ig gamma chains. This antibody is useful when identifying leukemias, plasmacytomas and B-cell lineage derived lymphomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Immunoglobulin M (IgM)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	IgM antibody reacts with immunoglobulin Ig mu chains. This antibody is useful when identifying leukemias, plasmacytomas and B-cell lineage derived lymphomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Inhibin Alpha

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Anti-Inhibin alpha is an antibody against a peptide hormone which has a demonstrated utility in differentiation between adrenocortical tumors and renal cell carcinoma. This antibody stains about 100% of adrenal tumors but no cases of renal cell carcinomas. Sex Cord Stromal tumors of the ovary as well as trophoblastic tumors also demonstrate cytoplasmic positivity with this antibody
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## INSULIN

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Insulin is composed of a and b chains connected through the C-peptide. The main storage site for insulin is the pancreatic islets. Antibodies to insulin are important as a marker of islet cell tumor of pancreas (insulinoma).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours



## Kappa

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Antibody to the kappa light chain of immunoglobulin is reportedly useful in the identification of leukemias, plasmacytomas and certain non-Hodgkin lymphomas. Demonstration of monotypism in lymphoid infiltrates is a surrogate for clonality, and therefore malignancy.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Ki67

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Ki-67 is a nuclear protein that is expressed in proliferating cells. Ki-67 is preferentially expressed during late G1-, S-, M-, and G2-phases of the cell cycle, while cells in the G0 (quiescent) phase are negative for this protein. Increased proliferative activity is associated with more aggressive tumor and decreased disease-free survival period.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342, 88361
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Ki67/AE1-AE3

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Ki-67 is a nuclear protein that is expressed in proliferating cells. Ki-67 is preferentially expressed during late G1-, S-, M-, and G2-phases of the cell cycle, while cells in the G0 (quiescent) phase are negative for this protein. Increased proliferative activity is associated with more aggressive tumor and decreased disease-free survival period. AE1-AE3 Useful in distinguishing and classifying epithelial carcinoma from non-epithelial malignancies, metastatic malignant tumors.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342, 88344
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## KI67/MART-1

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Ki-67 is a nuclear protein that is expressed in proliferating cells. Ki-67 is preferentially expressed during late G1-, S-, M-, and G2-phases of the cell cycle, while cells in the G0 (quiescent) phase are negative for this protein. Increased proliferative activity is associated with more aggressive tumor and decreased disease-free survival period. MART-1 (Melanoma Antigen Recognized by T cells 1) recognizes a protein of 18 kDa, a subcellular fraction found in melanosomes. The antibody labels melanomas and tumors showing melanocytic differentiation. It does not mark neoplasms of epithelial origin, lymphomas or mesenchymal tumors.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342, 88344
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Lambda

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Antibody to the lambda light chain of immunoglobulin is reportedly useful in the identification of leukemias, plasmacytomas and certain non-Hodgkin lymphomas. Demonstration of monotypism in lymphoid infiltrates is a surrogate for clonality, and therefore malignancy.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## LCA

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD45, Leucocyte Common Antigen (LCA), is expressed on most nucleated cells of haematopoietic origin and has various isoforms. CD45 is routinely used to aid the differential diagnosis of undifferentiated neoplasms, whenever malignant lymphoma is suspected by the morphologic clinical data. Certain types of lymphoid neoplasms may lack CD45 expression (Hodgkins disease, some T-cell lymphomas, some leukemias).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Mammaglobin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Mammaglobin is a breast-associated glycoprotein. Mammaglobin mRNA expression is breast specific and has shown to be a very sensitive marker of occult breast cancer cells in sentinel lymph nodes and peripheral blood. In normal breast tissue, this antibody labels breast ductal and lobular epithelial cells. In tumor cells, they are reactive with all types of breast adenocarcinoma regardless of tumor differentiation and type. Adenocarcinomas from other organs rarely express mammaglobin. Overall sensitivity of mammaglobin for breast cancers was reported to be about 80%. Mammaglobin can play a contributing role in the identification of primary sites of carcinomas presenting at metastatic sites.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Mart-1

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	MART-1 (Melanoma Antigen Recognized by T cells 1) recognizes a protein of 18 kDa, a subcellular fraction found in melanosomes. The antibody labels melanomas and tumors showing melanocytic differentiation. It does not mark neoplasms of epithelial origin, lymphomas or mesenchymal tumors.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Melan-A

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Melan-A (MART-1, Melanoma Antigen Recognized by T-cells 1), is a differentiation antigen that is expressed in 100% of melanocytes, most melanomas and 50-60% of melanoma cell lines. Melan A recognizes a subcellular fraction found in melanosomes. Melan-A is a useful addition to melanoma panels since it is specific for melanocytic lesions. Both HMB-45 and Melan-A are coexpressed in the majority of melanomas, as well as uniquely expressed in certain cases. Studies have shown that Melan-A is more sensitive than HMB-45 when labeling metastatic melanomas. Melan-A antibody labels the tumor cells of a subset of adrenocortical carcinomas and sex cord tumors of the gonads.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

*The CPT codes provided with our test descriptions are based on AMA guidelines and are for informational purposes only. Correct CPT coding is the sole responsibility of the billing party. Please direct any questions regarding coding to the pay or being billed. \*Tests are sent to CBLPath's preferred laboratory.*

## Mesothelial Cell (HBME-1)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	HBME-1 is an antimesothelial monoclonal antibody that recognizes an unknown antigen on microvilli of mesothelioma cells. It stains normal mesothelial cells as well as epithelial mesotheliomas in a thick membrane pattern. This antibody also reacts with some (20-30%) carcinomas showing cytoplasmic immunostaining.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Microphthalmia transcription factor (MITF)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	MITF (microphthalmia transcription factor) is a transcription factor that regulates the development and survival of melanocytes. MITF is restricted to the melanocyte cell lineage. Anti-MITF recognizes a nuclear protein that is expressed in the majority of primary and metastatic epithelioid malignant melanomas as well as in normal melanocytes, benign nevi and dysplastic nevi.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## MLH1

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Mismatch repair genes perform an essential cellular function by repairing DNA mismatches that may occur during cellular replication. A number of these genes have been identified in human genome, including hMLH1, hMSH2, hMSH3, hMSH6, hPMS1, and hPMS2. MLH1 and MSH2 proteins are normally expressed in the nucleus of cells. The absence of nuclear expression of one or both of these proteins has been found to correlate with the presence of a mismatch repair gene defect in the respective gene. Recent studies have been found that 50-70% of patients with hereditary non-polyposis colorectal cancer syndrome (HNPCC) have a deficient DNA mismatch repair. Patients with HNPCC have an 80-90% lifetime risk of colorectal carcinoma, and typically have an earlier onset (mean age of onset 42: vs. 65 years for conventional colon cancer).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## MOC31

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Anti-MOC-31 reacts with a transmembrane glycoprotein present on most glandular epithelium and tumors originating from such epithelium. This antibody has been used to distinguish adenocarcinoma from mesothelioma and hepatocellular carcinoma. This antibody is also useful in distinguishing serous carcinomas of the ovary from mesothelioma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## MSH2

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Mismatch repair genes perform an essential cellular function by repairing DNA mismatches that may occur during cellular replication. A number of these genes have been identified in human genome, including hMLH1, hMSH2, hMSH3, hMSH6, hPMS1, and hPMS2. MLH1 and MSH2 proteins are normally expressed in the nucleus of cells. The absence of nuclear expression of one or both of these proteins has been found to correlate with the presence of a mismatch repair gene defect in the respective gene. Recent studies have been found that 50-70% of patients with hereditary non-polyposis colorectal cancer syndrome (HNPCC) have a deficient DNA mismatch repair. Patients with HNPCC have an 80-90% lifetime risk of colorectal carcinoma, and typically have an earlier onset (mean age of onset: 42 vs. 65 years for conventional colon cancer).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## MSH6

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Mismatch repair (MMR) genes results in failure to repair errors in repetitive sequences that occur during DNA replication. The defects in DNA repair pathways have been related to tumor carcinogenesis. Studies have shown the mutations of MLH-1, MSH2 and MSH6 genes contribute to the development of sporadic colorectal carcinoma. MSH6 is a heterodimer of MSH2 and binds to DNA containing G/T mismatches. Germ-line mutations of MLH1 and MSH2 account for 90% of all known MMR mutations in HNPCC and mutation of MSH6 account for another 5-10%, whereas mutations of other genes are rare.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

*The CPT codes provided with our test descriptions are based on AMA guidelines and are for informational purposes only. Correct CPT coding is the sole responsibility of the billing party. Please direct any questions regarding coding to the pay or being billed. \*Tests are sent to CBLPath's preferred laboratory.*

## MUC 1

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	MUC1 is a high molecular weight glycoprotein that is found on the apical surface of many glandular epithelia including the gastrointestinal, respiratory, urinary, reproductive tracts and some hematopoietic cell lineages. MUC1 has been implicated in progression of numerous types of cancer including breast, colon, lung, gastric and pancreatic cancers. MUC1 expression in tumors is greatly increased and accompanied by altered aberrant expression patterns that become more diffuse when compared to the normal apically restricted pattern.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## MUC 2

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	MUC2 expression is detected in such human tissues as normal colon, breast, prostate, salivary gland as well as in gastrointestinal, colonic, breast and prostate neoplasia. This antibody labels MUC2 in normal colon and colonic carcinomas where it produces intense perinuclear staining in goblet cells.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## MUC 5ac

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	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.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## MUC 6

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	A marker of the gastric epithelial cell phenotype
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## MUM1

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	MUM1 is specific for the MUM1/IRF4 protein that is overexpressed in late plasma-cell-directed stages of B-cell differentiation. The morphologic spectrum of MUM1 expression ranges from the stage of a centrocyte to that of a plasmablast. MUM1 is useful in identification of the transition from BCL6 positivity to CD138 expression, and in combination with these two markers, MUM1 is a powerful tool for understanding the histogenesis of B-cell lymphomas. MUM1 protein is an excellent marker for Hodgkin and Reed-Sternberg cells of classical Hodgkin lymphoma in combination with CD30. Furthermore, MUM1 seems to be a marker of prognostic value since it has been found that the expression of MUM1 is associated with poor prognosis of patients with diffuse large B-cell lymphoma (DLBCL).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Myeloperoxidase

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Myeloperoxidase is an important enzyme used by granulocytes during phagocytic lysis of foreign particles engulfed. In normal tissues and in a variety of myeloproliferative disorders, myeloid cells of both neutrophilic and eosinophilic types, at all stages of maturation, exhibit strong cytoplasmic reactivity for MPO. Erythroid precursors, megakaryocytes, lymphoid cells, mast cells and plasma cells are nonreactive. MPO is not observed in the neoplastic cells of a wide variety of epithelial tumors and sarcomas. MPO is useful in differentiating between myeloid and lymphoid leukemias.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342 (or 88341 if not the first single antibody per specimen)
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## MYOD-1

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Nuclear expression of myogenic differentiation 1 (MyoD1) is restricted to skeletal muscle tissue and has been demonstrated to be a sensitive marker of myogenic differentiation. The antibody strongly labels the nuclei of myoblasts in developing skeletal muscle tissue, whereas the majority of adult skeletal muscle is negative. MyoD1 immunostaining has been demonstrated in the majority of rhabdomyosarcomas of various histological subtypes.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Myogenin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Restricted to cells of skeletal muscle origin.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Myoglobin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Immunostaining with anti-myoglobin provides a specific, sensitive and practical procedure for the identification of tumors of muscle origin. Since myoglobin is found exclusively in skeletal and cardiac muscle and is not present in any other cells of the human body, it may be used to distinguish rhabdomyosarcoma from other soft tissue tumors. Anti-myoglobin staining is also useful when demonstrating rhabdomyoblastic differentiation in other tumors, e.g. neurogenic sarcomas, and malignant mixed mesodermal tumors of the uterus and ovary.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours



## Myosin Smooth Muscle (SMM)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Smooth Muscle Myosin, Heavy Chain (SMMS-1) is an antibody to smooth muscle myosin, heavy chain that reacts with human visceral and vascular smooth muscle cells. The antibody also reacts with human myoepithelial cells. It is very helpful in distinguishing between benign sclerosing breast lesions and infiltrating carcinomas in difficult cases since it strongly stains the myoepithelial layer in the benign lesions while it is negative in the infiltrating carcinomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## NAPSIN A

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Napsin A has a specific function in normal alveolar epithelium and is proposed to play a role in the proteolytic processing of surfactant precursors. Napsin A is reported to be predominantly expressed in lamellar bodies of type II pneumocytes, secondary lysosomes of alveolar macrophages, respiratory epithelium of terminal and respiratory bronchioles, plasma cells, and within a subset of lymphocytes in normal lung as well as in epithelial cells of renal tubules in normal kidney. It is weakly expressed in normal spleen. Past studies have also reported that Napsin A is expressed in most primary lung adenocarcinomas. Napsin A expression may also be seen in renal carcinoma and ovarian clear cell adenocarcinoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Neurofilament

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Anti-neurofilament stains an antigen localized in a number of neural, neuroendocrine, and endocrine tumors. Neuromas, ganglioneuromas, gangliogliomas, ganglioneuroblastomas, and neuroblastomas stain positively for anti-neurofilament. Neurofilaments are also present in paragangliomas as well as adrenal and extra-adrenal pheochromocytomas. Carcinoids, neuroendocrine carcinomas of the skin, and oat cell carcinomas of the lung also express neurofilament.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Neuron-specific enolase (NSE)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	In normal tissue, most neurons and their axonal and dendritic processes stain strongly positive for NSE, with the exception of Purkinje cells. Schwann cells, cells of the adrenal medulla and paraganglia also contain NSE. Endocrine cells of the skin (Merkel cells), respiratory and GI tract epithelium, pituitary parathyroid, pancreatic islets and C cells of thyroid all stain positively for NSE. NSE has been demonstrated in ganglioneuromas, neuroblastomas, Schwannomas and malignant melanomas. It is also present in pheochromocytomas and paragangliomas. Carcinoids, medullary thyroid carcinomas, pituitary adenomas and endocrine tumors of the pancreas and GI tract all show positive immunoreactivity for NSE. NSE is found in neuroendocrine carcinoma of the skin (Merkel cell tumor) and small cell carcinoma of the lung.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## P120

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Useful in the diagnostic distinction between lobular (cytoplasmic staining pattern) and ductal (membranous) breast neoplasia.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## P16

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	P 16 is a marker for dysplasia in squamous epithelium especially in those lesions associated with high risk HPV. It helps in distinguishing an atypical epithelium from reactive to precancerous by decorating the latter.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## P40

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	The mouse monoclonal antibody p40 [BC28] recognizes an epitope unique to the p40 protein and may have applications in cases where p63 has traditionally been used. p63 [4A4] recognizes both the p63 and p40 proteins. As a result, p63 suffers from specificity limitations due to reactivity in a subset of lung adenocarcinomas (ADC). In contrast, p40 is selectively expressed in lung Squamous cell carcinoma (SqCC), offering an opportunity for improved specificity. p40 antibody (M) [BC28] recognizes an epitope unique to p40, which may result in diminished reactivity in lung ADC and increased specificity. Studies have supported routine use of p40 as an alternative for p63. In contrast to the rabbit polyclonal p40, p40 [BC28] does not stain macrophages.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## P53

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	The product of the p53 gene is a nuclear phosphoprotein that regulates cell proliferation. Excess accumulation of the mutant p53 gene product results in inactivation of its tumor suppressor function and cellular transformation. Overexpression of mutant p53 gene has also been associated with high proliferative rates and poor prognosis in breast, colon, lung, and brain cancer, as well as in some leukemias and lymphomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342, 88361
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## P63

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	p63 is a homologue of the p53 gene and is necessary for normal breast and prostate development. Unlike other markers of myoepithelial cells and basal cells, p63 immunoreactivity is localized to the nucleus of the cells, which can offer distinct advantages over cytoplasmic labeling in certain types of cases. P63, as a marker of myoepithelial and basal cells, is extremely useful in diagnostic surgical pathology, particularly when examining difficult breast biopsies and prostate biopsies.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## PAN MELANOMA 2 (MART-1, Tyrosinase)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Pan Melanoma 2 antibody is a cocktail of MART-1 and Tyrosinase antibodies. MART-1 is a useful addition to melanoma panels as it is apparently specific for melanocytic lesions. Studies show that MART-1 is more sensitive than HMB45 when labeling metastatic melanomas. These MART-1 clones do not stain steroid tumors unlike Melan A .Tyrosinase has also been shown to be a more sensitive marker when compared to HMB45 and MART-1 and to label a higher percentage of desmoplastic melanomas than HMB45. The combination of MART-1 and Tyrosinase may aid in identifying metastatic melanoma in sentinel lymph nodes.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342, 88344
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Pan Melanoma Cocktail (HMB45, MART-1, Tyrosinase)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	The combination of HMB45, MART-1 and Tyrosinase make this antibody combination a first-order pan melanoma screener. HMB45 has been shown to label the majority of melanomas. MART-1/Melan A is specific to melanocytic lesions. Studies have shown that MART-1 is more sensitive than HMB45 when labeling metastatic melanomas. Tyrosinase has also been shown to be a more sensitive marker when compared to HMB45 and MART-1 and to label a higher percentage of desmoplastic melanomas than HMB45. HMB45 + MART-1 + Tyrosinase Antibody may prove to be a valuable marker for melanoma metastasis in sentinel lymph nodes. Staining of melanomas with this antibody showed tyrosinase in melanotic as well as amelanotic variants.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88344
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Parathyroid Hormone (PTH)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	The parathyroid glands are small, oval, endocrine glands closely associated with the thyroid gland. The parathyroid glands regulate serum calcium and phosphate levels via parathyroid hormone (parathormone). Parathyroid hormone raises serum calcium levels directly, by increasing the rate of osteoclastic reabsorption and promoting breakdown of the bone matrix, and indirectly, by increasing the renal tubular reabsorption of calcium ions and inhibiting the reabsorption of phosphate ions from the glomerular filtrate, and finally, by promoting the absorption of calcium from the small intestine. Parathyroid hormone is the most important regulator of blood calcium levels and is essential to life, whereas calcitonin appears only to provide a complementary mechanism for fine adjustment. Chief cells are the most abundant cells in the parathyroid gland and are responsible for the secretion of parathyroid hormone. Antibodies to parathyroid hormone together with antibodies to thyroglobulin are useful in studies to differentiate parathyroid-derived lesions from thyroid-derived lesions.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## PAX 8

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	The PAX8 gene is a member of the paired box (PAX) family of transcription factors. This family plays critical roles during fetal development and cancer growth. PAX8 is involved in kidney cell differentiation, and thyroid development. PAX8 has been shown to be expressed in three of the most common types of renal cell carcinoma including clear cell, chromophobe and papillary carcinoma. PAX8 stains nuclei exclusively and performs well in formalin-fixed paraffin-embedded (FFPE) tissues. PAX8 has been shown to be positive in thyroid and ovarian carcinomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## PAX-5

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	PAX-5 is a B-cell specific activator protein (BSAP). In early stages of B-cell development, PAX-5 influences the expression of several B-cell specific genes, such as CD19 and CD20. PAX-5 is expressed primarily in pro-, pre-, and mature B-cells, but not in plasma cells. There is an excellent correlation between CD20 and PAX-5 expression; however, anti-PAX-5 exceeds the specificity and sensitivity of L26 (CD20) because of its earlier expression in B-cell differentiation and its ability to detect all committed B-cells, including classic Hodgkin lymphoma. It is very specific to B-cell lineage and does not stain T-cells.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## PCAT (P-504s, 34B12, P-63)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	In IHC, P504S has been shown to be a valuable marker of prostatic adenocarcinoma. Additionally, prostate glands involved in PIN have been found to express P504S, whereas P504S was nearly undetectable in benign glands.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88344
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## PD-L1-KEYTRUDA(22C3)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	PD-L1 IHC 22C3 pharm Dx is the only companion diagnostic indicated as an aid in identifying patients with NSCLC for treatment with KEYTRUDA® (pembrolizumab)
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88360
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## PD-L1 28-8 (Opdivo®)

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	PD-L1 IHC 28-8 pharmDx is a qualitative immunohistochemical assay using Monoclonal Rabbit Anti-PD-L1, clone 28-8 intended for use in the detection of PD-L1 protein in formalin-fixed, paraffin-embedded (FFPE) non-squamous non-small cell lung cancer (NSCLC) and melanoma
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88360
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## PD-L1 SP142 (Tecentriq™)+

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	The VENTANA PD-L1 (SP142) Assay is a qualitative immunohistochemical assay using rabbit monoclonal anti-PD-L1 clone SP142 intended for use in the assessment of the PD-L1 protein in formalin-fixed, paraffin-embedded (FFPE) urothelial carcinoma and non-small cell lung cancer (NSCLC) tissue on a VENTANA BenchMark ULTRA instrument. Determination of PD-L1 status is indication-specific, and evaluation is based on either the proportion of tumor area occupied by PD-L1 expressing tumor-infiltrating immune cells (% IC) of any intensity or the percentage of PD-L1 expressing tumor cells (% TC) of any intensity. Primary or metastatic urothelial carcinoma (bladder cancer) or NSCLC (lung cancer) tissues may be submitted.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88360
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## PLAP

<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Normally human Placental Alkaline Phosphatase (PLAP) is produced by syncytiotrophoblasts after the twelfth week of pregnancy. PLAP is expressed by both malignant somatic and germ cell tumors. PLAP can be useful in distinguishing seminoma and embryonal carcinomas from undifferentiated malignant tumors.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## PMS2

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Mismatch repair (MMR) genes result in failure to repair errors in repetitive sequences that occur during DNA replication. This failure leads to microsatellite instability (MSI) of the tumor, which is the hallmark of HNPCC. Increased risk for malignancy in HNPCC is caused by a mutation in one of the following DNA mismatch repair (MMR) genes; MLH1, MSH2, MSH3, MSH6, PMS1, and PMS2. Germ-line mutations of MLH1 and MSH2 account for 90% of all known MMR mutations in HNPCC and mutation of MSH6 account for another 5-10%, whereas mutations of other genes are rare. PMS2 protein forms a heterodimer with the MLH1 protein. Due to this, the absence of the MLH1 protein due to germ-line mutation also leads to loss of PMS2 protein.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Progesterone Receptor (PR)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Anti-PR (1E2) Primary Antibody is a rabbit monoclonal antibody (IgG) that is intended for laboratory use for the qualitative detection of progesterone receptor (PR) antigen in sections of formalin fixed, paraffin embedded tissue.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88360, 88361
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Prostate Specific Antigen (PSA)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Prostate specific antigen (PSA) is a glycoprotein with a molecular weight of 33-34 kD. It is restricted to the cytoplasm of acinar and ductal epithelia of normal, benign or malignant prostate tissue. Furthermore, PSA from prostatic cancers has been shown to be immunologically and biochemically similar to that of normal prostate tissue. The antibody reacts against primary and metastatic prostatic neoplasms, but not against tumors of nonprostatic origin. This antibody is useful for determining if an isolated metastasis is of prostatic origin.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours



## PSAP

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Prostate specific acid phosphatase/human prostatic acid phosphatase (PSAP/HPAP) is a 100kDa glycoprotein present in high concentration in the prostate gland and its secretions. PSAP is specific to the benign or malignant epithelial cells of the prostate gland. Prostatic stroma, urethra and the basal cells stain negatively. Also, epithelial cells injured due to inflammation, infarction, etc. and areas of squamous metaplasia of the prostatic acini show loss of PSAP activity. Nearly all metastases of prostatic carcinoma, irrespective of site, demonstrate PSAP immunoreactivity.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## PTEN

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Controls cell proliferation, apoptosis and cell migration. A tumor suppressor gene implicated in a wide variety of cancers, especially in glioblastomas endometrial carcinomas, prostate and breast cancer.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Renal Cell Carcinoma (RCC)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	In normal kidney, RCC (gp200) is localized along the brush border of the proximal tubule. Of other normal tissues, the RCC is also localized along the luminal surfaces of breast lobules and ducts, the luminal surface of the epididymal tubular epithelium, within the cytoplasm of parathyroid parenchymal cells and focally within the colloid of thyroid follicles. Other normal tissues do not express similar or cross-reacting antigens. RCC is expressed by 93% of primary and 84% of metastatic renal cell carcinomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## S100

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	S100 belongs to the family of calcium binding proteins. Antibody to S100 stains Schwannomas, ependymomas, astroglomas, almost all benign melanocytic lesions, melanomas and their metastases. S100 protein is also expressed in the Langerhans cells in skin and interdigitating reticulum cells in the paracortex of lymph nodes.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Smooth Muscle Actin (SMA)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Actin is one of two major cytoskeletal proteins involved in cell motility. Smooth muscle actin binds to smooth muscle cells and myoepithelial cells. It stains the muscularis and muscularis mucosae of the gastrointestinal tract, the uterine myometrium, medial layer of blood vessels, myoepithelial cells of salivary glands and other organs. The antibody does not stain skeletal and cardiac muscle, endothelium, connective tissue, epithelium or nerve. The antibody can be used to identify smooth muscle tumors. It stains leiomyomas and leiomyosarcomas but does not stain carcinomas
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## SOMATOSTATIN

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Somatostatin is a useful marker of D-cells of pancreatic islet cells. D-cells are used to identify hyperplasia of the pancreatic islets. Most of these tumors are malignant, giving rise to somatostatinomas. Somatostatin suppresses gastric acid secretion, gallbladder contractions and pancreatic insulin secretion; therefore, the most common clinical manifestations of patients with these tumors are mild diabetes.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
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<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## SOX 10

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	SOX10 is a sensitive marker of melanoma, including conventional, spindle, and desmoplastic subtypes. It is also a useful marker in detecting both the in situ and invasive components of desmoplastic melanoma. SOX10 is diffusely expressed in schwannoma, neurofibroma, and granular cell tumor. SOX10 was not identified in any other mesenchymal and epithelial tumors except for myoepitheliomas and diffuse astrocytomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifier and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## SOX11

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Nuclear protein expression of SOX-11 is highly associated with both cyclin D1-positive and negative mantle cell lymphoma (MCL). SOX-11 IHC is useful for identifying true cyclin D1-negative MCL and further defining pathologic features of CD5+ DLBCL. Routine use of anti-SOX-11 in cases of suspected CD5+ DLBCL might help identify additional cases of cyclin D1-negative blastoid MCL. SOX-11 can also be detected in some BL, LBL, and T-PLL, although the different morphological and phenotypic features of these malignancies allow easy recognition of the cases of cyclin D1-negative MCL.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifiers and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## SOX 2

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	SOX2 stains all embryonal carcinomas and is highly specific for squamous cell carcinoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifiers and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Spirochetes

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Useful in identification of Spirochete ( <i>Treponema Pallidum</i> ).
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Synaptophysin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Antibody to synaptophysin reacts with neuroendocrine neoplasms of neural as well as epithelial types. In combination with anti-chromogranin A and anti-NSE, antibody to synaptophysin is very useful in the identification of normal neuroendocrine cells and neuroendocrine neoplasms.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## T Cell Intracytoplasmic antigen (TIA-1)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	TIA-1 (T-cell intracytoplasmic antigen) monoclonal antibody reacts with a 15 kDa cytoplasmic granule-associated protein, expressed in lymphocytes processing cytolytic potential. About 60-70% of anaplastic large cell lymphoma react with TIA-1. TIA-1 also reacts with most large granular lymphocytic leukemias, hepatosplenic T-cell lymphomas, intestinal T-cell lymphomas, NK-like T-cell lymphomas, NK-cell lymphomas, nasal T/NK-cell lymphomas, subcutaneous T-cell lymphomas and pulmonary angiocentric lymphomas of T or NK phenotype. All B-cell lymphomas, Hodgkin and lymphoblastic leukemias are negative for TIA-1.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## TB (Mycobacterium Tuberculosis)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Mycobacterium tuberculosis is the most common cause of tuberculosis. Immunohistochemical demonstration of mycobacterial antigens is not only useful in establishing mycobacterial etiology, but can also be used as an alternative method to the conventional Ziehl-Neelsen method.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Terminal Deoxynucleotidyl Transferase (TdT)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	TdT is considered to be a highly specific marker for the diagnosis and classification of acute lymphoblastic lymphoma/leukemias. The determination of TdT expression is most valuable when it is important to differentiate histologically between lymphoblastic lymphoma and Burkitt lymphoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Thyroid Transcription Factor 1 (TTF1)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	TTF-1 is found only in thyroid and thyroid tumors regardless of histologic type, as well as in lung carcinomas, including adenocarcinomas (75%), non-small cell carcinomas (63%) neuroendocrine and small cell carcinomas (>90%) and squamous cell carcinomas (10%). The utility of TTF-1 becomes apparent in the differential diagnosis of primary versus metastatic carcinomas, especially in the lung. CK7 and CK20, along with TTF-1 and CEA, are the antibodies that best discriminate primary lung carcinomas from metastatic carcinoma to the lung.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## THROMBOMODULIN

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Thrombomodulin is a plasma membrane-related glycoprotein that has anticoagulant activity. TM antigen is found in several cell types, including megakaryocytes, mesangial cells, synovial cells, mesothelial cells, endothelial cells and some squamous epithelial cells and their associated tumors. TM antibody labels most of mesotheliomas with thick membranous staining pattern and about half of pulmonary adenocarcinomas, showing cytoplasmic immunostaining
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Thyroglobulin (TG)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Thyroglobulin is the precursor of thyroid hormones. It is synthesized by thyrocytes and transported to the apical surface where it is secreted into the lumen of thyroid follicles and stored as the major component of colloid. The antibody is useful for the detection of thyroglobulin in thyroid tissue and is a useful tool for the identification of well-differentiated thyroid carcinomas.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## TOXOPLASMA – Gondii

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Toxoplasma is a crescent shaped sporozoan that lives as an intracellular parasite in various tissues of vertebrates and completes its life cycle in a single host. It is transmitted via raw/undercooked meat, contaminated soil, or by direct contact. Infection due to Toxoplasma gondii usually occurs in pregnant women where a variable degree of immunosuppression may exist or in patients receiving immunosuppressive drug therapy following organ transplant. Toxoplasma infects tissue of the GI tract where an active infection is accompanied by fever and enlargement of the spleen. Symptoms of toxoplasmosis are generally mild but severe infection of lymph nodes may occur. Congenital toxoplasmosis, in which the maternal infection is transmitted during pregnancy, can produce blindness or mental retardation in the newborn.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Tryptase

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	This antibody labels a mast cell tryptase. It will also show reactivity to basophils, but to a lesser degree.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Tyrosinase

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Tyrosinase is a copper-containing metalloglycoprotein that catalyzes several steps in the melanin pigment biosynthetic pathway. Mutations of the tyrosinase gene occur in various forms of albinism. Tyrosinase is one of the targets for cytotoxic T-cell recognition in melanoma patients. Staining of melanomas with this antibody showed tyrosinase in melanotic as well as amelanotic variants.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## UBIQUITIN

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Ubiquitin, isolated from cow erythrocytes and coupled to chicken gammaglobulin, has been used for immunization. The antibody cross-reacts strongly with human ubiquitin, and is well-suited for the demonstration of ubiquitinated filamentous inclusions in human chronic, neurodegenerative diseases, such as Alzheimer's disease and Parkinson's disease.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## URO3 (CK-20, CD-44, P-53)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	CD44 + p53 + CK20 can be used to differentiate urothelial reactive atypia from CIS (carcinoma in situ) in bladders. In normal urothelium, superficial umbrella cell layer shows reactivity for CK20 only, whereas CD44 staining is limited to the basal and parabasal urothelial cells and p53 nuclear staining is absent to focal. For urothelium with reactive atypia, particularly in cases with marked atypia, CD44 shows increased reactivity in all layers of the urothelium and is often absent in neoplastic cells. CK20 and p53 staining remain identical to those seen in normal urothelium. In cases of CIS, diffuse, strong cytoplasmic reactivity for CK20 and diffuse nuclear reactivity for p53 is observed throughout the urothelium.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88344
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Varicella Zoster Virus (VZV)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	The Varicella zoster virus (VZV) is one of the eight herpes viruses known to affect humans (and other vertebrates). Primary VZV infection results in chickenpox (varicella), which may rarely result in complications including VZV encephalitis or pneumonia.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342 (or 88341 if not the first single antibody per specimen)
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## VILLIN

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	This antibody recognizes villin, a cytoskeletal filament protein of 58 kD found in human renal epithelial cells. Villin antibody is useful for the study of gastrointestinal cells in normal and tumor tissues. This antibody is often used in the study of cellular origin in human renal cell carcinoma.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global
	Tech Only
<b>Turnaround Time:</b>	24-48 Hours



## Vimentin

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Vimentin is the major intermediate filament in a variety of mesenchymal cells including endothelial cells, all fibroblastic cells, macrophages, Sertoli cells, melanocytes, lymphocytes and ovarian granulosa cells. Vimentin is found in all types of sarcomas and lymphomas. Positive staining for vimentin is seen in most cells of fibrosarcomas, liposarcomas, malignant fibrous histiocytomas, angiosarcomas, chondrosarcomas and lymphomas. All melanomas and Schwannomas are strongly vimentin-positive.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours

## Wilms Tumor (WT-1)

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<b>Methodology:</b>	Immunohistochemistry (IHC)
<b>Test Description:</b>	Wilms tumor susceptibility gene 1 protein (WT1) has diagnostic utility in the distinction of mesothelioma from adenocarcinoma in tissue sections of pleural tumors. WT1 diffusely stains most ovarian serous carcinomas and all (100%) renal cell carcinomas and Wilms tumors.
<b>Specimen Requirements:</b>	One (1) formalin-fixed, paraffin-embedded (FFPE) unbaked, unstained slide cut at 4-5 microns for H&E staining (required) and three (3) positively charged unstained slides cut at 3-4 microns for each test/antibody ordered or A formalin-fixed, paraffin-embedded (FFPE) tissue block All blocks and slides must have two (2) identifiers clearly written and match exactly with the specimen identifies and specimen labeling on accompanying req.
<b>Storage &amp; Transportation</b>	Use cold pack for transport. Cold pack shouldn't come in direct contact with specimen.
<b>CPT Code(s):</b>	88342
<b>Level of Service:</b>	Global Tech Only
<b>Turnaround Time:</b>	24-48 Hours