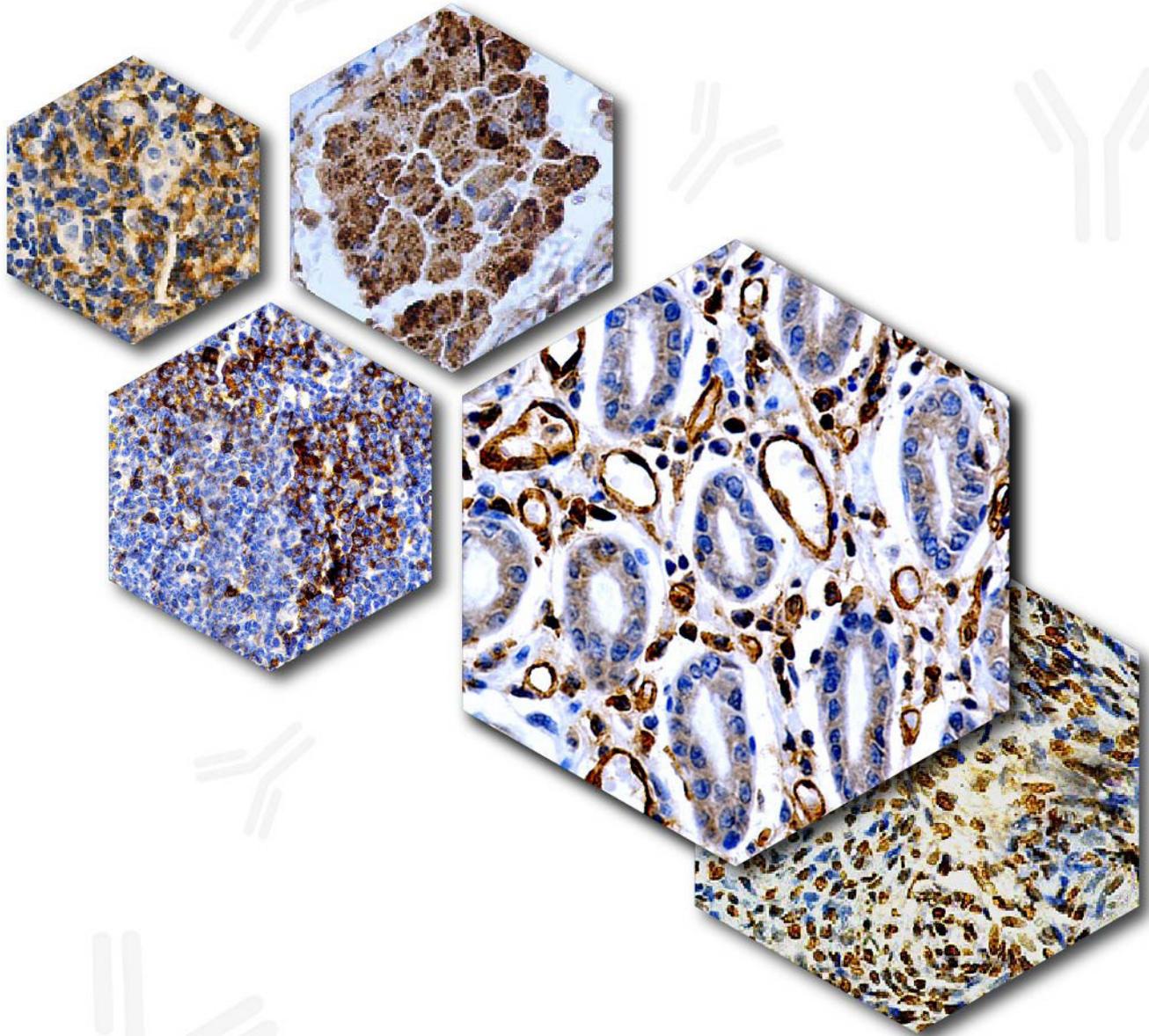


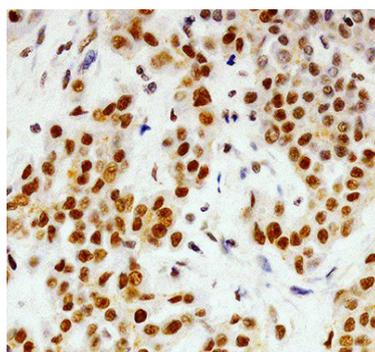
NEW

Antibodies



New Antibodies

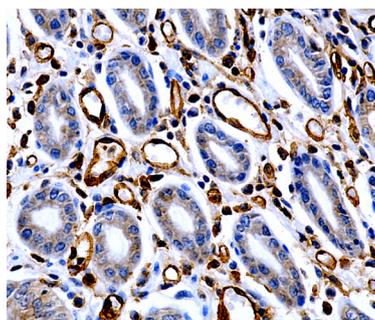
BAP1



BAP1 (BRCA1-Associated Protein 1) is an 80 kDa deubiquitinating enzyme that belongs to the ubiquitin C-terminal hydrolase (UCH) family of deubiquitin enzymes (DUBs). It is involved in the removal of ubiquitin from proteins and helps in regulate diverse cellular processes such as transcription, DNA-damage response, cell cycle progression, chromatin dynamics and DNA synthesis. Additionally, BAP1 can function both as tumor suppressor and metastasis suppressor. Mutations in BAP1 have been identified in aggressive mesotheliomas, uveal melanoma and cutaneous melanoma, clear cell renal cell carcinoma and bladder tumours.

| Antibody | Clone | Localization | Catalog Family |
|-------------|------------|--------------|--|
| BAP1 | BAP1/8959R | Nuc & Cyt | AND45-5M, AND45-10M, AYD45-4M, AYD45-50D, AYD45-YCD, NUD45-UC, NUD45-5UC |

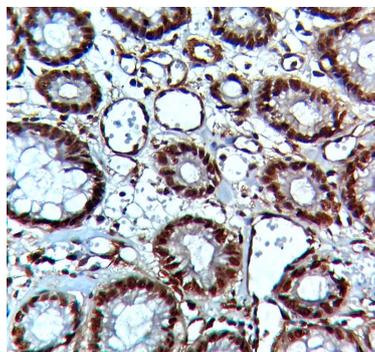
Gastrin



Gastrin is a linear peptide hormone that regulates the secretion of gastric acid by gastric mucosa in the stomach. It is produced by G-cells of the pyloric antrum, D cells of the pancreatic islets and duodenal mucosa. Gastrin is regulated by epidermal growth factor and also enhances the smooth muscle contraction, secretion of hydrochloric acid (HCl), increases blood circulation and water secretion in the stomach and intestine. It is expressed in G-cells of antral/pyloric mucosa, cells producing gastrin and is useful in differentiating gastric-secreting neoplastic and non-neoplastic neuroendocrine cells

| Antibody | Clone | Localization | Catalog Family |
|----------------|-----------|---------------|--|
| Gastrin | GAST/2634 | Extracellular | AMD34-5M, AMD34-10M, AXD34-4M, AXD34-50D, AXD34-YCD, MUD34-UC, MUD34-5UC |

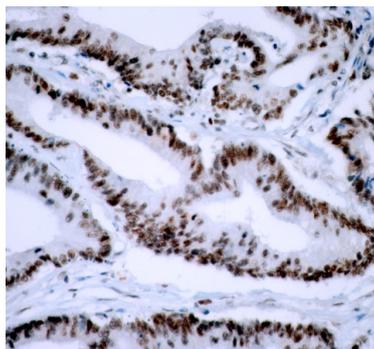
Nucleophosmin



Nucleophosmin (NPM1 or nucleolar phosphoprotein B23 or numatrin) is a highly phosphorylated nucleolar protein involved in the assembly of ribosomal proteins into ribosome in nucleolus and maintenance of genome stability. A high level of nucleophosmin stimulates the growth of normal cells and is abundantly expressed in tumour cells than in normal resting cells. Mutations involving nucleophosmin were found in acute promyelocytic leukemia, acute myelogenous leukemia, non-Hodgkin lymphoma and myelodysplastic syndrome

| Antibody | Clone | Localization | Catalog Family |
|----------------------|------------|--------------|--|
| Nucleophosmin | rNPM1/1901 | Nuc & Cyt | AMD46-5M, AMD46-10M, AXD46-4M, AXD46-50D, AXD46-YCD, MUD46-UC, MUD46-5UC |

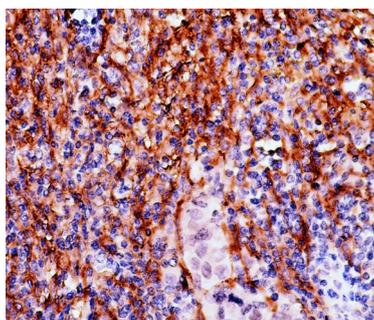
PMS2



PMS2 (Postmeiotic Segregation Increased 2) is one of the four major DNA mismatch repair (MMR) proteins along with MLH1, MSH2, and MSH6. It is crucial for maintaining genomic integrity by detecting and repairing errors that may occur during DNA replication. Mutations in these genes have been associated with microsatellite instability (MSI) which in turn develops Hereditary Non-Polyposis Colon Cancer (HNPCC) and several other cancers including endometrial cancer. Anti-PMS2 antibody is recommended to be used as a part of a panel for differentiating the gastrointestinal tract tumours, including HNPCC and associated extracolonic cancers

| Antibody | Clone | Localization | Catalog Family |
|-------------|------------|--------------|--|
| PMS2 | PMS2/8224R | Nuc | AND45-5M, AND45-10M, AYD45-4M, AYD45-50D, AYD45-YCD, NUD45-UC, NUD45-5UC |

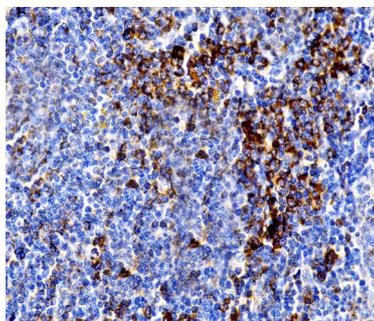
Podoplanin



Podoplanin (PDPN, T1A, gp38, Aggrus) is a 38 kDa type I single-pass transmembrane glycoprotein belonging to the type-1 family of sialomucin-like glycoproteins. It plays an important role in maintaining the unique shape of podocytes by regulating lymphatic endothelium and also involved in cell migration, metastasis formation and tumor cell invasion of tissue. Podoplanin is expressed in lymphatic epithelial cells, epithelioid mesotheliomas, seminomas, follicular DCs, thymic epithelial cells and stromal cells of peripheral lymphoid tissue. High expression of Podoplanin is observed in a number of tumor types including germ cell tumors, oral squamous cell carcinomas and colorectal cancers.

| Antibody | Clone | Localization | Catalog Family |
|-------------------|-------|--------------|--|
| Podoplanin | D2-40 | Cyt & Mem | AMD43-5M, AMD43-10M, AXD43-4M, AXD43-50D, AXD43-YCD, MUD43-UC, MUD43-5UC |

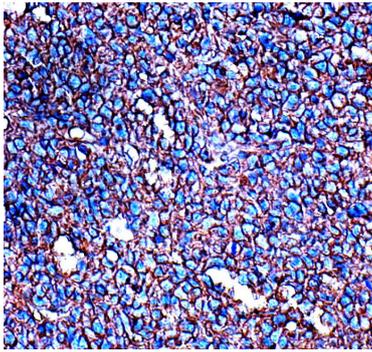
SLAMF7



SLAMF7 (also known as CS1 or CD319 or CRACC) is a hemophilic single pass type I transmembrane protein belonging to the SLAM (signaling lymphocytic activation molecule) family of receptors. It serves as a receptor on immune cells, including natural killer (NK) cells and may play a role in lymphocyte adhesion. SLAMF7 mediates NK cell activation through a SAP-independent extracellular signal-regulated ERK-mediated pathway and also involved in phagocytosis of hematopoietic tumor cells independent of signaling lymphocyte activation molecule-associated protein (SAP) adaptors. SLAMF-7 is expressed in spleen, lymph node, bone marrow, appendix, small intestine, stomach, lung, trachea, peripheral blood leukocytes, on natural killer (NK) cells, T cells, multiple myeloma cells and stimulated B cells

| Antibody | Clone | Localization | Catalog Family |
|---------------|-----------------|--------------|--|
| SLAMF7 | SLAMF7/ 3649 | Mem | AMD33-5M, AMD33-10M, AXD33-4M, AXD33-50D, AXD33-YCD, MUD33-UC, MUD33-5UC |

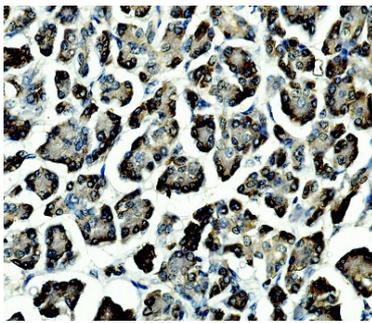
HLA Class 1 ABC (MHCI)



SMAD4, also designated as DPC4 or SMAD family member n°4, is a DNA-binding protein that belongs to the SMAD family of transcription factors. It also defined as a signal transducer and forms complexes with other members of the SMAD family. SMAD4 expression is found in skin, Pancreatic, colon, uterus and epithelial cells. Mutations in SMAD4 have been found in multiple cancers including cholangiocarcinoma, colorectal, head and neck, and pancreatic cancer.

| Antibody | Clone | Localization | Catalog Family |
|-------------------------------|-------------|--------------|--|
| HLA Class 1 ABC (MHCI) | MHC-I/8147R | Nuc & Cyt | AND44-5M, AND44-10M, AYD44-4M, AYD44-50D, AYD44-YCD, NUD44-UC, NUD44-5UC |

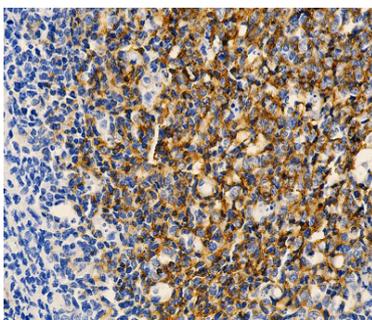
Glucagon



Glucagon is a 29-amino acid polypeptide hormone synthesized and secreted from alpha cells of the islets of Langerhans in the pancreas. It functions as an antagonist to Insulin by stimulating gluconeogenesis, glycogenolysis, lipolysis and ketogenesis, leading to increased blood glucose levels. An elevated expression of glucagon is observed in pancreatic tumors such as glucagonoma and is used as an analytical tool in qualification of the hormone.

| Antibody | Clone | Localization | Catalog Family |
|-----------------|-------|--------------|--|
| Glucagon | C-11 | Cyt | AMD35-5M, AMD35-10M, AXD35-4M, AXD35-50D, AXD35-YCD, MUD35-UC, MUD35-5UC |

C4d

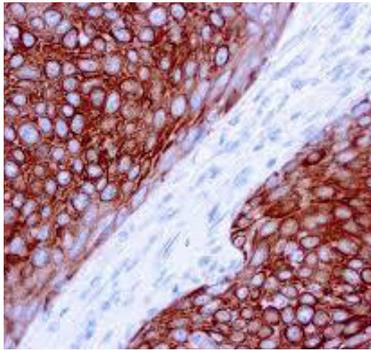


C4d (Complement 4d) is the final proteolytic remnant of the activated complement factor C4b. C4 is a component of the classical complement cascade, which is typically initiated by binding of antibodies to specific target molecules. The expression of C4d in peritubular capillaries is a crucial sign for acute humoral (i.e. antibody-mediated) rejection of kidney, pancreas, heart and lung allografts. Anti-C4d is considered as an important biomarker in organ transplants and used in the diagnosis of Acute Rejection and aggressive anti-rejection treatment.

| Antibody | Clone | Localization | Catalog Family |
|------------|--------|--------------|--|
| C4d | SPM545 | Cyt | AMD36-5M, AMD36-10M, AXD36-4M, AXD36-50D, AXD36-YCD, MUD36-UC, MUD36-5UC |

New Antibodies

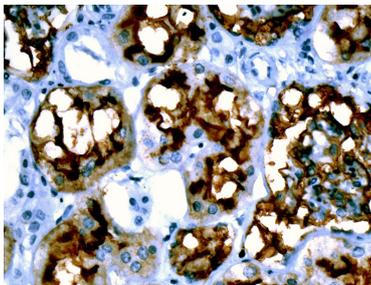
Cytokeratin 5



Cytokeratin 5 is a 58kDa type II (basic) intermediate filament protein belongs to the cytokeratin family. It plays a crucial role in organization of cell adhesion, tissue specialization and function to maintain structural integrity of the integument. CK5 expression is seen in keratinized and non-keratinized stratified squamous epithelia, myoepithelial cells in normal mammary glands, glandular epithelia and normal basal cells in prostate glands. Anti-Cytokeratin 5 is a useful marker in differential diagnosis of Epithelial Mesotheliomas from metastatic pulmonary adenocarcinomas.

| Antibody | Clone | Localization | Catalog Family |
|----------------------|------------|--------------|--|
| Cytokeratin 5 | rKRT5/6398 | Cyt | AMD38-5M, AMD38-10M, AXD38-4M, AXD38-50D, AXD38-YCD, NUD38-UC, NUD38-5UC |

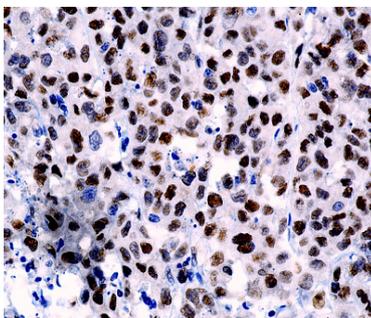
CD10



CD10 (also known as Common Acute Lymphocytic Leukemia Antigen, CALLA, neutral endopeptidase (NEP) and Neprilysin) is a 100kDa type II integral membrane glycoprotein with neutral metalloendopeptidase activity. It is a zinc-dependent metalloprotease enzyme that cleaves and inactivates several peptide hormones including glucagon, enkephalins, substance P, neurotensin, oxytocin, bradykinin, Angiotensins I and II. CD10 is expressed on early B and T lymphoid precursors, immature B cells with in adult bone marrow, breast myoepithelial cells, neutrophils, normal fibroblasts, bile canaliculi, fetal small intestine epithelium, brush border of the proximal tubules, glomerular epithelial cells, germinal cells in normal tonsil and lymphoid tissue. It is also expressed on cells of Burkitt's, lymphoblastic and follicular germinal centre lymphomas, chronic myelocytic leukaemia (CML) and is useful marker for the characterization of common acute lymphocytic Leukaemia and B-cell Lymphomas.

| Antibody | Clone | Localization | Catalog Family |
|-------------|----------|--------------|--|
| CD10 | MME/6461 | Mem & Cyt | AMD39-5M, AMD39-10M, AXD39-4M, AXD39-50D, AXD39-YCD, MUD39-UC, MUD39-5UC |

TLE1

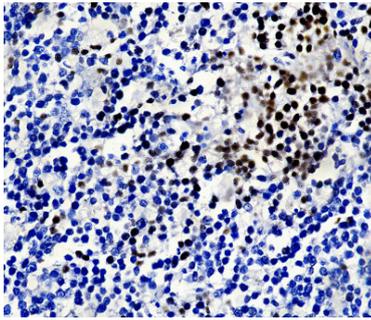


Transducin-like enhancer protein 1 (TLE1) is a protein that is encoded by the TLE1 gene family and involved in control of hematopoiesis, neuronal, and terminal epithelial differentiation. Expression of the TLE genes (TLE1, TLE2, TLE3 and TLE4) correlates with immature epithelial cells that are progressing toward a terminally differentiated state, suggesting a role during epithelial differentiation. Anti-TLE1 antibody is a sensitive and specific marker for synovial sarcoma than other markers including BCL2, epithelial membrane antigen (EMA) and cytokeratins. It is used to differentiate synovial sarcoma from other sarcomas, including histologically similar tumors such as malignant peripheral nerve sheath tumor

| Antibody | Clone | Localization | Catalog Family |
|-------------|-----------|--------------|--|
| TLE1 | TLE1/2062 | Nuc | AMD40-5M, AMD40-10M, AXD40-4M, AXD40-50D, AXD40-YCD, MUD40-UC, MUD40-5UC |

New Antibodies

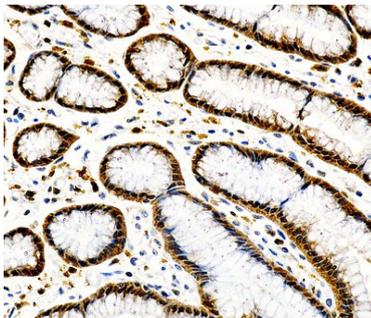
NUT1



NUT (Nuclear protein in Testis) is a nuclear unstructured protein encoded by the NUTM1 (NUT Midline Carcinoma Family Member 1) gene on chromosome 15. It plays a role in the regulation of proliferation and shuttles between the nucleus and cytoplasm. In most of NUT midline carcinomas (NMC), there is a chromosomal translocation between NUT and BRD4/ BRD3 resulting in BRD4-NUT or BRD3-NUT fusions which contribute to carcinogenesis by blocking epithelial cell differentiation. NUT cancers can be carcinomas, sarcomas, lymphomas, and other types of tumors, and are primarily reported in kidney, bladder, lung, breast, and metastasis to lymph nodes.

| Antibody | Clone | Localization | Catalog Family |
|-------------|-----------------|--------------|--|
| NUT1 | SNUPN/ 7363R | Nuc & Cyt | AND27-5M, AND27-10M, AYD27-4M, AYD27-50D, AYD27-YCD, NUD27-UC, NUD27-5UC |

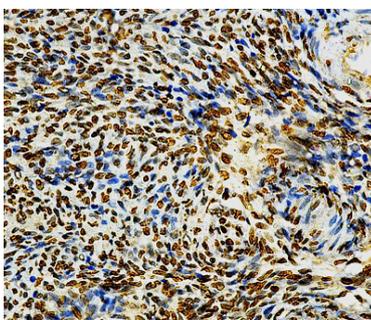
Caspase-3 p17



Caspase-3 (also designated as SCA-1, Apopain, CPP-32, Yama,) is a 32 kDa aspartate-specific cysteine protease that belongs to the ICE subfamily of Caspase family. It is a crucial executioner of apoptosis by proteolytic processing of its inactive zymogen into activated p17 and p12 fragments. During apoptotic cascade, active caspase-3 is responsible for the proteolytic cleavage of many key proteins, such as the nuclear enzyme poly (ADP-ribose) polymerase (PARP). It also cleaves and activates sterol regulatory element binding proteins (SREBPs), caspase-6, -7 and -9. High expression of caspase-3 is observed in lung, kidney, liver, heart, spleen, and cells of the immune system.

| Antibody | Clone | Localization | Catalog Family |
|----------------------|-------|--------------|--|
| Caspase-3 p17 | B-4 | Cyt | AMD30-5M, AMD30-10M, AXD30-4M, AXD30-50D, AXD30-YCD, MUD30-UC, MUD30-5UC |

PAX3

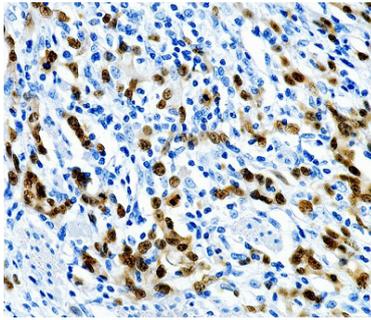


PAX3 (Paired Box 3) is a DNA-binding protein consisting of an amino-terminal "paired" box domain and a paired-type homeodomain. It belongs to paired box (PAX) family of transcription factors and plays a critical role during fetal development. PAX3 is involved in development of peripheral nervous system, melanocytes, some vascular smooth muscle and are responsible for embryonic patterning and organogenesis. Mutations in PAX3 gene are associated with Waardenburg syndrome II (WSII), WSI/WSIII, alveolar rhabdomyosarcoma and craniofacial-deafness-hand syndrome.

| Antibody | Clone | Localization | Catalog Family |
|-------------|-----------|--------------|--|
| PAX3 | PAX3/4700 | Nuc | AMD28-5M, AMD28-10M, AXD28-4M, AXD28-50D, AXD28-YCD, MUD28-UC, MUD28-5UC |

New Antibodies

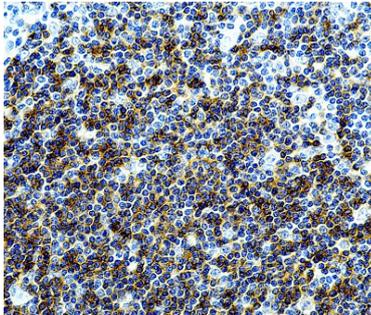
CD2



CD2 also designated as Lymphocyte Function Antigen 2 (LFA-2), sheep red blood cell receptor (SRBC-R), erythrocyte receptor, and T11, is a 40 kDa monomeric type I transmembrane glycoprotein that belongs to immunoglobulin (Ig) superfamily. It is a cell-adhesion molecule that binds with CD58, a surface glycoprotein expressed by antigen presenting cells (APCs) and other target cells. Moreover, CD2 is also a co-stimulatory receptor which is involved in cellular functions such as T-cell activation, NK cell activation, Thymocyte development, immunological synapse formation through T cell-APC binding and actin cytoskeleton rearrangement. It is expressed on the surface of T cells, natural killer cells, dendritic cells and thymocytes. CD2 is useful in identification of Leukemias and Lymphomas of T-cell origin.

| Antibody | Clone | Localization | Catalog Family |
|------------|-----------|--------------|--|
| CD2 | LFA2/7106 | Mem | AMD29-5M, AMD29-10M, AXD29-4M, AXD29-50D, AXD29-YCD, MUD29-UC, MUD29-5UC |

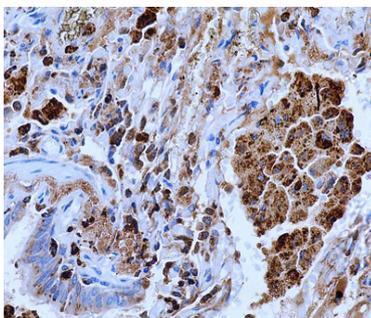
IgD



Immunoglobulin D (IgD) is one of the Immunoglobins with monomeric structure consisting of δ heavy chains and either κ or λ light chains. It is the major antigen receptor isotype co-expressed with IgM and plays a biological role as a transmembrane receptor molecule on the surface of mature/naive B cells. IgD is detected in the surface/cytoplasm of neoplastic cells of common small B lymphoid cell such as mantle cell lymphoma, small lymphocytic lymphoma, follicular lymphoma and marginal zone lymphoma. It is useful in distinguishing B-cell lineage derived from Lymphomas, Leukemias, and Plasmacytomas.

| Antibody | Clone | Localization | Catalog Family |
|------------|-------|--------------|--|
| IgD | IgD26 | Cyt | AMD32-5M, AMD32-10M, AXD32-4M, AXD32-50D, AXD32-YCD, MUD32-UC, MUD32-5UC |

Lysozyme

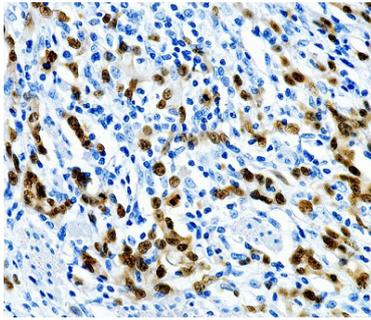


Lysozyme is a 14.4 kDa enzyme that has bacteriolytic function which is critical for mammalian innate immune function. It destroys bacterial cell wall peptidoglycan by hydrolyzing the polysaccharide component of the cell wall. Lysozyme is present in cytoplasmic granules of polymorphonuclear neutrophils (PMN) and is released through mucosal secretions such as tears and saliva. Expression of Lysozyme is seen in granulocytes, myeloid cells, histiocytes, monocytes and macrophages in human tonsil, skin, spleen, lung, kidney and colon. Lysozyme is an important marker in detecting the myeloid or monocytic nature of Acute Leukemia, large lymphocytes and histiocytic neoplasias, as well as classifying lymphoproliferative disorders.

| Antibody | Clone | Localization | Catalog Family |
|-----------------|----------|------------------|--|
| Lysozyme | LYZ/3943 | Cyt/Ext Cellular | AMD31-5M, AMD31-10M, AXD31-4M, AXD31-50D, AXD31-YCD, MUD31-UC, MUD31-5UC |

New Antibodies

CDX2



CDX2 (Caudal Type Homeobox 2) is a homeobox domain-containing transcription factor belongs to murine CDX family. It is an important protein in intestinal development, anterior to posterior patterning of the intestinal epithelium, proliferation and maintenance of the intestinal phenotype. CDX2 is localized in the nuclei of epithelial cells throughout the intestine. Expression of CDX2 is observed in primary and metastatic colorectal carcinomas, intestinal metaplasia of the stomach, intestinal-type gastric cancer, mucinous ovarian carcinomas, serous and endometrioid carcinomas

| Antibody | Clone | Localization | Catalog Family |
|-------------|-----------|--------------|--|
| CDX2 | CDX2/1690 | Nuc | AM923-5M, AM923-10M, AX923-4M, AX923-50D, AX923-YCD, MU923-UC, MU923-5UC |

BioGenex Primary Antibody Format and Pack Size

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

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

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

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