

→ OptibodiesTM



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Optibodies[™]

Optimal Antibodies for Optimal Research; Nordic BioSite Introduce Optibodies[™]

Nordic Biosite are delighted to present our range of top quality, carefully tested Optibodies $\ensuremath{^{\text{TM}}}$.

Our passion is being a partner in your research and clinical diagnostics. Standing By Your Side[™] to support all your research and diagnostic needs.

What are Nordic BioSite Optibodies?

Our team of dedicated scientists has been working to optimize a range of antibodies for markers which are clinically and diagnostically important. Research frequently necessitates a range of antibodies tailored to the specific needs of each individual project. As such, there is no one specific protocol for IHC that can be used regularly. In clinical perspective, antibodies must be specific with high affinity towards their epitopes, flexible to use, good LOT consistency and reliable. Our Optibody antibodies are carefully optimized and fine-tuned with the needs of today's research and clinical IHC laboratory. Optibodies™ are optimized using NordiQC recommendations of control tissues and criteria.

Antibody optimization refers to a range of tests that an antibody can go through in order to find its optimal staining conditions. Each antigen has a preferred method of antigen retrieval such as Heat Induced Epitope Retrieval (HIER) using acidic Citrate or TRIS-EDTA base buffers, as well as an enzymatic retrieval process. However the majority of antigens need an alkaline pre-treatment method for optimal staining pattern. Each antibody has an optimal concentration when it can be used, depending upon the affinity of paratope and epitope as well as expression level of the antigen. Antibodies optimized with tissues that express high levels of antigen expression may prove inadequate when staining tissues with low antigen expression. It is thus necessary to optimize an antibody for a variety of tissue types to show applicability of Optibody.



PRODUCT LIST

Optibody	Catalogy No.	Clone	Source
AMACR	BSH-7136	BS2	mouse monoclonal antibody
Androgen receptor	BSH-7360	BS46	mouse monoclonal antibody
BCL2	BSH-2001	BS94	mouse monoclonal antibody
BCL6	BSH-2011	BS19	mouse monoclonal antibody
CD3e	BSH-3000	BSR10	rabbit monoclonal antibody
CD_{7}/CD_{47}	BSH-7370	BS103	mouse monoclonal antibody
CD7	BSH-2004	BS8	mouse monoclonal antibody
CD7	BSH-3002	BSR9	rabbit monoclonal antibody
CD10	BSH-7021	BS1	mouse monoclonal antibody
CD105/Endoglin	BSH-7631	BS71	mouse monoclonal antibody
CD14	BSH-7019	BS9	mouse monoclonal antibody
CD20	BSH-2006	BS6	mouse monoclonal antibody
CD22	BSH-2009	BS100	mouse monoclonal antibody
CD22	BSH-3004	B\$20	mouse monoclonal antibody
CD23	BSH-2005	BS99	mouse monoclonal antibody
CD31	BSH-7112	BS50	mouse monoclonal antibody
CD34	BSH-2008	BS72	mouse monoclonal antibody
CD38	BSH-7347	BS3	mouse monoclonal antibody
CD68	BSH-2007	BS79	mouse monoclonal antibody
CEA	BSH-7/37	BS33	mouse monoclonal antibody
CLA Cytokoratin PAN	BSH-712/	BS5	mouse monoclonal antibody
CK17	BSH-7311	BS55	mouse monoclonal antibody
	BSH_7235	B283	mouse monoclonal antibody
CK10	BSH-7233	BC23	mouse monoclonal antibody
CK19 CK20	BSH-2000	BS101	mouse monoclonal antibody
CKE	BCH 7122	BC12	mouse monoclonal antibody
Dosmin	BCH 7092	D34Z BC21	mouse monoclonal antibody
	BSH 7516	DJZI	mouse monoclonal antibody
Encom		BC1/	mouse monoclonal antibody
Clucagon		D314 BC71	mouse monoclonal antibody
		D371 BC24	mouse monoclonal antibody
		D324 PC22	mouse monoclonal antibody
			mouse monoclonal antibody
			rabbit monoclonal antibody
LICAM Mammaglobin			maura managlanal antibody
ManimagioDin			mouse monoclonal antibody
			mouse monoclonal antibody
			mouse monoclonal antibody
		D30Z	mouse monoclonal antibody
		DSZ9 RC10	mouse monoclonal antibody
Napsili A			mouse monoclonal antibody
P05			mouse monoclonal antibody
pco		D303	mouse monocional antibody
	BSH-3006	BSK0	rabbit monoclonal antibody
PAX5	BSH-7833	BS11	mouse monoclonal antibody
PD-1	BSH-3001	BSR1	rabbit monoclonal antibody
SMA	DSH-/439	D200	mouse monoclonal antibody
Somatostatin	DSH-7049	D510	mouse monoclonal antibody
SUX10	B2H-1928	B21	mouse monocional antibody
Synaptophysin	D2H-/302	B212	mouse monoclonal antibody
Vimentin	B2H-1100	R213	mouse monoclonal antibody

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AMACR

Cat#: BSH-7136-100 100ul, BSH-7136-1 1ml Clonality: Mouse monoclonal antibody Clone: BS2 Application: IHC-P S/R: Human, rabbit, rat, mouse Control tissues: Kidney, PIN, Prostate adenocarcinoma

AMACR (alpha-methylacyl-CoA racemase) is prostate cancer-specific gene that encodes a protein involved in the beta-oxidation of branched chain fatty acids. Expression of AMACR protein is found in prostatic adenocarcinoma, but not in benign prostatic tissue. It stains premalignant lesions of prostate: high-grade prostatic intraepithelial neoplasia (PIN) and a typical adenomatous hyperplasia. AMACR can be used as a positive marker for PIN.



AMACR - Prostate PIN Prostate section has been stained using AMACR optibody (BS2) with 1:200 dilution. Neoplastic cells have strong granular staining.



AMACR - Kidney Kidney section has been stained using AMACR optibody (BS2) with 1:200 dilution. Tubulus cells in proximal tubules have strong granular staining.



AMACR - Prostate PIN Prostate section has been stained using AMACR optibody (BS2) with 1:200 dilution. Neoplastic cells have strong granular staining. Note glands without neoplastic cells.

Androgen Receptor

Cat#: BSH-7360-100 100ul, BSH-7360-1 1ml Clonality: Mouse monoclonal antibody Clone: BS46 Application: IHC-P S/R: Human Control tissue: Prostate

The androgen receptor (AR), also known as NR3C4 (nuclear receptor subfamily 3, group C, member 4), is a type of nuclear receptor which is activated by binding of either of the androgenic hormones testosterone or dihydrotes-tosterone in the cytoplasm and then translocating into the nucleus. The androgen receptor is most closely related to the progesterone receptor. The main function of the androgen receptor is as a DNA binding transcription factor which regulates gene expression.



AR - Prostate Prostate section has been stained using AR optibody (BS46) with 1:200 dilution. Epithelial cells of prostate glands have strong nuclear staining.



AR - Ductal breast carcinoma Breast carcinoma section has been stained using AR optibody (BS46) with 1:200 dilution. Carcinoma cells have strong nuclear and cytoplasmic staining.



AR - Testicle Testicle section has been stained using AR optibody (BS46) with 1:200 dilution. Leydig cells and sertoli cells have strong to moderate nuclear staining.

BCL2 Cat#: BSH-2001-100 100ul, BSH-2001-1 1ml Clonality: Mouse monoclonal antibody Clone: BS94 Application: IHC-P S/R: Human Control tissues: Tonsil, appendix



B-cell lymphoma/leukaemia-2 (Bcl-2) is an inhibitor of apoptosis, and its expression is generally abundant in cells which dividing and differentiating. In lymphatic tissue, Bcl-2 is highly expressed in T cells, maturating B cells as well as mature B cells. However, expression level in germinal center B cells is downregulated. Overexpression of the Bcl-2 is common in leukemia and various carcinomas and sarcomas. Over expression is common especially in non-Hodgkins lymphoma. Bcl-2 is helpful to classification of the follicular lymphoma or other lymphomas.



BCL2 - Tonsil Tonsil section has been stained using BCL2 optibody (BS94) with 1:200 dilution. All peripheral lymphocytes should be labelled and the most of the germinal center B cells should be negatively stained from tonsil sections.



BCL2 - Lymph node (CLL) Lymph node section has been stained using BCL2 optibody (BS94) with 1:200 dilution. Leukemia cells stained strongly with cytoplasmic staining pattern.



BCL2 - Mantle cell lymphoma Lymph node section has been stained using BCL2 optibody (BS94) with 1:200 dilution. Mantle cell lymphoma cells stained strongly.

BCL6

Cat#: BSH-2011-100 100ul, BSH-2011-1 1 ml Clonality: Mouse monoclonal antibody Clone: BS19 Application: IHC-P S/R: Human Control tissues: Tonsil, appendix

The BCL6 protein is a nuclear zinc finger transcription factor with a N-terminal POZ domain. BCL6 protein is a transcriptional repressor and is necessary for germinal center formation. BCL6 protein is sequence-specific repressor of transcription and in germinal centers it is inhibit differentiation of germinal centre B cells to plasma cells. In lymphatic tissues, BCL6 is expressed mostly in germinal centre B cells in dark and light zones of germinal centers. BCL6 is useful especially for germinal centre neoplasms including eg. follicular lymphoma, DLBCL, burkitt lymphoma and lymphocyte predominant Hodgkin's lymphoma as well.



BCL6 - Tonsil Tonsil section has been stained using BCL6 optibody (BS19) with 1:200 dilution. Inter follicular B cells stained strongly with nuclear staining pattern.



BCL6 - Tonsil Tonsil section has been stained using BCL6 optibody (BS19) with 1:200 dilution. Inter follicular B cells stained strongly with nuclear staining pattern.



BCL6 - DLBCL DLBCL section has been stained using BCL6 optibody (BS19) with 1:200 dilution. Lymphoma cells stained strongly with nuclear staining pattern.

CD3e

Cat#: BSH-3000-100 100ul, BSH-3000-1 1 ml Clonality: Rabbit monoclonal antibody Clone: BSR10 Application: IHC-P, IHC-Fro S/R: Human (Others not tested) Control tissues: Tonsil, appendix

The protein encoded by this gene is the CD3-epsilon polypeptide, which together with CD3-gamma, -delta and -zeta, and the T-cell receptor alpha/beta and gamma/delta heterodimers, forms the T-cell receptor-CD3 complex. This complex plays an important role in coupling antigen recognition to several intracellular signal-transduction pathways. The genes encoding the epsilon, gamma and delta polypeptides are located in the same cluster on chromosome 11. The epsilon polypeptide plays an essential role in T-cell development. CD3e is an important pan T-cell marker for the classification of malignant lymphomas and lymphoid leukaemias.



CD3e - Tonsil Tonsil section has been stained using CD3 optibody (BSR10) with 1:200 dilution. All T cells should be labelled and scattered T cells should be stained from germinal center without staining in B cells.



CD3e - Tonsil Tonsil section has been stained using CD3 optibody (BSR10) with 1:200 dilution. All T cells have strongly membranous staining pattern.



CD3e - Appendix Appendix section has been stained using CD3 optibody (BSR10) with 1:200 dilution. T cells and intraepithelial T cells stained strongly.

CD3z/CD247

Cat#: BSH-7370-100 100ul, BSH-7370-1 1ml Clonality: Mouse monoclonal antibody Clone: BS103 Application: IHC-P S/R: Human, rabbit, rat, mouse, pig Control tissues: Tonsil, appendix

The protein encoded by this gene is T-cell receptor zeta, which together with T-cell receptor alpha/beta and gamma/delta heterodimers, and with CD3-gamma, -delta and -epsilon, forms the T-cell receptor-CD3 complex. The zeta chain plays an important role in coupling antigen recognition to several intracellular signal-transduction pathways. Low expression of the antigen results in impaired immune response. Two alternatively spliced transcript variants encoding distinct isoforms have been found for this gene.



CD3z - Tonsil Tonsil section has been stained using CD3 optibody (BS103) with 1:300 dilution. All T cells should be labelled and scattered T cells should be stained from germinal center.



CD3z - Tonsil Tonsil section has been stained using CD3 optibody (BS103) with 1:300 dilution. All T cells should be labelled and scattered T cells should be stained from germinal center.



CD3z - Appendix Appendix section has been stained using CD3 optibody (BS103) with 1:300 dilution. T cells and intraepithelial T cells stained strongly.

Cat#: BSH-2004-100 100ul, BSH-2004-1 1ml Clonality: Mouse monoclonal antibody Clone: BS8 Application: IHC-P S/R: Human Control tissues: Tonsil, appendix



CD7 transmembrane protein is a member of the immunoglobulin superfamily. This protein is found on thymocytes, mature T cells and NK cells. It plays an essential role in T-cell interactions and also in T-cell/B-cell interaction during early lymphoid development.



CD7 - Appendix Appendix section has been stained using CD7 optibody (Clone: BS8) with 1:250 dilution. CD7 positive T cells have strong membranous label.

CD7

Cat#: BSH-3002-100 100ul, BSH-3002-1 1ml Clonality: Rabbit monoclonal antibody Clone: BSR9 Application: IHC-P S/R: Human Control tissues: Tonsil, appendix



CD7 - Tonsil Tonsil section has been stained using CD7 optibody (Clone: BS8) with 1:250 dilution. CD7 positive T cells have strong membranous label.



CD7 - Tonsil Tonsil section has been stained using CD7 optibody (Clone: BS8) with 1:250 dilution. CD7 positive T cells have strong membranous label.

CD7 transmembrane protein is a member of the immunoglobulin superfamily. This protein is found on thymocytes, mature T cells and NK cells. It plays an essential role in T-cell interactions and also in T-cell/B-cell interaction during early lymphoid development.



CD7 - Tonsil Tonsil section has been stained using CD7 optibody (Clone: BSR9) with 1:250 dilution. CD7 positive T cells have strong membranous label.



CD7 - Appendix Appendix section has been stained using CD7 optibody (Clone: BSR9) with 1:250 dilution. CD7 positive T cells and intraepithelial T cells have strong membranous label.



CD7 - Tonsil Tonsil section has been stained using CD7 optibody (Clone: BSR9) with 1:250 dilution. CD7 positive T cells have strong membranous label.

Cat#: BSH-7021-100 100ul, BSH-7021-1 1ml Clonality: Mouse monoclonal antibody Clone: BS1 Application: IHC-P S/R: Human, rabbit, mouse, pig, sheep Control tissues: Tonsil, liver and kidney

CD10 is a 100kDa glycoprotein, also designated Common Acute Lymphocytic Leukemia Antigen (CALLA). It is a cell surface enzyme with neutral metalloendopeptidase activity which inactivates a variety of biologically active peptides. CD10 is expressed on the cells of lymphoblastic, Burkitt's, and follicular germinal center lymphomas, and on cells from patients with chronic myelocytic leukemia (CML). It is also expressed on the surface of normal early lymphoid progenitor cells, immature B cells within adult bone marrow and germinal center B cells within lymphoid tissue. CD10 is also present on breast myoepithelial cells, bile canaliculi, fibroblasts, with especially high expression on the brush border of kidney and gut epithelial cells. CD10 is useful especially in the classification of B-cell leukemias and lymphomas.



CD10 - Tonsil Tonsil section have been stained using CD10 optibody (Clone: BS1) with 1:300 dilution. Follicular B cells have moderate to strong membranous staining pattern.



CD10 - Kidney Kidney section have been stained using CD10 optibody (Clone: BS1) with1:300 dilution. Proximal tubules and glomerulus have strong staining.



CD10 - Liver Liver section have been stained using CD10 optibody (Clone: BS1) with 1:300 dilution. Bile canaliculi have strong label without staining in hepatocytes.

CD14

Cat#: BSH-7019-100 100ul, BSH-7019-1 1ml Clonality: Mouse monoclonal antibody Clone: BS9 Application: IHC-P S/R: Human Control tissues: Tonsil, liver and appendix

CD14 antigen is a GPI-linked glycoprotein with a molecular weight of 55kD. The CD14 antigen is expressed on cells of the myelomonocytic lineage including monocytes, macrophages, follicular dendritic cells and Langerhans cells. Low expression is observed on neutrophils and on human B cells. CD14 antigen is a receptor for bacterial lipopolysaccharide (LPS, endotoxin) and the lipopolysaccharide binding protein (LBP). LBP and CD14 antigen serves two physiological roles. These proteins act as opsonin and opsonic receptor, respectively, to promote the phagocytic uptake of bacteria or LPS coated particles by macrophages.



CD14 - Tonsil Tonsil section have been stained using CD14 optibody (Clone: BS9) with 1:200 dilution. Follicular dendritic cells have strong label as well as macrophages in perifollicular area.



CD14 - Tonsil Tonsil section have been stained using CD14 optibody (Clone: BS9) with 1:200 dilution. Follicular dendritic cells have strong label as well as macrophages in perifollicular area.



CD14 - Liver Liver section has been stained using CD14 optibody (Clone: BS9) with 1:200 dilution. Kupffer cells have strong to moderate label.

Cat#: BSH-2006-100 100ul, BSH-2006-1 1ml Clonality: Mouse monoclonal antibody Clone: BS6 Application: IHC-P S/R: Human Control tissues: Tonsil and appendix



The CD20 antigen is present on human pre B-lymphocytes and on B-lymphocytes at all stages of maturation, except on plasma cells. Low level expression of the CD20 antigen has been detected on subpopulation of T-lymphocytes. CD20 is expressed widely in the large majority of cases of B-cell leukemia and lymphoma. The CD20 molecule is involved in regulation of B-cell differentiation, presumably via its reported function as a Ca++ channel subunit. Together with CD79a, CD20 is one of the most important markers for the identification and classification of B-cell neoplasms.



CD20 - Tonsil Tonsil section has been stained using CD20 optibody (Clone: BS6) with 1:250 dilution. B cells have strong membranous label. Mantle zone B cells and follicular B cells have strongly stained with membranous staining pattern.



CD20 - Appendix Appendix section has been stained using CD20 optibody (Clone: BS6) with 1:250 dilution. B cells have strong membranous label.



CD20 - DLBCL Lymph node tissue with DLBCL has been stained using CD20 optibody (Clone: BS6) with 1:250 dilution. Neoplastic cells have strong membranous label.

CD22

Cat#: BSH-2009-100 100ul, BSH-2009-1 1ml Clonality: Mouse monoclonal antibody Clone: BS100 Application: IHC-P S/R: Human Control tissues: Tonsil and appendix

CD22 protein may be involved in the localization of B cells in lymphoid tissues. CD22 is expressed in the cytoplasm and cell membrane of B cells. CD22 is especially useful in diagnostics of hairy cell leukemia and classification of the B-cell lymphomas.



CD22 - Tonsil Tonsil section have been stained using CD22 optibody (Clone: BS100) with 1:200 dilution. Mantle zone B cells have strong membranous label and maturating B cells in germinal center have moderate cytoplasmic and membranous label.



CD22 - Tonsil Tonsil section has been stained using CD22 optibody (Clone: BS100) with1:200 dilution. Mantle zone B cells have strong membranous label.



CD22 - Appendix Appendix section have been stained using CD22 optibody (Clone: BS100) with1:200 dilution. B cells have strong membranous label.

Cat#: BSH-2005-100 100ul, BSH-2005-1 1ml Clonality: Mouse monoclonal antibody Clone: BS99 Application: IHC-P S/R: Human Control tissues: Tonsil and appendix

The human leukocyte differentiation antigen CD23 (FCER2) is a key molecule for B-cell activation and growth. It is expressed on most mature B cells and can also be found on the surface of T cells, macrophages, platelets and EBV transformed B-lymphoblasts. Expression of CD23 has been detected in neoplastic cells from cases of B-cell chronic lymphocytic leukemia. CD23 is expressed by B cells in the follicular mantle zone B cells and follicular dendritic cells. CD23 is distinct from the high affinity IgE receptors found on basophils and mast cells, which mediate allergic reactions.



CD23 - Tonsil Tonsil section have been stained using CD23 optibody (Clone: BS99) with 1:200 dilution. B cells of mantle zone have strong or moderate membranous label and follicular dendritic cells stained strongly.



CD23 - Tonsil Tonsil section have been stained using CD23 optibody (Clone: BS99) with 1:200 dilution. B cells of mantle zone have strong or moderate membranous label and follicular dendritic cells stained strongly.



CD23 - Follicular lymphoma Follicular lymphoma section have been stained using CD23 optibody (Clone: BS99) with 1:200 dilution.

CD23

Cat#: BSH-3004-100 100ul, BSH-3004-1 1ml Clonality: Mouse monoclonal antibody Clone: BS20 Application: IHC-P S/R: Human Control tissues: Tonsil and appendix

The human leukocyte differentiation antigen CD23 (FCER2) is a key molecule for B-cell activation and growth. It is expressed on most mature B cells and can also be found on the surface of T cells, macrophages, platelets and EBV transformed B-lymphoblasts. Expression of CD23 has been detected in neoplastic cells from cases of B-cell chronic lymphocytic leukemia. CD23 is expressed by B cells in the follicular mantle zone B cells and follicular dendritic cells. CD23 is distinct from the high affinity IgE receptors found on basophils and mast cells, which mediate allergic reactions.



CD23 - Tonsil Tonsil section have been stained using CD23 optibody (Clone: BS20) with 1:200 dilution. B cells of mantle zone have strong or moderate membranous label and follicular dendritic cells stained strongly.



CD23 - B-cell CLL Tumor section have been stained using CD23 optibody (Clone: BS20) with 1:200 dilution. Neoplastic cells have strong to moderate label.



CD23 - Follicular lymphoma Follicular lymphoma section have been stained using CD23 optibody (Clone: BS20) with 1:200 dilution. Dendritic cells have strong label.

Cat#: BSH-7112-100 100ul, BSH-7112-1 1ml Clonality: Mouse monoclonal antibody Clone: BS50 Application: IHC-P S/R: Human Control tissues: Tonsil and liver



CD31, also known as platelet endothelial cell adhesion molecule 1 (PECAM1), is a type I integral membrane glycoprotein and a member of the immunoglobulin superfamily of cell surface receptors. It is constitutively expressed on the surface of endothelial cells, and concentrated at the junction between them. The antibody reacts with the murine form of the Platelet-Endothelial Cell Adhesion Molecule. The reactivity of the antibody is restricted to the isoform of the molecule that is electively expressed by endothelial cells. The antigen is predominantly present at the lateral borders of endothelial cells as described for human PECAM-1. It is also weakly expressed on many peripheral lymphoid cells and platelets. CD31 has been used to measure angiogenesis in association with tumor recurrence.



CD31 - Liver Liver section has been stained using CD31 optibody (Clone: BS50) with 1:200 dilution. Sinudoids of liver have been stained moderate and portal veins.



CD31 - Tonsil Tonsil section has been stained using CD31 optibody (Clone: BS50) with 1:200 dilution. Mantle zone lymphocytes have moderate label.



CD31 - Angiosarcoma Angiosarcoma section has been stained using CD31 optibody (Clone: BS50) with 1:200 dilution. Neoplastic cells have strong label.

CD34

Cat#: BSH-2008-100 100ul, BSH-2008-1 1ml Clonality: Mouse monoclonal antibody Clone: BS72 Application: IHC-P S/R: Human Control tissues: Tonsil, liver and appendix

CD34 is a transmembrane glycoprotein with a molecular mass of approximately 110 kD that is selectively expressed on human hematopoietic progenitor cells, endothelial cells and some fibroblasts. It could act as a scaffold for the attachment of lineage specific glycans, allowing stem cells to bind to lectins expressed by stromal cells or other marrow components. CD34 is highly expressed on hematopoietic progenitors, as well as on endothelial cells. CD34 has been used to measure angiogenesis, which reportedly predicts tumor recurrence.



CD34 - Acute lymphoblastic leukaemia Spleen section has been stained using CD34 been stained with strong intensity. Optibody (Clone: BS72) with 1:200 dilution. Neoplastic cells have a strong label.



CD34 - Liver Liver section has been stained using CD34 optibody (Clone: BS72) with 1:200 dilution. Sinudoids of liver have been stained moderate in near of the portal veins. Portal veins stained with strong intensity.



CD34 - Tonsil Tonsil section has been stained using CD34 optibody (Clone: BS72) with 1:200 dilution. Vascular endothelia have been stained strongly.

Cat#: BSH-7347-100 100ul, BSH-7347-1 1ml Clonality: Mouse monoclonal antibody Clone: BS3 Application: IHC-P S/R: Human Control tissues: Tonsil and appendix

CD38 is a type II integral membrane glycoprotein which is present on early B- and T-cell lineages and activated B and T cells but is absent from most mature resting peripheral lymphocytes. CD38 is also found on thymocytes, pre-B cells, germinal center B cells, mitogen-activated T cells, monocytes and Ig-secreting plasma cells. CD38 acts as a NAD glycohydrolase in T lymphocytes. On hematopoietic cells CD38 induces activation, proliferation, and differentiation of mature T and B cells and mediates apoptosis of myeloid and lymphoid progenitor cells. CD38 also plays a role in maintaining survival of an invariant NK T (iNKT) cell subset that preferentially contributes to the maintenance of immunological tolerance.



CD38 - Appendix Appendix section has been stained using CD38 optibody (Clone: BS3) with 1:200 dilution. Strong membranous staining observed from plasma cells.

CD68

Cat#: BSH-2007-100 100ul, BSH-2007-1 1ml Clonality: Mouse monoclonal antibody Clone: BS79 Application: IHC-P S/R: Human Control tissues: Tonsil and liver



CD38 - Tonsil Tonsil section have been stained using CD38 optibody (Clone: BS3) with 1:200 dilution. Strong membranous staining observed from scattered B cells in germinal center and plasma cells.



CD38 - Tonsil Tonsil section have been stained using CD38 optibody (Clone: BS3) with 1:200 dilution. Strong membranous staining observed from scattered B cells in germinal center and plasma cells.

This gene encodes a 110-kD transmembrane glycoprotein that is highly expressed by human monocytes and tissue macrophages. It is a member of the lysosomal/endosomal-associated membrane glycoprotein (LAMP) family. The protein primarily localizes to lysosomes and endosomes with a smaller fraction circulating to the cell surface. It is a type I integral membrane protein with a heavily glycosylated extracellular domain and binds to tissue- and organ-specific lectins or selectins. The protein is also a member of the scavenger receptor family. Scavenger receptors typically function to clear cellular debris, promote phagocytosis, and mediate the recruitment and activation of macrophages. Alternative splicing results in multiple transcripts encoding different isoforms.



CD68 -Tonsil Tonsil section has been stained using CD68 optibody (Clone: BS79) with 1:200 dilution. Magrophages have a strong label.



CD68 - Liver Liver section has been stained using CD68 optibody (Clone: BS79) with 1:200 dilution. Kupffer cells have a strong label.



CD68 - Appendix Appendix section has been stained using CD68 optibody (Clone: BS79) with 1:200 dilution. Scattered magrophages have a strong label.

CD105/Endoglin

Cat#: BSH-7631-100 100ul, BSH-7631-1 1ml Clonality: Mouse monoclonal antibody Clone: BS71 Application: IHC-P S/R: Human Control tissues: Tonsil and appendix



This gene encodes a homodimeric transmembrane protein which is a major glycoprotein of the vascular endothelium. This protein is a component of the transforming growth factor beta receptor complex and it binds TGFB1 and TGFB3 with high affinity. Mutations in this gene cause hereditary hemorrhagic telangiectasia, also known as Osler-Rendu-Weber syndrome 1, an autosomal dominant multisystemic vascular dysplasia. Endoglin is higly expressed especially in vascular tumor endothelia.



Endoglin - Tonsil Tonsil section has been stained using endoglin optibody (Clone: BS71) with 1:200 dilution. Endoglin stains vascular endothelia with moderate to strong intensity.



Endoglin - Urinary bladder carcinoma Tonsil section has been stained using endoglin optibody (Clone: BS71) with 1:200 dilution. Endoglin stains vascular endothelia with moderate to strong intensity.



Endoglin - Ductal breast adenocarcinoma Ductal breast adenocarcinoma section has been stained with endoglin optibody (Clone: BS71) with 1:200 dilution. Vascular endothelia are strongly stained in intratumoral area.

CEA

Cat#: BSH-7437-100 100ul, BSH-7437-1 1ml Clonality: Mouse monoclonal antibody Clone: BS33 Application: IHC-P S/R: Human Control tissues: Appendix, colon and liver (negative)

CEA are useful in identifying the origin of various metastatic adenocarcinomas and in distinguishing pulmonary adenocarcinomas (60 to 70% are CEA+) from pleural mesotheliomas (rarely or weakly CEA+). The carcinoembryonic antigen (CEA) is a member of a large family of glycoproteins and a useful tumor marker for adenocarcinoma. It is found in adenocarcinomas of endodermally derived digestive system epithelium and fetal colon.



CEA - Appendix Appendix section has been stained using CEA optibody (Clone: BS33) with 1:250 dilution. Luminal part of columnar epithelia stained strongly.



CEA - Colon carcinoma metastase Colon carcinoma section have been stained using CEA optibody (Clone: BS33) with 1:250 dilution. Metastase of colon carcinoma in lymph node stained strongly with CEA optibody.



CEA - Liver (Negative) Liver section have been stained using CEA optibody (Clone: BS33) with 1:250 dilution. No staining of the liver bile ducts (negative control).

CK5 (CK-HMW)

Cat#: BSH-7123-100 100ul, BSH-7123-1 1ml Clonality: Mouse monoclonal antibody Clone: BS42 Application: IHC-P S/R: Human Control tissues: Esophagus, prostate and tonsil

CK5 (cytokeratin 5) is a member of the keratin gene family. Biochemically, most members of the CK family fall into one of two classes, type I (acidic polypeptides) and type II (basic polypeptides). The type II cytokeratins consist of basic or neutral proteins which are arranged in pairs of heterotypic keratin chains coexpressed during differentiation of simple and stratified epithelial tissues. This type II cytokeratin is specifically expressed in the basal layer of the epidermis with family member KRT14. The type II cytokeratins are clustered in a region of chromosome 12q12-q13. At least one member of the acidic family and one member of the basic family is expressed in all epithelial cells. Cytokeratin 5 is expressed in normal basal cells.



CK5 - Prostate hyperplasia Prostate section has been stained using CK5 optibody (Clone: BS42) with 1:200 dilution. Prostate basal cells stained strongly.



CK5 - Lung squamous cell carcinoma Lung squamous cell carcinoma section has been stained using CK5 optibody (Clone: BS42) with 1:200 dilution. Lung squamous cell carcinoma stained intensively.



CK5 - Esophagus Esophagus section has been stained using CK5 optibody (Clone: BS42) with 1:200 dilution. All layers of squamous epithelium have strong label.

CK17

Cat#: BSH-7311-100 100ul, BSH-7311-1 1ml Clonality: Mouse monoclonal antibody Clone: BS55 Application: IHC-P S/R: Human Control tissues: Skin and tonsil

CK17, also known as KRT17, it is the type I intermediate filament chain keratin 17. It is found in nail beds, hair follicles, sebaceous glands, and other epidermal appendages. Mutations in this gene lead to Jackson-Lawler type pachynychia congenita and steatocystoma multiplex. May play a role in the formation and maintenance of various skin appendages, specifically in determining shape and orientation of hair. May be a marker of basal cell differentiation in complex epithelia and therefore indicative of a certain type of epithelial "stem cells". May act as an autoantigen in the immunopathogenesis of psoriasis, with certain peptide regions being a major target for autoreactive T cells and hence causing their proliferation. It is involved in tissue repair.



CK17 - Tonsil Tonsil section has been stained using CK17 optibody (Clone: BS55) with 1:200 dilution. Epithelia of tonsil are stained intensively.



CK17 - Skin Skin section has been stained using CK17 optibody (Clone: BS55) with 1:200 dilution. Epidermis of the skin stained with permanent red chromogen.



CK17 - Tonsil Tonsil section has been stained using CK17 optibody (Clone: BS55) with 1:200 dilution. Epithelia of tonsil are stained intensively.

CK18 (CK-LMW)

Cat#: BSH-7235-100 100ul, BSH-7235-1 1ml Clonality: Mouse monoclonal antibody Clone: BS83 Application: IHC-P S/R: Human, rabbit, pig, sheep Control tissues: Liver and appendix



Cytokeratin 18 encodes the type I intermediate filament chain keratin 18. Keratin 18, together with its filament partner keratin 8, are perhaps the most commonly found members of the intermediate filament gene family. They are expressed in single layer epithelial tissues of the body. Mutations in this gene have been linked to cryptogenic cirrhosis. Two transcript variants encoding the same protein have been found for this gene.



CK18 - Appendix Appendix section has been stained using CK18 optibody (Clone: BS83) with 1:250 dilution. Columnar epithelium of appendix is strongly stained.



CK18 - Liver Liver section has been stained using CK18 optibody (Clone: BS83) with 1:250 dilution. Hepatocytes and bile ducts have moderate and strong label.



CK18 - Ductal breast adenocarcinoma Ductal breast adenocarcinoma section has been stained using CK18 optibody (Clone: BS83) with 1:250 dilution. Carcinoma cells have stained strongly.

CK19

Cat#: BSH-7240-100 100ul, BSH-7240-1 1ml Clonality: Mouse monoclonal antibody Clone: BS23 Application: IHC-P S/R: Human, rabbit, pig, sheep, dog Control tissues: Tonsil, liver and appendix

Cytokeratin 19 is a member of the keratin family. The keratins are intermediate filament proteins responsible for the structural integrity of epithelial cells and are subdivided into cytokeratins and hair keratins. The type I cytokeratins consist of acidic proteins which are arranged in pairs of heterotypic keratin chains. Unlike its related family members, this smallest known acidic cytokeratin is not paired with a basic cytokeratin in epithelial cells. It is specifically expressed in the periderm, the transiently superficial layer that envelopes the developing epidermis.



CK19 - Appendix Appendix section has been stained using CK19 optibody (Clone: BS23) with 1:200 dilution. Columnar epithelia of appendix is strongly stained.



CK19 - Lobular breast carcinoma Lobular breast carcinoma section has been stained using CK19 optibody (Clone: BS23) with 1:200 dilution. CK19 stains breast lobular carcinoma cells with strong intensity.



CK19 - Ductal breast carcinoma Ductal breast carcinoma section has been stained using CK19 optibody (Clone: BS23) with 1:200 dilution. Carcinoma cells are strongly stained.

CK20 Cat#: BSH-2000-100 100ul, BSH-2000-1 1ml Clonality: Mouse monoclonal antibody Clone: BS101 Application: IHC-P S/R: Human, sheep Control tissues: Appendix, colon

Cytokeratin 20 (CK20) is expressed in enterocytes and goblet cells of the gastrointestinal (GI) tract. It is also expressed in specific types of simple epithelial cells of the urinary tract. CK20 is useful marker of colorectal carcinoma, gastric, pancreas, urothelium, merkel and biliary system carcinomas.



CK20 - Appendix Appendix section has been stained using CK20 optibody (Clone: BS101) with 1:250 dilution. Columnar epithelia of appendix is strongly stained without any background.



CK20 - Urinary bladder carcinoma Urinary bladder carcinoma section has been stained using CK20 optibody (Clone: BS101) with 1:250 dilution. Urinary bladder carcinoma cells have strong and intensive signal.



CK20 - Metastasis of colon carcinoma Lymph node section with metastasis of colon carcinoma has been stained using CK20 optibody (Clone: BS101) with 1:250 dilution. Neoplastic cells have moderate to strong CK20 positivity.

Cytokeratin PAN

Cat#: BSH-7124-100 100ul, BSH-7124-1 1ml Clonality: Mouse monoclonal antibody Clone: BS5 Application: IHC-P S/R: Human, sheep, pig, dog Control tissues: Appendix and liver

Cytokeratins are classified into one of two classes, type I (acidic polypeptides) and type II (basic polypeptides). Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. Cytokeratins have been found to be useful markers of tissue differentiation which is directly applicable to the characterization of malignant tumors.



CKpan - Liver Liver section has been stained using CKpan optibody (Clone: BS5) with 1:200 dilution. Hepatocytes have membranous staining pattern with moderate label. Bile ducts have strong label.



CKpan - Ductal breast adenocarcinoma Ductal breast adenocarcinoma section has been stained using CKpan optibody (Clone: BS5) with 1:200 dilution. CKpan stains carcinoma cells intensively.



CKpan - Lung adenocarcinoma Lung adenocarcinoma section has been stained using CKpan optibody (Clone: BS5) with 1:200 dilution. CKpan stains neoplastic cells strongly.

Desmin

Cat#: BSH-7082-100 100ul, BSH-7082-1 1ml Clonality: Mouse monoclonal antibody Clone: BS21 Application: IHC-P S/R: Human, rabbit, rat, sheep, pig Control tissues: Appendix and placenta



Desmin (DES), with 470-amino acid protein (about 52kDa), belongs to the intermediate filament family and Desmin is class III intermediate filaments found in muscle cells. Homopolymers of Desmin form a stable intracytoplasmic filamentous network connecting myofibrils to each other and to the plasma membrane. Mutations in Desmin are associated with desmin-related myopathy, a familial cardiac and skeletal myopathy (CSM), and with distal myopathies. Desmin is also expressed in smooth muscle cells of both airways and alveolar ducts. Desmin is a load-bearing protein that stiffens the airways and consequently the lung and modulates airway contractile response. Desmin is especially useful for identification of leiomyosarcoma and rhabdomyosarcoma and other myogenic and mesenchymal neoplasms.



Desmin - Appendix Appendix section has been stained using Desmin optibody (Clone: BS21) with 1:200 dilution. Muscularis propria of appendix stained strongly.

Desmin - Placenta Placenta section has been stained using Desmin optibody (Clone: BS21) with 1:200 dilution. Smooth muscle cells have strong label.



Desmin - Rhabdomyosarcoma Rhabdomyosarcoma section has been stained using Desmin optibody (Clone: BS21) with 1:200 dilution. Neoplastic cells have strong label.

E-cadherin

Cat#: BSH-7516-100 100ul, BSH-7516-1 1ml Clonality: Mouse monoclonal antibody Clone: BS38 Application: IHC-P S/R: Human, dog, rabbit, rat, mouse, sheep, pig Control tissues: Ductal breast carcinoma (+), lobular breast carcinoma (-), liver

E-Cadherin is a 120 kDa transmembrane glycoprotein that is localized in the adherens junctions of epithelial cells. There, it interacts with the cytoskeleton through the associated cytoplasmic catenin proteins. E-Cadherin is a critical regulator of epithelial junction formation. Its association with catenins is necessary for cell-cell adhesion. These E-cadherin/catenin complexes associate with corical actin bundles at both the zonula adherens and the lateral adhesion plaques. E-Cadherin expression is often down-regulated in highly invasive, poorly differentiated carcinomas. Increased expression of E-Cadherin in these cells reduces invasiveness. Thus, loss of expression or function of E-Cadherin appears to be an important step in tumorigenic progression. E-cadherin used for differential diagnosis between ductal and lobular breast carcinoma.



E-cadherin - Liver Liver section has been stained using E-cadherin optibody (Clone: BS38) with 1:250 dilution. Membranes of hepatocytes and bile ducts have strong label.



E-cadherin - Ductal breast carcinoma Ductal breast carcinoma section has been stained usind E-cadherin optibody (Clone: BS38) with 1:250 dilution. Carcinoma cells have strong membranous label.



E-cadherin - Lobular breast carcinoma Lobular breast carcinoma section has been stained usind E-cadherin optibody (Clone: BS38) with 1:250 dilution. No staining in the lobular breast carcinoma.

EpCAM

Cat#: BSH-7402-100 100ul, BSH-7402-1 1ml Clonality: Mouse monoclonal antibody Clone: BS14 Application: IHC-P S/R: Human, rat, sheep, pig Control tissues: Kidney and appendix

Epithelial Cell Adhesion Molecule (EpCAM) is a 40 kDa cell surface antigen and this protein is expressed in almost all epithelial cell membranes but not on mesodermal or neural cell membranes. EpCAM is a Type 1 transmembrane glycoprotein and it is expressed on the basolateral membrane of cells by the majority of epithelial tissues, with the exception of adult squamous epithelium and some specific epithelial cell types including hepatocytes and gastric epithelial cells. EpCAM expression has been reported to be a possible marker of early malignancy, with expression being increased in tumor cells, and de novo expression being seen in dysplastic squamous epithelium. This cell surface, glycosylated 40kD protein is highly expressed in the bone marrow, colon, lung, and most normal epithelial cells and is expressed on carcinomas of gastrointestinal origin.



EpCAM - Appendix Appendix section has been stained using EpCAM optibody (Clone: BS14) with 1:200 dilution. Columnal epithelial cells of appendix have strong membranous label.

Glucagon

Cat#: BSH-7443-100 100ul, BSH-7443-1 1ml Clonality: Mouse monoclonal antibody Clone: BS71 Application: IHC-P S/R: Human Control tissues: Pancreas



EpCAM - Kidney Kidney section has been stained using EpCAM optibody (Clone: BS14) with 1:200 dilution. Strong staining in epithelia of collecting tubules and moderate and weak staining in epithelia of proximal tubules and Bowman's capsule.



EpCAM - Renal clear cell carcinoma Renal clear cell carcinoma section has been stained using EpCAM optibody (Clone: BS14) with 1:200 dilution. Neoplastic cells have strong to moderate membranous label.

Glucagon, is a pancreatic hormone that counteracts the glucose-lowering action of insulin by stimulating glycogenolysis and gluconeogenesis. Glucagon is a ligand for a specific G-protein linked receptor whose signaling pathway controls cell proliferation. Two of the other peptides are secreted from gut endocrine cells and promote nutrient absorption through distinct mechanisms. Finally, the fourth peptide is similar to glicentin, an active enteroglucagon. Glucagon is secreted in the alpha cells of the islets of Langerhans. GLP-1, GLP-2, oxyntomodulin and glicentin are secreted from enteroendocrine cells throughout the gastrointestinal tract. GLP1 and GLP2 are also secreted in selected neurons in the brain.



Glucagon - Pancreas Pancreas section has been stained using glucagon optibody (Clone: BS71) with 1:200 dilution. Glucagon sectreted alpha cells of pancreas have strong cytoplasmic label.



Glucagon - Pancreas Pancreas section has been stained using glucagon optibody (Clone: BS71) with 1:200 dilution. Glucagon sectreted alpha cells of pancreas have strong cytoplasmic label.



Glucagon - Pancreas Pancreas section has been stained using glucagon optibody (Clone: BS71) with 1:200 dilution. Glucagon sectreted alpha cells of pancreas have strong cytoplasmic label.

HER2

Cat#: BSH-7182-100 100ul, BSH-7182-1 1ml Clonality: Mouse monoclonal antibody Clone: BS24 Application: IHC-P S/R: Human Control tissues: HER2 positive breast cancer cases with different graduses



HER2/ERBB2, is a member of the epidermal growth factor (EGF) receptor family of receptor tyrosine kinases. This protein has no ligand binding domain of its own and therefore cannot bind growth factors. However, it does bind tightly to other ligand- bound EGF receptor family members to form a heterodimer, stabilizing ligand binding and enhancing kinase-mediated activation of downstream signalling pathways, such as those involving mitogen-activated protein kinase and phosphatidylinositol-3 kinase. Amplification and/or overexpression of this gene has been reported in numerous cancers, including breast and gastric tumors. Alternative splicing results in several additional transcript variants, some encoding different isoforms and others that have not been fully characterized. Immunohistochemical staining of HER 2 protein is graded as 0/1+, 2+ and 3+.



HER2 - Ductal breast cancer, 3+ Breast cancinoma section has been stained using HER2 optibody (Clone: BS24) with 1:200 dilution. Carcinoma cells are HER2 positive with strong membranous label.



HER2 - Ductal breast cancer, 3+ Breast cancinoma section has been stained using HER2 optibody (Clone: BS24) with 1:200 dilution. Carcinoma cells are HER2 positive with strong to moderate membranous label.



HER2 - Ductal breast cancer, 0/1+ Breast cancinoma section has been stained using HER2 optibody (Clone: BS24) with 1:200 dilution. Carcinoma cells are HER2 negative without label.

Insulin

Cat#: BSH-2010-100 100ul, BSH-2010-1 1ml Clonality: Mouse monoclonal antibody Clone: BS22 Application: IHC-P S/R: Human Control tissues: Pancreas

Insulin is a pancreatic hormone that regulates glucose level in blood and it is involved in the synthesis of proteins and fat. Insulin increases cell permeability to monosaccharides, amino acids, and fatty acids. It accelerates glycolysis, the pentose phosphate cycle, and glycogen synthesis in liver. Insulin is a heterodimer of a B chain and A chain linked by two disulfide bonds. Defects in insulin are the cause of familial hyperproinsulinemia. Insulin is present on the insulin secreted beta cells in islets of Langerhans.



Insulin - Pancreas Pancreas section has been stained using insulin optibody (Clone: BS22) with 1:200 dilution. Insulin secreted beta cells have strong label in islets of Langerhans.



Insulin - Pancreas Pancreas section has been stained using insulin optibody (Clone: BS22) with 1:200 dilution. Insulin secreted beta cells have strong label in islets of Langerhans.



Insulin - Pancreas Pancreas section has been stained using insulin optibody (Clone: BS22) with 1:200 dilution. Insulin secreted beta cells have strong label in islets of Langerhans.

Ki67 Cat#: BSH-7302-100 100ul, BSH-7302-1 1ml Clonality: Mouse monoclonal antibody Clone: BS4 Application: IHC-P S/R: Human, sheep, dog Control tissues: Tonsil, colon/appendix

Ki67, also known as MKI67, is aprototypic cell cycle related nuclear protein, expressed by proliferating cells in all phases of the active cell cycle (G1, S, G2 and M phase). It is absent in resting (G0) cells. Ki67 staining are useful in establishing the cell growing fraction in neoplasms (immunohistochemically quantified by determining the number of Ki67 positive cells among the total number of resting cells = Ki67 index). The correlation between low Ki67 index and histologically low grade tumors is strong. Ki67 is routinely used in breast cancer diagnostics and as a neuronal marker of cell cycling and proliferation.



Ki67 - Tonsil Tonsil section has been stained using Ki67 optibody (Clone: BS4) with 1:200 dilution. Majority of the germinal center B cells have strong nuclear label.

L1CAM

Cat#: BSH-3005-100 100ul, BSH-3005-1 1ml Clonality: Rabbit monoclonal antibody Clone: BSR3 Application: IHC-P S/R: Human Control tissues: Tonsil, appendix



Ki67 - Appendix Appendix section has been stained using Ki67 optibody (Clone: BS4) with 1:200 dilution. Strong nuclear staining in proliferating cells of intestinal crypts.



Ki67 - Breast ductal adenocarcinoma Breast carcinoma section has been stained using Ki67 optibody (Clone: BS4) with 1:200 dilution. Proliferating neoplastic cells have strong to moderate nuclear label.

Cell adhesion molecule with an important role in the development of the nervous system. The L1, neural cell adhesion molecule (L1CAM) plays an important role in axon growth, fasciculation, neural migration and in mediating neuronal differentiation. L1 protein is expressed to tissues arising from neuroectoderm. L1CAM plays also an important role in the malignancy of human tumors and according to several studies, L1CAM positive carcinomas have a bad prognosis. L1CAM is overexpressed in many human carcinomas but it is useful especially in endometrium carcinoma diagnostic.



L1CAM - Appendix Appendix section has been stained using L1CAM optibody (Clone: BSR3) with 1:200 dilution. Neuronal plexuses and axons of muscular propria have strong label.



L1CAM - Tonsil Tonsil section has been stained using L1CAM optibody (Clone: BSR3) with 1:200 dilution. Germinal center of tonsil has moderate to strong label.



L1CAM - Endometrium carcinoma Endometrium carcinoma section has been stained using L1CAM optibody (Clone: BSR3) with 1:200 dilution. L1CAM positive carcinoma cells have strong label.

Mammaglobin

Cat#: BSH-7589-100 100ul, BSH-7589-1 1ml Clonality: Mouse monoclonal antibody Clone: BS17 Application: IHC-P S/R: Human Control tissues: Skin (sweat glands), breast cancer



Mammaglobin is a gene that is expressed almost exclusively in the normal breast epithelium and human breast cancer. It is a member of the secretoglobin gene family and forms a heterodimer with lipophilin B. It has been suggested that mammaglobin may be a useful marker for breast cancer clinical research. Studies investigating the detection of mRNA by RT PCR from circulating carcinoma cells in the peripheral blood of breast cancer patients have shown that mammaglobin is a highly specific marker and correlates with several prognostic factors. Mammaglobin is mammary gland specific and it over expressed in breast cancer.



Mammaglobin - Skin (Sweat glands) Skin section has been stained using mammaglobin optibody (Clone: BS17) with 1:200 dilution. Sweat glands and lumen of sweat glands have strong label.



Mammaglobin - Ductal breast cancer Breast carcinoma section has been stained using mammaglobin optibody (Clone: BS17) with 1:200 dilution. Most of the carcinoma cells have strong to moderate staining reaction.



Mammaglobin - Ductal breast cancer Breast carcinoma section has been stained using mammaglobin optibody (Clone: BS17) with 1:200 dilution. Most of the carcinoma cells have strong to moderate staining reaction.

MBP

Cat#: BSH-7697-100 100ul, BSH-7697-1 1ml Clonality: Mouse monoclonal antibody Clone: BS188 Application: IHC-P S/R: Human, rat, mouse Control tissues: Brain, spine cord

The protein encoded by the classic MBP gene is a major constituent of the myelin sheath of oligodendrocytes and Schwann cells in the nervous system. However, MBP-related transcripts are also present in the bone marrow and the immune system. MBP gene encode hybrid proteins that have N-terminal Golli as sequence linked to MBP aa sequence. The second family of transcripts contain only MBP exons and produce the well characterized myelin basic proteins. This complex gene structure is conserved among species suggesting that the MBP transcription unit is an integral part of the Golli transcription unit and that this arrangement is important for the function and/or regulation of these genes.



MBP - Brain (Cerebellum) Brain section has been stained using MBP optibody (Clone: BS188) with 1:200 dilution. Myelinin in granular cell layer has strong label.



MBP - Brain (Cerebellum) Brain section has been stained using MBP optibody (Clone: BS188) with 1:200 dilution. Myelinin in granular cell layer has strong label.



MBP - Brain (Cerebellum) Brain section has been stained using MBP optibody (Clone: BS188) with 1:200 dilution. Myelinin in granular cell layer has strong label. AP-polymer with Permanent red have been used as visualization.

MCM2

Cat#: BSH-7698-100 100ul, BSH-7698-1 1ml Clonality: Mouse monoclonal antibody Clone: BS18 Application: IHC-P S/R: Human Control tissues: Tonsil, appendix

The protein encoded by this gene is one of the highly conserved mini-chromosome maintenance proteins (MCM) that are involved in the initiation of eukaryotic genome replication. The hexameric protein complex formed by MCM proteins is a key component of the pre-replication complex (pre_RC) and may be involved in the formation of replication forks and in the recruitment of other DNA replication related proteins. This protein forms a complex with MCM4, 6, and 7, and has been shown to regulate the helicase activity of the complex. MCM2 is localized in the nucleus and it is expressed during interphase. MCM2 is essential protein in cell cycle and it is needed for entry into the S phase and cell division. MCM2 is a proliferation marker and it is useful for identification of premalignant lesions and evaluation of proliferation indexes.



MCM2 - Tonsil Tonsil section has been stained using MCM2 optibody (Clone: BS18) with 1:200 dilution. Proliferating cells have strong label in the germinal center.

Melan A

Cat#: BSH-2003-100 100ul, BSH-2003-1 1ml Clonality: Mouse monoclonal antibody Clone: BS52 Application: IHC-P S/R: Human Control tissues: Skin, melanoma, nevus



MCM2 - Appendix Appendix section has been stained using MCM2 optibody (Clone: BS18) with 1:200 dilution. Proliferating cells have strong label in the germinal center of appendix. Also basal cells of intestilan crypts have strong nuclear label.



MCM2 - Ductal breast cancer Ductal breast cancer section has been stained using MCM2 optibody (Clone: BS18) with 1:200 dilution. Proliferate carcinoma cells have strong nuclear label.

Melan-A (MART-1) is a transmembrane protein which is recognized by autologous cytotoxic T lymphocytes. Melan A is expressed in skin melanocytes and melanocyte lineages. This antibody is useful for the identification of melanomas and it should be included into standard melanoma panel for diagnostic. This antibody not cross react with cells of adrenal cortex.



Melan A - Skin Normal skin section has been stained using Melan A optibody (Clone: BS52) with 1:250 dilution. Melanocytes have strong cytoplasmic label.



Melan A - Melanoma

Melanoma section has been stained using Melan A optibody (Clone: BS52) with 1:250 dilution. Melanoma cells stained with strong staining intensity without background staining in normal cells.



Melan A - Melanoma Melanoma section has been stained using Melan A optibody (Clone: BS52) with 1:250 dilution. Melanoma cells stained with strong staining intensity without background staining in normal cells.

MLH1

Cat#: BSH-7208-100 100ul, BSH-7208-1 1ml Clonality: Mouse monoclonal antibody Clone: BS29 Application: IHC-P S/R: Human Control tissues: Tonsil, colon carcinoma, MLH1 mutated colon carcinoma



DNA-mismatch repair (MMR), a conserved process that involves correcting errors made during DNA synthesis, is crucial to the maintenance of genomic integrity. Lack of a functional DNA-mismatch repair pathway is a common characteristic of several different types of human cancers, either due to an MMR gene mutation or promoter-methylation gene silencing. Loss of MLH1 protein expression is associated with a mutated phenotype, microsatellite instability and a predisposition to cancer. In hereditary nonpolyposis colorectal cancer (HNPCC), an autosomal dominant inherited cancer syndrome that signifies a high risk of colorectal and various other types of cancer, the MLH1 gene exhibits a pathogenic mutation. Inactivation of the MLH1 gene causes genome instability and predisposition to cancer.



MLH1 - Tonsil

Tonsil section has been stained using MLH1 optibody (Clone: BS29) with 1:250 dilution. Germinal center cells have strong cytoplasmic label. Moderate label observed from cells of the mantle zone.

Napsin A

Cat#: BSH-2002-100 100ul, BSH-2002-1 1ml Clonality: Mouse monoclonal antibody Clone: BS10 Application: IHC-P S/R: Human Control tissues: Kidney, lung



MLH1 - Appendix Appendix section has been stained using MLH1 optibody (Clone: BS29) with 1:250 dilution. Germinal center cells as well as enterocytes have strong cytoplasmic label. Moderate label observed from cells of the mantle zone.



MLH1 - Tonsil Tonsil section has been stained using MLH1 optibody (Clone: BS29) with 1:250 dilution. Germinal center cells have strong cytoplasmic label. Moderate label observed from cells of the mantle zone.

Napsin A is an aspartic proteinase that is expressed predominantly in lung (type II pneumocytes) and kidney and lower levels in spleen and blood leukocytes. Alveolar macrophages contains also Napsin A due phagosytosis of pneumocytes. Napsin A in useful especially in the differential diagnosis of lung adenocarcinoma between squamous cell carcinoma.



Napsin A - Kidney Kidney section has been stained using Napsin A optibody (Clone: BS10) with 1:300 dilution. Proximal tubule cells have stained strongly with granular cytoplasmic staining reaction.



Napsin A - Lung Lung section has been stained using Napsin A optibody (Clone: BS10) with 1:300 dilution. Pneumocytes and alveolar macrophages have cytoplasmic label.



Napsin A - Lung adenocarcinoma Lung adenocarcinoma section has been stained using Napsin A optibody (Clone: BS10) with 1:300 dilution. Carcinoma cells have strong cytoplasmic label.

P53 Cat#: BSH-7287-100 100ul, BSH-7287-1 1ml Clonality: Mouse monoclonal antibody Clone: BS12 Application: IHC-P S/R: Human Control tissues: Tonsil

P53 is a DNA-binding protein containing transcription activation, DNA-binding, and oligomerization domains. P53 protein is expressed at low level in normal cells and at a high level in a variety of transformed cell lines, where it's believed to contribute to transformation and malignancy. Mutants of p53 that frequently occur in a number of different human cancers fail to bind the consensus DNA binding site, and hence cause the loss of tumor suppressor activity. P53 is especially useful for differential diagnosis of dysplastic and neoplastic tissues.





P53 - Metastase of colon carcinoma in lymph node

Metastase section has been stained using P53 optibody (BS12) with 1:200 dilution. Carcinoma cells have strong staining reaction with nuclear staining pattern.





P53 - Tonsil Tonsil section has been stained using P53 optibody (BS12) with 1:200 dilution. Scattered basal cells of epithelium have stained moderately with nuclear staining pattern.

P63

Cat#: BSH-3006-100 100ul, BSH-3006-1 1ml Clonality: Rabbit monoclonal antibody Clone: BSR6 Application: IHC-P S/R: Human (Others not tested) Control tissues: Tonsil, prostate

The p63 gene is a homologue of the p53 tumor suppressor gene. The p63 gene encodes for at least six major isotypes. P63 protein is a nuclear transcription factor and it is highly expressed in the basal cells of the epithelium. P63 is a useful marker for squamous, urothelial and myoepithelial carcinomas. P63 is found in the large majority of cases of squamous cell carcinoma. In basal-like subtype breast carcinoma, p63 is rarely detected. Prostate adenocarcinoma is typically P63 negative and P63 staining is useful for diagnosis of the prostate adenocarcinomas together with HMW-CK and AMACR.



P63 - Tonsil Tonsil section has been stained using P63 optibody (BSR6) with 1:200 dilution. Basal cells of epithelium have strongly stained with nuclear staining pattern.



P63 - Prostate adenocarcinoma Prostate adenocarcinoma section has been stained using P63 optibody (BSR6) with 1:200 dilution. Normal prostate glands are P63 positive, prostate adenocarcinoma are P63 negative.



P63 - Ductal breast carcinoma Breast carcinoma section has been stained using P63 optibody (BSR6) with 1:200 dilution. Scattered and strongly to moderately stained, P63 positive carcinoma cells were observed.

P63 Cat#: BSH-7449-100 100ul, BSH-7449-1 1ml Clonality: Mouse monoclonal antibody Clone: BS63 Application: IHC-P S/R: Human Control tissues: Tonsil, prostate



The p63 gene is a homologue of the p53 tumor suppressor gene. The p63 gene encodes for at least six major isotypes. P63 protein is a nuclear transcription factor and it is highly expressed in the basal cells of the epithelium. P63 is a useful marker for squamous, urothelial and myoepithelial carcinomas. P63 is found in the large majority of cases of squamous cell carcinoma. In basal-like subtype breast carcinoma, p63 is rarely detected. Prostate adenocarcinoma is typically P63 negative and P63 staining is useful for diagnosis of the prostate adenocarcinomas together with HMW-CK and AMACR.



P63 - Tonsil Tonsil section have been stained using P63 optibody (BS63) with 1:200 dilution. Basal cells of epithelium have strongly stained with nuclear staining pattern.



P63 - Skin Skin section have been stained using P63 optibody (BS63) with 1:200 dilution. Basal cells of epithelium have strongly stained with nuclear staining pattern.



P63 - Prostate PIN Prostate PIN section have been stained using P63 optibody (BS63) with 1:200 dilution. Normal prostate glands are P63 positive, prostate adenocarcinoma are P63 negative.

PAX5

Cat#: BSH-7833-100 100ul, BSH-7833-1 1ml Clonality: Mouse monoclonal antibody Clone: BS11 Application: IHC-P S/R: Human, rabbit, rat, mouse, pig, sheep Control tissues: Tonsil, appendix, hodgkin's lymphoma

This gene encodes a member of the paired box (PAX) family of transcription factors. PAX proteins are important regulators in early development, and alterations in the expression of their genes are thought to contribute to neoplastic transformation. This gene encodes the B-cell lineage specific activator protein that is expressed at early, but not late stages of B-cell differentiation. This protein expressed is involved in in small lymphocytic lymphomas of the plasmacytoid subtype, and in derived large-cell lymphomas. This translocation brings the potent E-mu enhancer of the IgH gene into close proximity of the PAX5 promoter, suggesting that the deregulation of transcription of this gene contributes to the pathogenesis of these lymphomas. Alternatively spliced transcript variants encoding different isoforms have been described but their biological validity has not been determined.



PAX5 - Tonsil Tonsil section has been stained using PAX5 optibody (BS11) with 1:250 diltion. B cells have strong nuclear label.



PAX5 - Appendix Appendix section has been stained using PAX5 optibody (BS11) with 1:250 dilution. B cells have strong nuclear label.



PAX5 - Hodgkin's lymphoma Hodgkin's lymphoma section has been stained using PAX5 optibody (BS11) with 1:250 dilution. B cells have strong nuclear label and Hodgkin's cells stained with moderate staining intensity.

PD1 Cat#: BSH-3001-100 100ul, BSH-3001-1 1ml Clonality: Rabbit monoclonal antibody Clone: BSR1 Application: IHC-P S/R: Human Control tissues: Tonsil, appendix

Programmed death-1 (PD1) is a member of the CD28 family of receptors and plays a role in the cellular immune response. PD1 is a marker of the activated T- and B-lymphocytes and it also expressed cells of myeloid origin. PD1 expressed mostly in T cells in germinal centers of lymphatic tissue. PD1 is a valuable marker of T-cell neoplasia and especially it is useful for diagnosis of the angioimmunoblastic lymphoma.



PD1 - Tonsil Tonsil section have been stained using PD1 optibody (BSR1) with 1:200 dilution. T cells in germinal center have a strong membranous label.



PD1 - Appendix Appendix section have been stained using PD1 optibody (BSR1) with 1:200 dilution. T cells in germinal center of appendix have strong and intensive label.



PD1 - Appendix Appendix section have been stained using PD1 optibody (BSR1) with 1:200 dilution. T cells in germinal center have strong label.

SMA

Cat#: BSH-7459-100 100ul, BSH-7459-1 1ml Clonality: Mouse monoclonal antibody Clone: BS66 Application: IHC-P S/R: Human, rabbit, rat, mouse, pig, sheep Control tissues: Liver, appendix

The protein encoded by ACTA2 gene belongs to the actin family of proteins, which are highly conserved proteins that play a role in cell motility, structure and integrity. Alpha, beta and gamma actin isoforms have been identified, with alpha actins being a major constituent of the contractile apparatus, while beta and gamma actins are involved in the regulation of cell motility. This smooth muscle specific alpha actin (SMA) stains actin from smooth muscle cells, myoepithelial cells, and myofibroblasts without cross-reaction of skeletal muscle. SMA is used especially for detection of leiomyomatous and myofibroblastic tumours, GIST and mesenchymal tumors.



SMA - Liver

Liver section has been stained using SMA optibody (BS66) with 1:200 dilution. Endothelial cells of sinusoids and portal area have strongly stained without staining of the bile ducts.



SMA - Leiomyoma

Leiomyoma section has been stained using SMA optibody (BS66) with 1:200 dilution. All the neoplastic cells have moderate to strong staining reaction without background staining.



SMA - Gastro intestinal stromal tumor (GIST) GIST-section has been stained using SMA optibody (BS66) with 1:200 dilution. GIST cells have heterogeneous staining pattern.

Somatostatin

Cat#: BSH-7849-100 100ul, BSH-7849-1 1ml Clonality: Mouse monoclonal antibody Clone: BS16 Application: IHC-P S/R: Human Control tissues: Pancreas



The preproprotein encoded by this gene. Somatostatin is expressed throughout the body and inhibits the release of numerous secondary hormones by binding to high-affinity G-protein-coupled somatostatin receptors. This hormone is an important regulator of the endocrine system through its interactions with pituitary growth hormone, thyroid stimulating hormone, and most hormones of the gastrointestinal tract. Somatostatin also affects rates of neurotransmission in the central nervous system and proliferation of both normal and tumorigenic cells.



Somatostatin - Pancreas Pancreas section has been stained using somatostatin optibody (Clone: BS16) with 1:200 dilution. Somatostatin secreteted delta cells of pancreas have strong cytoplasmic label.



Somatostatin - Pancreas Pancreas section has been stained using somatostatin optibody (Clone: BS16) with 1:200 dilution. Somatostatin secreteted delta cells of pancreas have strong cytoplasmic label.



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SOX10

Cat#: BSH-7959-100 100ul, BSH-7959-1 1ml Clonality: Mouse monoclonal antibody Clone: BS7 Application: IHC-P S/R: Human Control tissues: Breast (benign), skin, appendix

This gene encodes a member of the SOX (SRY-related HMG-box) family of transcription factors involved in the regulation of embryonic development and in the determination of the cell fate. The encoded protein may act as a transcriptional activator after forming a protein complex with other proteins. This protein acts as a nucleocy-toplasmic shuttle protein and is important for neural crest and peripheral nervous system development. SOX10 is important and sensitive marker of melanoma especially for spindle cell and desmoplastic melanomas and schwannian neoplasms.



SOX10 - Breast (benign) Breast section has been stained using SOX10 optibody (Clone: BS7) with 1:200 dilution. Myoepithelial cells of breast have strong nuclear label.



SOX10 - Skin Skin section has been stained using SOX10 opibody (Clone: BS7) with 1:200 dilution. Melanocytes have strong staining reaction.



SOX10 - Melanoma Melanoma section has been stained using SOX10 optibody (Clone: BS7) with 1:200 dilution. Melanoma cells have strong nuclear label.

Synaptophysin

Cat#: BSH-7385-100 100ul, BSH-7385-1 1ml Clonality: Mouse monoclonal antibody Clone: BS15 Application: IHC-P S/R: Human, rabbit, rat, mouse, pig, sheep Control tissues: Appendix, pancreas

Synaptophysin (p38) is an integral membrane protein of small synaptic vesicles in brain and endocrine cells. Synaptophysin contains four transmembrane domains that form a hexameric channel or gap junction-like pore. Synaptophysin binds to the SNARE protein synaptobrevin/VAMP, which prevents the inclusion of synaptobrevin in the synaptic vesicle fusion complex and creates a pool of synaptobrevin for exocytosis when synapse activity increases. Synaptophysin is also responsible for targeting synaptobrevin 2/VAMP2 to synaptic vesicles, a critical component of the fusion complex.



Synaptophysin - Appendix Appendix section has been stained using Synaptophysin optibody (Clone: BS15) with 1:300 dilution. Ganglion cells and neuronal axons stained strongly.

Vimentin

Cat#: BSH-7100-100 100ul, BSH-7100-1 1ml Clonality: Mouse monoclonal antibody Clone: BS13 Application: IHC-P S/R: Human, sheep Control tissues: Appendix, tonsil



Synaptophysin - Appendix Appendix section has been stained using Synaptophysin optibody (Clone: BS15) with 1:300 dilution. Ganglion cells and neuronal axons stained strongly.



Synaptophysin - Neuro endrocrine tumor Neuro endocrine tumor section has been stained using Synaptophysin optibody (Clone: BS15) with 1:300 dilution. Neuroendocine tumor cells have intensive staining reaction.

Vimentin is the major subunit protein of the intermediate filaments of mesenchymal cells. It is believed to be involved with the intracellular transport of proteins between the nucleus and plasma membrane. Vimentin has been implicated to be involved in the rate of steroid synthesis via its role as a storage network for steroidogenic cholesterol containing lipid droplets. Immunohistochemical staining for Vimentin is characteristic of sarcomas (of neural, muscle and fibroblast origin) compared to carcinomas which are generally negative. Melanomas, lymphomas and vascular tumors may all stain for Vimentin. Vimentin antibodies are thus of value in the differential diagnosis of undifferentiated neoplasms and malignant tumors. They are generally used with a panel of other antibodies including those recognising cytokeratins, lymphoid markers, \$100, desmin and neurofilaments.



Vimentin - Appendix Appendix section has been stained using Vimentin optibody (Clone: BS13) with 1:200 dilution. Cells of the mesenchymal origin stained inintensively.



Vimentin - Appendix Appendix section has been stained using Vimentin optibody (Clone: BS13) with 1:200 dilution. Cells of the mesenchymal origin stained intensively.



Vimentin - Tonsil Tonsil section has been stained using Vimentin optibody (Clone: BS13) with 1:200 dilution. Cells of the mesenchymal origin stained intensively.





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