



BioSite **Histo**

Optibodies™



Nordic **BioSite**
- in Life Science Research

Nous contacter

Service technique
01 34 60 24 24
tech@ozyme.fr

Service commercial
01 30 85 05 42
commercial@ozyme.fr

Service commande-client
01 34 60 15 16
commande@ozyme.fr

Optibodies™

Optimal Antibodies for Optimal Research; Nordic BioSite Introduce Optibodies™

Nordic Biosite are delighted to announce the launch of our range of top quality, carefully tested Optibodies™.

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.

AMACR

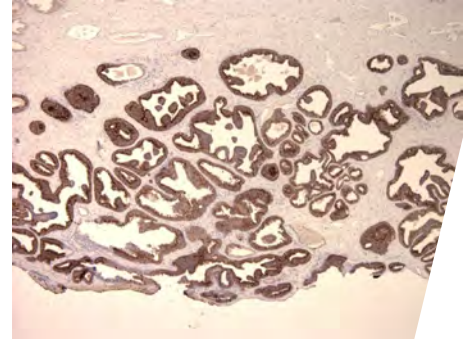
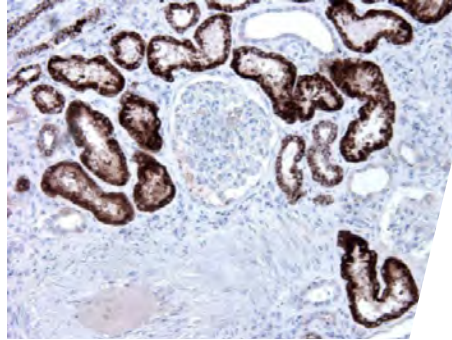
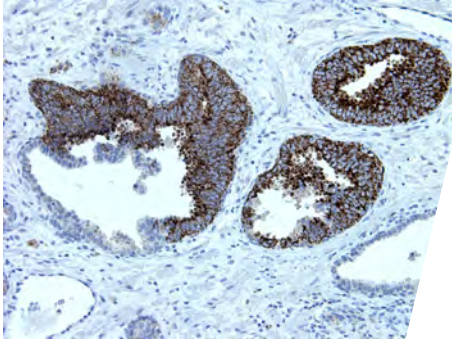
Cat#: BSH-7136-100 100ul, BSH-7136-1 1ml, BSH-7136-RTU 7ml

Clone: BS2

S/R: human, mouse

Application: IHC

AMACR (alpha-methylacyl-CoA racemase) has been recently described as 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 atypical adenomatous hyperplasia. AMACR can be used as a positive marker for PIN. Defects in AMACR are the cause of congenital bile acid synthesis defect type 4 (CBAS4); also known as cholestasis, intrahepatic, with defective conversion of trihydroxycoprostanic acid to cholic acid or trihydroxycoprostanic acid in bile. Clinical features include neonatal jaundice, intrahepatic cholestasis, bile duct deficiency and absence of cholic acid from bile.



AMACR stained tissue sections. AMACR antibody (Clone: BS2) has great signal-to-noise ratio and it fulfills the NordiQC's criteria (a, b and c). Image (a and c) is from the staining of the prostate adenocarcinoma and (b) is from kidney section.

Androgen Receptor

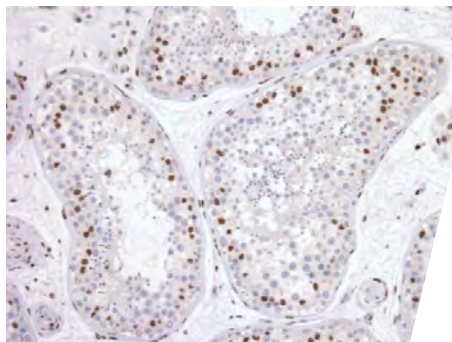
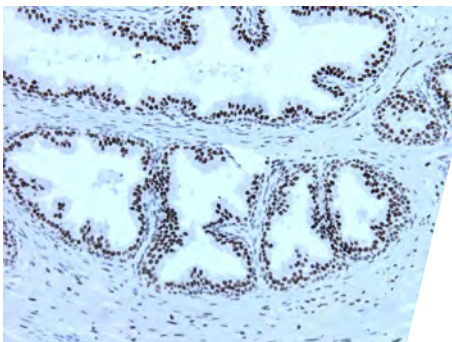
Cat#: BSH-7360-100 100ul, BSH-7360-1 1ml, BSH-7360-RTU 7ml

Clone: BS46

S/R: human

Application: IHC

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 dihydrotestosterone in the cytoplasm and then translocating into the nucleus. The androgen receptor is most closely related to the progesterone receptor, and progestins in higher dosages can block the androgen receptor. The main function of the androgen receptor is as a DNA binding transcription factor which regulates gene expression; however, the androgen receptor has other functions as well. Androgen regulated genes are critical for the development and maintenance of the male sexual phenotype.



AR stained tissue sections. Image (a) prostate and (b) testicle sections have been stained using AR antibody (Clone: BS46) with 1:200 dilution. Strong nuclear staining observed with great signal to noise ratio.

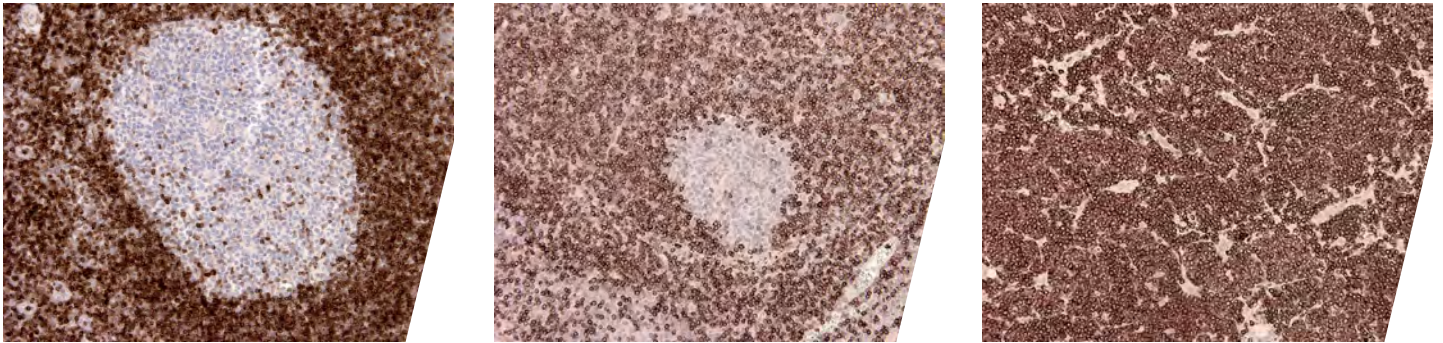
Bcl2

Cat#: BSH-2001-100 0,1ml, BSH-2001-1 1ml, BSH-2001-7 7ml

Clone: BS94

S/R: human

Application: IHC



BCL2 stained tissue sections. Tonsil (a) and lymph node sections (b, c) have been stained using BCL2 optibody (Clone: BS94) with 1:200 dilution. All peripheral lymphocytes should be labelled and the germinal center should be negatively stained from tonsil sections. Only the few scattered T-cells should be stained (b, c). Mantle cell lymphoma stained strongly with membranous staining pattern.

CD3

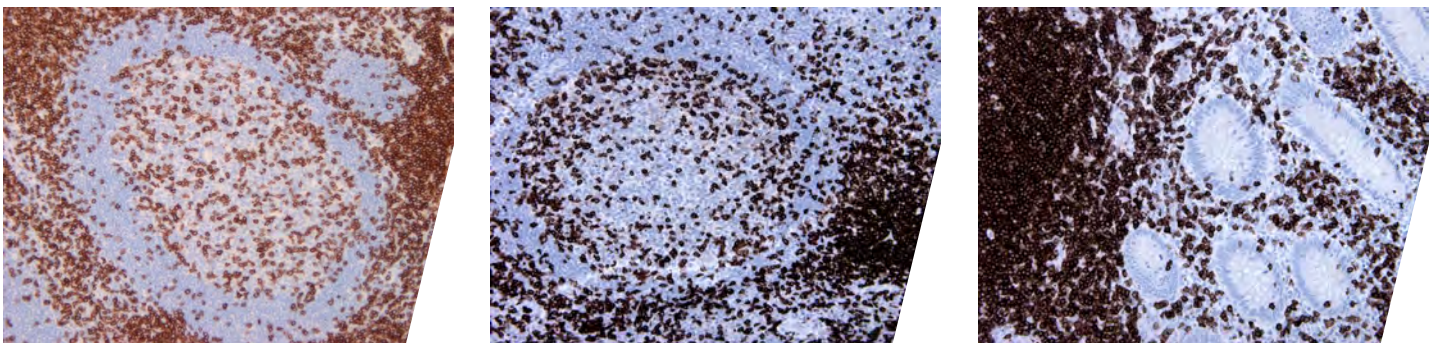
Cat#: BSH-7370-100 100ul, BSH-73 | 1ml, BSH-7370-RTU 7ml

Clone: BS103

S/R: human

Application: IHC

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.



CD3 stained tissue sections. Tonsil (a) has been stained without copper sulfate DAB modification and (b) has been stained with CuSO4. CD3 optibody (Clone: BS103) used with 1:300 dilution. All T-lymphocytes should be labelled and scattered T-cells should be stained from germinal center (a, b). T-cells and intraepithelial T-cells stained strongly from appendix section (c).

CD10/Calla

Cat#: BSH-7021-100 100ul, BSH-7021-1 1ml, BSH-7021-RTU 7ml

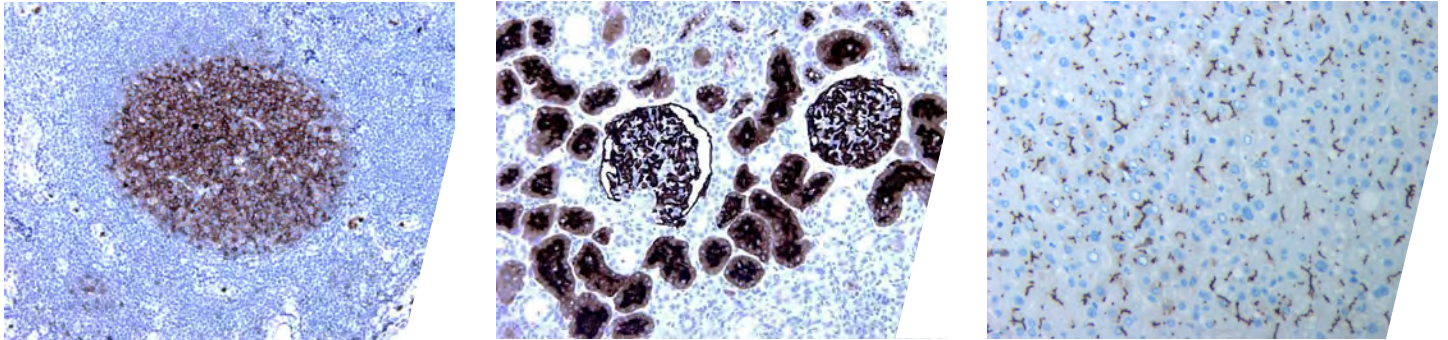
Clone: BS1

S/R: human

Application: IHC

Control tissue: 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 stained tissue sections. Germinal center of tonsil is the most reliable control of the cd10. CD10 optibody (Clone: BS1) shows very intensive staining of the germinal center cells (b-cells) of tonsil (a) using 1:400 dilution. Kidney also stained very intensively (b). Bile canaliculi of liver stained strongly (c).

CD14

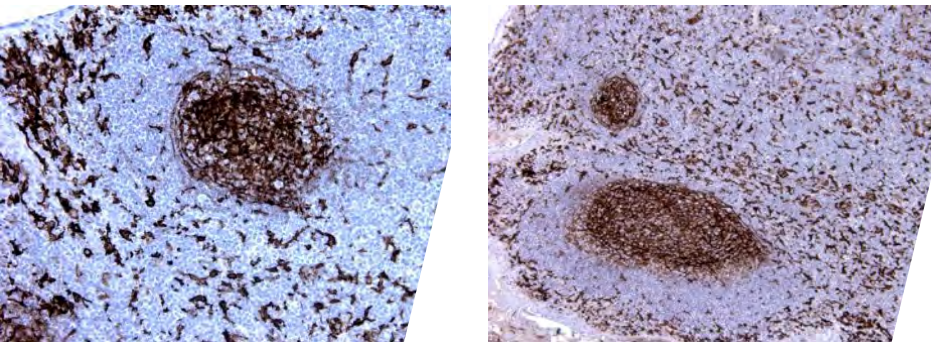
Cat#: BSH-7019-100 100ul, BSH-7019-1 1ml, BSH-7019-RTU 7ml

Clone: BS9

S/R: human

Application: IHC

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 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 stained tissue sections. Image (a) appendix and (c) tonsil sections have been stained using CD14 optibody (Clone: BS9) with 1:200 dilution. Strong membranous/cytoplasmic staining observed from macrophages and follicular dendritic cells.

CD31/PECAM1

Cat#: BSH-7112-100 100ul, BSH-7112-1 1ml, BSH-7112-RTU 7ml

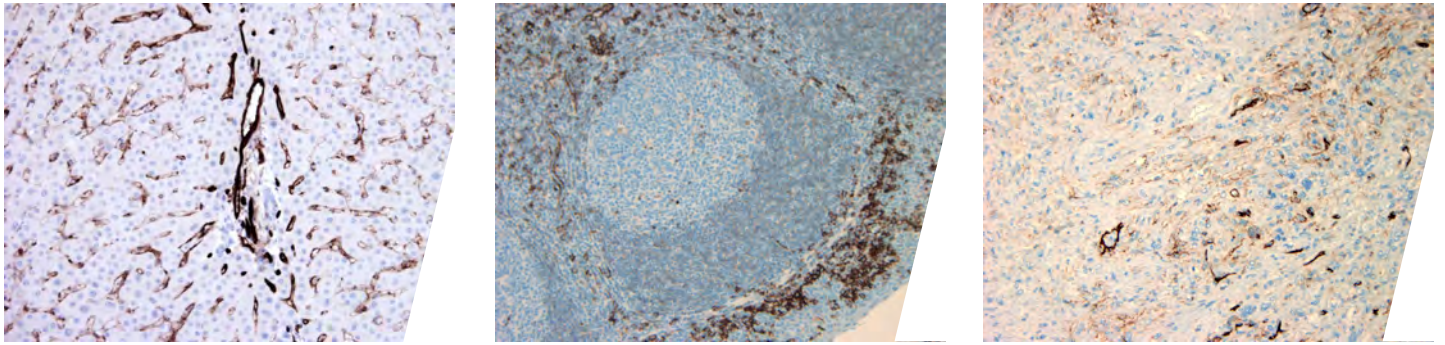
Clone: BS50

S/R: human

Application: IHC

Control tissue: tonsil, liver and appendix

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. CD31 has been used to measure angiogenesis in association with tumor recurrence. Other studies have also indicated that CD31 and CD34 can be used as markers for myeloid progenitor cells and recognize different subsets of myeloid leukemia infiltrates (granular sarcomas).



CD31 stained tissue sections. Liver sections have been satined (a) and endothelia of liver sinusoids stained strongly (a) using CD31 optibody (Clone: BS50) and 1:150 dilution. Marginal zone of the germinal center is good control of the CD31 (b). CD31 stained angiosarcoma (c) and appendix section.

CD38

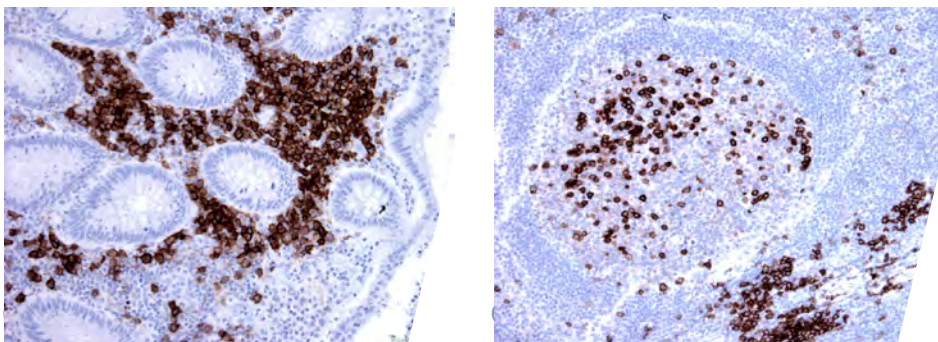
Cat#: BSH-7347-100 100ul, BSH-7347-1 1ml, BSH-7347-RTU 7ml

Clone: BS3

S/R: human

Application: IHC

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. In addition to acting as a signaling receptor, CD38 is also an enzyme capable of producing several calcium-mobilizing metabolites, including cyclic adenosine diphosphate ribose (cADPR). 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 stained tissue sections. Image (a) appendix and (b) tonsil sections 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. Antibody offers excellent signal to noise ratio.

CD105/Endoglin

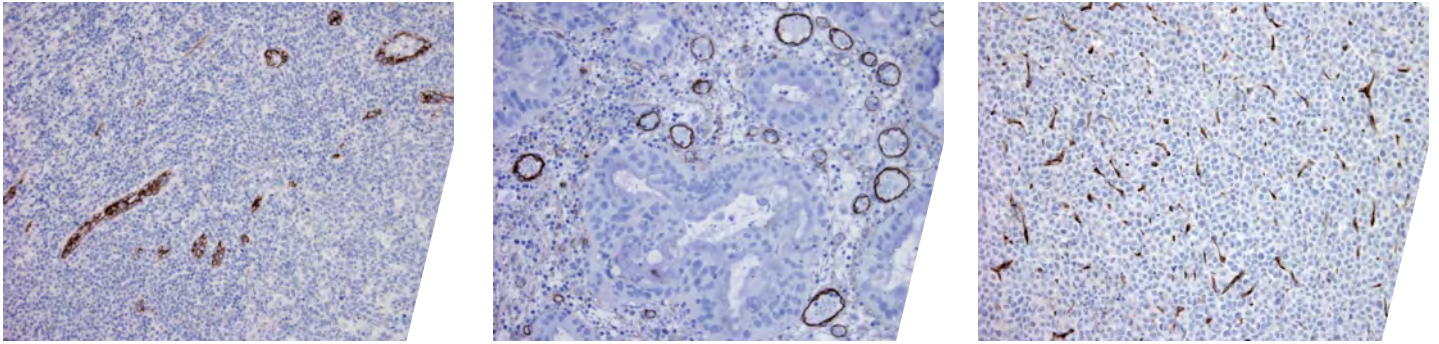
Cat#: BSH-7631-100 100ul, BSH-7631-1 1ml, BSH-7631-RTU 7ml

Clone: BS71

S/R: human

Application: IHC

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.



CD105/endoglin stained tissue sections. Image (a) tonsil, (b) urinary bladder carcinoma and (c) ductal breast carcinoma sections have been stained using CD105/endoglin optibody (Clone: BS71) with 1:200 dilution. Excellent signal to noise ratio in vascular endothelia of tumor sections.

CEA

Cat#: BSH-7437-100 100ul, BSH-7437-1 1ml, BSH-7437-RTU 7ml

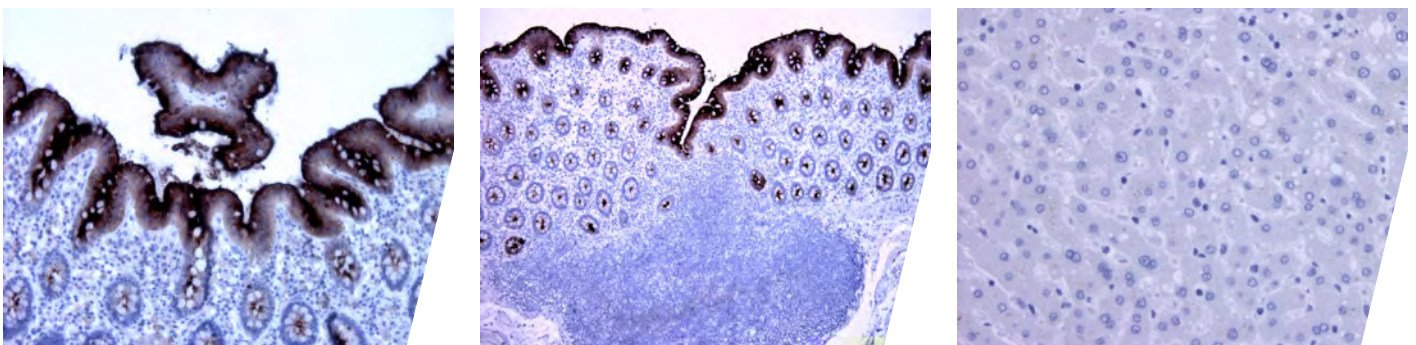
Clone: BS33

S/R: human

Application: IHC

Tissue control: 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. Tissue specificity: Found in adenocarcinomas of endodermally derived digestive system epithelium and fetal colon.



CEA stained tissue sections. CEA optibody (Clone: BS33) staining with 1:250 dilution is intensive and specific (a, b, c) without staining of the liver bile ducts (negative control) (c). The signal to noise ratio is high. Luminal part of columnar epithelia stained strongly (appendix, b, c) and liver stained negatively (c). Colorectal cancer metastase in lymph node stained strongly with CEA optibody.

CK5 (CK-HMW)

Cat#: BSH-7123-100 100ul, BSH-7123-1 1ml, BSH-7123-RTU 7ml

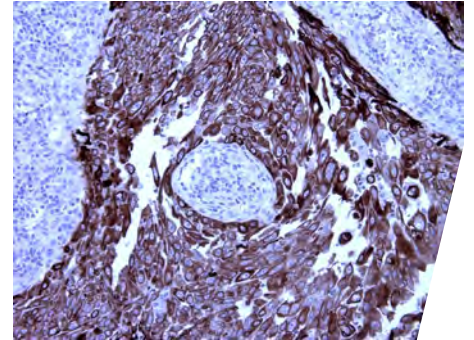
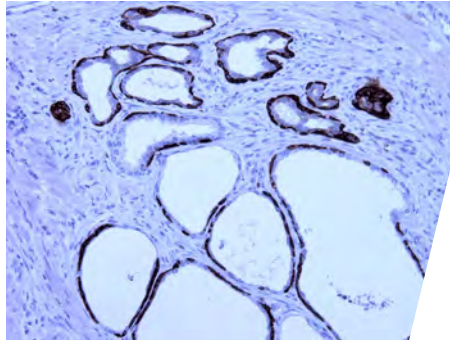
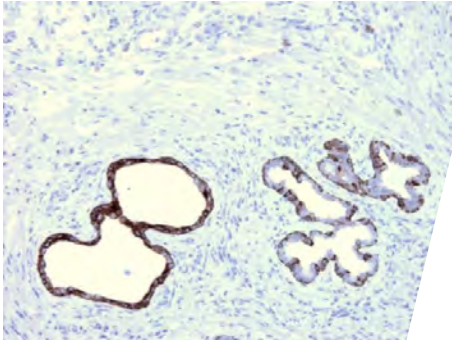
Clone: BS42

S/R: human

Application: IHC

Tissue control: Esophagus, prostate

CK5 (keratin 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. Mutations of the Cytokeratin5 gene (KRT5) have been shown to result in the autosomal dominant disorder epidermolysis bullosa (EB). Defects in KRT5 are a cause of epidermolysis bullosa simplex.



CK5 stained tissue sections. CK5 antibody (Clone: BS42) offers great signal to noise ratio using with 1:200 dilution and prostate basal cells stained strongly (a and b) and lung squamous cell carcinoma stained intensively.

CK17

Cat#: BSH-7311-100 100ul, BSH-7311-1 1ml, BSH-7311-RTU 7ml

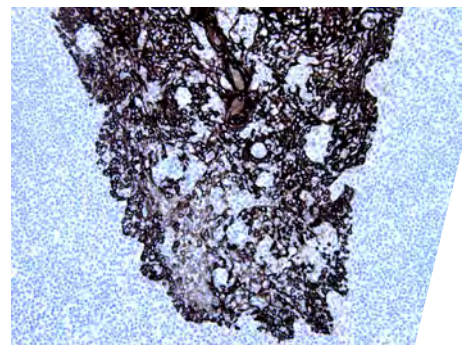
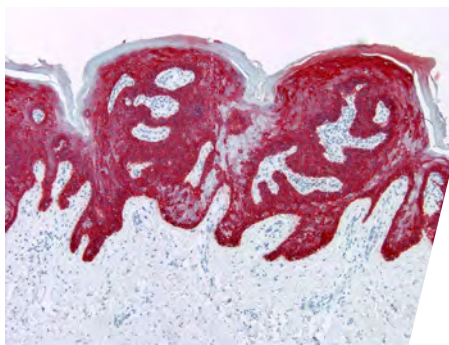
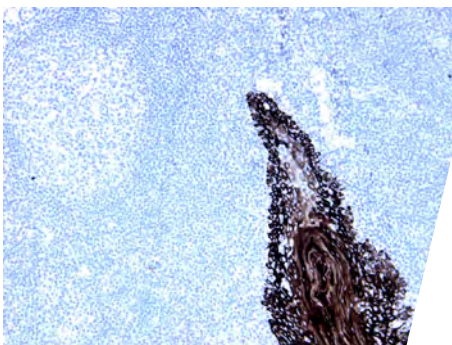
Clone: BS77

S/R: human

Application: IHC

Tissue control: Skin, tonsil

CK17, also known as KRT17, 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 pachyonychia 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. Required for the correct growth of hair follicles, in particular for the persistence of the anagen (growth) state. Modulates the function of TNF-alpha in the specific context of hair cycling. Regulates protein synthesis and epithelial cell growth through binding to the adapter protein SFN and by stimulating Akt/mTOR pathway. Involved in tissue repair.



CK17 (Clone: BS55) stained tissue sections with 1:200 dilution. Epithelia of tonsil (a and c) are stained intensively using high contrast dab. Epidermis of the skin stained with permanent red (b).

CK18 (CK-LMW)

Cat#: BSH-7235-100 100ul, BSH-7235-1 1ml, BSH-7235-RTU 7ml

Clone: BS83

S/R: human

Application: IHC

Tissue control: liver, appendix

Cytokeratin 18, also known as CK18, CYK18, KRT18. Entrez Protein NP_000215. It 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 (Clone: BS83) stained tissue sections with 1:250 dilution. CK18 shows similar staining pattern as optimal staining criteria (a). Columnar epithelium of appendix is strongly stained without any background staining (b). Ductal breast carcinoma cells and neuro endocrine carcinoma of colon (c) stained strongly.

CK19

Cat#: BSH-7240-100 100ul, BSH-7240-1 1ml, BSH-7240-RTU 7ml

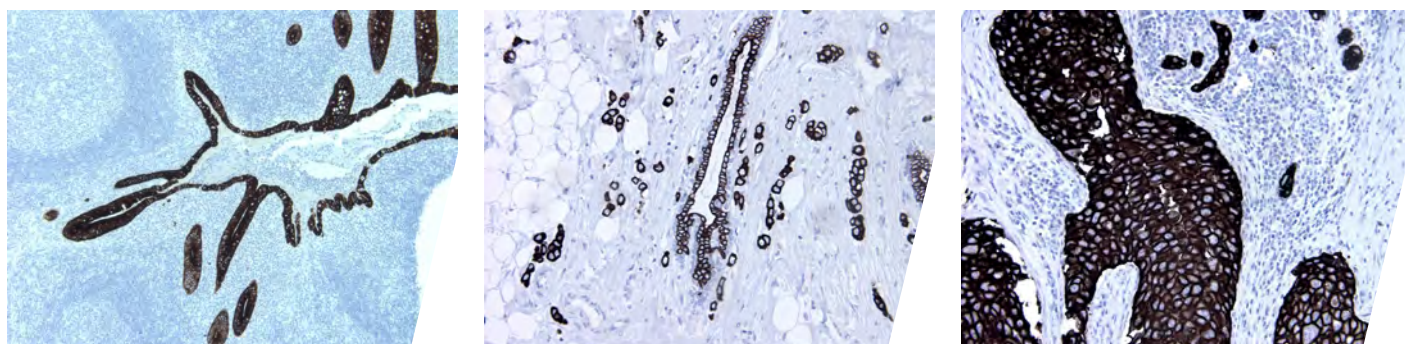
Clone: BS23

S/R: human, dog

Application: IHC

Tissue control: Liver, appendix, breast cancer

Cytokeratin 19, also known as KRT19, CK19, CK19, K1CS, MGC15366. Entrez Protein NP_002267. It 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 stained tissue sections. CK19 Optibody (Clone: BS23) shows similar and more intensity staining pattern as the optimal staining criteria and columnar epithelia of appendix is strongly stained without any background staining (a). CK19 shows breast lobular carcinoma cells as well as ductal breast carcinoma cells clearly (b and c). Only epithelia of bile ducts are stained in liver tissue section.

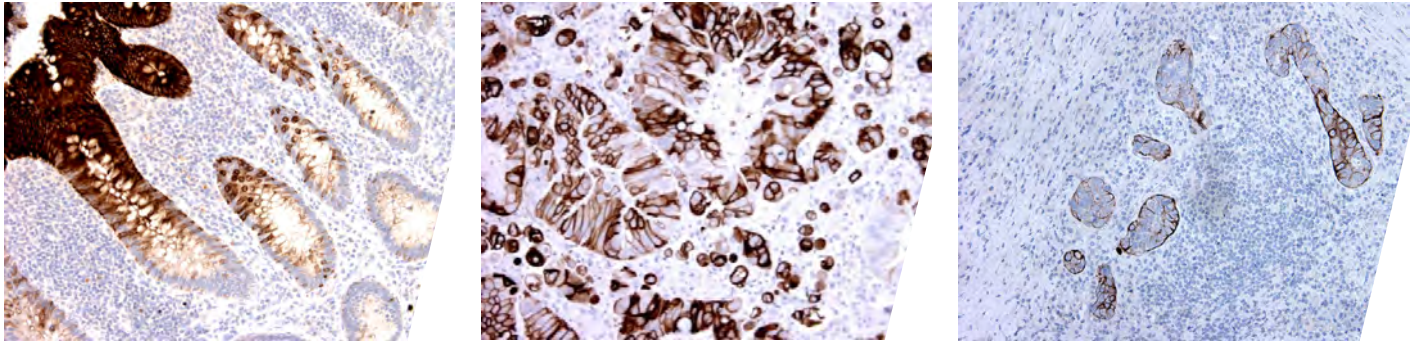
CK20

Cat#: BSH-2000-100 0,1ml

Clone: BS101

S/R: human

Application: IHC



CK20 stained tissue sections. CK20 Optibody (Clone: BS101) shows similar staining pattern as optimal staining criteria (a). Columnar epithelia of appendix is strongly stained without any background staining (a) Urinary bladder carcinoma (b), and colorectal carcinoma metastase in lymphnode (c) were stained with CK20 (Clone: BS101) optibody using 1:250 dilution and pH9 tris-EDTA pretreatment. Carcinoma cells have strong and intensive signal as well as columnar epithelia of appendix in luminal part.

Pan Cytokeratin

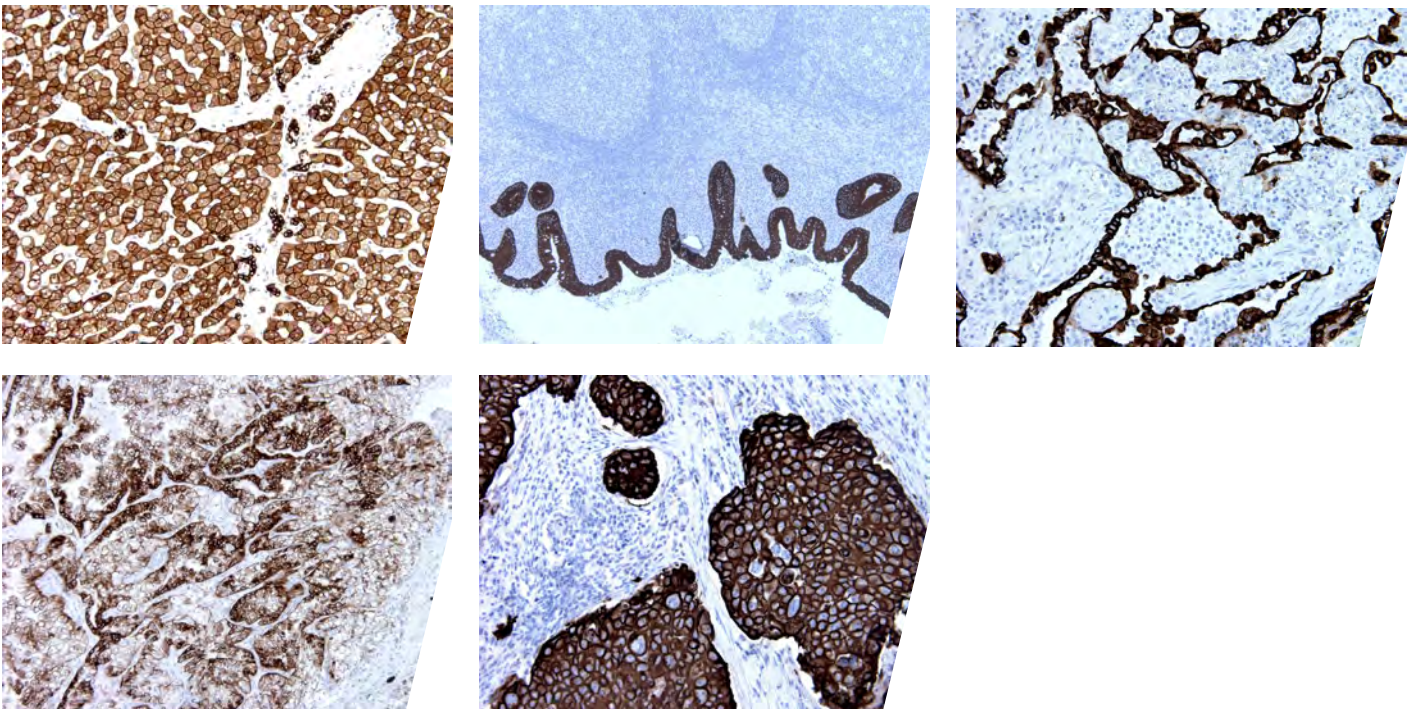
Cat#: BSH-7124-100 100ul, BSH-7124-1 1ml, BSH-7124-RTU 7ml

Clone: BS5

S/R: human, dog, rat

Application: IHC, IF

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. Cytokeratins comprise a diverse group of intermediate filament proteins (IFPs) that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. 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 stained tissue sections. CKpan Optibody (Clone: BS5) with 1:200 dilution offers similar membranous staining pattern of the hepatocytes and bile ducts as the optimal staining criteria (a). Columnar epithelium of appendix is strongly stained without any background staining (b). CKpan shows breast ductal breast carcinoma cells clearly and intensively (e) as well as lung adenocarcinoma cells (c). Optibody offers strong or moderate staining intensity in clear cell carcinoma of kidney (d).

Desmin

Cat#: BSH-7082-100 100ul, BSH-7082-1 1ml, BSH-7082-RTU 7ml

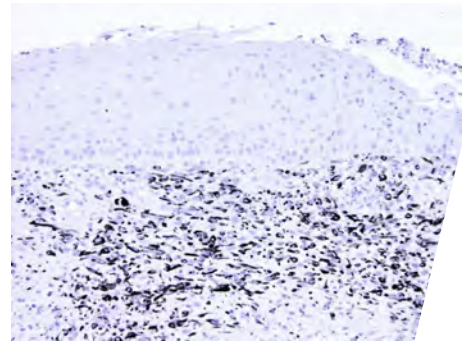
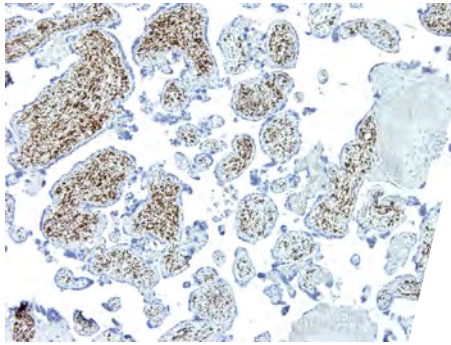
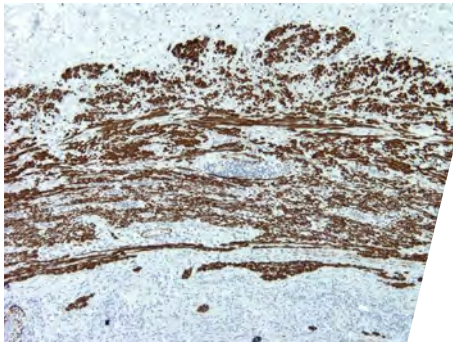
Clone: BS21

S/R: human, rat

Application: IHC

Tissue control: Appendix, 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 and Desmin is a load-bearing protein that stiffens the airways and consequently the lung and modulates airway contractile response.



Desmin stained tissue sections. Desmin Optibody (Clone: BS21) offers similar staining pattern. Also muscular layers of the small arteries are stained (a). Muscles of fetal part of placenta are strongly stained without any background staining (b). Rhabdomyosarcoma was stained strongly with Optibody (c).

ECAD

Cat#: BSH-7516-100 100ul, BSH-7516-1 1ml, BSH-7516-RTU 7ml

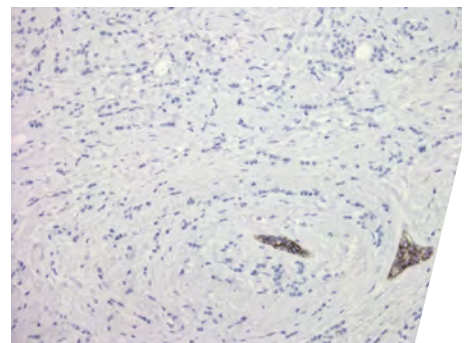
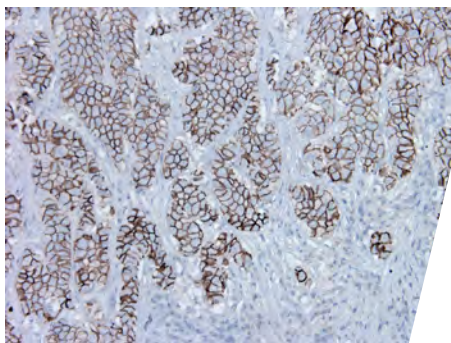
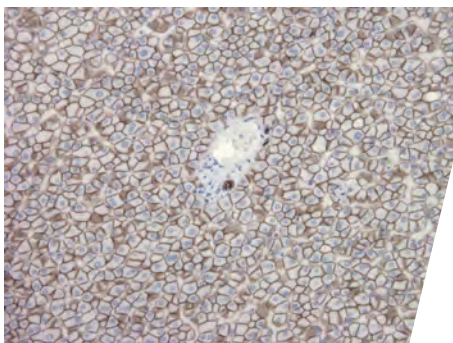
Clone: BS38

S/R: human, monkey, mouse

Application: IHC

Tissue control: Liver, breast ductal carcinoma, breast lobular carcinoma (negative)

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. In addition to being a calcium-dependent adhesion molecule, E-Cadherin is also a critical regulator of epithelial junction formation. Its association with catenins is necessary for cell-cell adhesion. These E-cadherin/catenin complexes associate with cortical actin bundles at both the zonula adherens and the lateral adhesion plaques. Tyrosine phosphorylation can disrupt these complexes, leading to changes in cell adhesion properties. 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. Tissue specificity: Non-neural epithelial tissues.



E-CAD stained tissue sections. E-CAD Optibody (Clone: BS38) with 1:250 dilution shows similar membranous staining pattern as the optimal staining criteria of NordiQC (a). E-CAD is used for differentiation diagnosis of ductal breast carcinoma (b) between lobular breast carcinoma (should be negatively stained) (d).

EPCAM (CD326)

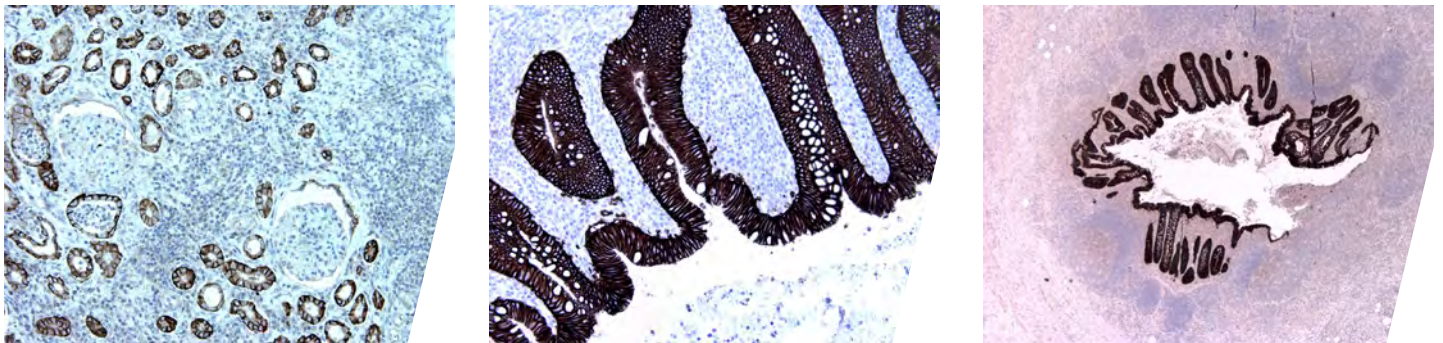
Cat#: BSH-7402-100 100ul, BSH-7402-1 1ml, BSH-7402-RTU 7ml

Clone: BS14

S/R: human

Application: IHC

This gene encodes a carcinoma-associated antigen and is a member of a family that includes at least two type I membrane proteins. This antigen is expressed on most normal epithelial cells and gastrointestinal carcinomas and functions as a homotypic calcium-independent cell adhesion molecule. The antigen is being used as a target for immunotherapy treatment of human carcinomas. Mutations in this gene result in congenital tufting enteropathy. Tissue specificity: This protein is expressed in almost all epithelial cell membranes but not on mesodermal or neural cell membranes. Found on the surface of adenocarcinomas. EPCAM: Epithelial Cell Adhesion Molecule (EpCAM) is a 40 kDa cell surface antigen. This antigen has been identified independently by a number of groups, and has been known by a variety of names. Several monoclonal antibodies have been raised against EpCAM, many of which have been described as tumour specific molecules on carcinomas. EpCAM is a Type 1 transmembrane glycoprotein. 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 tumour 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 stained tissue sections. EPCAM Optibody (Clone: BS14) with 1:200 dilution shows same staining pattern as the optimal staining criteria of NordiQC. Distal and collecting tubules are strongly stained and Bowman's capsule stained in weak to moderate pattern (a). Lieberkuhn crypts of appendix are stained intensively with membranous staining pattern (b, c).

GCG

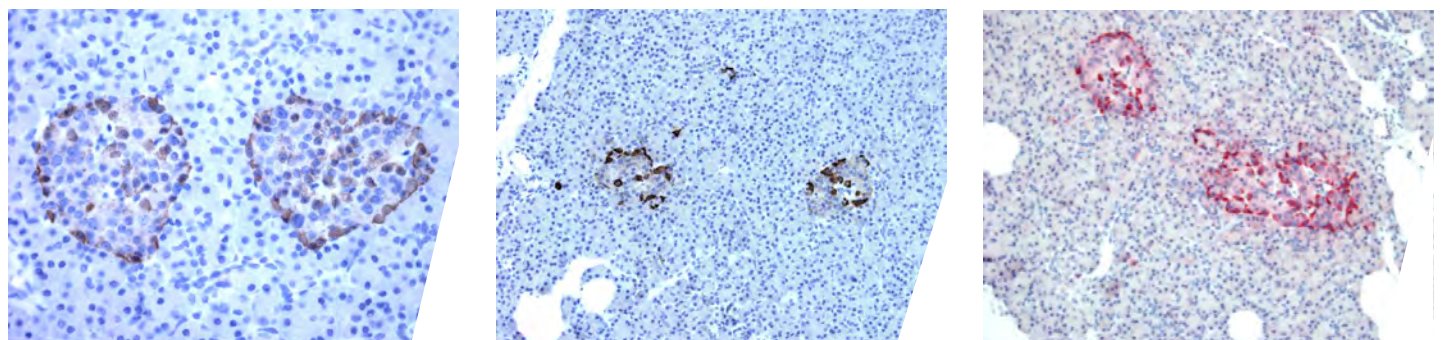
Cat#: BSH-7443-100 100ul, BSH-7443-1 1ml, BSH-7443-RTU 7ml

Clone: BS71

S/R: human

Application: IHC

The protein encoded by this gene is actually a preproprotein that is cleaved into four distinct mature peptides. One of these, 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 signalling 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. Tissue specificity: Glucagon is secreted in the A 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.

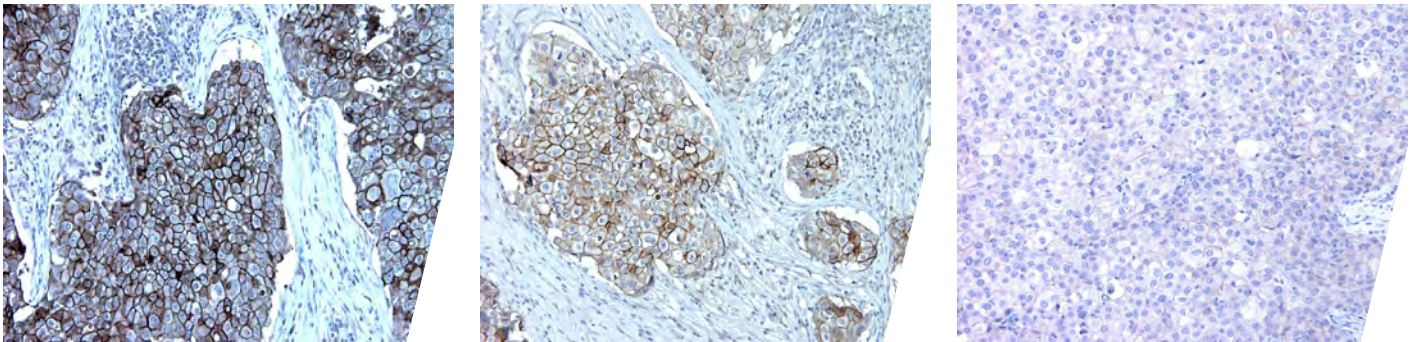


Glucagon stained tissue sections. Alpha cells of Langerhans islets secrete glucagon, which is detected using Glucagon Optibody (Clone: BS71). Alpha cells are common in the edges of islets (a, b, and c).

HER2

Cat#: BSH-7182-100 100ul, BSH-7182-1 1ml, BSH-7182-RTU 7ml
Clone: BS2
S/R: human
Application: IHC

ERBB2: v-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian). This gene encodes 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. Allelic variations at amino acid positions 654 and 655 of isoform a (positions 624 and 625 of isoform b) have been reported, with the most common allele, Ile654/Ile655, shown here. Amplification and/or overexpression of this gene has been reported in numerous cancers, including breast and ovarian tumors. Alternative splicing results in several additional transcript variants, some encoding different isoforms and others that have not been fully characterized

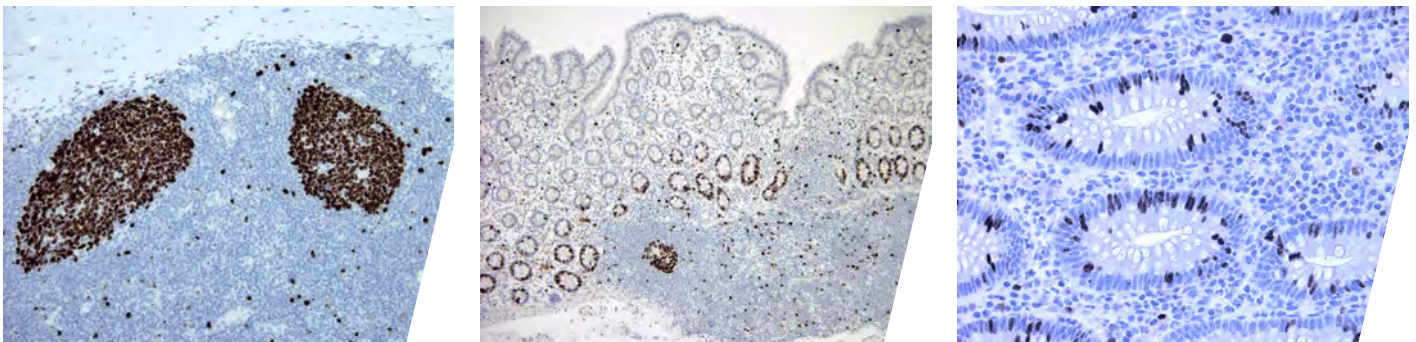


HER2 stained tissue sections. HER2 positive ductal breast carcinoma (strong) (a, b), HER2 positive ductal breast carcinoma (weak) (c) and HER2 negative ductal breast cancer.

Ki67

Cat#: BSH-7302-100 100ul, BSH-7302-1 1ml, BSH-7302-RTU 7ml
Clone: BS4
S/R: human
Application: IHC

Ki67, also known as MKI67, is a prototypic 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 antibodies 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). In neoplastic tissues the prognostic value is comparable to the tritiated thymidine labelling index. The correlation between low Ki67 index and histologically low grade tumours is strong. Ki67 is routinely used as a neuronal marker of cell cycling and proliferation

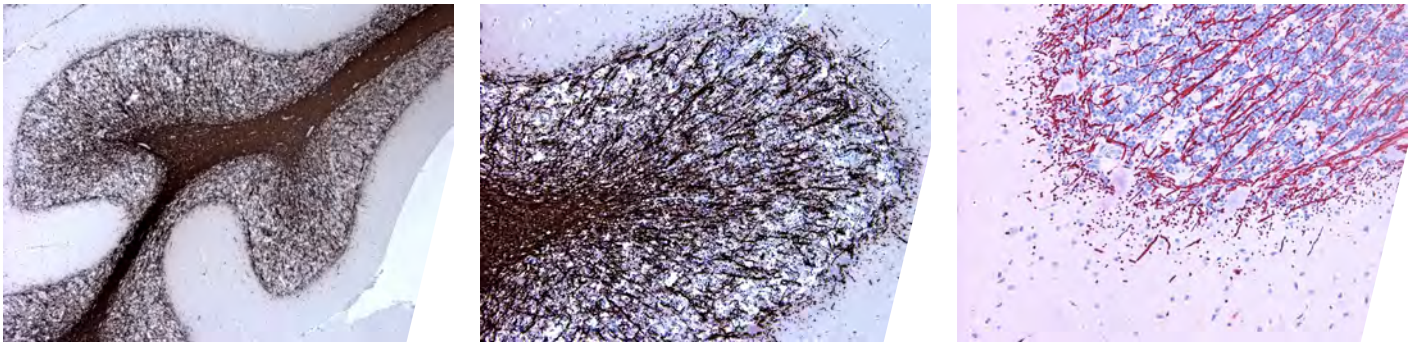


Ki67 stained tissue sections. Ki67 Optibody (Clone: BS4) with 1:200 dilution shows same staining pattern as the optimal staining criteria of NordiQC (a). Ductal breast carcinoma shows proliferation and intensive nuclear staining pattern. Lieberkuhn crypts of colon are stained intensively with nuclear staining pattern (b, c).

MBP

Cat#: BSH-7697-100 100ul, BSH-7697-1 1ml, BSH-7697-RTU 7ml
Clone: BS188
S/R: human
Application: IHC

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. These mRNAs arise from the long MBP gene (otherwise called "Golli-MBP") that contains 3 additional exons located upstream of the classic MBP exons. Alternative splicing from the Golli and the MBP transcription start sites gives rise to 2 sets of MBP-related transcripts and gene products. The Golli mRNAs contain 3 exons unique to Golli-MBP, spliced in-frame to 1 or more MBP exons. They encode hybrid proteins that have N-terminal Golli aa 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.

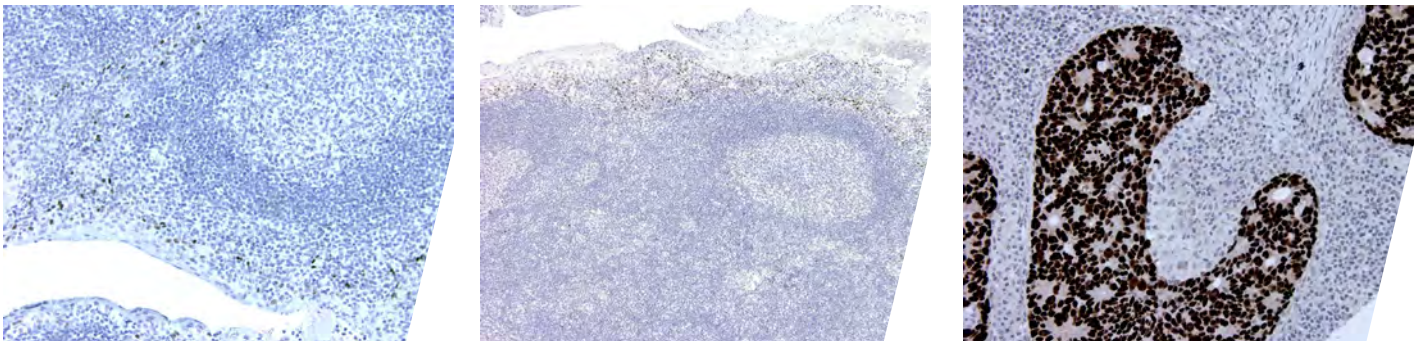


Myelin based protein stained tissue sections. Human brain tissue sections (cerebellum) (a, b and c) were stained using MBP optibody (Clone: BS188) with 1:200 dilution. MBP stains myelin and it was detected using DAB (a, b) and permanent red (c). MBP optibody stains also rat myelin. Rat spinal cord stained strongly.

p53

Cat#: BSH-7287-100 100ul, BSH-7287-1 1ml, BSH-7287-RTU 7ml
Clone: BS12
S/R: human
Application: IHC

p53 responds to diverse cellular stresses to regulate target genes that induce cell cycle arrest, apoptosis, senescence, DNA repair, or changes in metabolism. 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. p53 is a DNA-binding protein containing transcription activation, DNA-binding, and oligomerization domains. It is postulated to bind to a p53-binding site and activate expression of downstream genes that inhibit growth and/or invasion, and thus function as a tumor suppressor. 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. Alterations of this gene occur not only as somatic mutations in human malignancies, but also as germline mutations in some cancer-prone families with Li-Fraumeni syndrome. Multiple p53 variants due to alternative promoters and multiple alternative splicing have been found. These variants encode distinct isoforms, which can regulate p53 transcriptional activity.



P53 stained tissue sections. P53 Optibody (Clone: BS12) with 1:200 dilution shows same staining pattern as the optimal staining criteria of NrdiQC (a, b). Metastatic p53 positive colorectal carcinoma stained intensively using P53 optibody (c).

p63a

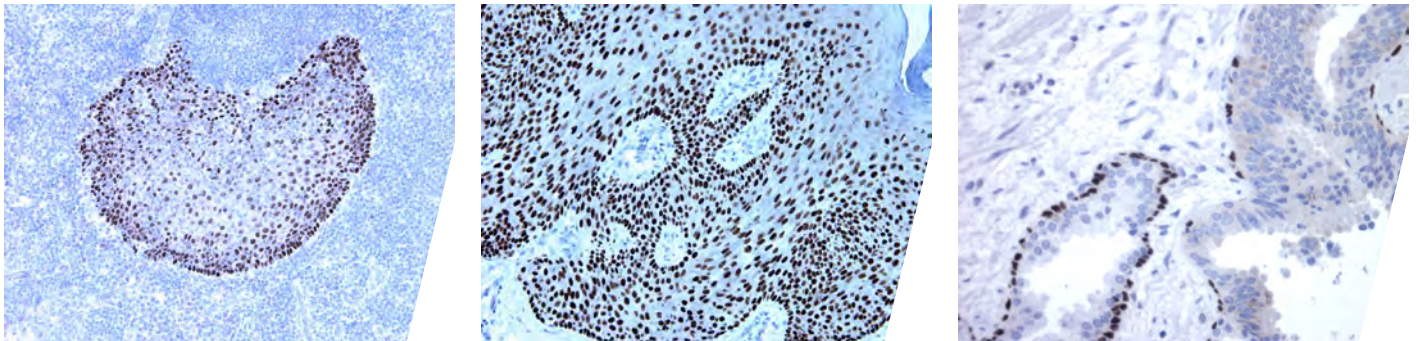
Cat#: BSH-7449-100 100ul, BSH-7449-1 1ml, BSH-7449-RTU 7ml

Clone: BS63

S/R: human

Application: IHC

The p63 gene is a homologue of the p53 tumor suppressor gene. Like p53, p63 contains a transactivation (TA) domain induce the transcription of target genes, a DNA binding domain, and an oligomerization domain (OD), used to form tetramers. In contrast to p53, the p63 gene encodes for at least six major isoforms. Three isoforms (TAp63 α , TAp63 β , and TAp63 γ) contain the transactivating (TA) domain and are able to transactivate p53 report genes and induce apoptosis. In contrast, the other three isoforms (Δ Np63 α , Δ Np63 β , Δ Np63 γ) are transcribed from an internal promoter localized within intron3, lack the TA domain, and act as dominant-negatives to suppress transactivation by both p53 and TAp63 isoforms. p63 is highly expressed in the basal cells of the epithelium significant for proper limb outgrowth and morphogenesis.⁴ In differentiating tissues, p63 is crucial for maintaining the stem cell identity of the basal cells, and is indispensable for correct development of the skin as well as the limb. p63-deficient mice lack all squamous epithelia and their derivatives, including hair, whiskers, teeth, as well as mammary, lacrimal, and salivary glands. Tissue specificity: Widely expressed, notably in heart, kidney, placenta, prostate, skeletal muscle, testis and thymus, although the precise isoform varies according to tissue type. Progenitor cell layers of skin, breast, eye and prostate express high levels of Δ N-type isoforms. Isoform 10 is predominantly expressed in skin squamous cell carcinomas, but not in normal skin tissues.



P63 Optibody (Clone: BS63) with 1:250 dilution shows same staining pattern as the optimal staining criteria of NordiQC (a). Basal cells of prostate glands shown moderate to strong nuclear staining. Epidermis of the skin shows strong nuclear staining (b).

SMA

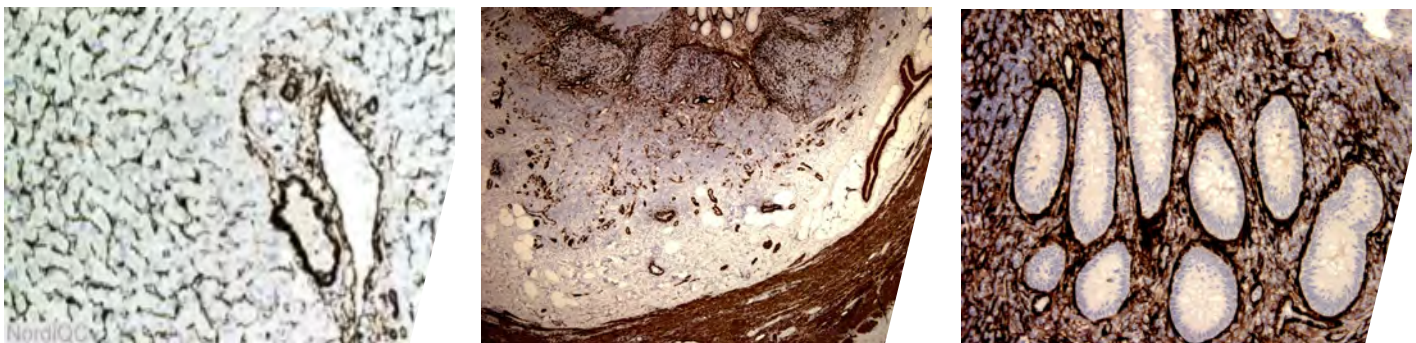
Cat#: BSH-7459-100 100ul, BSH-7459-1 1ml, BSH-7459-RTU 7ml

Clone: BS66

S/R: human

Application: IHC

The protein encoded by this 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 actin is an alpha actin that is found in skeletal muscle. Defects in this gene cause aortic aneurysm familial thoracic type 6. Multiple alternatively spliced variants, encoding the same protein, have been identified. [provided by RefSeq]



SMA Optibody (Clone: BS66) with 1:200 dilution shows same staining pattern as the optimal staining criteria of NordiQC. Smooth muscle cells in the portal area and perisinusoidal cells are stained strongly (a). Appendix stained moderate to strong cytoplasmic staining (b, c).

Synaptophysin

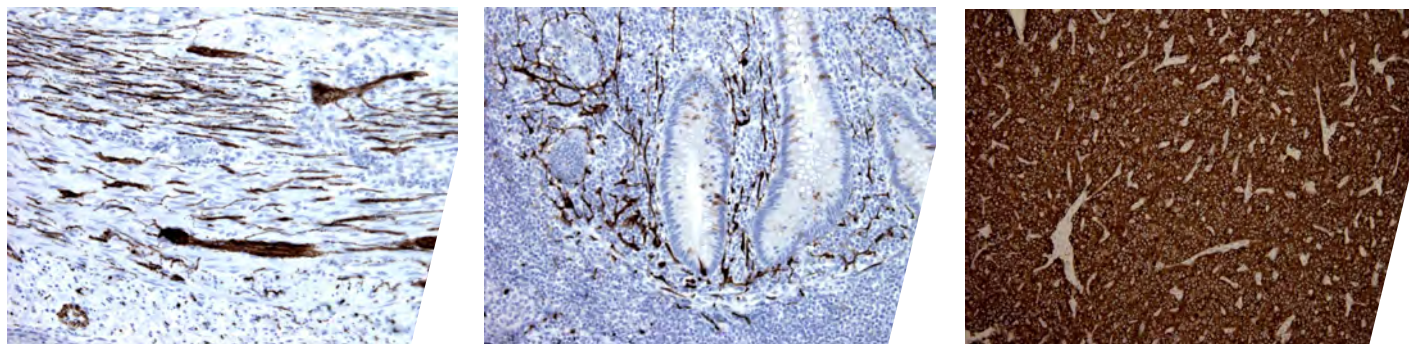
Cat#: BSH-7385-100 100ul, BSH-7385-1 1ml, BSH-7385-RTU 7ml

Clone: BS15

S/R: human, rat

Application: IHC

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 Optibody (Clone: BS15) with 1:300 dilution shows same staining pattern as the optimal staining criteria of NordiQC. Ganglion cells and neuronal axons stained strongly (a, b). Neuroendocrine tumor stained intensively (c).

Vimentin

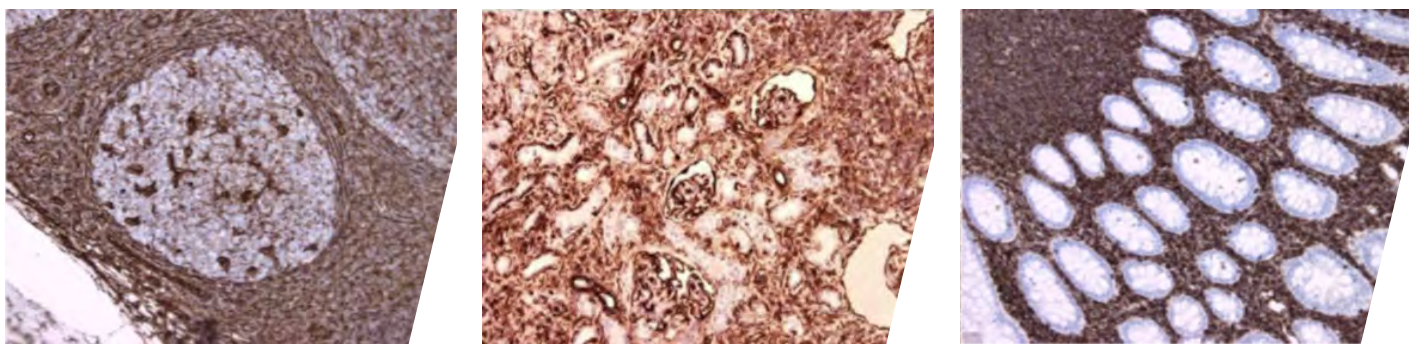
Cat#: BSH-7100-100 100ul, BSH-7100-1 1ml, BSH-7100-RTU 7ml

Clone: BS13

S/R: human

Application: IHC

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. Vimentin phosphorylation by a protein kinase causes the breakdown of intermediate filaments and activation of an ATP and myosin light chain dependent contractile event. This results in cytoskeletal changes that facilitate the interaction of the lipid droplets within mitochondria, and subsequent transport of cholesterol to the organelles leading to an increase in steroid synthesis. 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, S100, desmin and neurofilaments.



Vimentin Optibody (Clone: BS14) with 1:200 dilution shows same staining pattern as the optimal staining criteria of NordiQC (a). Mesenchymal origin cells from kidney and appendix sections stained intensively (b and c).