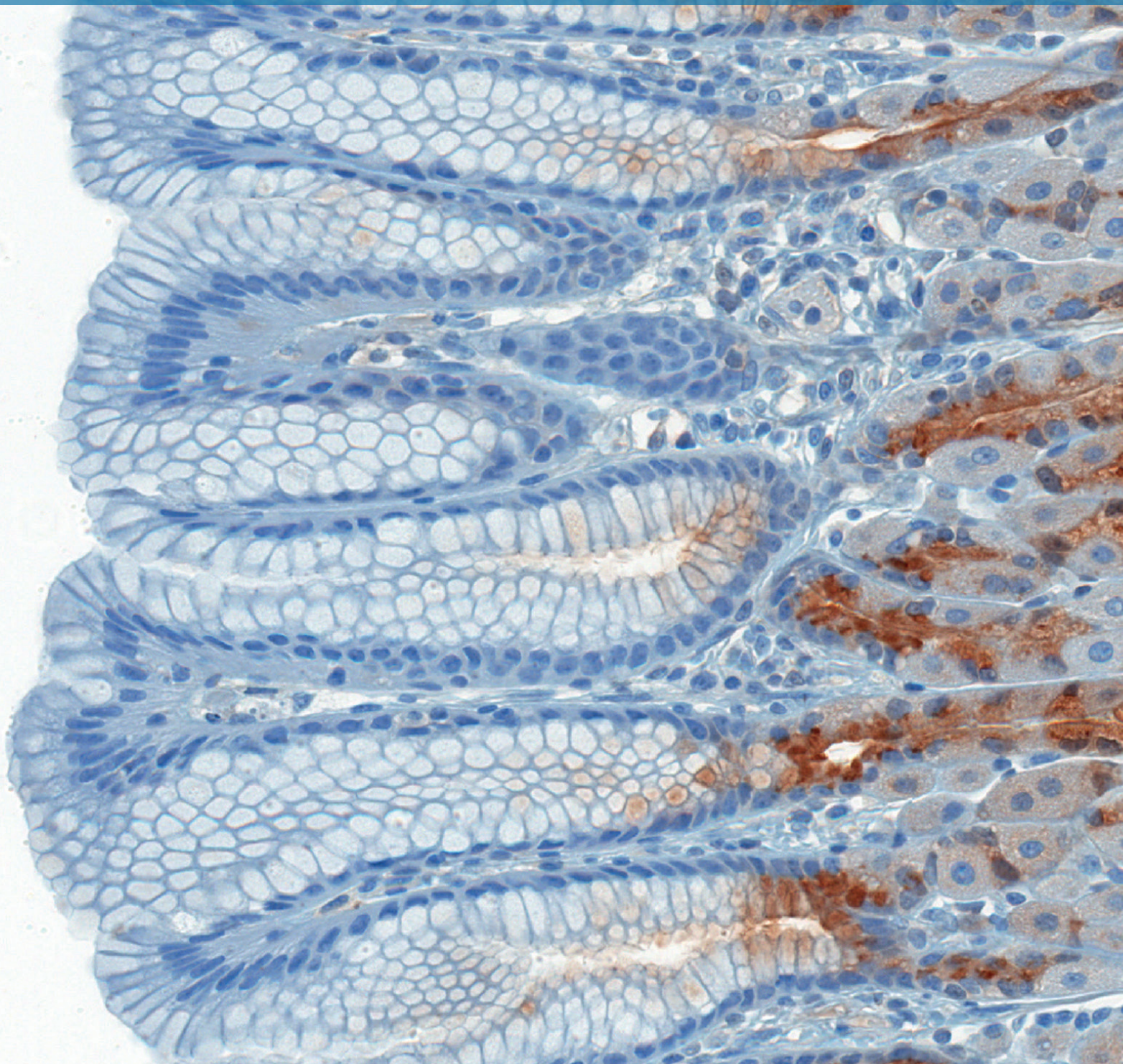


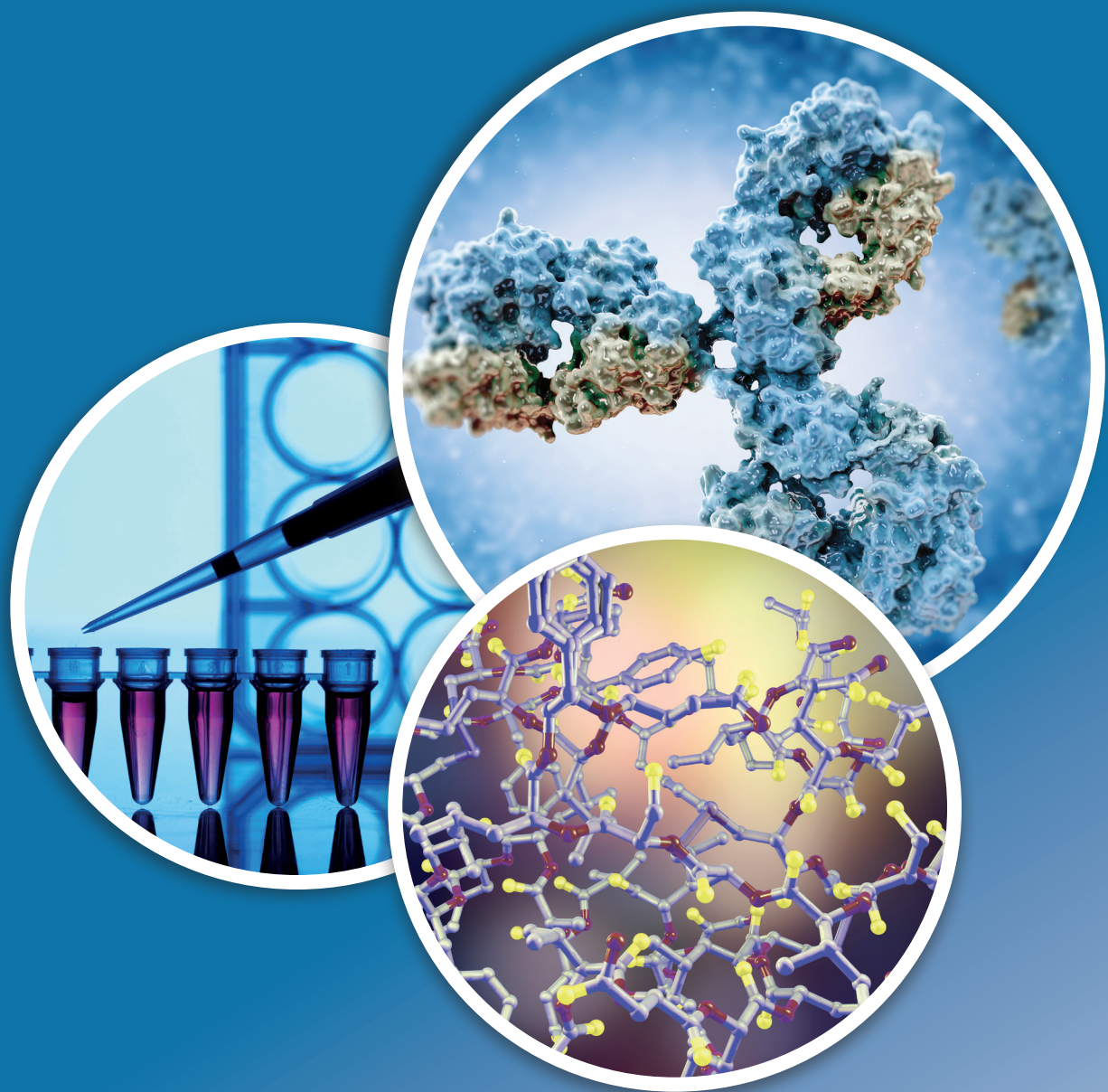
# BIOZOL

FIT FOR SCIENCE

*IMMUNOHISTOCHEMISTRY*



***BRINGING QUALITY & EFFICIENCY TO RESEARCH***





## Your Partner for Immunohistochemistry

**Biozol Diagnostica Vertrieb GmbH are proud to have been providing products and services within the life science arena since 1989. We always aspire to give our customers the fastest response times and high standards of customer service.**

Immunohistochemistry (IHC) is a powerful technique enabling the visual localisation of proteins within a section of tissue. Thinly sliced tissue sections are preserved and treated with antibody against a target of interest. This antibody and hence the protein of interest is visualized within the section via a fluorescent or enzyme/chromagen label.

The most common tissue preservation techniques involve paraffin embedding or cryogenic freezing, although sections can also be free-floating. Different tissue preparation methods require different downstream processing of sections, and antibody selection should be based on compatibility with this processing.

BIOZOL offers a wide array of reagents for histological labelling and detection, from antibodies to substrates, counterstains and mounting media. Our products support every step of your research.



## Research Antibodies for Immunohistochemistry

Immunohistochemistry (IHC) is the most widely used technique in histopathological diagnosis and research for the detection of proteins in tissues.

### The world's largest catalog of IHC validated research antibodies

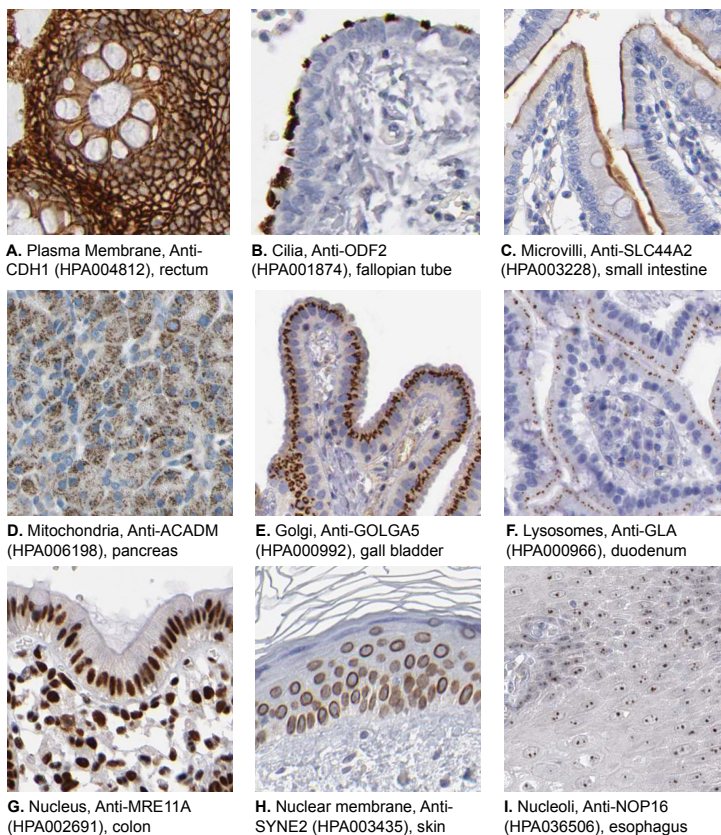
Atlas Antibodies is the original manufacturer of over 17,500 IHC validated primary antibodies for your research. In our catalog you will find IHC antibodies against 75% of the human proteome. Our antibodies are validated in IHC using Tissue Microarrays (TMAs) on all major human normal tissues as well as on tissues from the 20 most common cancer types.

### We set the standard for antibody validation in IHC

Atlas Antibodies understand and support the need for extensively validated antibodies. On top of a standard validation, we apply enhanced validation based on the recommendations of the International Working Group of Antibody Validation (IWGAV).

### You can trust lot-to-lot reproducibility in IHC

Reproducibility is crucial for antibodies to ensure that analyses and assays can be repeated both over time and by other researchers giving the same results. At Atlas Antibodies we know our antibodies. To ensure functionality and assay reproducibility, all new production lots are tested in parallel to existing lots in a large number of tissues.



**Figure 1.**

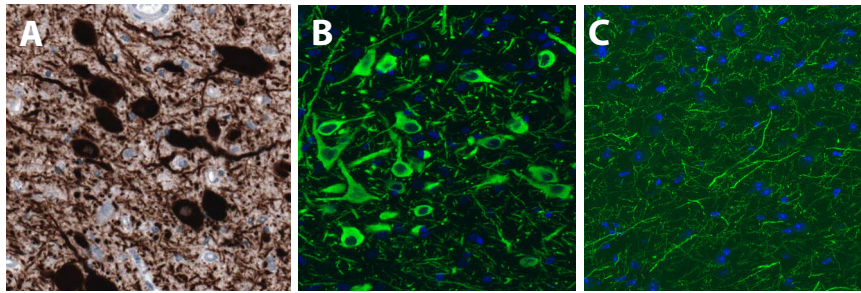
Immunohistochemistry can localize proteins at a subcellular level: (A-C) IHC stainings of proteins expressed in cell membrane, (D-F) IHC stainings of proteins expressed in different cytoplasmic compartment, (G-I) IHC stainings of proteins expressed in different nuclear structures. Target antigen is expressed by brown color.



**Triple A Polyclonals** are rabbit polyclonal primary antibodies developed within the Human Protein Atlas project. IHC characterization data from 44 normal tissues and 20 cancers is available on the Human Protein Atlas portal.








**PrecisA Monoclonals** are mouse monoclonal primary antibodies developed against a number of carefully selected targets. Clones are selected to recognize only unique non-overlapping epitopes and isotypes.



**Figure 2.** IHC staining with Anti-TPH2 antibody AMAb91108 shows strong positivity in the serotonin neurons of the human dorsal raphe (A), rat dorsal raphe (IHC-IF, B), as well as in the serotonergic processes in the mouse basal forebrain (IHC-IF, C).

## Enhanced Antibody Validation

To further demonstrate specificity, we apply enhanced validation according to the five IWGAV validation pillars. Enhanced validation offers increased security of antibody specificity in a defined context. This is ensured by using the most relevant validation method for each combination of protein, sample and application.

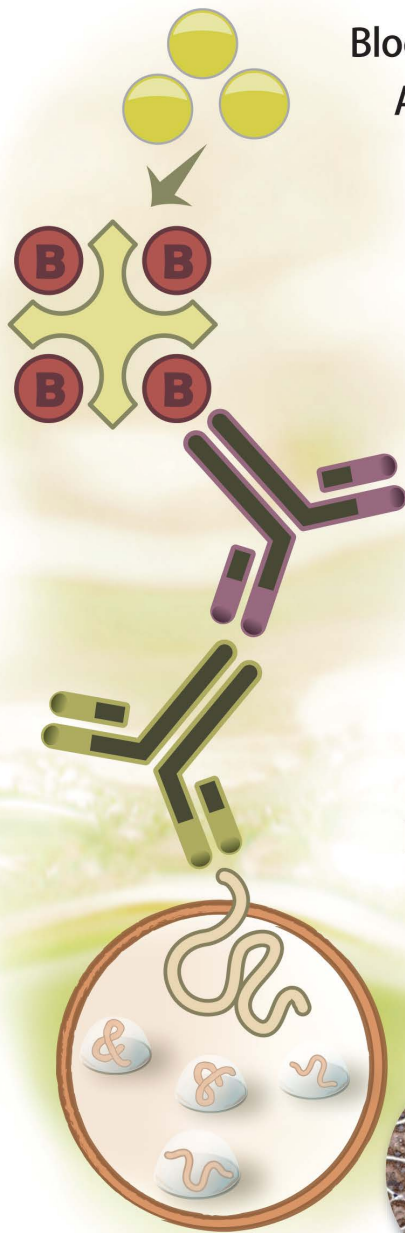
				
<b>Genetic Validation</b>	<b>Orthogonal Validation</b>	<b>Independent Validation</b>	<b>Recombinant Expression</b>	<b>Migration Capture MS Validation</b>
Target confirmed by siRNA knockdown.	Specificity confirmed by a non-antibody based method.	Specificity confirmed by another antibody targeting a different epitope.	Target confirmed by an overexpressed or tagged version of the protein.	Presence of target verified by Mass Spectrometry.

## The Human Protein Atlas

The Human Protein Atlas ([www.proteinatlas.org](http://www.proteinatlas.org)) consists of three separate parts each using a particular approach to study the spatial distribution of human proteins:

- The Tissue Atlas shows the distribution of the proteins across all major human tissues and organs based on samples obtained from 144 different individuals.
- The Cell Atlas shows the subcellular localization of proteins at single cells resolution.
- The Pathology Atlas shows the impact of protein levels for survival of patients with cancer based on samples derived from 216 unique human tumors.

In the Human Protein Atlas project, Triple A Polyclonal antibodies have been designed to analyze all human proteins using IHC and TMAs. All resulting tissue and cell images are publicly available on the Human Protein Atlas web portal. Each antibody is supported with more than 500 high resolution IHC images from human tissue samples: 44 different human normal tissue types and 20 different types of cancer.



## Blocking serum

ABC reagent

Substrate

# 1

- Wrong species of blocking serum is used?
- Tissue binds to ABC reagent directly?
- The substrate reacts with endogenous enzyme directly?

## Secondary Antibody

Blocking serum

ABC reagent

Substrate

# 2

- Non-specific binding of secondary antibody?
- Secondary antibody cross-reactivity?

## Primary Antibody

Secondary Antibody

Blocking serum

ABC reagent

Substrate

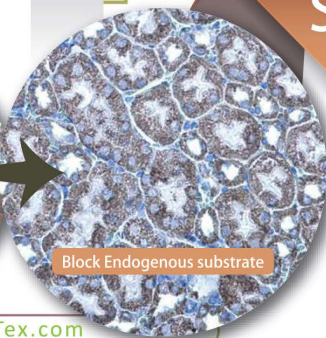
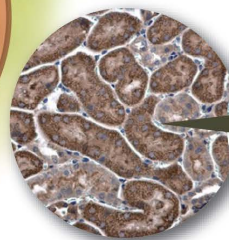
# 3

- Excessive amount of primary antibody is added?
- Non-specific binding of primary antibody?
- Primary antibody precipitates in the solution?

## Sample preparation

# 4

- Sections dried out?
- Poor fixation?



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Results

[www.GeneTex.com](http://www.GeneTex.com)

## Antigen Retrieval

### Heat-Induced Epitope Retrieval (HIER)

Citation Support KO/KD Validation Orthogonal Validation

Product name	Application	Cat. No.
Citrate buffer, 10X pH 6.0	IHC-P	GTX30936
EDTA buffer, 10X pH 8.0	IHC-P	GTX30937
Antigen retrieval solution, 10X pH 10.0	IHC-P	GTX30709

### Protease-Induced Epitope Retrieval (PIER)

Product name	Application	Cat. No.
Trypsin Antigen Retrieval Kit - for cytosolic antigen	IHC-P	GTX30934
Pepsin Reagent (ready to use) - for ECM antigen	IHC-P	GTX30935
Pronase reagent	IHC-P	GTX73181
Antigen Retrieval Tablets	IHC, IHC-P	GTX28212

# Signal Amplification

## Polymer HRP Detection System



Product name	Application	Cat. No.
OneStep Polymer HRP anti-mouse/rat Detection System (Ready-to-Use)	IHC, WB	GTX83400
OneStep Polymer HRP anti-rabbit Detection System (Ready-to-Use)	IHC, WB	GTX83399
OneStep Polymer HRP anti-mouse/rat/rabbit	IHC, IHC-P, WB	GTX83398

## Biotin Blocker

Product name	Application	Cat. No.
Avidin/Biotin blocking kit	ICC/IF, IHC, WB	GTX30966
Streptavidin/Biotin blocking kit	ICC/IF, IHC, WB	GTX30965

## Labeled StreptAvidin Biotin (LSAB)

Product name	Application	Cat. No.
Streptavidin (HRP)	ELISA, IHC, WB	GTX85912
Streptavidin (AP)	ELISA, IHC, WB	GTX85909
Streptavidin (APC)	FACS, ICC/IF	GTX85908
Streptavidin (Cy3)	FACS, ICC/IF	GTX85902
Streptavidin (FITC)	FACS, ICC/IF	GTX85911
Streptavidin (Texas Red™)	FACS, ICC/IF	GTX85907
Streptavidin (PE)	FACS, ICC/IF	GTX85910

## Counterstain

Product name	Application	Cat. No.
Aqueous Hematoxylin	IHC, IHC-P	GTX73341
Nuclear Fast Red	IHC	GTX73309
Light Green counterstain	IHC	GTX73306
Methylene Blue counterstain	IHC	GTX73307

## Mounting

Product name	Application	Cat. No.
Clear Mount mounting medium-general purpose	H, IHC-Fr, IHC-P	GTX30703
FluoroGel mounting medium	ICC/IF, IHC, IHC-Fr, IHC-P	GTX28214
Fluoroshield™ with DAPI	ICC/IF, IHC, IHC-Fr	GTX30920
ImmunoHistoMount™	IHC	GTX30922
Immuno Mount™	IHC	GTX30928

# Preventing Non-Specific Staining

## Blocking Reagent



Product name	Application	Cat. No.
Universal Protein Blocking Reagent (animal serum free)	ELISA, ICC/IF, IHC, IHC-P, WB	GTX30963
Blocking Buffer, PBS with 1% BSA (10X)	ELISA, IHC, WB	GTX48881
Blocking Buffer, TBS with 1% BSA (10X)	ELISA, IHC, WB	GTX48882
Blocking Solution with Bovine Serum (ready to use)	ELISA, ICC/IF, IHC, WB	GTX30970
Blocking Solution with Chicken Serum (ready to use)	ELISA, ICC/IF, IHC, WB	GTX30971
Blocking Solution with Donkey Serum (ready to use)	ELISA, ICC/IF, IHC, WB	GTX30972
Blocking Solution with Goat Serum (ready to use)	ELISA, ICC/IF, IHC, WB	GTX30973
Blocking Solution with Horse Serum (ready to use)	ELISA, ICC/IF, IHC, WB	GTX30974
Blocking Solution with Rabbit Serum (ready to use)	ELISA, ICC/IF, IHC, WB	GTX30975
Blocking Solution with Fish Serum (ready to use)	ICC/IF, IHC, WB	GTX85478

## Endogenous Enzyme Interference

Product name	Application	Cat. No.
Endogenous peroxidase blocking kit	ICC/IF, IHC, IHC-P	GTX30967
Endogenous Alkaline phosphatase blocking kit	IHC	GTX30968

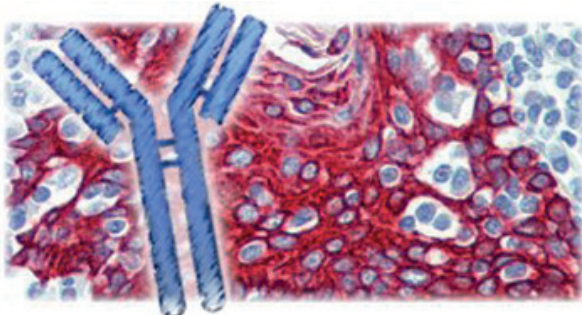
## Mouse on Mouse

Product name	Application	Cat. No.
Mouse on Mouse Polymer HRP Detection System (Ready-to-Use)	IHC	GTX83396

LSBio (LifeSpan BioSciences) offers a catalog of 130,000 antibodies that have been tested for use in a variety of research applications, including immunohistochemistry, ELISA, Western blot, and flow cytometry.

Antibodies can often be used in multiple assays, but they do not perform equally well in all assays. This is particularly true for immunohistochemistry (IHC). Many antibodies that perform well in other assays do not work well in IHC against formalin-fixed paraffin-embedded tissues (FFPE-IHC).

LSBio's goal in immunohistochemistry validation is to identify for our customers those antibodies that perform well in FFPE-IHC. Out of the 130,000 antibodies in the LSBio catalog, 35,000 have been tested and received validation for use in IHC by LSBio or through collaborators or suppliers. Of these, 9,900 antibodies have been extensively tested in our Seattle laboratory and awarded IHC-plus™ brand validation. IHC-plus™ antibodies have been identified as the best reagents for use in FFPE-IHC.



LSBio's IHC-plus™ antibodies have been tested and identified as being optimal for use in immunohistochemistry (IHC) against formalin-fixed paraffin-embedded (FFPE) human tissues under LSBio's standardized IHC-plus™ immunohistochemistry protocol.

### **IHC-plus™ Antibody Validation**

Each antibody is tested at multiple concentrations on more than 20 normal human tissue types, and when appropriate, multiple normal brain regions and/or cancer types. A LifeSpan pathologist, with extensive experience evaluating IHC, analyzes the localization profile of each antibody, identifying positive and negative cell types, signal strength, subcellular and extracellular staining, and staining artifacts. In order to be selected as an IHC-plus™ brand antibody, antibodies must have a close correlation to the published literature, be high affinity, display minimal staining artifacts, and have a high signal-to-noise ratio, such that its specific staining is considerably higher than its level of nonspecific background staining.

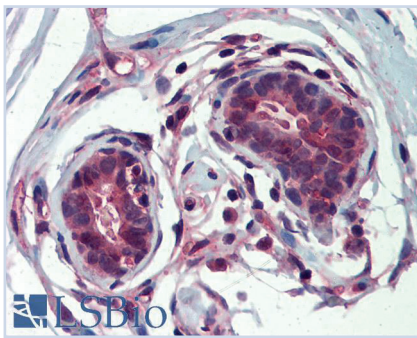
Every antibody is backed by our superior Technical Support staff, and every purchase is protected by our 100% satisfaction guarantee.



## Best Sellers:

### BRCA1 Antibody IHC plus™ LS B3772

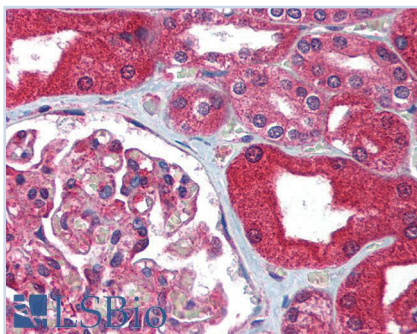
BRCA1 antibody LS-B3772 is an unconjugated rabbit polyclonal antibody to BRCA1 from human, mouse and rat. Validated for IHC, IP and WB. Tested on 20 paraffin-embedded human tissues.



Anti-BRCA1 antibody IHC of human breast. Immunohistochemistry of formalin-fixed, paraffin-embedded tissue after heat-induced antigen retrieval. Antibody concentration 5 ug/ml.

### ABCB1 / MDR1 / P Glycoprotein Antibody (aa262 277) IHC plus™ LS B1448

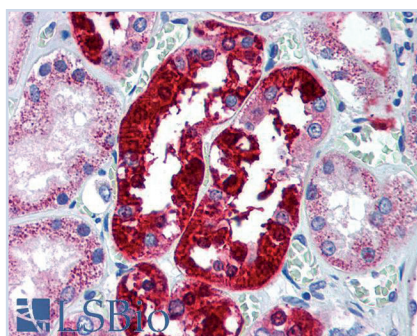
P Glycoprotein antibody LS-B1448 is an unconjugated rabbit polyclonal antibody to P Glycoprotein (ABCB1 / MDR1) from human, mouse, rat and other species. Validated for ELISA, IHC and WB. Tested on 20 paraffin-embedded human tissues.



Anti-MDR1 antibody IHC of human kidney. Immunohistochemistry of formalin-fixed, paraffin-embedded tissue after heat-induced antigen retrieval. Antibody concentration 5 ug/ml.

### APG5 / ATG5 Antibody IHC plus™ LS B1843

ATG5 antibody LS-B1843 is an unconjugated rabbit polyclonal antibody to ATG5 (APG5) from human, mouse, rat and other species. Validated for IHC. Tested on 20 paraffin-embedded human tissues.



Anti-ATG5 antibody IHC of human kidney. Immunohistochemistry of formalin-fixed, paraffin-embedded tissue after heat-induced antigen retrieval. Antibody concentration 5 ug/ml.

Nordic-MUBio develops and manufactures high quality antibody reagents for use in R&D. All our products are manufactured according to strict ISO 9001 quality guidelines. Nordic-MUBio has an extensive QA/QC program which is performed in-house and in close cooperation with external partners. In this way, Nordic-MUBio offers well-documented and reliable products suitable for multiple applications.



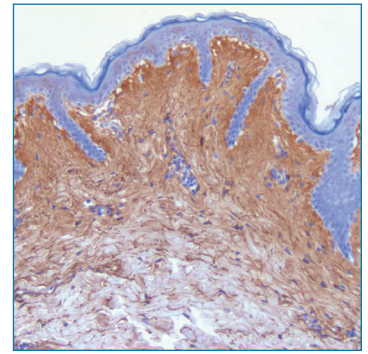
Our BioLogo branded range of high quality primary antibodies for use in immunohistochemistry includes antibodies against extracellular matrix proteins such as Fibronectin, Elastin, Laminin and Collagen types I to IX.

**Our antibodies target the following proteins:**

Antibodies directed to	Interest fields
Annexins	Apoptosis
Cell adhesion molecules	Cancer
Cell cycle markers	Cardiovascular
CD markers	Cell adhesion
Cytokines	Cell cycle
Cytoskeletal proteins	Cell differentiation
Extracellular matrix proteins	Cell proliferation
Filamentous phage proteins	Cell signalling
Haematology markers	Cytoskeleton
Hormones	Immunology
Membrane proteins	Neurobiology
Nuclear proteins	Stem cell research
Tumour markers	Cancer

### **Collagen Type I, human - Catalogue number: CO20111**

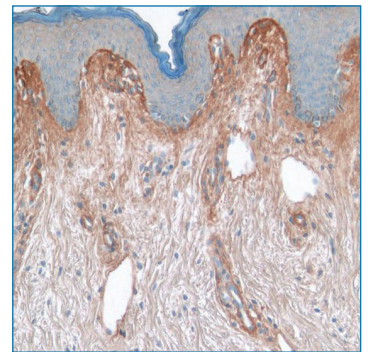
Type I Collagen usually exists as a heterotrimer formed by alpha 1(I) and alpha 2(I) chains and is found in bone, cornea, skin and tendon. In foetal tissues also homotrimers of alpha-1(I) are found, but they are not constituents of normal adult tissues. Collagens consist of a family of highly specialized glycoproteins of which at least 16 genetically distinct types are known to date. The basal unit of a collagen molecule consists of a triple-helical structure formed by 3 alpha-chains. Predominant amino acids are glycine, proline and hydroxproline. Regularly also lysines and hydroxylysines occur, which are responsible for cross-linkage and glycosylation of the protein chains. Different composition of alpha-chains and different glycosylation contribute to the high variability of collagens in different tissues and organs.



Collagen Type I on paraffin section of human skin. DAB, haematoxylin

### **Collagen Type V, human - Catalogue number: CO20511**

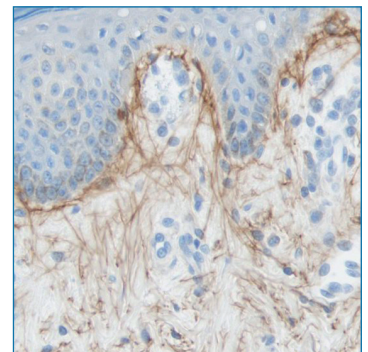
Collagen type V is found as short fibrils in skin, bone and placenta. Often it is found in conjunction with other collagen types, especially type I and III.



Collagen Type V on human skin paraffin section. DAB, hematoxylin

### **Elastin, human - Catalogue number: EL25013**

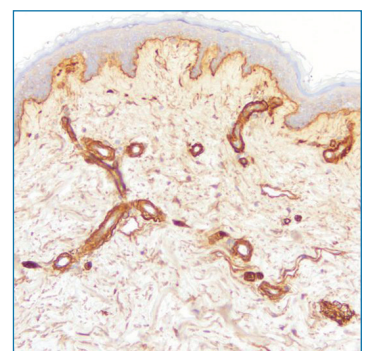
Elastin is the major protein of elastic fibres that form a randomly orientated network in many tissues. Due to its high content of hydrophobic amino acids it is relatively resistant to chemicals and proteinase. Its principal function is to provide elasticity to tissues, however it has also chemotactic and cell adhesion properties.



Elastin on human skin paraffin section. DAB, hematoxylin

### **Laminin, human - Catalogue number: LA24811**

The antibody against Laminin primarily labels basal membranes (especially s. c. lamina lucida) and may be used to detect disturbances in the basal membrane during tumour invasion. Laminin is also found in extracellular matrix not related to basal membranes, e.g. in the proximity of neurons especially during development, regeneration and tumour development. Laminins are glycoproteins of the extracellular matrix, especially of the basal membranes. They are multi-functional molecules which play an important role during development and differentiation of organs and for cell movements. These properties rely on the interaction of laminins with receptors on cell surfaces like integrins, collagen IV, proteoglycans. Laminins consist of 2 heavy chains (A and M, 300-400 kDa) and 1 light chain (B1, B2 or S, 200 - 220 kDa).



Laminin on human skin paraffin section. DAB, hematoxylin

### CRF Anti-Polyvalent HRP Polymer

CRF Anti-Polyvalent HRP Polymer has been developed to provide the cleanest, most consistent staining available. Developed in the research laboratories of ScyTek, the system is based on a polymerized peroxidase label that eliminates biotin and its' associated background issues from the equation. In addition, this product reduces the steps required for immunohistochemical staining by combining two steps from the traditional Biotin-Streptavidin system. CRF Anti-Polyvalent HRP Polymer is effective with antibodies of mouse, rat, rabbit and guinea pig. Also available as Mouse or Rabbit individual reagents.

Catalog No.	Volume
ABZ008	8 ml
ABZ015	15 ml
ABZ125	125 ml
ABZ500	500 ml
ABZ999	1000 ml

### UltraTek™ Detection System

The UltraTek line is our leading edge Biotin-Streptavidin system, designed to provide optimal staining with incubation times of 10 minutes each for the link antibody and enzyme label. For most procedures, commercially available primary antibodies can be diluted up to 50% further than with other systems. Our Anti-Polyvalent systems may be used with primary antibodies derived from Mouse, Rat, Rabbit and Guinea Pig. Also available as Mouse or Rabbit individual reagents.

Product Name	Catalog No.
UltraTek HRP Anti-Mouse Staining System	AFJ600
UltraTek HRP Anti-Rabbit Staining System	AFK600
UltraTek Alk-Phos Anti-Mouse Staining System	AFL600
UltraTek Alk-Phos Anti-Rabbit Staining System	AFM600
UltraTek HRP Anti-Polyvalent Staining System	AFN600
UltraTek Alk-Phos Anti-Polyvalent Staining System	AFP600

### DAB Chromogen/Substrate Kit (High Contrast)

This product has been developed for applications that require high contrast between the chromogen and Hematoxylin counterstain. The resulting stain is a darker brown than standard DAB and somewhat more sensitive. ScyTek recommends using Hematoxyling for Automation (catalog # HAQ500) for optimal contrast. 3,3'Diaminobenzidine (DAB) is a widely used chromogen for immunohistochemical staining and immunoblotting. When in the presence of peroxidase enzyme, DAB produces a brown precipitate that is insoluble in alcohol. This product is available in a two component form consisting of a liquid, refrigerator stable DAB Chromogen and DAB Substrate (High Contrast). The standard working dilution is 50ul (0.9mg) of DAB Chromogen per 1ml of DAB Substrate (High Contrast), although the ratio can be adjusted as desired. The use of liquid components reduces some risks associated with handling powders (ie. dust inhalation), and eliminates waste which often results from using tablets that require a predetermined final volume. Once the two components are combined, the reagent can be used for up to six hours, making it ideal for automated stainers.

Catalog No.	Volume
ACT500	500 Slides

### Permanent Red Kit (For Alkaline Phosphatase)

Permanent Red (For Alkaline Phosphatase) is a two-component chromogen for immunohistochemical staining and immunoblotting. When in the presence of alkaline phosphatase enzyme, Permanent Red produces an intense red precipitate that is insoluble in alcohol and may be permanently mounted in synthetic resin. The working solution may be mixed for up to 2 hours prior to application making it suitable for automated staining.

Catalog No.	Volume
PRD-15	15 ml
PRD-61	61 ml

## Cytokeratin, Multi (Acidic); Clone AE1 (Ready-To-Use)

**Species:** Mouse Monoclonal

**Clone:** AE-1

**Isotype:** IgG1

**MW:** 56.5, 50, 50', 48 and 40 kD

**Species Reactivity:** Human, Monkey, Cow, Rabbit, Mouse, Rat, Chicken. Others not tested.

**Positive Control:** Human epidermal keratin or carcinoma. HT29 cells.

Catalog No.	Volume
A00051-0002	2 ml
A00051-0007	7 ml
A00051-0025	25 ml

**Specificity:** Monoclonal antibody AE1 recognizes the 56.5, 50, 50', 48, and 40kDa keratins of the acidic subfamily. Twenty human keratins are resolved with two-dimensional gel electrophoresis into acidic ( $pI < 5.7$ ) and basic ( $pI > 6.0$ ) subfamilies. The acidic keratins have molecular weights of 56.5, 55, 51, 50, 50', 48, 46, 45, and 40kDa.

## Myoglobin

**Species:** Rabbit Polyclonal Clone: Polyclonal

**Species Reactivity:** Human

**Specificity:** This antibody reacts with human myoglobin. The antibody stains strongly with the skeletal and cardiac muscles. No non-specific staining with other tissues has been observed.

Catalog No.	Volume
A20066	2 ml
A00066	6 ml
A00066.0025	25 ml

## Cytokeratin 10; Clone DE-K10 (Concentrate)

**Species:** Mouse

**Immunogen:** Cytoskeletal preparation extracted from human ectocervical epithelium.

**Clone:** DE-K10

**Isotype:** IgG1, kappa

**Species Reactivity:** Human, Dog and Cat. Others not known. Positive Control: Esophagus or Tonsil. A431, HeLa, MCF7 cells. **Specificity:** This antibody recognizes a protein of 56.5kDa identified as Cytokeratin 10.

Catalog No.	Volume
A00089-C.1	0.1 ml
A00089-C	1 ml

## c-erbB-2 Oncoprotein; Clone SP3

**Species:** Rabbit Clone: SP3

**Mol. Weight:** 185kD **Isotype:** IgG

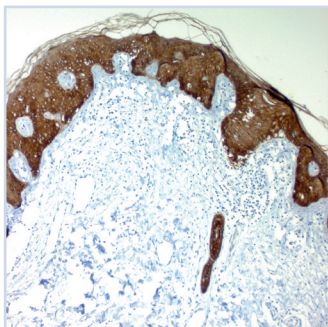
**Species Reactivity:** Human. Others not tested.

**Positive Control:** Breast carcinoma.

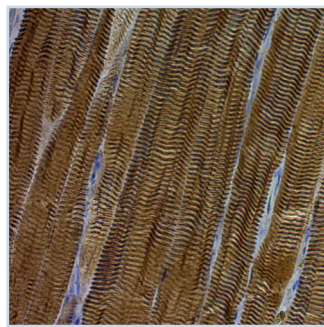
**Cellular Localization:** Cell membrane.

Catalog No.	Volume
A20100	2 ml
A00100	6 ml
A00100.0025	25 ml

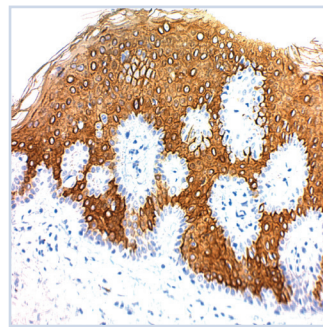
**Specificity:** c-erbB-2 is a receptor tyrosine of the c-erbB family. It is closely related in structure to the epidermal growth factor receptor. C-erbB-2 oncoprotein is detectable in a proportion of breast and other adenocarcinomas, as well as transitional cells.



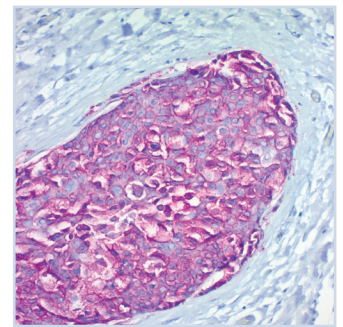
A00051 Skin 100x



A00066 Skeletal Muscle  
400x



A00089 Skin 200x



A00100 Breast IDC200x  
Perm Red

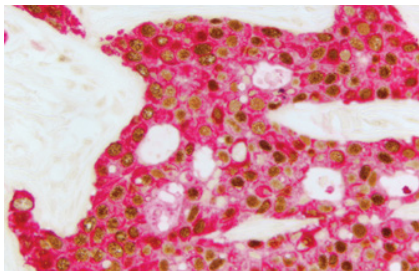
## Polymer-Based Detection

### Non-biotin micropolymer-based detection for greater signal, low background, and superior access to epitopes

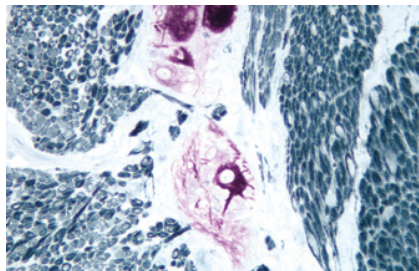
Polymer-based reagents are a more recent introduction into IHC detection methodology than traditional avidin and biotin conjugates, such as ABC kit formats. Polymers offer distinct advantages over these traditional methods particularly for applications such as multiple antigen labeling (multiplexing) on the same tissue section, or in instances where detectable levels of endogenous biotin may be problematic.

Polymer-based systems essentially consist of an integrated polymer of active enzyme and secondary antibody that binds to a primary antibody target. This integrated format introduces significantly more enzyme at the site of localization, thereby generating a greater reaction with the subsequent chromogen, compared with a secondary antibody directly conjugated with enzyme. Additionally, use of a one-step polymer method shortens the IHC procedure by avoiding the two-step biotinylated secondary antibody and ABC reagent that are required for standard avidin-biotin systems.

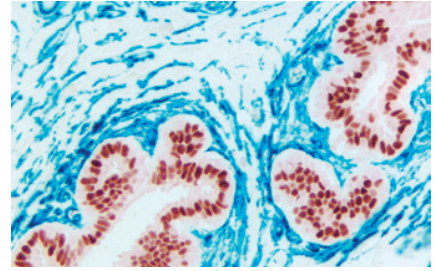
Polymer-based systems were initially introduced consisting of dextran or similar molecules that had inherent issues in some tissues due to their large size. Our ImmPRESS® polymer systems have been highly refined and consist of micropolymers that penetrate more easily into thicker sections, avoid steric hindrance concerns, and provide defined, specific binding to the primary antibody.



*Breast Carcinoma: • Estrogen Receptor (m), ImmPRESS® Reagent (HRP; Universal), Vector® DAB (brown) • Cytokeratin AE1/AE3 (m), VECTASTAIN® ABC-AP Kit*



*Small Bowel: • Neurofilament 200 kDa (m), ImmPRESS® Reagent (HRP) • Anti-Mouse IgG, Vector® VIP (purple) • Desmin (m),*



*Breast Carcinoma: • Estrogen Receptor (m), ImmPRESS® Reagent (HRP; Universal), Vector® NovaRED™ (red) • CD34 (m), VECTASTAIN® ABC-AP Kit (Universal), Vector® Blue (blue).*

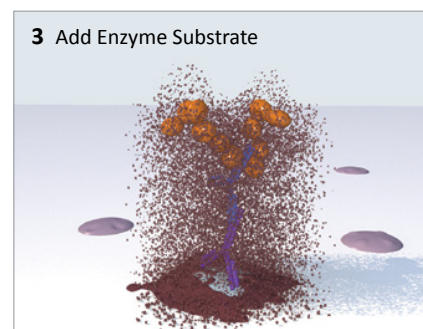
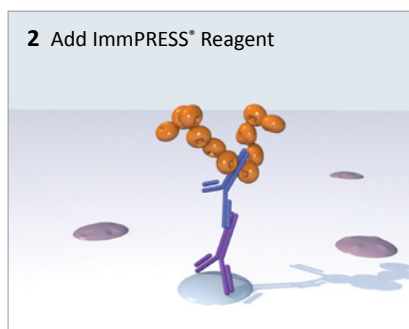
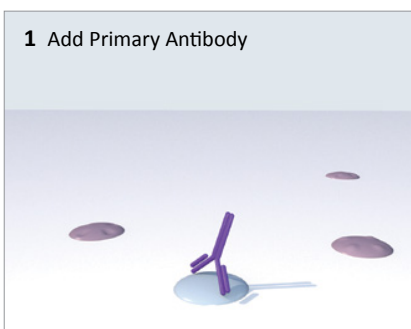
### ImmPRESS® One-Step Polymer Systems (Single Antigen Detection)

#### ImmPRESS® Polymer Detection Systems

ImmPRESS® Polymer Reagents consist of unique micropolymers of highly active peroxidase or alkaline phosphatase enzyme attached to highly cross-adsorbed, affinity-purified secondary antibodies. This micropolymer conjugation technology allows a higher density of enzymes per antibody to bind to the target with minimal steric interference. The ImmPRESS® Polymer Reagents produce outstanding immunohistochemistry and immunocytochemistry results due to increased target accessibility, binding specificity, and signal intensity along with low background staining.

- High sensitivity and very low background for crisp, strong staining
- Ready-to-use, one-step detection system – no mixing or titering
- Includes prediluted blocking serum
- Shorter assay time
- Non-biotin based
- Excellent resolution
- Especially suited for nuclear and membrane antigens
- Ideal for multiple antigen labeling

#### Using the ImmPRESS® Polymer Kits



## ImmPRESS® One-Step Double Staining Polymer Systems (Double Antigen Detection)

### ImmPRESS® Duet Double Staining Polymer Systems

ImmPRESS® Duet Double Staining Polymer Kits enable fast, well-defined localization and visualization of two different target antigens on the same tissue section. Utilizing our unique ImmPRESS® micropolymer chemistry, we independently conjugate highly-active horseradish peroxidase (HRP) and alkaline phosphatase (AP) enzyme polymers to affinity-purified, highly cross-adsorbed anti-mouse IgG and anti-rabbit IgG secondary antibodies. These reagents are then blended at optimized dilutions to provide a stable pre-diluted, ready-to-use HRP/AP formulation that will detect mouse and rabbit primary antibodies, and facilitate a time-saving, simplified, one-step double label detection protocol. For maximum sensitivity and staining contrast between target antigens, ImmPACT® DAB EqV (HRP, brown) and ImmPACT® Vector® Red (AP, magenta) substrates are included to complete this easy to use staining kit.

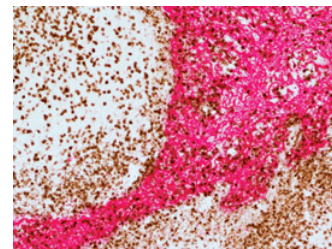
The ImmPRESS® Duet Double Staining Polymer Kit is intended for use on non-rodent tissue specimens. Reliable and reproducible results are obtained on tissue sections where the two target antigens do not over-lap (co-localize) in the same structure of the same cell, but rather are expressed in different cell compartments or different cell types.

Each ImmPRESS® Duet Double Staining Polymer Kit includes the following:

- BLOXALL® Endogenous Enzyme Blocking Solution
- 2.5% Normal Horse Serum
- ImmPRESS® Duet HRP/AP Polymer Reagent (mixture of Anti-Rabbit IgG and Anti-Mouse IgG)
- ImmPACT® DAB EqV Substrate (HRP, brown)
- ImmPACT® Vector® Red Substrate (AP, magenta)

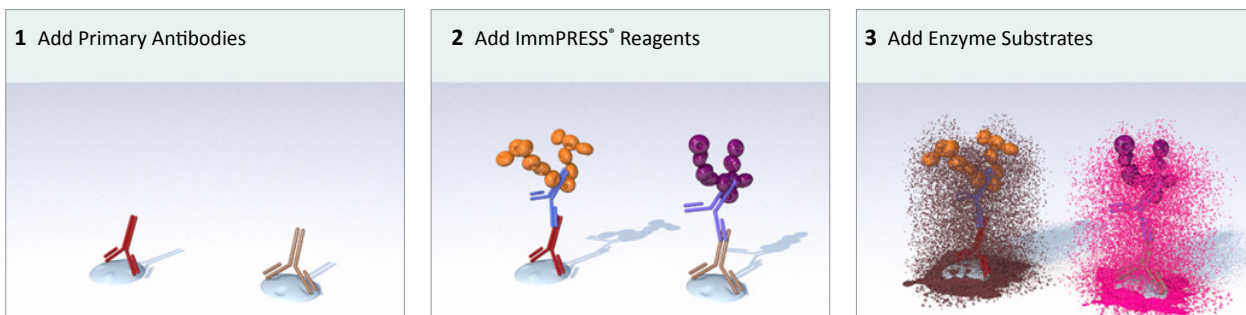
#### ImmPRESS® Duet Double Staining Polymer Kits

- Anti-Rabbit IgG (HRP - brown), Anti-Mouse IgG (AP - magenta)
- Anti-Mouse IgG (HRP - brown), Anti-Rabbit IgG (AP - magenta)



Human tonsil (paraffin section) stained for CD3 (DAB, brown) and AE1/AE3 cytokeratin (Vector® Red, magenta) using ImmPRESS® Duet Kit (MP-7714).

### Using the ImmPRESS® One-Step Double Staining Polymer Systems



### ImmPRESS Product Line

Product	Peroxidase (HRP)	Veterinary Reagents (HRP)	Excel Amplified* (HRP)	Alkaline Phosphatase (AP)	Duet Double Staining* (HRP & AP)
ImmPRESS® Anti-Rabbit IgG Kit (made in horse)	MP-7401	MP-6401	MP-7601	MP-5401	
ImmPRESS® Anti-Rabbit IgG Kit (made in goat)	MP-7451				
ImmPRESS® Anti-Mouse IgG Kit (made in horse)	MP-7402	MP-6402	MP-7602	MP-5402	
ImmPRESS® Anti-Mouse IgG Kit (made in goat)	MP-7452				
ImmPRESS® Anti-Mouse IgG, Rat Adsorbed, Kit (made in horse)	MP-7422				
ImmPRESS® Anti-Rat IgG Kit (made in horse)	MP-7404			MP-5404	
ImmPRESS® Anti-Rat IgG, Mouse Adsorbed, Kit (made in horse)	MP-7444			MP-5444	
ImmPRESS® Anti-Goat IgG Kit (made in horse)	MP-7405			MP-5405	
ImmPRESS® Universal Antibody Kit, Anti-Rabbit/Mouse Kit (made in horse)	MP-7500				
ImmPRESS® Duet Anti-Rabbit (HRP, Brown), Anti-Mouse (AP, magenta)					MP-7714
ImmPRESS® Duet Anti-Mouse (HRP, Brown), Anti-Rabbit (AP, magenta)					MP-7724

\* Substrates included.

# Selected Primary Antibodies

for formalin-fixed paraffin-embedded tissue sections

Zytomed Systems offers a broad range of antibodies suitable for diagnostics. Usually, our antibodies are available in concentrated and ready-to-use format. All antibodies mentioned here are suitable for FFPE tissue sections.

**Ready-to-use antibodies:** Designed for convenient handling these antibodies require no dilution or titration. Zytomed Systems offers 6 ml and 7 ml ready-to-use antibodies.

**MAX-Line antibodies:** These high-volume ready-to-use antibodies offer cost-effective solutions for manually as well as automated working laboratories with high throughput. They are provided in a 16 ml format.

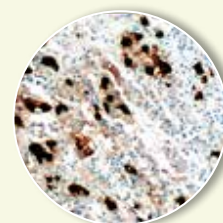
**Concentrated antibodies:** To ensure highest flexibility in your immunohistochemistry protocol Zytomed Systems offers 1 ml, 0.5 ml and 0.1 ml concentrated antibodies.

For a broad range of antibodies we offer protocol information for use on automated systems. These protocols were provided by customers and have already been approved in the day-to-day routine of an IHC laboratory. You can download a sheet with protocol recommendation from our homepage or ask your local dealer for more information.

## ACTH

**Clone:** SPM501  
**Host:** Mouse  
**Reactivity:** HU  
**Pre-treat.:** Citrate  
**Status:** RUO

Method	Format	Dilution	Volume	Cat. No.
F, P	Ready-to-use	-	7 ml	501-16451
	Concentrate	1:400	1 ml	501-16454



## Actin alpha (Skeletal Muscle)

**Clone:** 5C5.F8.C7  
**Host:** Mouse  
**Reactivity:** HU  
**Pre-treat.:** Citrate  
**Status:** RUO

Method	Format	Dilution	Volume	Cat. No.
P	Ready-to-use	-	7 ml	501-16651
	Concentrate	1:50	0.1 ml	501-16650
			1 ml	501-16654

## Actin alpha (Smooth Muscle)

**Clone:** 1A4  
**Host:** Mouse  
**Reactivity:** HU, MS, RT, CH  
**Pre-treat.:** -  
**Status:** CE/IVD

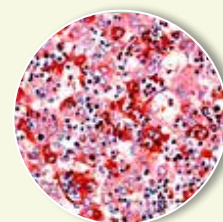
Method	Format	Dilution	Volume	Cat. No.
P	Ready-to-use	-	6 ml	MSG030
			16 ml	BMS001
P, IF	Concentrate	1:100	0.5 ml	MSK030-05
			1 ml	MSK030



## AFP (Alpha-Fetoprotein)

**Clone:** polyclonal  
**Host:** Rabbit  
**Reactivity:** HU  
**Pre-treat.:** -  
**Status:** RUO

Method	Format	Dilution	Volume	Cat. No.
F, P	Ready-to-use	-	7 ml	501-2951
F, P, WB	Concentrate	1:200	1 ml	501-2954





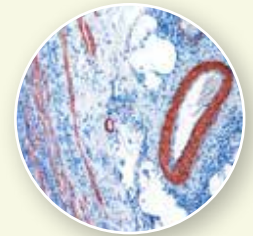
# MAX-Line Antibodies

Cost-effective 16 ml ready-to-use antibodies for routine immunohistochemistry

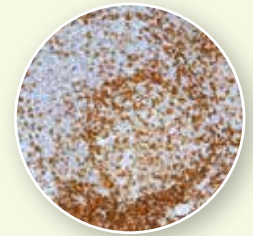
Zytomed Systems offers convenient high-volume ready-to-use antibodies suitable for FFPE tissue sections. These *MAX-Line* antibodies meet your demands concerning costs, quality and suitability for routine. All these antibodies (except the 5 marked ones) are CE/IVD certified.

## ► MAX-Line antibodies

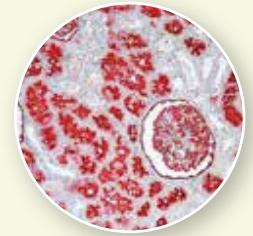
Description	Host	Clone	Pre-treatment	Volume	Cat. No.
<b>Actin alpha</b> (Smooth Muscle)	Mouse	1A4	None	16 ml	BMS001
<b>BCL2*</b>	Rabbit	E17	Citrate	16 ml	BRB055
<b>Calretinin</b>	Rabbit	polyclonal	Citrate	16 ml	BRB022
<b>CD3 (T-Cell)</b>	Rabbit	SP7	Citrate	16 ml	BRB041
<b>CD4</b> (T-Cell helper/inducer)	Rabbit	SP35	Citrate	16 ml	BRB042
<b>CD8</b> (T-Cell cytotoxic/suppressor)	Rabbit	SP16	Citrate	16 ml	BRB036
<b>CD10 (CALLA)</b>	Mouse	56C6	Citrate	16 ml	BMS043
<b>CD20</b> (B-Cell)	Mouse	L26	optional: Citrate	16 ml	BMS003
<b>CD31</b>	Mouse	JC70	Citrate	16 ml	BMS044
<b>CD34</b>	Mouse	QBEnd/10	optional: Citrate	16 ml	BMS045
<b>CD45 (LCA)</b>	Mouse	PD7/26 + 2B11	optional: Citrate	16 ml	BMS046
<b>CD56</b>	Rabbit	RCD56	EDTA	16 ml	BRB039
<b>CD79a</b>	Mouse	JCB117	Citrate	16 ml	BMS005
<b>CDX-2</b>	Rabbit	EPR2764Y	Citrate	16 ml	BRB028
<b>CEA</b>	Mouse	Col-1	None	16 ml	BMS029
<b>Chromogranin A</b>	Mouse	LKH2H10	None	16 ml	BMS018
<b>Cytokeratin 5/6</b>	Mouse	D5/16B4	Citrate	16 ml	BMS017
<b>Cytokeratin 5/14</b>	Mouse	XM26 + LL002	Citrate	16 ml	BMS023
<b>Cytokeratin 7</b>	Mouse	OV-TL 12/30	Citrate or enzymatic	16 ml	BMS030
<b>Cytokeratin 20</b>	Mouse	Ks20.8	Pepsin or Trypsin	16 ml	BMS037



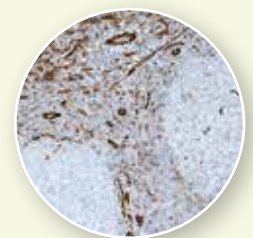
Actin SM (BMS001)  
Appendix



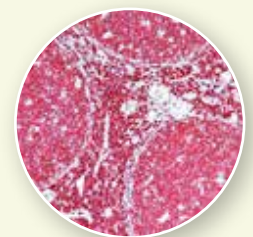
CD4 (BRB042) Tonsil



CD10 (BMS043) Kidney



CD31 (BMS044) Tonsil



CD45 (BMS046) Tonsil



Abnova is the world's largest antibody manufacturer. We have the capacity of generating 300 mouse monoclonal antibodies and 200 rabbit polyclonal antibodies per month. Rather than the traditional method of antibody production, Abnova is taking a genomic/proteomic approach for antibody development. We manufacture all our products, recombinant proteins and antibodies in our state-of-the-art production and SPF animal facilities.

Abnova have a complete collection of IHC validated antibodies for the following research areas: Angiogenesis, Apoptosis, Neurobiology, Metabolism, Signal Transduction, Stem Cell, Transcriptions, Plasma/Serum, Cell Cycle, Enzyme, Membrane, Cytokine and Ubiquitin.



Aviva Systems Biology provides our customers with an extensive collection of quality antibodies for research and diagnostic applications. Aviva currently offers antibodies to more than 7,000 different protein targets due to our high throughput antibody production that releases more than 200 new antibodies every month. Aviva's focus is antibodies to key targets in areas of transcription, epigenetics and cell signaling. Aviva's antibody collection includes unique antibody content to many targets that are not commercially available elsewhere. Our emphasis on family-oriented antibody production has yielded antibodies to most members of key protein families such as Transcription Factors, Transcription Regulators, RNA Binding Proteins, Ion Channels, and Cell Membrane target proteins.

"With one of the largest antibody catalogs available on the market, Aviva Systems Biology has enabled researchers to identify novel disease biomarkers. To date, the company has over 17,000 antibodies with IHC data. We provide conjugation services for most of our antibodies using technology proven to provide superior results when compared to other conjugation processes. Our aim is to provide scientists the tools they need for biomarker discovery and validation using IHC experiments."



Explore. Bioreagents.

Based in Cambridge, one of Europe's largest bioscience hubs, Biorbyt has a simple yet challenging mission: to provide the best service to the global scientific community. In cooperation with researchers and academics worldwide, Biorbyt develops biochemicals, antibodies and immunoassays of the highest quality.



BioVision develops and offers a wide variety of products including assay kits, antibodies, recombinant proteins & enzymes, Exosome products and other innovative research tools for studying Apoptosis, Metabolism, Cell Proliferation, Cellular Stress, Cell Damage and Repair, Diabetes, Epigenetics, Obesity and Metabolic Syndrome, Stem Cell Biology, Gene Regulation, Signal Transduction, etc. Our innovative, high quality products are ideal for basic science research as well as to accelerate drug discovery in disease-related areas like cancer, diabetes, obesity, Alzheimers disease, etc. BioVision's products are currently being sold in more than 60 countries worldwide.

Immunohistochemistry (IHC) is an important application of monoclonal as well as polyclonal antibodies to determine the tissue distribution of an antigen of interest in healthy and disease condition. IHC involves specific antigen-antibody reactions and are used to visualize antigens/proteins in a tissue with the help of enzymatically or fluorescently labeled antibodies. BioVision offers several research tools for diagnosis of cancer biomarkers, specific tumor antigens, infections as well as in prediction of therapeutic response.



Our US-American partner Fitzgerald is a manufacturer and supplier of primary antibodies, secondary antibodies, recombinant and native proteins, ELISA kits, Serum and Plasma, and many other biological reagents. Their motto 'Bringing Life to Science' illustrates a personal approach to addressing the customers individual needs, interests and expertise.



ProSci offers a diverse array of antibodies that can be used for IHC staining. These antibodies are Validated in house by our team of scientists to ensure consistent results for every assay. ProSci also offers a variety of normal, tumor, and abnormal tissue slides from multiple organs and a variety of cell lines of human, mouse and rat origins. Additionally, ProSci offers a variety of tissue panels that can be used in IHC, ISH and/or ICC applications. Our own in-house labs and animal facilities (USDA licensed and NIH/OLAW assured) are located in the US and provide an extensive array of antibody services. Established in 1998, ProSci is a reliable partner with over 15 years of serving the research community globally

# Quality at the best price!

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(0.1 – 2 µl / 2 – 20 µl / 20 – 200 µl / 100 – 1000 µl)  
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