

### Slide preparation

#### CultureWell™ cell culture systems and chambered coverslips

Interchim provides Removable Chambered Coverglass that facilitate cell culture and microscopy slide preparation. The culture system contains a 24 x 50 mm<sup>2</sup> glass slide support, pre-cut silicone gasket and plastic inserts. It allows to integrate the different steps of culture to hybridization and staining procedures!

- ◆ The thin flat cover glass is the optimum platform for high resolution microscopy and high sensitivity quantitative fluorescent imaging.
- ◆ Leak-proof design eliminates well-to-well cross contamination.
- ◆ Gaskets stabilize coverslips and provide convenient handling using conventional microscope slide holders & accessories.
- ◆ Removable gaskets for high resolution imaging (samples can be imaged also with the silicone gaskets).
- ◆ A hydrophobic zone is created around specimen after gasket is removed, facilitating specimen localization.
- ◆ Removable gaskets may be re-sterilized and re-used.
- ◆ Well spacing facilitates use with multichannel pipettors and microarray robotics.
- ◆ Divider accessory separates wells on a coverslip into groups.
- ◆ MultiWell Inserts integrate Chambered Coverslips in plates easy to handle for high throughput cell culture and screening.

#### MultiWell culture systems

(Insert + 4 chambered coverslips)

Each system is supplied in packages of 10 plates, each pre-assembled with an insert supporting 4 Chambered Coverglass (microscopy slides)

Insert Size : 86 x 128 mm<sup>2</sup> (standard culture plates)

Sterile ready-to-use

A trial size is also available (FP-R30061) that includes two inserts - four coverslips with eight 6 mm wells each - in two plates.



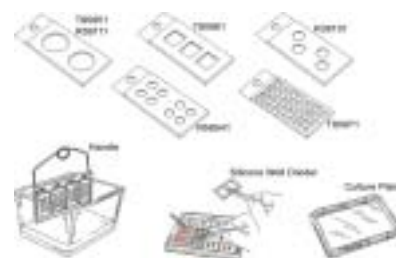
#### Chambered Coverslips

Contains a silicone gasket delimiting 2 to 50 wells.

Size : 24 x 50 mm (may be placed in 65 mm diameter culture dishes).

Can be sterilized by autoclaving, UV or alcohol.

Size (mm) of Coverslip	Number of Wells per Coverslip	Well Dimensions	Suggested Vol per Well (μl)	Depth	10 u plates of 4 Coverslips	5 x 4 Coverslips
24 x 50	2	15 mm diameter	250-400	1 mm	FP-T80951	FP-T81011
24 x 50	2	15 mm diameter	300-500	2mm	FP-R59111	FP-T81021
24 x 50	3	9.5 mm square	300-500	1 mm	FP-T80961	FP-T81031
24 x 50	4	9 mm diameter	50-100	1 mm	FP-R38101	FP-T81041
24 x 50	8	6 mm diameter	15-30	1 mm	FP-R58541	FP-T81051
24 x 50	50	3 mm diameter	3-10	1 mm	FP-T80971	FP-T81061

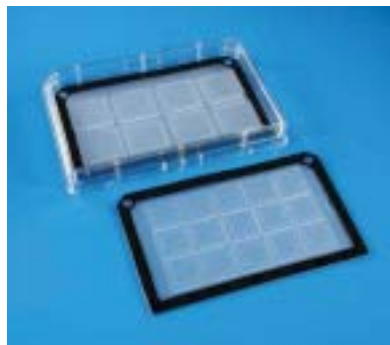


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# Immunologicals - Accessory reagents

## IHC/ICC/IF technique



### CultureWell™ multislip cell culture systems

MultiSlip inserts are 8 or 15 cell culture chambered coverslip assembled in a plate (86 x 128 mm<sup>2</sup>). They are ideal for *in situ* hybridization and immunostaining.

Staining and washing procedures may be performed with MultiSlip inserts in the plate, or silicone backed coverslips may be removed individually and affixed to glass microscope slides. Alternatively, inserts may be easily removed for batch processing in glass staining dishes.

Ideally suited for the culture of cells where pre-treatment of the glass surface with a biological coating is recommended. Simply add sterile solution to the plate and aspirate. Coating is applied evenly to one side of the glass only, with no overlapping, handling with forceps or breakage.

Protocol available for collagen, polylysine, fibronectin, laminin coating (growth of epithelial, endothelial and muscle cells, neurons, PC12 and CHO cell lines).

Description	Cat.#	Qty
MultiSlip cell culture system Contains 8 coverslips of 18 x 18 mm <sup>2</sup> Number of Coverslips 8	FP-T80941	10 plates
Coverslip 12 x 12 mm system Contains 8 coverslips of 18 x 18 mm <sup>2</sup> Number of Coverslips 15	FP-T80931	10 plates

### CultureWell® chambered coverglass for cell culture and ELISA (Elispot slides)

The CultureWell™ /Elispot system replaces membrane bottom microplates and immunoassays, integrated in the microscope format : no cell lysis, no vacuum or centrifuge washes are required, simplifying greatly many cell assays.

- ◆ Each Culture well™ module contains 16 wells that can each hold up to 250 µL, allowing cells to be cultured in a number of different conditions on a single slide.
- ◆ Each Elispot slide is a standard glass coverslip (25 x 75 mm<sup>2</sup>) that holds 16 spots\* that can be coated with any probe (\*PVDF allows maximum protein binding).

Specific analytes released by cultured cells are captured by the probe (antibody specific for the analyte) that has been initially coated onto microscope slide. After a desired period, coverglass removal is made easy by the use of a simple tool (included) that separates the parts without the need for excessive force, eliminating the risk of coverglass breakage.

- ◆ Cells can be directly observed by light microscopy.
- ◆ Microscope slides can be processed for immunoenzymatic or fluorescent detections after mounting.

Applications :

- ◆ Identify or select specific cell immunophenotypes.
- ◆ Cell Secretion assays.

Description	Cat.#	Qty
Culture well™ /Elispot system Contains 8 Culture well™, 8 Elispot slides with 16 wells or spots, 1 separator	FP-A00861	8 u



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### Hybridization Chambers Systems

Interchim provides 3 series of chamber systems for hybridizations and imaging: CoverWell system is similar to SecureSeal and HybriWell systems, but the incubation chamber is open (gaskets) and should thus be closed with a coverslip. Also, the delimited chamber has decreasing depth between the 3 systems, accommodating from typically thick samples (tissues/CoverWell) to cells (SecureSeal) or even microarrays (HybriWell).

#### HybriWell™ Hybridization Sealing Systems

HybriWell™ seals securely to a microscope slide surface in seconds to enclose single or multiple specimens in a small reagent volume and eliminates evaporation. It suits microscopy and microarray applications.

Access ports in the chamber surface allow for the addition or removal of reactants. Ports are easily sealed using seal tabs provided with each order. Sealed chambers are watertight, and ideally suited to water bath incubations.

RNase free, hydrophobic surfaces will not trap or bind probes. Disposable chamber removes cleanly and easily, even after heating.

#### HybriWell™ Hybridization Sealing Chambers

Chamber dimension	Chamber Depth	Max.sample volume	Cat.#	Qty
13 mm diameter	0.25 mm	30 µL	FP-Q93481	100
20 mm diameter	0.15 mm	30 µL	FP-Q93491	100
32 x 19 mm <sup>2</sup>	0.15 mm	30-50µl	FP-BB1081	100
22 x 22 mm <sup>2</sup> *	0.15 mm	30-50 µL	FP-Q93501	100
40 x 21 mm <sup>2</sup> *	0.15 mm	50-100 µL	FP-M21581	100
40 x 22 mm <sup>2</sup> *	0.25 mm	180-200 µL	FP-Q93511	100
45 x 45 mm <sup>2</sup> *	0.15 mm	150-300 µL	FP-BB1071	100
Adhesive seal tabs			FP-M21591	200

#### SecureSeal™ Hybridization Chambers

SecureSeal™ hybridization chambers form peel-and-stick enclosures to isolate specimens affixed to glass microscope slides for hybridization assays. They suit large or multiple samples and genomic arrays on glass slides or film slides.

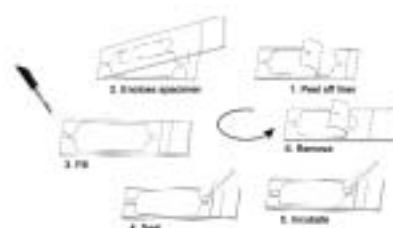
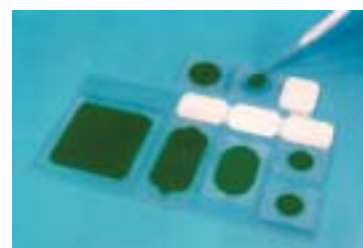
Gasketed chambers provide optimum surface/volume fluid dynamics for hybridization assays. They are designed to minimize friction, promote reagent mixing, and facilitate uniform hybridization.

Sealable access ports in the chamber surface allow the addition and removal of reactants. Leak proof chambers are temperature resistant and eliminate evaporation.

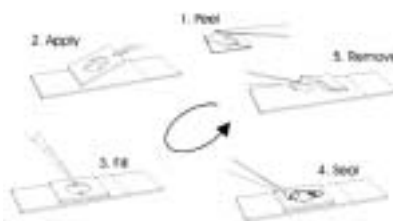
SecureSeal™ adhesive bonds chambers to glass in seconds, and removes cleanly and easily even after heating.

- ◆ RNase free and ready to use.
- ◆ Ideally suited to protocols for autoradiographic, fluorescent, or chemiluminescent end points.

Chamber dimension	Chamber Depth	Max.sample volume	Cat.#	Qty
13 mm diameter	0.8mm	90 µL	FP-BB2711	50
20 mm diameter	0.8mm	200 µL	FP-Q93261	40
20 mm diameter	1.3 mm	280 µL	FP-Q93271	40
9 mm diameter	0.8 mm	20 µL	FP-Q93241	20
9 mm diameter	1.3 mm	40 µL	FP-Q93251	20
22 x 22 mm <sup>2</sup>	0.8 mm	250 µL	FP-Q93521*	50
40 x 22 mm <sup>2</sup>	0.8mm	620 µl	FP-BB1091*	50
Adhesive seal tabs			FP-M21591	200



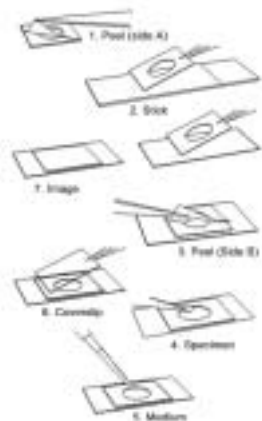
£ Seal Tabs included with each order.  
\* Also suited for microarray



\* Secure Seal is also available in 45 x 45 mm<sup>2</sup>

# Immunologicals - Accessory reagents

## IHC/ICC/IF technique



Operating with press-to-seal™ silicone chambers



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interchim

### CoverWell™ Imaging Chamber Gaskets

CoverWell™ imaging chambers are designed to stabilize and support thick and free-floating specimens for imaging applications with light, epifluorescence and confocal laser-scanning microscopy. They avoid sample compression and artifacts due to movement of fine internal structures, improving resolution.

- ◆ Reusable **Press-to-seal™ silicone chambers** form removable enclosures for repeat staining or specimen repositioning. Flexible coverslip material allows these chambers to be removed from the thinnest glass coverslips without damage.
- ◆ **Adhesive CoverWells™** are designed to form peel-and-stick leak-proof enclosures for the permanent mounting of thick samples.
- ◆ **Secure Seal™ imaging chambers** are ultra thin adhesive spacers that peel-and-stick to glass coverslips or microscope slides to confine specimens without compression. Layer multiple spacers to custom build chambers to any depth desired. For high resolution microscopy, sandwich specimen & spacer between two No. 0 glass coverslips.

Chamber dimension	Chamber Depth	Exterior size	Cat.#	Qty
<b>Press-to-Seal CoverWell</b>				
20 mm diameter	0.5 mm	25 x 25 mm <sup>2</sup>	FP-M21331	40
20 mm diameter	1.0 mm	25 x 25 mm <sup>2</sup>	FP-M21341	40
20 mm diameter	2.5 mm	25 x 25 mm <sup>2</sup>	FP-BB2541	20
<b>Peel-and-Stick CoverWell</b>				
20 mm diameter	0.8 mm	25 x 25 mm <sup>2</sup>	FP-Q71431	40
20 mm diameter	1.3 mm	25 x 25 mm <sup>2</sup>	FP-Q71441	40
20 mm diameter	2.8 mm	25 x 25 mm <sup>2</sup>	FP-BB2571	20
<b>Secure Seal adhesive Spacers</b>				
8 wells / 9 mm diameter	0.12 mm	50 x 25 mm <sup>2</sup>	FP-Q71751	100
1 well / 13 mm diameter	0.12 mm	25 x 22 mm <sup>2</sup>	FP-Q93291	100
1 well / 20 mm diameter	0.12 mm	25 x 25 mm <sup>2</sup>	FP-Q93301	100

### CoverWell™ Incubation Chamber Gaskets

CoverWell™ incubation chamber gaskets are designed for multi-use steps (Immunocytochemistry/-Fluorescence, *in situ* hybridization)

- ◆ Microwavable for permeabilization, and retrieval steps<sup>(1)</sup>.
- ◆ Preserve kinetic (non-capillary) fluid dynamics for better reagent mixing and lower backgrounds<sup>(2)</sup>.
- ◆ Eliminate precipitate deposits on specimens by incubating slides and specimens up-side-down during enzymatic color precipitation reactions.

Specifications :

- ◆ RNase free
- ◆ Hydrophobic
- ◆ Easily removed
- ◆ Adhere to wet or dry surfaces
- ◆ Ready to use over and over

Chamber dimension	Chamber Depth	Sample approx. volume	Cat.#	Qty
13 mm diameter	0.2 mm	20 µl	FP-M21311	25
13 mm diameter	0.5 mm	50 µl	FP-M21321	50
40 x 22 mm <sup>2</sup>	0.2 mm	200 µl	FP-M21291	25
40 x 22 mm <sup>2</sup>	0.5 mm	500 µl	FP-M21301	50

### Holder for water bath incubations

Provides an exceptionally secure seal during submerged waterbath high temperature incubations.

FP-BB2521 1

(1) *J. Histochemistry* 18:115-117, 1995 ; (2) *CellVision* 2:165-169, 1995)

### CoverWell™ Perfusion Chamber Gaskets

CoverWell perfusion chamber gaskets are designed for live-cell imaging on upright or inverted microscopes at high magnification. They form watertight "press-to-seal" chambers with dual-access ports for addition and removal of perfusing media. Then, they are removable for permanent mounting.

Chamber Depth	Chamber dimension*	Nb of chambers	Sample volume	Cat.#	Qty
0.5 mm	20 mm diameter	1	180 µl	FP-M21221	40
1.0 mm	20 mm diameter	1	300 µl	FP-M21231	40
2.5 mm	20 mm diameter	1	750 µl	FP-BB2591	20
0.5 mm	32 x 19 mm <sup>2</sup>	1	350 µl	FP-M21101	40
1.0 mm	32 x 19 mm <sup>2</sup>	1	550 µl	FP-M21111	40
2.5 mm	32 x 19 mm <sup>2</sup>	1	1500 µl	FP-BB2611	20
0.5 mm	19 x 6 mm <sup>2</sup>	4	70 µl	FP-M21181	40
1.0 mm	19 x 6 mm <sup>2</sup>	4	110 µl	FP-M21191	40
2.5 mm	19 x 6 mm <sup>2</sup>	4	300 µl	FP-BB2671	20
0.5 mm	9 mm diameter	8	35 µl	FP-M21261	20
1.0 mm	9 mm diameter	8	30 µl	FP-M21271	20
2.0 mm	9 mm diameter	8	100 µl	FP-M21281	10
2.5 mm	9 mm diameter	8	150 µl	FP-821091	10



\* CoverWell chambers are also available in 0.5 mm depth 22 x 22 mm chamber.

### Press-to-seal Silicone Isolators and Secure-Seal Adhesive Spacers

**Silicone isolators** allow researchers to isolate specimens with removable hydrophobic barriers. They may be used to isolate cells grown in culture dishes, or separate multiple specimens affixed to microscopic slides. Isolators remain sealed to smooth surfaces during washing steps. Non-adhesive isolators are autoclavable, and reusable.

Silicone isolators are available in silicone thickness 0.5 to 2.0 mm precut or as sheet material with or without secure seal clean release adhesive on one or both surfaces.

Seal Silicone surfaces quickly using flexible RNase free, Hybrislip™ covers (FP-BB2501).

Number of Wells	Well Dimensions	Depth	Cat. # Silicone/ Silicone	Cat. # Silicone/ adhesive	Cat. # Adhesive/ Adhesive	Qty per package
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#### Press-to-Seal silicone isolators

1	20 mm diameter	0.5 mm	FP-M21441	FP-Q93311	€	50
1	20 mm diameter	1.0 mm	FP-M21451	FP-Q93321	€	50
8	9 mm diameter	0.5 mm	€	FP-Q93221	€	25
8	9 mm diameter	1.0 mm	€	FP-Q93231	€	25
24	4.5 mm diameter	2.0 mm	€	FP-Q93361	€	25

#### Secure-Seal adhesive spacers

1	13 mm diameter	0.12 mm		FP-Q93291		100
1	20 mm diameter	0.12 mm		FP-Q93301		100
8	9 mm diameter	0.12 mm		FP-Q71751		100

#### Press-to-Seal silicone sheets (13 cm x 18 cm)

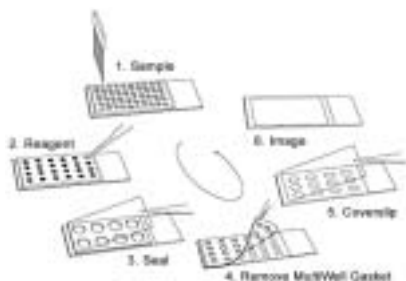
NA	NA	0.5 mm	FP-M21481	FP-Q93541	€	5
NA	NA	1.0 mm	FP-M21491	€	€	5
NA	NA	2.0 mm	FP-M21501	€	€	5



NA : Not applicable  
€ : On request

# Immunologicals - Accessory reagents

## IHC/ICC/IF technique



See also  
Secure Seal Incubation Chambers, and HybriSlip™  
Hybridization  
Covers, 60 x 24 mm<sup>2</sup> (FP- BB2501).

### ONCYTE® MultiWells with Slide and Matching Gasket

Oncyte® MultiWells system is designed for cyto-chemical high throughput screening. It consists of a glass microscope printed with multiple nitrocellulose dots, and a matching removable gasket to enclose and isolate each sample.

Nitrocellulose is formulated for fluorescent imaging : microporous and ultra-thin coating ensures uniform binding of cells and macromolecules. Nitrocellulose becomes transparent for microscopy and imaging using a variety of mounting media.

Removable silicone multiwells-gaskets isolates specimens and reagents to prevent cross contamination. Press-to-seal™ silicone chambers, that seal easily on multiwells, can be put to cover samples during incubations, to prevent evaporation. Multiwells gaskets are then cleanly and easily, peeled off, and a coverslip is positioned to proceed sample observation.

Number of Wells	Well Dimensions	Cat.#	Qty
<b>ONCYTE® MultiWells with slides</b>			
1	13 mm diameter	FP-Q93551	20
8	9 mm diameter	FP-BB2691	20
12	5 mm diameter	FP-Q93561	20
24	3 mm diameter	FP-BB2701	20
<b>Secure Seal Incubation Chambers</b>		FP- BB2711	
(13 mm diam, 0.8 mm depth, 90 µl sample)			50

### Glass Coverslips

These coverslips are optically clear glass ideal for mounting onto your specimens prior to viewing. The coverslips are clean and ready for use. The 22 x 60 mm size assures complete coverage when using our 3 ring barrier slides (Cat# Q69990), or when large samples are being processed.

Description	Cat.#	Qty
Glass Coverslips 22 x 60 mm	Q69980	10 u

### Treated Glass Microscope Slides

These slides are specially treated to promote electrostatic adhesion of your tissue or cell samples. The slides are frosted on one end allowing you to clearly identify each sample by labeling with a pencil or histology pen. The slides are precleaned and ready for use.

Description	Cat.#	Qty
Treated Glass Microscope Slides	Q69970	100 u
Treated Glass Microscope Slides with 3 Ring Hydrophobic Barrier	Q69990	100 u

### Hydrophobic Coverslips

These coverslips are made of a specially treated rigid plastic that produces a hydrophobic surface that assures rapid and even distribution of reagents over the entire sample being labeled. The coverslips should be used to conserve reagents when larger sample areas are being labeled. Unlike glass coverslips that may not wet evenly and may be too heavy to allow sufficient reagent to contact the sample, these coverslips float easily on small volumes of labeling reagents. Unlike wax film or other commercially available coverslips, these coverslips are rigid, preventing uneven distribution of labeling solutions. The coverslips are packaged in rows of 5 with a protective film coating.

Description	Cat.#	Qty
Hydrophobic Coverslips 22 x 40 mm	Q70020	100 u

### HybriSlip™ Hybridization Covers

HybriSlip Hybridization Covers are high quality covers for in-situ microscopy on glass slides, hybridization as well for in-situ PCR and hybridization to genomic arrays.

Product is ready-to-use without pretreatment.

HybriSlips are 0.25 mm thick and very clear, for optimal light transmission, but remain flat and will not curl, even at high temperatures. Lower weight than glass minimizes friction and facilitates uniform reagent distribution.

RNase free, hydrophobic covers will not trap or bind probes to their surfaces like glass coverslips.



\* : Also available in 25 x 25 mm, 40 x 24 mm, 50 x 24 mm, 50 x 45 mm.  
& : HybriSlips. FP-M2154 suits Oncyte® MultiWells (page A382).

Chamber dimension*	Cat.#	Qty	Cat.#	Qty
22 x 22 mm <sup>2</sup>	FP-M21541	200 u	FP-M21542	1000 u
40 x 22 mm <sup>2</sup>	FP-M21551	200 u	FP-M21552	1000 u
60 x 22 mm <sup>2</sup>	FP-M21561	200 u	FP-M21562	1000 u
60 x 24 mm <sup>2</sup>	FP-BB2501	100 u		
Adhesive seal tabs	FP-M21591	200 u		

### Attofluor Cell Chamber

Attofluor cell chamber is a durable and practical coverslip holder designed for viewing live-cell specimens on upright or inverted microscopes. Please inquire for additional information.

Description	Cat.#	Qty
Attofluor cell chamber for microscopy	FP-410741	1 u

**BioScience Innovations** is primarily comprised of life sciences professionals who has established a solid foundation of knowledge, experience and valuable customer collaboration. This unique background has settled us as a leading company in life sciences solutions focused on advancing scientific and biomedical research worldwide.

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e-mail : [interbiotech@interchim.com](mailto:interbiotech@interchim.com)

# Immunologicals - Accessory reagents

## IHC/ICC/IF technique

### Substrates and kits for IHC

Convenient kits for improved staining and signal amplification are available, including enzymatic substrate solutions and secondary antibodies. Please refer to other sections for other general use reagents (buffers and saturants, I and II antibodies, enzyme substrates,...), and in chapter E for IHC/IF kits by applications.

#### Selection guide

Product	Detected IgG Ab	Amplification type	HRP substrates	AP substrates	Comment	Sensitivity	page
UltraVision Kits	Mouse Rabbit Polyvalent (mouse&rabbit)	streptavidin-biotin (biotinylated II Ab with spacer-arm + streptavidin-Enzyme)	AEC DAB	BCIP/NBT FastRed	Ready-to-use Economical	+++	A385
UltraVision Plus Kits	Polyvalent (mouse&rabbit)	streptavidin-biotin (biotinylated II Ab with spacer-arm + streptavidin-Enzyme)	AEC DAB	FastRed	Reformulated and balanced components for rapid results (i.e. automated systems)	+++	A385
UltraVision Mouse-on-Mouse Kits	Mouse (for use of mouse I Ab on mouse tissue)	streptavidin-biotin (biotinylated II Ab with spacer-arm + streptavidin-Enzyme)	AEC DAB	BCIP/NBT FastRed	Includes a proprietary blocking step that considerably reduces background staining	+++	A385
UltraVision LP Kits	Polyvalent (mouse&rabbit)	New generation polymer system (smaller polymer that enhance the labeling of target proteins by minimizing the molecular common with larger polymers)	AEC DAB	FastRed	Enhanced signal amplification irrespective of the target location (membrane, nuclear, or cytoplasmic) Eliminate avidin/biotin background problems	+++++	A386
UltraVision LPvalue Kits	Polyvalent (mouse&rabbit)	Same system as UltraVision LP	AEC DAB	FastRed	A more economical version of UltraVision LP	++++	A386
Op-Metal Enhanced DAB Kit	Not included	DAB/Zn	DAB		Optional 2 colore staining Cost effective	+++	A384
ADHP peroxidase	Not included	ADHP	Resorufin	-	Fluorescent	+++++	

#### Op-Metal Enhanced DAB kit

A stable solution developed to give enhanced color reaction with low background.

The reagents supplied are sufficient for making 300 ml working solution. The kit allows for the staining in reddish/brown and/or in blue/black, as the enhancement with metal is optional.

Description	Cat.#	Qty
Op-Metal Enhanced DAB kit	679921	300 ml
Contains :		
<ul style="list-style-type: none"> <li>● DAB Substrate</li> <li>● Peroxide Substrate</li> <li>● Metal Enhancer</li> </ul>		

#### Literature

1. (1981) J. Histochem. Cytochem. Vol.29, No.6:775
2. (1989) J. Clin. Pathol, 42:875-880

See other substrate solutions (BCIT/INT, BCIP.NBT) in section "Substrates" page A357.

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### UltraVision Standard Detection kits

UltraVision is our standard and most economical detection system. It produces a high signal-to-noise ratio and high sensitivity at an economical price. UltraVision is based on labeled streptavidin-biotin technology. Specifically, the secondary reagent is a anti-mouse and/or anti-rabbit IgG conjugate biotinylated with a «spacer-arm». The spacer arm technology allows for more efficient spatial binding of tertiary streptavidin conjugate component by eliminating steric hindrance. The tertiary component, streptavidin, is enzyme-bound (HRP or alkaline phosphatase). Finally, developing with a chromogenic substrate mixture completes antibody detection. The product is ready-to-use and does not require secondary and tertiary component mixing or the long incubation times that are common with Avidin-Biotin-Complex detection methods. Furthermore, UltraVision is stable for at least one year.



		number	reagents of slides	anti Mouse volume (ml)	anti Rabbit	polyvalent anti Mouse + Rabbit
Alk.	BCIP/NBT	75-150	15	G19080	G19260	G19130
Phos	Fast Red	75-150	15	G19090	G19270	G19140
	Large Volume	300-600	60	G19100	G19300	G19160
	(chromogen not supplied)	625-1250	125	G19101	G19301	G19161
HRP	AEC	75-150	15	F91690	G19280	G19150
	DAB	75-150	15	R67940	G19290	T93680
	Large Volume	300-600	60	G19120	G19320	G19180
	(chromogen not supplied)	625-1250	125	G19121	G19321	G19181

### UltraVision Plus Detection kits

UltraVision Plus is a traditional detection system reformulated for rapid IHC staining using purified and balanced components. The biotinylated «spacer-arm» conjugate is a pre-absorbed goat anti-mouse and anti-rabbit cocktail that links to a streptavidin-enzyme conjugate. This carries carefully selected, high-reactivity enzymes for signal generation using our well-established chromogens to provide superb, clean signals. UltraVision Plus is extremely efficient. It has been designed to give rapid results for urgent work and to optimize throughput on automated systems. UltraVision Plus follows traditional methods with three simple 5-minute incubation steps.

		Number of slides	Reagents volume (ml)	Polyvalent anti Mouse + Rabbit
Alk. Phos	Fast Red	75-150	15	G18890
	Large Volume	300-600	60	G18960
	(chromogen not supplied)	625-1250	125	G18961
HRP	AEC	75-150	15	G18920
	DAB	75-150	15	G18950
	Large Volume	300-600	60	G18970
	(chromogen not supplied)	625-1250	125	G18971

### UltraVision Mouse-on-Mouse Detection kits

UltraVision Mouse-on-Mouse is a research detection system for visualizing mouse-hosted primary antibodies on mouse tissues. Based on our UltraVision detection system (see above), a proprietary blocking step is added to the procedure to reduce Immunological cross-reactivity innate to the system. The additional blocking step considerably eliminates non-target detection system binding thus decreasing unwanted background staining. Often, when attempting to visualize mouse primary IgG's on mouse tissues, ordinary methods not only bind to the primary antibodies, but to naturally occurring mouse IgG's as well. The UltraVision Mouse-on-Mouse eliminates non-target detection system binding for a cleaner, more useful IHC stain.

		Number of slides	Reagents volume (ml)	Anti Mouse
Alk. Phos	BCIP/NBT	75-150	15	G19190
	Fast Red	75-150	15	G19200
	Large Volume	300-600	60	G19220
	(chromogen not supplied)	625-1250	125	G19221
HRP	AEC	75-150	15	G19210
	DAB	75-150	15	Q49000
	Large Volume	300-600	60	G19240
	(chromogen not supplied)	625-1250	125	BC4840

# Immunologicals - Accessory reagents

## IHC/ICC/IF technique

### UltraVision LP Detection kits

UltraVision LP uses the latest in polymer technology. Polymeric labeling systems have been shown to provide simpler, problem-free detection with significant increases in sensitivity. Our new generation polymer system uses a smaller polymer subunit to enhance the labeling of target proteins by minimizing the molecular conflicts common with larger polymers. Enhanced binding produces better signal amplification, consistent performance irrespective of the target location (membrane, nuclear, or cytoplasmic), and ultimately greater sensitivity. With UltraVision LP, you use less antibody, eliminate avidin/biotin background problems, improve signal-to-noise ratio, and increase sensitivity for the most economical use of your valuable antibodies.

		Number of slides	Polyvalent anti Mouse + Rabbit
AP Polymer	Fast Red	75-150	GI9000
	Large Volume (chromogen not supplied)	300-600	GI9060
		625-1250	GI9061
HRP Polymer	AEC	75-150	GI9030
	DAB	75-150	BE0220
	Large Volume (chromogen not supplied)	300-600	GI9070
		625-1250	GI9071

### UltraVision LP Value Detection kits

UltraVision LP Value is a polymer system based on the same technology used in the UltraVision LP, at a more economical price. It offers high sensitivity and signal amplification comparable to UltraVision LP. As with UltraVision LP, you use less antibody, eliminate avidin/biotin background problems, improve signal-to-noise ratio, and increase sensitivity.

		Number of slides	Reagents volume (ml)	Polyvalent anti Mouse + Rabbit
AP Polymer	Fast Red	75-150	15	BM6460
	Large Volume (chromogen not supplied)	300-600	60	BM6510
		625-1250	125	BM6511
HRP Polymer	AEC	75-150	15	BM6480
	DAB	75-150	15	BM6500
	Large Volume (chromogen not supplied)	300-600	60	BM6520
		625-1250	125	BM6521

### ADHP Peroxidase Assay Kit \*Fluorimetric\*

ADHP Peroxidase Assay Kit uses highly purified ADHP to quantify peroxidase activity in solutions, in cell extracts and in live cells and on solid surfaces (such as PVDF membranes). The kit can be used for characterizing kinetics of enzyme reaction and high throughput screening of oxidase inhibitors. The kit contains: ADHP peroxidase substrate (Ex/Em=573/590 nm upon oxidation), Calibration standard, Reaction buffer, Stop buffer, An optimized 'mix and read' assay protocol that is compatible with HTS liquid handling instruments

Description	Cat.#	Qty
EnzoLyte™ ADHP Peroxidase Assay Kit *Fluorimetric*	HT0680	500 assays

### Fixative agents for ImmunoHistology

- ◆ Paraffin embedding is commonly performed to maintain the specimen during the thin sectioning in a microtome. Paraffin is usually removed (dissolved) before staining procedures by incubations in xylene/toluene. Interchim provides a much faster and safer agent, Histochoice® Clearing agent.
- ◆ Precipitation by immersion in cooled organic solvents as Ethanol, Methanol, Acetone, are commonly used to make the specimen stick on slide and resist to further incubations and washes. Sample is dehydrated, proteins are coagulated, stability is generally improved, and antigen recognition is often preserved. However, significant shrinkage of specimens may occur (up 50% of cells size !), giving 3D confocal images senseless. Acidic precipitation does not well preserve cellular structures. These are also hazardous products, with shipment/storage regulations. FluoProbes® provides a superior reagent, Histochoice® MB Tissue Fixative, safer than xylene and formalin based fixatives.
- ◆ Crosslinking agents form covalent bounds between active groups of biomolecules, as formaldehyde, glutaraldehyde, DSS and EGS do with amines. It is largely used for fluorescence microscopy. Crosslinking may however alter the tertiary structure of antigenic sites reducing or preventing correct probing (i.e. antibody recognition). Therefore, additional steps may be useful to recover probing sites, as protease digestion or microwave exposure. All these parameters require optimizations for each sample.

### Histochoice, EGS, DSS

Description	Cat.#	Qty
HistoChoice® MBTissue Fixative	67284A	100 ml
	67284B	1 L
	67284C	4 L

Also available as pre-filled cups for transporting samples

A superior mounting media for histology with antibody as well nucleic acid probes.

- Preserves antigenic sites and nucleic sites in their native state (no protein-protein or -DNA or -RNA crosslinks, maintaining ligand binding).
- Better nuclear and cytoplasmic details, even after long-term fixation : Tissues retain natural look compared to formalin fixed tissues (stabilization of structures, not a chemical fixation).
- Often increases considerably probing site density, and detection of finer structures, allowing to use more diluted antibodies (2-10 fold more diluted !, saving cost on every slide !).
- Non-toxic, not pungent, safe\*
- Rapid : 15-20min for cells, 45min for tissues slides, 2-3H/cm<sup>3</sup> for tissues.

\* Histochoice contains no glutaraldehyde, formaldehyde or mercury. It is environment friendly.

HistoChoice® Clearing agent	41925A	4 L
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A superior replacement for Xylene/Toluene.

- Safer to user than xylene/toluene (less hazardous and lower evaporation than xylene).
- Faster wax dissolution.
- Compatible with aqueous media.
- Works with isopropanol in automated processors.
- Can be recycled by distillation.
- Coverslips can be easily removed by immersion.

EGS	28067A	2 g
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Ethylene Glycol-bis-succinimidyl succinate

$C_{18}H_{20}N_2O_{12}$  MW : 456.37

16.1 Å spacer

Reacts with amines at pH 7-9.

The spacer is cleavable by mild alkaline conditions (i.e. pH 8.5 with hydroxylamine).

Sulfo-EGS	24455A	2 g
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$C_{18}H_{18}N_2O_{12}S_2Na_2$  MW : 660.45

16.1 Å spacer

Same features than EGS, but with water solubility.

DSS	28065A	1 g
-----	--------	-----

Dissuccinimidyl suberate

$C_{16}H_{20}N_2O_8$  MW : 368.35

11.4 Å spacer

Reacts with amines at pH 7-9.

Sulfo-DSS (BS3)	54940A	100 mg
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$C_{16}H_{18}N_2S_2O_{14}Na_2$  MW : 572.43

11.4 Å spacer

Same features than DSS, but with water solubility.

### Technical tip

#### Sample preparation

Several fixations, mounting, and other sample treatment techniques are required for different goals and applications :

- ◆ Inclusion of sample material (tissues) in resin or wax for microtome sectioning
- ◆ Fixation of sample material (cells and tissues) on slides: chemical fixation, microwave, freeze substitution,...
- ◆ Harden samples (i.e. embryos) to solve problems due to their softness caused by long hybridization procedures
- ◆ Permeabilization of cell membranes to allow the visualization of intracellular located antigens (i.e. with TritonTMX100)
- ◆ Immobilization of labile or soluble molecules weakly bound to cells (i.e. crosslinking)
- ◆ Denaturation of molecules, demasking of epitopes... to allow probing (use of surfactants, proteases...)

Each sample preparation technique affects more or less the image quality and results significance (i.e. creates artifacts, structure damage). The selection of a specific fixation protocol will be dictated by several factors, including sample nature, size and thickness, microscopic and detection technique.

Chemical agents are commonly used during most of fixation technologies. An ideal fixative should penetrate cell or tissues rapidly, preserve cellular structures, not prevent probe binding, not cause autofluorescence, and eventually act as an antifading agent.



Mucicarmine stain in mucosa fixed with formalin

# Immunologicals - Accessory reagents

## IHC/ICC/IF technique

### Mildform® fixatives

Mildform® fixatives for pathological tissues, are neutral buffered formalin solution prepared with Lillie's formulation and wine extract. Mildform minimizes the irritating and unpleasant odor of formalin. With regard to operational safety, formalin can be recognized by minimum degree of odor.

- ◆ More suitable for tissue fixation of immunohistochemical staining by an immunoenzymatic technique
- ◆ Fixation and osmosis are equivalent or greater to that of neutral buffered formalin solution.
- ◆ Available with 10, 15 and 20% neutral buffered formaldehyde, without (N) or with (NM) methanol

	10% formaldehyde		15% formaldehyde		20% formaldehyde	
Midform® N	<b>BM1091</b>	1L	<b>BM1111</b>	1L	<b>BM1131</b>	1 L
Midform® NM	<b>BM1101</b>	1L	<b>BM1121</b>	1L	<b>BM1141</b>	1 L

### Epitope recovery / Tissue pretreatments

Formaldehyde fixation impairs or totally destroys the immunoreactivity of many antigens and epitopes. The negative effect of formaldehyde fixation can be reversed successfully with enzymatic digestion for some markers while not for others.

Non-enzymatic epitope unmasking techniques have been recently introduced to improve the immunoreactivity of many antigens in formaldehyde fixed tissues. Heat-Induced Epitope Retrieval (HIER) in Citrate buffer, EDTA or Tris-HCl buffer, has been reported to improve the reactivity of many antibodies in formal-fixed tissues.

#### Heat-induced epitope retrieval

Citrate Buffer (10X) pH6.0	EDTA Buffer (10X) pH8.0	Tris-HCl (10X) pH10.0
<b>FM2091</b> (50 ml)	<b>U17300</b> (50 ml)	<b>BM7060</b> (50 ml)
<b>FM2092</b> (125 ml)	<b>U17301</b> (125 ml)	<b>BM7061</b> (125 ml)
<b>FM2093</b> (500 ml)	<b>U17302</b> (500 ml)	<b>BM7062</b> (500 ml)
Also available in 100X format	Also available in 100X format	Also available in 100X format

### Enzyme-induced epitope retrieval

#### Pepsin Solution

Pepsin solution (pH 2.0) is supplied as a single-component in a ready-to-use format for immunohistochemical staining of formalin-fixed, paraffin-embedded tissues.

Description	Cat.#	Qty
Pepsin solution	<b>BF3080</b>	5 ml

#### Protease XXV pH7.4

Protease XXV is a digestive enzyme commonly used for unmasking of epitopes in formalin-fixed, paraffin-embedded immunohistochemical procedures. Protease XXV is very effective in improving the immunoreactivity of certain antigens in formaldehyde fixed tissues.

Description	Cat.#	Qty
Protease XXV	<b>Q94630</b>	(reconstitute to 2 ml, 1 mg/ml)
Protease XXV	<b>Q94631</b>	(reconstitute to 5 ml, 1 mg/ml)

### Trypsin Solution

Easy-to-use dropper format : **AG6640** (3ml A+ 1ml B)

Trypsin solution is supplied as a two-component system. Before use, mix 3-drops of solution-A with 1-drop of solution-B for digestion of formalin-fixed, paraffin-embedded tissue sections.

Large volume format : **243871** (125ml buffer + 30ml trypsin concentrate)

Combine Trypsin concentrate with buffer in 1:3 (one part to three parts) for a working solution of 0.125% Trypsin solution

Description	Cat.#	Qty
Trypsin Solution Easy-to-use dropper format	<b>AG6640</b>	3 ml A+ 1ml B
Large volume format	<b>243871</b>	(125 ml buffer + 30 ml trypsin concentrate)
Proteinase K, 20 mg/ml Solution	<b>718960</b>	5 ml

### Other epitope retrieval methods

#### NeuroPore™

NeuroPore is a non-proteolytic permeabilization and blocking reagent developed. Many tissues of the central nervous system are fragile and do not tolerate harsh proteolytic treatment. NeuroPore provides a gentle method for the permeabilization of tissues prior to in situ labeling. In addition, NeuroPore is an ideal antibody diluent for use in double labeling experiments: antigenic determinants are retained during permeabilization and can be detected using standard immunohistochemical techniques.

Description	Cat.#	Qty
NeuroPore™	<b>383331</b>	2 x 5 ml

#### Cytonin™

Cytonin offers an alternative to Proteinase K for permeabilizing cells and tissues prior to labeling. Cytonin is a protease free, saponin-based buffer designed specifically for in situ detection of apoptosis. Cytonin should be used when protease treatment must be avoided. For example, it may be used for tissues with low cellularity or little connective tissue that do not withstand protease treatment.

Cytonin-IHC is a special formulation including blocking reagent designed specifically for double labeling experiments, especially for the detection of DNA fragmentation in conjunction with immunohistochemistry on antigens that are sensitive to proteolysis.. Cytonin IHC is used as a convenient time-saving antibody diluent for immunohistochemistry, allowing you to simultaneously perform your primary antibody incubation and permeabilization of your sample for in situ detection of apoptosis. In fact, use Cytonin IHC as a diluent for your secondary antibody too.

Description	Cat.#	Qty
Cytonin™	<b>Q70051</b>	2 x 5 ml
Cytonin IHC™	<b>Q70061</b>	2 x 5 ml

# Immunologicals - Accessory reagents

## IHC/ICC/IF technique

### Blocking reagents for IHC

#### Hydrogen Peroxide block

Hydrogen Peroxide Block has been formulated for use with immunohistochemical techniques. It is designed to quench endogenous peroxidase that can cause nonspecific background staining in enzyme labeling methods. Peroxidase within red blood cells may be difficult to quench entirely.

Description	Cat.#	Qty
Hydrogen Peroxide Block	FM2151	60 ml
	FM2152	125 ml

#### Rodent block (ready-to-use)

Optimized for use of mouse antibodies on mouse tissue. Incubate 60-70 min after traditional blocking, then apply primary antibody.

Description	Cat.#	Qty
Rodent block	S53351	60 ml
	S53352	125 ml

#### Human Serum IHC formulated

See also section "Saturating agents" page A352.

Description	Cat.#	Qty
Human Serum	AP4440	50 test
	AP4441	1250 tests

### Counterstaining

#### Blue counterstain

Blue counterstain unlike Methyl Green works well in neuronal tissue, and is also a good choice for double-labeling with brown or red detection systems

Description	Cat.#	Qty
Blue Counterstain	Q69520	50 ml

#### Red Counterstain C

Red Counterstain C provides an alternative for a Fast Red counterstain.

Description	Cat.#	Qty
Red Counterstain C	Q69260	50 ml

#### DAPI

Description	Cat.#	Qty
DAPI	AP4460	50 tests
	AP4451	1250 tests

#### Hematoxylin (Natural Black 1)

$C_{16}H_{14}O_6 \cdot 3H_2O$  MW : 356.3  
Cl : 75290

Nucleic chromogenic stain used for general animal histology. Also used as an indicator (Red to yellow over pH 0 to 1, or light yellow to violet from pH 5 to 6).

Description	Cat.#	Qty
Hematoxylin (Natural Black 1)	091920	25 g

### Mayer's Hematoxylin

Mayer's Hematoxylin is a stain with histological applications. This formula is based on the original formulation developed by Mayer and requires slightly longer application periods.

It stains Nuclei in blue.

Description	Cat.#	Qty
Mayer's Hematoxylin	09192G	60 ml
	09192H	125 ml

### Methyl Green counterstain

Methyl green stains nuclei in blue/green with histological applications. Methyl green stain is free of cresyl violet contamination and provides excellent contrast with DAB detection systems.

Description	Cat.#	Qty
Methyl Green counterstain	254614	60 ml
	254610	125 ml

### Nuclear Fast Red Solution

Nuclei are red, cytoplasm is pale pink

Description	Cat.#	Qty
Nuclear Fast Red Solution	G18810	60 ml
	G18818	125 ml

### Propidium Iodide

Description	Cat.#	Qty
Propidium Iodide	AP4470	50 tests
	AP4471	1250 tests

See page D155 for more DNA probes labelling.

# Immunologicals - Accessory reagents

## IHC/ICC/IF technique

### Technical tip

#### Mounting

A frequently used method involves embedding with a glycerol (glycerin) solution, and covering sample with a thin glass coverslip. Problems with this classic method and other techniques, notably for soft and thick samples (i.e. embryos), are:

- ◆ Deformations of 3D cell structures, cell morphology (up crushing), and tissue (dissociation). This may be limited by using lighter and supported coverslips (see our Hybrislips and Coverwell imaging devices), as well lower viscosity mounting media, or stronger fixation.

- ◆ Light transmission interference and fluorescence quenching or fading. To overcome fading of fluorescence from many classic dyes, especially fluoresceins, addition of reagents as p-phenylenediamine (PPD), n-propyl gallate (NPG), or 1,4-diazobicyclo[2,2,2]-octane (DABCO) have been proposed.

## Mounting and antifading

Mounting of slides that have been fixed, stained or hybridized allows correct light transmission for microscopy analysis and proper storage.

### Mounting Medium

Mounting Medium is a high quality, optically clear, toluene based mounting medium. This mounting medium is ideal for mounting samples for IF. Mounting samples helps protect the specimen from damage and helps produce a clear image for microscopic visualization and photography.

Description	Cat.#	Qty
Mounting Medium	Q70000	25 ml

### HistoChoice® Mounting media

A mounting media of choice !

- ◆ For standard slide preparations.
- ◆ Suits both thick or thin specimen mounting.
- ◆ Bubble-free slide preparation (thanks to low viscosity).
- ◆ Compatible with Histochoice clearing agent.
- ◆ Does not crack or splinter with age and will not discolor
- ◆ Compatible with immersion oil microscopy.

Description	Cat.#	Qty
HistoChoice® Mounting media	41927A	120 ml

### Fluoromount G

An mounting and anti-fading media of choice !

Fluoromont G contains a water-soluble, non-fluorescing compound for slides mounted after a staining procedure having an aqueous final step. Benefits are :

- ◆ Reduces fluorochrome quenching during analysis of slides by fluorescence microscopy.
- ◆ Provides a semi-permanent seal for long-term storage of slide preparations
- ◆ Can be combined with DAPI or other counterstains

Description	Cat.#	Qty
Fluoromount G	FP-483331	25 ml

### Biomeda™ Gel Mount

An aqueous mounting medium designed for preserving the fluorescence in the tissue sections, recommended for phycoerythrin, phycocyanin, allophycocyanin or FluoroBlue. It can also be used with conventional fluorescent tracers such as fluorescein (FITC), Rhodamine (TRITC), SRIOI, Cy2, Cy3 and Cy5. It is not intended to be dried.

Description	Cat.#	Qty
Biomeda™ Gel Mount	AL2560	20 ml

### Biomeda™ Crystal/Mount

A standard water-based mounting medium for universal use in IHC. It is designed especially for the permanent preservation of immunoperoxidase and immunoalkaline phosphatase stained tissue sections, with organic solvent-soluble chromogen substrates such as AEC, 4-Chloro-1-Naphthol, BCIP/INT, BCIP/INT, and Fast Red TR/Naphthol AS-MX. Its excellent optical characteristics enhances the contrast of substrates, while preserving their color and intensity. Also, DAB stained sections can be mounted immediately from water, thereby eliminating the time and reagent expense required for dehydrating and clearing the slides in xylene. It does not need coverslips.

Description	Cat.#	Qty
Biomeda™ Crystal/Mount	BT0780	30 ml

### Vision Mount

Vision Mount is formulated for covering tissue sections and cell preparations immunohistochemically stained with chromogens producing alcohol soluble OR alcohol insoluble end products.

Vision Mount can be used with chromogens such as Fast Red or AEC that require an aqueous mounting medium, or those that do not, such as DAB. No heating is required prior to use. This product is optimal for use **both with and without a glass coverslip**.

Description	Cat.#	Qty
Vision Mount	BT0900	60 ml
	BT0901	125 ml

### Glycerol

Used as anti fading and mounting agent for slide preparation

$C_3H_8O_3$  MW : 92.10

Purity > 99.0 %

Heavy metals < 0.0005 %

RNase, DNase free

Description	Cat.#	Qty
Glycerol, biotech grade	047623	1 L
	047624	4 L
Glycerol, proteomics grade	04762K	1 L
	04762K	4 L
Glycerol, sterile	421690	100 ml
Glycerol, 20 % solution, sterile, Biotech grade	127613	100 ml

### Antifade reagent

Description	Cat.#	Qty
Antifade reagent	AP4450	50 tests

### Fluorescence LED : module and microscope

A cost effective, unique, original and alternative light source system for fluorescence microscopy.

The fluorescence FRAEN A.F.T.E.R.\* LED Module is a unique, original and alternative light source system for fluorescence microscopy. The compact module can be easily installed onto a conventional microscope, without modifying, or interfering in any way with the existing microscope set-up or performance.

Fluorescence LED Module replaces traditional Mercury or Xenon lamps and transforms any microscope to an easy-to-use, cost-effective high calibre fluorescence device.

After installation of the module the microscope can be used with white light at any time. There is no alteration to, or reduction of the original performance. The new excitation system is based on use of a unique, **high intensity LED** (Light Emitting Diode) that provides a long-life consistent and instant source of light for all fluorescence microscopy applications.

LEDs are semiconductors that emit light when an electric current passes through them. They are available in the visible spectrum (red, orange, amber, yellow, green blue, white), UV and IR; thus allowing different excitation wavelengths.

We offer either a **single module**, which can be fitted to most microscopes (Zeiss Axiostar plus, Olympus CX-series), or a **complete fluorescence system** based on either a Zeiss Axiostar plus, or Olympus CX31 microscope already equipped with the fluorescence module.

#### Features

- ◆ High performance
- ◆ High efficiency
- ◆ Higher Signal/Noise ratio
- ◆ Low consumption
- ◆ Low complexity
- ◆ Low maintenance cost



A.394

#### A. ADAPTOR MODULE INCLUDING :

Clamp-on adaptor  
High Reflectance Mirror  
Color Temperature balancing filter  
(Halogen Lamp Use)  
Special Abbe Condenser - 0.85/1.25  
Ring Spacer for Emission  
Filters  
Electronic Dimmer  
110/220VAC / 7.5VDC Transformer

#### B. LED LIGHT SOURCE CASSETTE

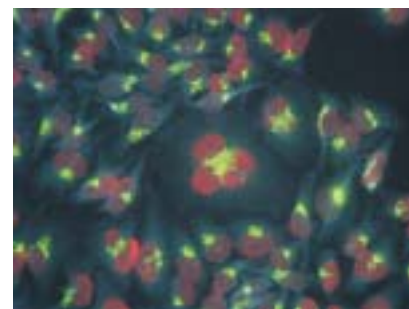
UV	365 nm
RoyalBlue	450 nm
Blue	475 nm
Green	535 nm
Yellow	590 nm
Red	635 nm

C. Emission Filters Slit - 3 positions  
(1 Filter included)

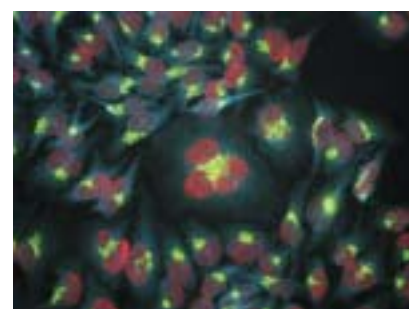
\* FRAEN A.F.T.E.R is a trademark of FRAEN Corporation S.r.l

### Selection guide

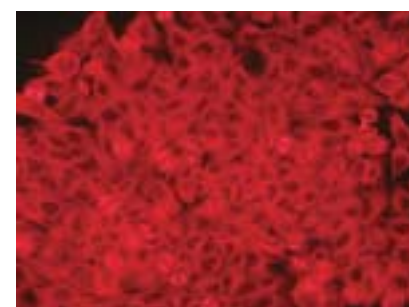
High pressure Hg lamps	LEDs	Key point
1 Baseline spectrum from UV to IR plus few sharp and bright emission lines	Very high brightness narrow spectral band from UV to IR	Available from UV to IR
2 100 Watt	3 Watt (equivalent to 100 Watt lamps)	High power : 90% within 15 nm band High efficiency Low consumption
3 Excitation filters required for each wavelength Out of band noise typically $10^{-6}$	Excitation filters required for each wavelength Out of band noise typically $10^{-8}$	Selective Higher S/N ratio
4 Bulbs life < 300 hours and must be on for hours to insure long-life	50 000 hour lifetime and unaffected by instant on-off switching	Long life High consistency Lower maintenance costs
5 Replacement and handling is hazardous	Replacement rare with 50 000 hour working life. LED replaced in an instant with no set-up problems	Cost reduction Safety
6 Lamps require frequent adjustments	No adjustment needed	Time-saving Easy-to-use
7 Require expensive and high power supply	Low voltage 7.5 vDC power supply and driver	Cost reduction Power saving
8 Needs expensive dichroic filters for epi-illumination	No filters needed Uses transmitted illumination	Cost reduction Low complexity
9 Specimens fade rapidly and can be "cooked" by the heat output	Lower rate of fluorochrome fading No heat produced by LEDs	Allows longer observation time even with critical fluorochromes



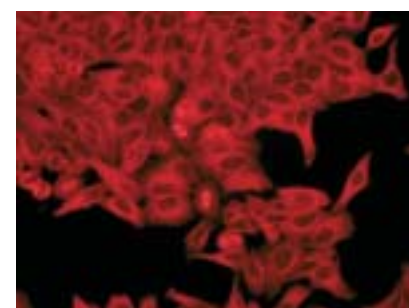
Olympus BX51 Hg100W UV Ex. LP420nm



Zeiss Axiostar plus AFTER 365nm UV Cassette LP420 Em



Olympus BX51 Hg100W Green Ex. Red Em



Olympus CX31 AFTER 535nm Green Cassette LP580 Em

### Description

Description	Cat.#
Zeiss Axiostar plus Microscope	BN1360
Includes : Microscope + FRAEN A.F.T.E.R. adaptor kit	
Olympus CX31 Microscope	BN1370
Includes : Microscope + FRAEN A.F.T.E.R. adaptor kit	
FRAEN A.F.T.E.R. Module for Zeiss Axiostar plus	BN1380
Includes : electronics, mechanics & slit	
FRAEN A.F.T.E.R. Module for Olympus CX31	BN1390
Includes : electronics, mechanics & slit	
A.F.T.E.R. filter slits	BN1400
A.F.T.E.R. LED cassettes – visual	BN1410
A.F.T.E.R. LED cassettes – ultra violet	BN1420