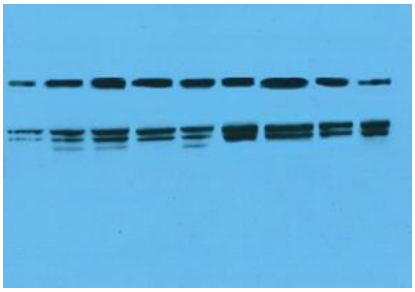
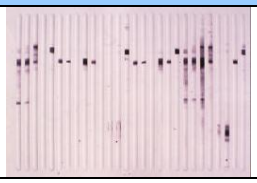
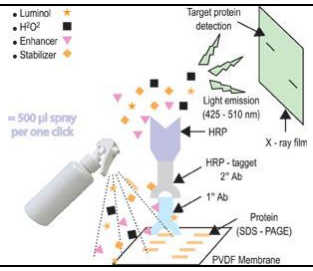
P02E

Blotting products [407]

Interchim provides a full range of products to perform Blotting techniques. Reagents are selected to yield best results in your immunoassays. All the applications can be performed on the imagers from our partner BERTHOLD Technologies (see collaboration).



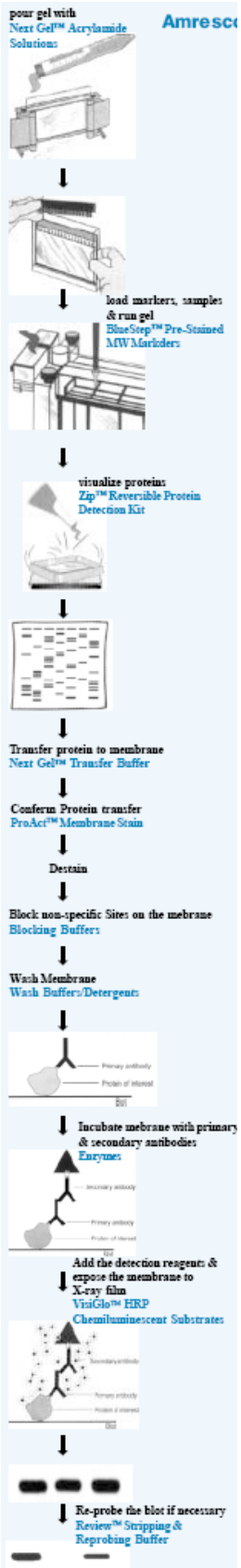
The below BioScience innovation catalog selects outstanding products
from our on line catalog PW407 (web page and search engine, with prices and technical sheets)
See more categories, i.e. Accessory Immunoreagents[] ; other Immunodetection Techniques[]; Primary Antibodies[] and Secondary Antibodies[]; Electrophoresis[].

Highlighted products	
Immunoblotters Devices to make clean immunoblots, easier operating of multiple samples	
Fast Semi-Dry Blotter : high quality & throughput semi-dry transfer from protein gels in less than 10 min	
RapidBlock saturating agent A general use solution to speed saturation and block antibodies in down 5min!	see also albumin at 30% and Seablock [BA353b]
Fluorescent probes for Blotting For very sensitive detections onto blots, for example, DDAO can be combined with our great green emitting FluoProbes®488 for double labeling on blots.	
TMB Blotting Solution: One component sensitive substrate for HRP chromogenic staining in blotting	
BCIP/NBT Blotting & IHC Solution: Sensitive substrate for AP chromogenic staining	
Rapid Western Blotting kits Western blotting from transfer to development under 1 hour	
UptiLight ECL HRP WB Substrates – the best of ECL detections, from routine to femto level sensitivity. Exists as one component in spray! And accessory reagents: radiographicfilms, glow pen,	
Immunoprecitation blotting analysis: Anti-IgG, Light Chain Specific, labeled antibodies for Western Blotting	
See more products for Blotting on line[], and in the BioSciences on-line catalogue > Immunodetections tools[] > **primary and secondary antibodies, buffers and saturating agents**	

Index of Catalogue - Blotting products

Catalog of Blotting products

Western/ImmunoBlotting pathway ()



Electrophoretic gels

See Electrophoresis solutions in Chapter C.
(**Acrylamide solutions, NEXT gels, GebaGels,...**)

Load markers, samples and run

See **Electrophoresis reagents** in Chapter C.

Visualize proteins or Stain the gel

See **Electrophoresis stainings** in Chapter C.
(**ProSave, CooBlue, Silever stain, Lumitein, LavaPurple**)

Transfer proteins to membrane

Protran, Nytran, Westtran membranes
Transfer buffer

Confirm protein transfer, and destain

(**ProAct membrane stain**, **LavaPurple**)

Block non-specific binding sites, and wash

See Saturating agents in Section D3 (**BSA, Seablock**…)
See **Buffers and detergents** in Chapter C.

Immunostain: incubate I Abs
incubate II Abs or SAV reagents
incubate HRP or AP substrate

See **PrimAbs** Chapter E.
See **Secondary antibodies**
MiniBlotter systems to probe multiple antibodies
Rapid Western Blotting Kits, 1H from transfer to staining

Technical tip - WesternBlotting

Western Blotting was popularized as a rapid and sensitive method for characterizing purified proteins or complex mixtures of proteins.
Western blotting consists in the separation of proteins by gel electrophoresis (usually by the high resolution of SDS-PAGE technique, eventually combined to IEF for so-called 2D electrophoresis) followed by the transfer of these proteins on a membrane to obtain a blot.
Immunoblotting combines this technique with the specificity and sensitivity of immunodetection. In fact, the blot can be easily probed to detect specific proteins (antigens) with monoclonal or polyclonal antibodies. The detection with a secondary antibody and chromogenic or chemiluminescent reagents allows visualizing usually <1 ng of antigens among 10^{ths} of bands (WB), or 100^{ths} of spots (2D). Immunoblotting is the major application for Western Blotting that's why it is usual to talk of Western Blotting as a general technique, including Immunoblotting.

Unlike ELISA techniques, Western blotting allows the researcher to specifically visualize and characterize (by MW, pI) the antigen(s) of interest. It replaces advantageously immunoprecipitation technique and it is often used subsequently to clarify results. Limitations include:
1-Some proteins are not correctly detected because of SDS denaturation, membrane adsorption, low transfer to membrane (high MW), or un-sufficient membrane binding (low MW).
2-the WB analysis is rather difficult to scale up, and multiple analysis of a same blot is possible only when performing chemiluminescence detection.(please have a look at "Blotting reprobing" paragraph).

Several tips were proposed to address these limitations: (i.e. addition of 0.1 % SDS as well reduction of the methanol concentration (to 10% or below) in the transfer buffer for high MW proteins, choice a smaller pore size membrane for low MW proteins, ...

Uptima & FluoProbes expertise in Blotting assays

Focusing on today laboratory needs, **Uptima**® provides useful standard immunologicals for Blotting techniques (HRP, AP, Biotin labeled secondary antibodies; precipitating TMB substrates).

Focusing on fluorescence and luminescence technologies, **FluoProbes**® provides useful tools for Blotting techniques with immunologicals FluoProbes labeled antibodies . FluoProbes in the IR range allow multicolor detection on blots.

Interchim and Berthold Technologies collaboration

INTERCHIM, a provider of consummables for life sciences, and BERTHOLD TECHNOLOGIES, a leader in microplate instrumentation technology, have entered into a collaboration agreement to offer complete instrumentation and reagent solutions.

Berthold Technologies provides versatile image scanner for all comprehensive technologies used in today´s laboratory.

[NightHawl picture]

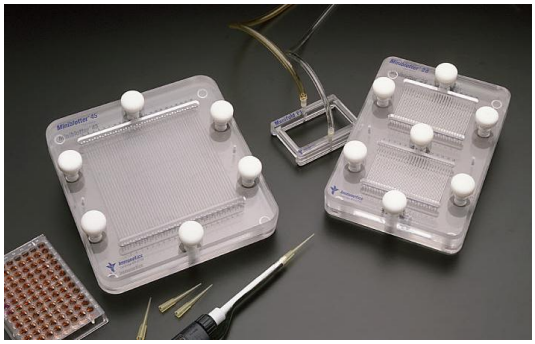
For instrument information,

please contact: Berthold France SAS

Parc Technologique des Bruyères
8, route des Bruyères
78770 Thoiry –France
Phone: (+33) 1 34 94 79 00
Fax: (+33) 1 34 94 79 01
E-mail: France@Berthold.com

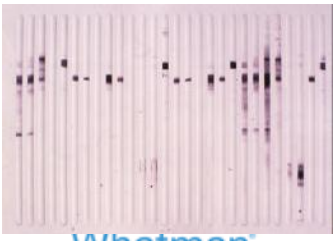
Blotter systems [700]

■ Miniblotter™



The Miniblotter™ instruments enable you to perform multiple antibody or probe incubations on a single membrane, using microliter volumes of reagent. Typical applications include monoclonal antibody screening on western blots, animal and human serum screening, and DNA probe hybridizations. Sample processing is streamlined through use of the Washing Manifold, which enables washing of all sample lanes simultaneously. Reactions can be detected by all conventional methods, including enzyme conjugates, chemiluminescence and radiolabels.

- For membrane assays including Western, Northern, and Southern Blots and Checker-board Blots
- Requires **microliter** volumes, not milliliter volumes
- Multiple samples analyzed simultaneously
- No cross-contamination between channels
- Decrease processing time
- All results on a single membrane, no need to strip
- Compatible with all standard electrophoresis systems



See the **Miniblotter presentation**[] [PW700] and prices&technical sheets

Blotting membranes

Whatman
Part of GE Healthcare

Blotting Membrane Selection Guide

	Protran	Optitran	Nytran N	Nytran SuPerCharge	Westran S	Westran Clear Signal
MEMBRANE TYPE:	Nitrocellulose, 100% pure	Nitrocellulose, reinforced	Nylon, moderately positively charged	Nylon, highly positively charged	PVDF	PVDF
APPLICATIONS:	Western, Southern, Northern blotting...	Western, Southern, Northern blotting...	Southern, Northern blotting...	Southern, Northern blotting...	Western blotting... Sequencing	Western blotting...
BINDING	75-110 µg/cm^2	75-90 µg/cm^2	>400 µg/cm^2	>600 µg/cm^2	>50-100 µg/cm^2	>50-100 µg/cm^2
PORE SIZES:	0.45 µm 0.2 µm 0.1 µm	0.45 µm 0.2 µm -	0.45 µm 0.2 µm -	0.45 µm - -	- 0.2 µm -	0.45 µm - -
TRANSFER METHODS:						
Semi-dry Blotting	++	++	++	++	++	++
Tank Blotting	++	++	++	++	++	++
Vacuum Blotting	++	++	++	++	+	+
Capillary Blotting	++	++	++	++	+	+
Alkaline Method	not recommended	not recommended	++	++	not recommended	not recommended
IMMOBILIZATION:						
UV-crosslinking, DNA, RNA	++	++	++	++	-	-
Baking (80° C), DNA, RNA	++	++	+	+	-	-
Drying, DNA, RNA	-	-	+	+	-	-
Drying, Protein	++	++	-	-	++	++
DETECTION METHODS:						
Colorimetric	++	++	+	+	++	++
Chemiluminescent	++	++	++	++	++	++
Isotopic	++	++	++	++	++	++
Fluorescent	++	-	-	-	-	-
REPROBING:	limited	++	++	++	++	++

++ recommended
+ satisfactory

More similar products: inquire +

■ Protran Nitrocellulose Membranes

Protran nitrocellulose membranes are the most frequently specified transfer media in the world for a wide range of applications. Protran membranes are manufactured using 100% pure nitrocellulose - no cellulose acetate added - to ensure the highest binding capacity possible. Other membranes referred to as "nitrocellulose" may actually contain large amounts of cellulose acetate, which will lower the protein binding capacity. In addition to high binding capacity, Protran nitrocellulose membranes inherently have very low background. The superior surface properties of the membrane guarantees superior signal-to-noise ratios, without the need for stringent washing conditions. Unlike PVDF membranes, Protran nitrocellulose requires no methanol pre-wetting step. This makes it the membrane of choice for proteins that prefer aqueous environments. Prior to transfer, the membrane is simply wet in water and then in the transfer buffer, with no other necessary pre-treatment steps. Protran membranes exhibit the best handling strength of all pure nitrocellulose membranes.
Triton-free matrix with low extractable levels will support the cell growth essential for colony blotting, plaque lifts, and tissue culture applications.

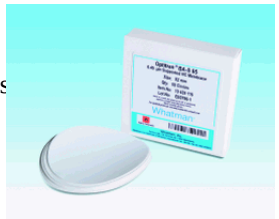
Features:
- ■ High binding capacity (80-150g/cm2) of proteins and nucleic acids.
- ■ 100% pure nitrocellulose - ensures the highest binding capacity possible.
- ■ Compatible with virtually all standard detection methods.
- ■ Low background - superior signal-to-noise ratios.
- ■ Available in many sizes and formats to fit different transfer devices and gel chambers.

Applications:
- ■ Any blotting technique,

i.e. immunoblotting (Western-Blot)

Nitrocellulose Blotting Membranes	BA79 NC membranes 0.1µm		BA83 NC membranes 0.2µm		BA85 NC membranes 0.45µm	
Size	cat #	Qty/pack	cat #	Qty/pack	cat #	Qty/pack
Sheets						
20 x 20 cm	**BN3651** **BN3652**	**5** **25**	**S31441** **S31442**	**5** **25**	**BN3801** **BN3802**	**5** **25**
30 x 60 cm	**BN3671**	**5**	**875900**	**5**	**324621**	**5**
Rolls						
20cm x 3m			**BN3851**	**1**	**U60630**	**1**
30cm x 3m	**BN3831**	**1**	**BN3841**	**1**	**U60640**	**1**

Also available: **Optitran Supported Nitrocellulose Membranes**



Optitran™ membrane consists of 100% pure nitrocellulose supported by an inert polyester nonwoven material within the membrane. The support does not affect transfer conditions or results and gives the membrane exceptional handling characteristics, allowing it to be reprobed repeatedly.
Optitran binding capacity: 75 to 90 µg/cm2; autoclavable (liquid cool cycle)

Optitran BA-S 83 Sheets, 20 x 20cm	**10439391 , 25/pk**
Optitran BA-S 83 (Roll), 0.2um, 20cm x 3m	**10439394, 1/pk**
Optitran BA-S 83 (Roll), 0.2um, 30cm x 3m	**10439396, 1/pk**

■ Nytran Nitrocellulose Membranes

Nytran® nylon membraneare available in 2 formats - a moderately charged nylon and a very high positive charged nylon. Both are cast uniformly on both sides of a support matrix, demonstrating excellent symmetry. This gives the membrane the ability to lie flat without curling.

- Consistent membrane Morphology, contrasting with wide range of pore size of standard nylon membranes
- Low background.

1250 X scanning electron micrographs

The **Nytran N membrane** is ideal for applications that require a lower charge. It is designed for Southern and Northern blotting as well as colony & plaque lifts and Dot-/Slot-blots. Nytran N is compatible with isotopic and non-isotopic detection methods.

Nytran N membrane allows for excellent signal-to-noise ratios. Nytran N membrane is a highly consistent membrane with uniform pore size and distribution. It is available in 0.2 µm and 0.45 µm pore sizes for optimal retention of oligos and larger DNA fragments.

The **Nytran® SuPerCharge (SPC) nylon membranes** have a very high positive charge and higher density of nylon per unit area providing increased binding sites for your samples.

Nytran SPC membranes show a very uniform pore size and pore distribution compared to typical nylon membranes. They are free of surface microvoids which are common in other membranes. These characteristics lead to greater reproducibility of results across a membrane and from blot to blot.

Unlike with typical manufacturing techniques, where increasing positive charge tends to increase background, Nytran SPC membranes allows the combination of high positive charge with low background. Whether using radioactive or non-radioactive detection techniques, Nytran SPC consistently gives high signal with extremely low background.

Ordering Information :

Nytran® Nylon Membranes*			
Catalogue Number	Pore Size (µm)	Size	Quantity /Pack
Sheets			
BP7740-10416085	0.2	20 x 20 cm	10
BP7760-10416063	0.2	25 x 25 cm	10
BP7770-10416080	0.2	30 x 60 cm	5
BP7780-10416185	0.45	20 x 20 cm	10
BP7790-10416130	0.45	11 x 14 cm	10
BP7810-10416163	0.45	25 x 25 cm	10
BP7830-10416180	0.45	30 x 60 cm	5
Rolls			
BP7860-10416094	0.2	20 cm x 3 m	1
BP7870-10416096	0.2	30 cm x 3 m	1
BP7880-10416194	0.45	20 cm x 3 m	1
BP7890-10416196	0.45	30 cm x 3 m	1
Disks			
BP7720-10416124	0.45	137 mm diam.	50

Nytran® SPC Nylon Membranes*			
Catalogue Number	Pore Size (µm)	Size	Quantity /Pack
Sheets			
BP7960-10416289	0.45	10 x 15 cm	10
BP7970-10416287	0.45	15 x 20 cm	10
BP7980-10416285	0.45	20 x 20 cm	10
BP7990-10416230	0.45	11 x 14 cm	10
BP7800-10416284	0.45	15 x 15 cm	10
BP8010-10416263	0.45	25 x 25 cm	10
BP8020-10416280	0.45	30 x 60 cm	5
BP8050-10416291	0.45	22.2 x 22.2 cm (3)	48
Rolls			
BP8060-10416294	0.45	20 cm x 3 m	1
BP8070-10416296	0.45	30 cm x 3 m	1
Microwell plate	format		
HN9430-10416257	0.45	82 x 120mm Black Grid	10
Disks			
BP7930-10416224	0.45	132mm diam.	50
BP7910-	0.45	82mm diam.	50

* Nytran Binding Capacity: >400 µg/cm2
(1) The corners are notched for use with the Minifold® I System.
(2) Cut to fit the Minifold II Slot-Blot System.
(3) Macroarray membrane size
£: on inquire.

■ Westran PVDF membranes

Westran S is used for protein sequencing - 0.2 µm pore size hydrophobic
■ Highest protein binding capacity over (200 µg/cm²) for easy signal detection
■ Chemical resistance needed for N-terminal sequencing
■ High protein retention even after harsh wash steps
■ Maximum capture of proteins during transfers minimizing sample loss
■ Compatible with use for non-sequencing Western blotting applications
■ Available in popular pre-cut sizes for your application

Western Clear Signal is used for Western Blotting and protein dot-blotting applications - 0.45 µm pore size
■ High protein binding ability (125 µg/cm²) to eliminate "blow-through"and increase signal over a wide range of molecular weights
■ Extremely low backgrounds with chemiluminescent and colorimetric applications providing you with clear signals and sharp bands.
■ Excellent results with general protein stains such as Coomassie® Brilliant Blue, Amido Black, and Ponceau S.
■ Increased strength (withstands over 400 psi) allows for multiple stripping and reprobing which results in savings.

Ordering Information :

Westran S for protein sequencing - 0.2 µm pore size hydrophobic, protein binding capacity over (200 µg/cm²)

10-413-052	**Westran S PVDF, 10 x 10cm (sheets), 10/pk**
10-485-290§	**Westran S PVDF, 15 x 15cm (sheets), 10/pk**
10-485-291§	**Westran S PVDF, 20 x 20cm (sheets), 10/pk**
10-413-096§	**Westran S PVDF, 26cm x 3m (roll), 1/pk**

Western Clear Signal for Western Blotting.- High protein binding ability (125 µg/cm²). Ideal for ECL

10-485-289§	**Westran Clear Signal PVDF, 30cm x 3m, (roll), 1/pk**
10-413-054	**Westran (0.2um) PVDF, Microplate 96-well format, 74 x 116mm, 10/pk**

§: on inquire only (Items cannot be cancelled or returned. Average lead time is 6-8 weeks but can range up to 16+ weeks..)

■ TOTALBlot **membranes and kits**

Search here[416] or Inquire for other blotting membranes and kits +

Blotting papers

■ Whatman **Blotting membranes**

Whatman 3MM Chr paper is the world's most widely used blotting paper. This acceptance and usage reflect the high quality, purity and consistency that are relied upon by researchers doing Southern, Northern and Western transfers.
It is available in several thicknesses. Extra-thick papers ensure high buffer absorbance, reduce the number of layers hence the risk of trapping air bubbles.
3MM paper is used extensively in electrophoresis for lifting of sequencing gels. **GB004** has been popularized for capillary blotting of nucleic acids, and **GB005** for semi-dry blotting of proteins. Also available on inquire:
-the **GB003** 0.8 mm thick paper #10-426-892,
-the **31 ET** paper #3031-915, an extremely fast 0.5 mm thick paper with a fairly soft surface.

Blotting paper	**3MM** (0.34mm thick)		17Chr (0.92mm thick)		**GB004** (1mm thick)		**GB005** (1.5mm thick)	
Size	cat #	Qty/pack	cat #	Qty/pack	cat #	Qty/pack	cat #	Qty/pack
15x20cm	**GJ5192** 3030-6185	**100**			**GJ6910** 10-427-912	**100**		
20x20cm	**BP2761** 3030-861	**100**			GJ8550§ 10-427-918§	100	GJ5930§ 10-426-981	25u
46x57cm	**BP2771** 3030-917	**100**	BP2781§ 3017-915&917	25u	**BP2791** 10-427-926	**100**		
19cm x 100m	**307220** 3030-690	**1**						

§: items and other formats available on inquire.

Buffers, saturating agents for Blotting techniques

See Accessory reagents for Immunodetections:

Saturating/ Blocking Agents [416] | Buffers [415] | Enzymatic Substrates for IA [417] | Other [418]

Control & Staining of blot transfer

■ Blotting membrane transfert control

ProAct™ membrane stain confirms rapidly right transfer of proteins from the gel to the nitrocellulose or PVDF membranes prior to immunostaining.

- **Very Fast** - Stains protein bands in as little as 2 minutes
- **Sensitive** - Comparable to Ponceau S
- Completely **Reversible** - Destain with distilled water
- **Convenient** - Ready-to-use stain solution
- **Quality** - Provides excellent results for photography
- **Safe** - No harmful solvents

ProAct blotting membrane stain **IU6420, 1L**
Confirm protein transfer efficiently and faster than Ponceau S !

Related products

Interchim provides also standard **ponceau S** stain, and a reversible fluorescent ultrasensitive, **Lavapurple stain**.

Ponceau stain **200785, 50ml** **200786, 500ml**
A popular stain for protein blots. See Ponceau S powder #050268 and Concentrate #200786
Ponceau **050268, 50g** **050269, 100g**
LavaPurple Gel & Blot protein stain **67433A, 1 kit**
A fluorescent ultrasensitive (160ng protein), and reversible and safe!

■ Blotting membrane stains

See **CooBlue™ Protein Gel Stains** that can be used to stains blots using proper protocol.

Search here[416] or Inquire for other blotting products +

■ Antigen-Antibody pens™

Ag/Ab Pens allow you to put marks on blots (the MW weight scale or every different lanes) and visualize them after a chemiluminescent detection. There is no need to compare your radiography with the gel or the blot. Solves uneven positioning, orientations, size change... while serving as a positive control of the detection system. The biotin pen can apply to any species.

Antigen/Antibody-Pen – Biotin tagged I Ab	**BN4390, 1u**
Antigen/Antibody-Pen – Goat tagged I Ab	**BN4380, 1u**
Antigen/Antibody-Pen – Mouse tagged I Ab	**BN4370, 1u**
Antigen/Antibody-Pen – Rabbit tagged I Ab	**BN4360, 1u**

- Pen should be chosen from the same specie as primary antibody : annotations will be visible only if the right secondary was used. That's why the pen can also be used as a positive control.
- Antigen Pens are formulated with Color-coded dyes : **Red** dye for **R**abbit, **Green** dye for **G**oat, and **Black** dye for **M**ouse primary antibodies.
- Pens are independent of the label of the secondary antibody.
- They are stable for 6-12 months and sufficient to mark 100-1 000s of blots.

Blocking/saturating agents

■ Seablock blocking reagents

A non-mammalian reagent containing saturating agent, in particular for chemiluminescent detections

- Overcomes non-fat milk, BSA, Gelatin, FBS... in many immunoassays
- Suits immuno-enzymatic detection techniques, especially ELISA and Blotting
- Suits chromogenic and chemiluminescent systems
- Non-mammalian nature prevents interactions with immunoreagents (i.e. mammalian antibodies)
- Lower background
- Excellent to saturate high binding surfaces, and Glutaraldehyde activated Amine polystyrene (when BSA is respectively a good but not excellent or a poor blocker).
- Also available in special formulations (serum free in PBS or TBS buffer) for nitrocellulose lateral flow assays

SeaBlock (standard, excels as a blocker in ELISA)	**UP40301A, 500 ml**	Technical sheet
SeaBlock (standard, excels as a blocker in WB)	**UPAM7281, 500 ml**	Technical sheet
SeaBlock, serum free in PBS (for lateral flow assays)	**UPAP1370, 500 ml**	Technical sheet
SeaBlock, serum free in TBS (for lateral flow assays)	**UPAP1380, 500 ml**	Technical sheet

■ RapidBlock saturating agent

A general use solution to speed saturation and block antibodies

RapidBlock™ Solution, 10X **DZ7330, 15ml** **DZ7331, 100ml**

RapidBlock™ Solution, 10X, reduces blocking time to 5 minutes for Western and Dot Blotting procedures on PVDF and nylon membranes. The protein-free formulation minimizes crossreactivity and non-specific antibody binding to generate blots with low backgrounds and enhanced signal-to-noise ratios. Results with RapidBlock™ meet or exceed those obtained with buffers containing dried milk or BSA that require I hour of blocking time. The sensitivity is even enhanced for dried milk-blocked membranes using chemiluminescent substrates.

■ Quick Block saturating agents

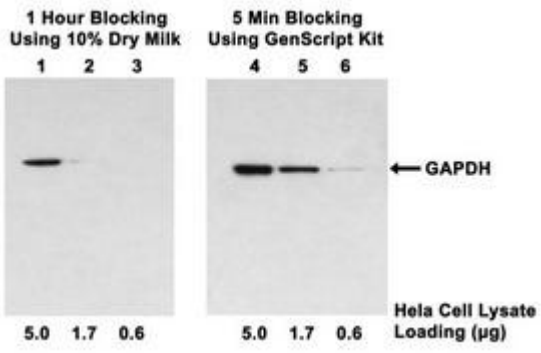
A great solution to speed saturation and block antibodies that fat-free milk is ineffective in blocking

In immunological assays such as Western blot and ELISA, widely used fat-free milk is effective in blocking for up to 80% of antibodies in a routine one-hour procedure. The remaining 20% of antibodies, however, cannot be appropriately blocked with fat-free milk due to cross reactivity between an antigen and the blocking reagents causing high background in ImmunoBlots and ELISA, sometimes so much that the antigen cannot be detected clearly.

The **Quick Block Kit** speeds the blocking to only five-minute, as effective as fat-free milk for blocking of most antibodies. It can also be used to block any other solid surface, such as the microtiter plates used for ELISA.
The **Quick Block Optimization Kit** provides a quick selection of best blocking reagent for the antibodies that fat-free milk is ineffective in blocking. Using four different Quick Block reagents (A to D) provided in each kit, researchers can quickly find the best reagent combination for any primary antibody.

Key Features:

- Quick procedure: The Quick Block system takes only five minutes.
- Increased sensitivity: Quick Block makes your Western detection more sensitive.
- Quick optimization: Finding the best blocking reagents in only few hours
- Ease of performance: offer a quick and simple procedure.



Western QuickBlock Kits

QuickBlock Kit **QZ9120, 1 Kit**
Contains 2x100ml Pretreat A solution, and 2x100ml Pretreat B.

QuickBlock Optimization Kit **QZ9140, 1 Kit**
Contains 100ml Pretreat A-a –b, -c and –d solutions, and 2x100ml Pretreat B and a 5-slot Dot blot plate.

Customized kits with each pretreat solution are available (#QZ9150, QZ9160, QZ9170, QZ9180).

■ Other saturating agents

See sections for general use saturating agents, and for ELISA, IHC/IF.

- Pierce WB blocking buffers, BA353p

Search here[416] or Inquire
for other blocking/saturating agents +

Chromogenic Blotting detection

■ TMB Blotting Solution (One Component)

Sensitive TMB based substrate for chromogenic staining in HRP blotting techniques

The substrate forms a stable blue precipitate at the side of positive reaction in blotting procedures with peroxidase labelled antibodies..
The substrate has a good sensitivity on different types of membranes*. The best results are obtained on Nitrocellulose membranes.
TMB Blotting is safer and more sensitive to use than DAB or AEC in peroxidase based immunoassays. It may be necessary to dilute the primary antibody 10-25 times more. It is available in an optimized formulation (PLUS) for highest sensitivity.
Our TMB blotting solution is offered in 2 formulations, the standard #295885 with 4 year stability, a version for highest signal #29588A but 2year ½ stability. None contain harmful organic solvents or toxic stabilizers.

TMB Blotting Solution (One Component)	**295885, 100ml**	**295886, 500ml**	**295887, 1L**
TMB Blotting Solution (One Component) PLUS	**29588A, 100ml**	**29588B, 500ml**	**29588C, 1L**

■ BCIP/NBT Blotting Solution (One Component)

Sensitive substrate for chromogenic staining in Alkaline Phosphatase blotting techniques

Uptima BCIP/NBT one component solution that develops in presence of AP a dark blue/purple colour precipitating at the site of reaction. The intense blue/purple precipitate is very stable and resists to fading when exposed to light. This substrate is the ideal choice for accurate, sensitive results in WesternBlotting (nitrocellulose, PVDF…) and ICH (immobilized cells).

BCIP/NBT ready to use solution	**UP099851, 100ml**

■ Other Blotting Substrates

A variety of other chromogenic substrates for HRP and AP are available in powder or other formats. See 'Enzymatic Substrates'
-example for AP (Alkaline Phosphatase):
opDAB staining kit #UP099851 (optional bi-color detection)
-example for HRP (HorseRadish Peroxidase):
CN/DAB Substrate Kit #295920

Search here or Inquire for other chromogenic products +

Rapid Western Blotting kits are described in the following pages (for WB from transfer to development in less than 1 hour)

Fluorigenic Blotting detection

Fluorigenic blotting substrates can be used in multiplexed detections provided abs/em emission spectra and filters are compatible. I.e. DDAO can be combined with our great green emitting FluoProbes®488 for double labeling on blots.

Along with popular substrates such as **FDP** #24119A for AP or **Resorufin** #FP-95432B for HRP, a variety of other fluorigenic substrates for HRP and AP are available in powder or other formats, as well as luminogenic substrates. See the section Enzymatic substrates, and also the IHC substrates.

DDAO phosphate, blot substrate; MW: 422.20	**FP-73967A, 5mg**
FDP (fluorescein diphosphate) CAS[217305-49-2]; MW:560.4	**FP-72573A, 5mg**
MUP (4-methylumbelliferyl phosphate) CAS[3368-04-5]; MW: 256.15	**FP-24119A, 100mg**
DiFMUP (6,8-difluoro-4-methylumbelliferyl phosphate) CAS[214491-43-7], MW:292.13	**FP-58657A, 5mg**

See 'Enzymatic substrates' for more details

Related products – for multiplex detections-:

- Lumitein, protein gel stain, CI8760
- LavaPurple, protein blot&gel stain, 67433A
- FluoProbes® (IR dyes FP-FPstd ; 488 NHS-ester FP-BA6800)

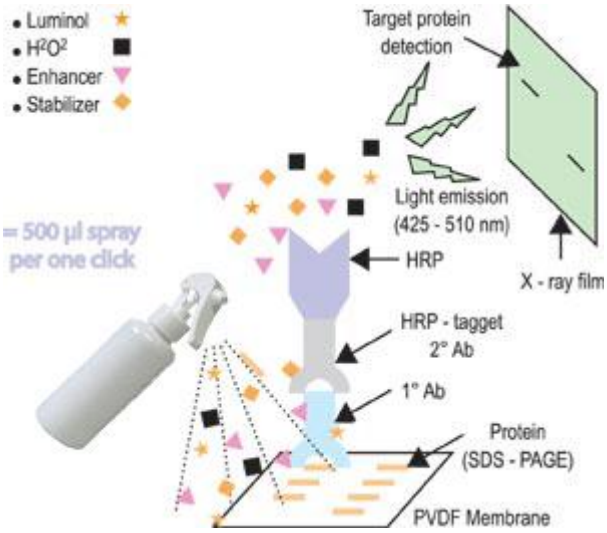
Search here or Inquire for other fluorigenic products +

Chemiluminescent blotting detection (ECL)

■ UptiLight WB HRP Chemiluminescent Substrates

Increase 10 times the net signal of your usual luminol reagent, for ultra-sensitive peroxidase based immunoassays.

- High signal with minimal background
- 3 sensitivity levels – pico or less, pico to femto, and femto ranges
- Signal stable up to 1 hour
- Reagent stable >18 months at 4°C
- Easy to use: mix, incubate 5 min, read



Technical Tip
The luminol was introduced as a convenient and effective chemiluminescent substrate, overcoming the performances (and first, the sensitivity) of classical insoluble chromogenic substrates (incl. OPD, TMB, DAB). The principle consists of the generation of light by the by-products of the chemical reaction from peroxidase (HRP, PO) upon the substrate. The emission of glow is then recorded by luminometer at 425nm (in tubes, or in wells of ELISA microplates). The use of luminescent substrates is most recommended for quantitative assays requiring extended dynamic range of detection or qualitative assays requiring the best achievable detection limit (highest sensitivity).

UptiLight optimized for western blotting applications
comes in following convenient formats :

- ***UptiLight classic*** #UP99619A is **the most cost effective ECL** product in the market.
- ***UptiLightOne spray*** #BM4961 provides maximal convenience and gain of time:
  just spray this ready-to-use **one component** reagent !
- ***UptiLight HighSensitivity (HS)*** #98490A is a very sensitive and economic ECL substrate
  for detections in the **pico to mid-femto gram range**
- ***UptiLight UltraSensitivity (US)*** #58372A provides ultimate sensitivity
  for most demanding applications, covering the **femto gram range** detections.

UptiLight Classic WB HRP Chemiluminescent Substrate A cost effective reagent for routine analysis. 2 components to mix v:v. Technical sheet.	**UP99619A, 500ml**	
UptiLightOne SPRAY (1 component) A convenient format (1 component) for routine analysis. Contains 100ml, 1 clic=~0.5ml. Technical sheet	**BM4961, 2500cm2**	
UptiLightOne Dropper(1 component)	**BM4963, 200ml**	
UptiLight HS WB HRP HighSensitivity Chemiluminescent Substrate A cost effective reagent for routine analysis, when only pico mole detection is required. pg range detection Contains reagent A and B, to be mixed v:v. Technical sheet	**98490E, 50ml**–trial size **98490B, 500ml**	**98490A, 200ml** **98490C, 1000ml**
UptiLight US WB HRP UltraSensitivity Chemiluminescent Substrate The ultimate sensitivity formulation – for femto gram range detections Contains reagent A and B, to be mixed 2:2. Technical sheet	**58372E, 24ml**–trial size **58372B, 120ml**	**58372A, 60ml** **58372C, 300ml**

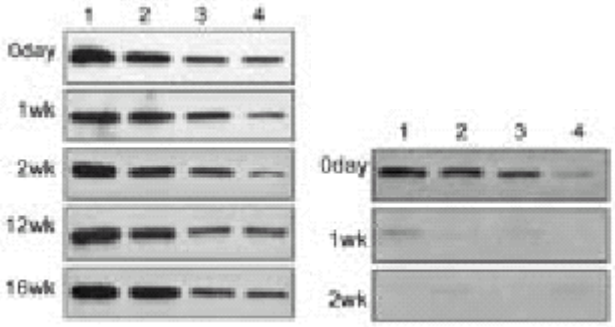
***Comparative study**: Signal & photostability*:
The different Substrates (UptiLight, ECL (E), ECL +(E+), SS West pico (SP) were compared on a blot of IgGs revealed with an HRP labeled anti IgG. Blots were scanned simultaneously during 1minute with a phosphorImager™ after a 16min to 2Hours incubation ot the blot with substrate.

Blots imaging after 15min:

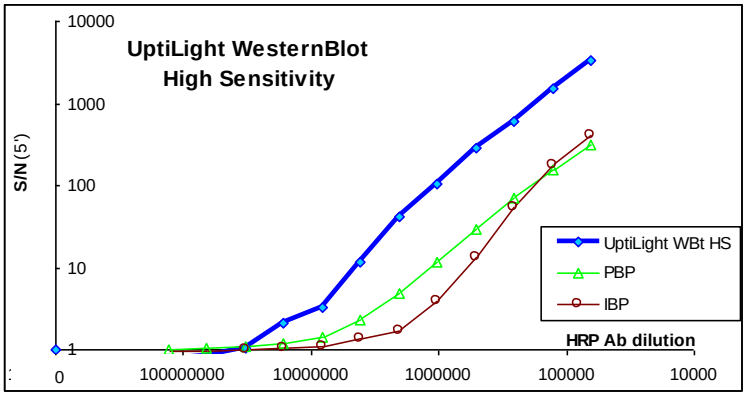
interchim
211 bis Av. J.F. - BP 1140 03103 Montluçon Cedex - Tel. 33 (0) 4 70 03 88 55 - Fax 33 (0) 4 70 03 82 60
e-mail interchim@interchim.com - web www.interchim.com

Superior reagent stability

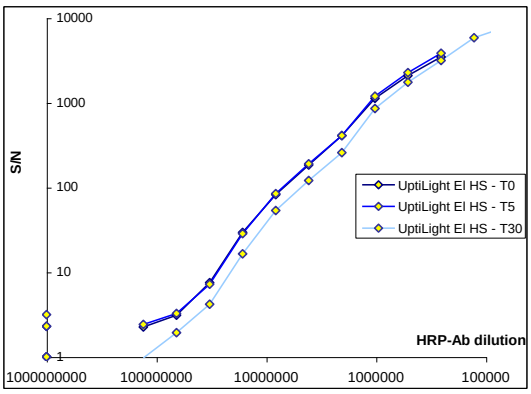
a-tubulin (20, 10, 5, 2µg in lanes 1. 2. 3. 4) detected by WB using UptiLight One Spray (A) shows substrate activity is not affected for weeks compared with a mix of A and B reagents from a competitor Enzyme ChemiLuminescent reagent (B)



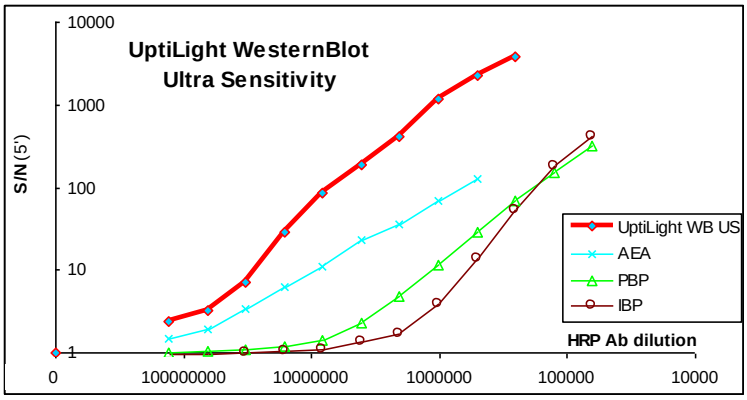
Superior sensitivity in the pico-femto range



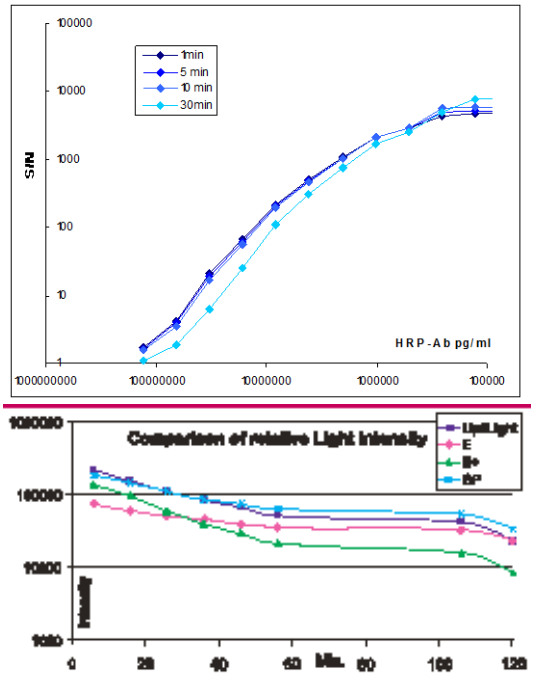
Photostability



Superior sensitivity in the femto range



Photostability



Also available:

SuperSignal products (WB Pico #984900-34080, Femto #583720-34095, Dura #223770-34075, ECL #U44571-32109)
VisiGlo products (WB HRP #BV000-N218, WB HRP Plus #BV3010-N219)

Search here[416] or Inquire for other chemiluminescent substrates for WB +

[]

■ Related products:

Blotting membranes: see above.
Western Blot recycling kit #L7710A

■ UptiLight WB Alk.Phos Chemiluminescent Substrates

Increase 10 times the net signal of your usual ecl reagent, for ultra-sensitive AlkalinePhosphatase (AP) based immunoassays.

This chemiluminescent substrate is based on dioxetane and designed of a wavelength with a max emission at 450 or at 450nm. Optimized one-component formulation provides:

- safety - contains no organic solvents
- low background with a high signal to noise ratio
- a large dynamic range (5 to 6 log)
- a steady glow with no significant decay for up to 4 hours

UptiLight UltraSensitive AP-450 chemiluminescent substrate **CV7530, 100ml** **CV7531, 250ml** **CV7530, 500ml**
Substrate for Microwell and/or Membrane applications, with 450 nm reading, Attogram Range detection.

UptiLight UltraSensitive AP-540 chemiluminescent substrate **CV7540, 100ml** **CV7541, 250ml** **CV7542, 500ml**
Substrate for Microwell and/or Membrane applications, with 540 nm reading, Attogram Range detection.

Also available:

Chemiluminescent Substrate for AP, 560nm reading #JQ6760-11956
See description in section 'ELISA'.
Lumi-Phos ECL AP substrate (WB) #L79660-34150
Chemiluminescent Substrate for Membrane applications, with 420 nm reading. Detects as low as 1pg of AP (71 attomol) per well; 1 kit stains 800cm2 of blot
VisiGlo AP ECL kit #BV3021-N216
Picogram detection
VisiGlo AP Plus ECL kit #BV3031-N217
Femtogram detection
WesternMAX AP anti Ig ECL Detection kits (Rabbit #BV2980-N220, Mouse #BV2970-N221)

Search here[416] or Inquire for other WB substrates +

■ Related products:

Blotting membranes: see above.
Western Blot recycling kit #L7710A

■ Radiographic films

Classic Blue™ Autoradiography Film BX gives you what you expect in a high quality autoradiography film, comparing with Kodak BioMax MS, X-OMAT, Amersham Hyperfilm MP and Sterling LX autoradiography films, without paying the high prices!

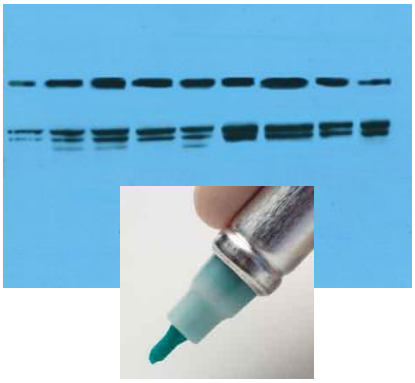
Key features:
■ Double emulsion boosts the signal sensitivity
■ Sharp Results - Exceptional clarity - lowest background (blue)
■ Excellent lot-to-lot consistency - Publishable grade

Applications:
■ Optimized for chemiluminescence
■ Ideal for autoradiography of ^{32}P, ^{125}I, as well as ^{33}P, ^{35}S and ^{14}C
■ Exposure of blotting experiments and sequencing gels
■ Manual or Automatic Development
■ Use with calcium tungstate or blue rare earth screens [b]

[b] When used with the Special Classic Rare Earth Intensifying Screens the sensitivity is enhanced approximately 4 to 4½ times compared to using Calcium Tungstate Intensifying Screens.

Radiographic films (double emulsion)
sheets 12.5x17.5cm (5"x8" in) **#48335A, 100u**
sheets 20x25cm (8"x10' in) **#67895A, 100u**
sheets 35x40cm (14"x17" in) **#T3457A, 100u**
High sensitivity and consistent blue films for ECL autoradiography

Also available as single emulsion film #**DW2001**



Associated product:

Glow Writer™ Marking Pen **DV7551, 1u**
Fine-Point Phosphorescent Marking Pen for Laboratory Autography
- Fine Point Nib- Provides fine writing and greater information density
- Ideal glow intensity and afterglow duration- Helps prevent over-and under exposure
- No Ink Clogs- Low ink viscosity and porous nib prevents ink from clogging

Search here[416] or Inquire for other radigraphic tools +

■ Background remover on Radiographic Films

- easily and proportionally reduces the signal on overexposed film
- erase background from areas of low to high density

The 2 included solutions are used sequentially to oxidize and remove silver deposits on the film. The film can be treated with multiple cycles of UnDo™ to achieve the desired results

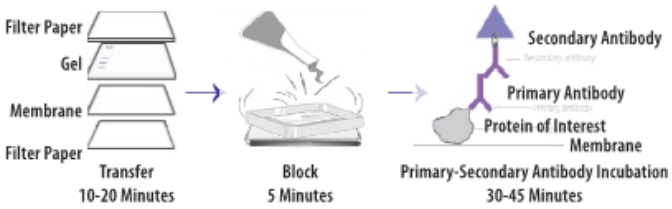
UnDo™ X-Ray Film Background Remover Kit **T89171, 1 kit*** Price & Technical sheet
Contains: 1L UnDo™ X-Ray Film Background Reducer Solution A
1L UnDo™ X-Ray Film Background Reducer Solution B

Blotting one-step detection systems

■ Rapid Western Blotting kits

Western blotting from transfer to development in under 1 hour

- Rapid Transfer:
- Transfer from gel to membrane in 10-20 min
- May be used with both wet or semi-dry apparatus
- Rapid Blocking: Membrane blocking in 5 min
- Combined primary and secondary antibody incubation in 30-45 min



Streamline each step of Western Blotting procedures with Rapid Western Blotting Kit™. These versatile kits include all reagents except for user supplied primary antibodies. No additional transfer equipment is required. All reagents are protein-free formulations that minimize cross-reactivity and enhance antigen availability. Rapid Western Blotting Kit™ may be used with either PVDF or nitrocellulose membranes.

	Kit* for semi-dry transfer	Kit* for wet transfer	
Rapid Western Blotting Kit - Mouse Mouse secondary antibody, semi-dry transfer	**FK4390**	**FK4410**	
Rapid Western Blotting Kit - Rabbit Rabbit secondary antibody, semi-dry transfer	**FK4400**	**FK4430**	Prices & Technical sheets

*Each Kit is sufficient for 15 blots and includes :
Rapid Transfer Buffer, 10X — RapidBlock, 10X — Rapid Blot Antibody Diluent, 10X
Rapid Wash Buffer, 20X — Rapid Blot Secondary HRP Antibody (anti-mouse or anti-rabbit)

Search here[416] or Inquire for other WB kits: +

Blotting reprobing

■ WB Antibody Stripping Buffer

Get multiplex results re-analyzing your blot with several specific antibodies ! Spare time and money !

Benefits: Recycling protein blots offers many advantages:

- when protein samples are available in limited quantities, are difficult to obtain or expensive
- when samples are to be analyzed with different antibodies under identical conditions, e.g. subtype or isoform specific antibodies
- when a blot gives unexpected results and needs confirmation with the same or different antibody
- when a blot is mistakenly incubated with a wrong antibody
- it is simply more economical and less time-consuming to reuse the same blot!

Features:

- strip antibodies easily : quick procedure (15min)
- save proteins state using mild conditions: no pungent, acide, or reducting agents, nor heating

WB Antibody Stripping Buffer **L7710A, 500ml** Price & Technical sheet

Also available:

a ready-to-use solution for stripping antibodies from Western blots prior to reprobing with additional antibodies
a robust stripping solution for removing tightly associated primary and secondary antibodies from Western blots prior to reprobing with additional antibodies. Reformulated to eliminate the use of β-mercaptoethanol, it is supplied as an odor-free, ready-to-use solution.
a ready-to-use, odor-free buffer and mild yet effective method for stripping antibodies from PVDF or nitrocellulose membranes that can be reprobed several times without damaging the membrane-bound antigen. Requires no mixing or heating prior to use.
A 2 component system to recycle blots gently. Includes a blocker

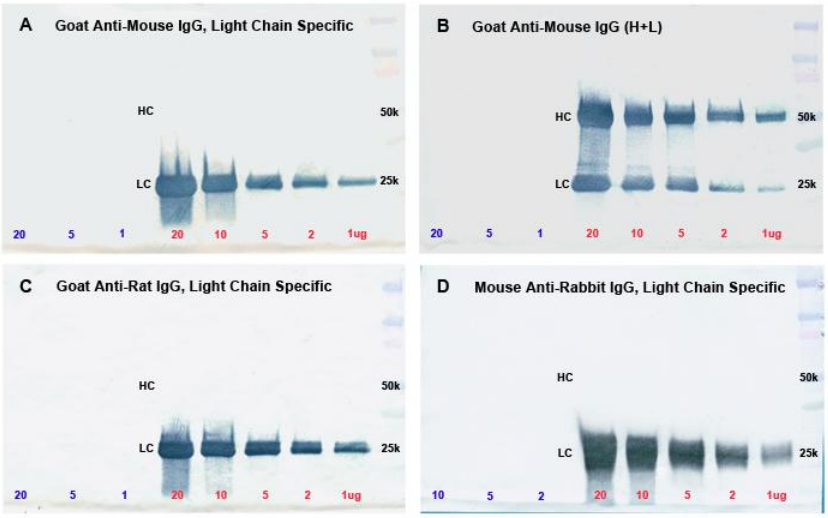
Search here[416] or Inquire for other WB reprobing tools: +

Immunoprecipitation blotting analysis

■ Anti-IgG, Light Chain Specific for Native IgG Western Blotting

- Get clean blots – ideal for ImunoPrecipitation samples analysis
- Avoids unspecific bands due to IgG or Ig fragments co-eluted with the antigen
- Ideal for analysing proteins with ca 50KDa MW

Anti-IgG, Light Chain Specific antibodies **react strongly with native primary antibodies** used for detecting specific protein bands on Western blots. Anti-light chain specific antibodies, however, **do not bind to the reduced and denatured IgG heavy chain band (50 kD)** on blots (Figures A, C, and D). Therefore, by using our anti-light chain specific antibodies, detection of antigens with molecular weights near 50 kD is not obscured by large amounts of reduced and denatured IgG heavy chains from primary antibodies used for immunoprecipitation (IP)(for example, see Figure B). The antibodies have been also **thoroughly adsorbed** to minimize cross-reactivity with immunoglobulins from many other species, which also may be present on blots.



Figures A-D. Heavy (50 kD) and light (25 kD) chains of reduced and SDS-denatured mouse IgG(A-B), rat IgG (C), and rabbit IgG (D) were separated by SDS-PAGE (lanes with red numbers) and detectedon Western blots using HRP-goat anti-mouse IgG, Light Chain specific (A), HRP-goat anti-mouse IgG (H+L)(B), HRP-Goat anti-rat IgG, Light Chain specific (C), and HRP-mouse anti-rabbit IgG, Light Chain specific (D). No heavy chain band was detected even on lanes heavily overloaded with IgG when anti-IgG, Light Chain specific antibodies were used (A, C, and D) for detection. However, both heavy and light chain bands were detected with anti-IgG (H+L)(B). Lanes with blue numbers contained reduced and SDS-denatured goat IgG (A, B, and C) or mouse IgG (D), which served as background controls.

Note: If the protein of interest has a reduced and denatured molecular weight near 25 kD, anti-IgG, Fc fragment specific antibodies may be used to detect native IgG primary antibodies without binding to the 25 kD band of reduced and denatured IgG light chains on Western blots.

Antibody Description	Unconjugated	Cy3 A/E=550/570nm	Biotin-SP	Horseradish Peroxidase	Alkaline Phosphatase
Goat **Anti-Mouse IgG**, Light Chain * Specific (Affinity purified) (min X Bov, Gt, Hrs, Hu, Rb, Rat, Shp Ig)	MC0900 1.0 mg	MC0990 0.5 mg	MC0940 0.5 mg	CG7910 0.5 mg	MC0920 0.5 mg
Mouse monoclonal **Anti-Rabbit IgG**, Light Chain Specific (min X Bov, Gt, Ar Hms, Hrs, Hu, Ms, Rat, Shp Ig)	BT4730 1.0 mg	BT4900 0.5 mg	BT4880 0.5 mg	BT4750 0.5 mg	BT4870 0.5 mg
Goat **Anti-Rat IgG**, Light Chain * Specific (Affinity purified) (min X Bov, Gt, Hrs, Hu, Ms, Rb, Shp Ig)	MC0820 1.0 mg	MC0870 0.5 mg	MC0850 0.5 mg	MC0830 0.5 mg	MC0840 0.5 mg

Other products for immunoprecipitation (such as our IPEX and Immunocatcher immunoprecipitation kits) are described in Chapter Proteomics, Affinity purification

Search here[416] or Inquire for other IP reagents +

Other accessory tools for Blotting

Protein Labeling Kits[434]

[412]

Related products/documents

Accessory reagents for ImmunoFluorescence (IF) and ImmunoChemistry (IHC) detections by microscopy
(Strept)Avidin products
Protein labeling kits
Secondary antibodies and primary antibodies
Buffers and saturating agents
see Products HighLights (overview)
see BioSciences Innovations catalog
search at http://www.interchim.com/interchim/customers/default.cfm

Information inquire

Reply by Fax : +33 (0) 4 70 03 82 60 or email at interbiotech@interchim.com

☐ I would like to receive further information on: _____

_____

Title :_____ First name: _____ Surname:_____ Position:_____

Company/Institute:_____ Service, Lab:_____

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