

The complete Western Blotting Family



ECL+ Plus

Hybond

ECL

Everything for Western Blotting

The key to scientific advances is experimental reproducibility. Backed by years of experience in this field, you can rely on the complete set of fully qualified Amersham Biosciences blotting tools for the most reproducible results.

Complete Systems: Transfer to Detection

Qualitative systems for ease of use and minimum costs—choose semi-dry blotting



Quantitative systems for the most complete transfer—choose tank blotting



Electrophoresis Blotting Power Precise, Convenient, Safe

EPS Power Supplies

There is an Amersham Biosciences Electrophoresis Power Supply to suit every blotting application and every laboratory. With Amersham Biosciences long experience in this field, you can rely on these power supplies for safety and reproducibility.

- Transfer your gel with confidence and precision: readout resolution of 1 mA, 1 W and 1 V; timers with audible end-of-transfer signal
- Automatic regulation mode crossover at pre-set limit values (voltage, current or power)
- Increased throughput with dual power outlets for parallel blotting units
- Assured safety: All units are designed to meet the requirements of the Low Voltage Directive (LVD) 73/23/EEC, EMC Directive 89/336/EEC, UL and CSA. CE marked.



EPS 2A200
Up to 2 A at 100V



EPS 601
Up to 600 V, 400 mA or 100 W

Semi-Dry Blotting Fast, Qualitative, Economical

TE 70 Series SemiPhor Semi-Dry Transfer Units

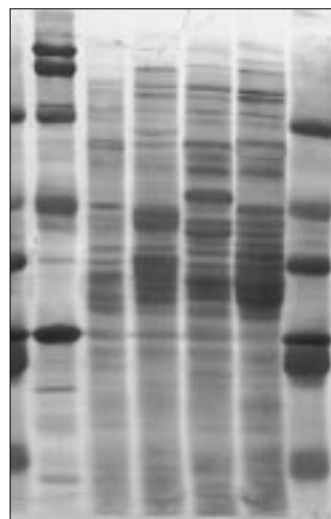
- Complete uniform electro-transfer of proteins from polyacrylamide gels in less than an hour
- Save time with transfer of multiple gels simultaneously
- Save money with minimal buffer use—just enough to saturate blotter papers and membranes
- Get contamination-free transfers from durable platinum and stainless steel electrodes
- Get distortion-free bands without denaturing proteins

TE 70 Series SemiPhor™ Transfer Units are designed to deliver outstanding electrophoretic transfer results using low current and voltage with a minimal amount of buffer. The TE 70 is suitable for gels up to 14 x 16 cm, such as from the SE 400 and SE 600 units or from two Mighty Small™ mini-gels side-by-side.

The TE 77 accepts gels up to 21 x 26 cm, or four mini-gels side-by-side.



TE 70 and TE 77 SemiPhor Semi-Dry Transfer Units



Western blot using the TE 70 SemiPhor unit. Proteins transferred from a 12% discontinuous polyacrylamide gel to nitrocellulose with the TE 70. The blot was developed with a colloidal gold total protein stain.

Standard Tank Blotting Complete Transfer, Quantitative, Reproducible

Transphor Tank Transfer Units

- Perform complete and even electro-transfers of protein and nucleic acids
- Transfer four 15 x 21 cm gels or up to sixteen 7 x 10 cm mini-gels at once
- Load cassettes easily with even contact between the gel and transfer membrane
- Lock safe, sturdy electrode panels in place automatically

The Transphor™ units use transverse electrophoresis to transfer proteins and nucleic acids from polyacrylamide or agarose slab gels onto nitrocellulose or nylon membranes for Western, Southern, and Northern blots. Choose the functions you need from the four options:

- TE 42 Basic unit
- TE 52X Basic unit with Power Lid
- TE 62 Integral heat exchanger
- TE 62X Integral heat exchanger with Power Lid

The Transphor Power Lid included with the TE 62X and TE 52X delivers up to 1.5 A and 100 V in constant current mode. An optional heat exchanger is available for the TE 42 and TE 52X models.



TE 62X Transphor II Electro-transfer Unit

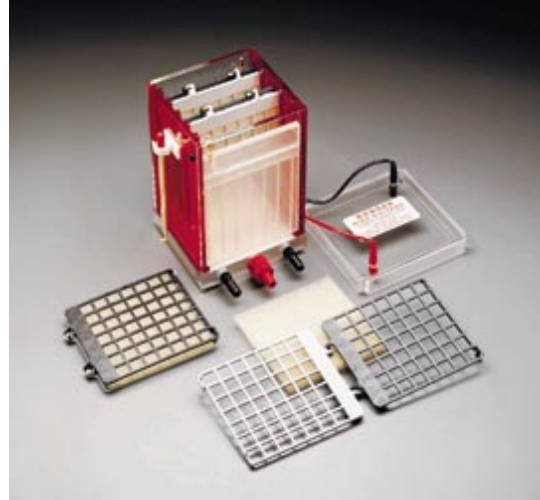
Mini Tank Blotting Convenient Mini Gel Format

TE 22 Mighty Small Transphor Tank Transfer Unit

- Perform protein and nucleic acid transfers from four mini-gels at once in less than one hour
- Get complete and even electro-transfer with the uniform electrical field
- Control transfer temperature with built-in heat exchanger
- Snap-close cassettes for easy loading and firm, even pressure

The Mighty Small Transphor is an outstanding instrument for mini-gel tank electro-transfer for Western, Southern and Northern blots. It can transfer proteins and nucleic acids from four small gels (up to 9 x 10 cm) to nitrocellulose or nylon membranes in as little as 30 to 60 minutes. An important cost-saving feature: the Mighty Small Transphor unit requires only about one litre of buffer.

To handle the heat generated during tank transfer electrophoresis, the Mighty Small Transphor unit has an alumina-covered heat exchanger built into the base. With a magnetic stirrer circulating the buffer and tap water running through the cooling channel, the temperature rises no more than 5 °C over the duration of a typical Western transfer.



TE 22 Mighty Small Transphor and components

Slot Manifold Blotting

Fast Screening, Convenient, Reproducible

PR 600 Series Slot Blot Manifolds

- Screen 24 or 48 samples of recombinant clones, DNA, RNA or proteins simply and conveniently
- Numbered slots facilitate sample identification
- Raised slot edges prevent cross-contamination and produce clean edged blots
- Membrane surface area exposed in each slot is 4.8 mm² (6 x 0.80 mm)
- Well volume is 1 ml
- Slots in both units empty into lower chambers with a fitting for attaching a vacuum pump or aspirator
- Membranes blotted in the Slot Blot, or autoradiographs made from blots, are easily quantified by densitometry

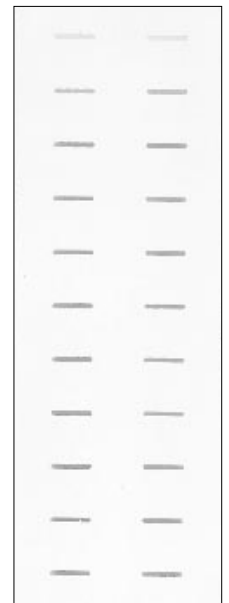
The Slot Blot units are precision machined, durable acrylic plates with alignment pins for accurate assembly. They are clamped together by large-headed stainless steel screws.

The PR 600 has two rows of 12 slots; the PR 648, four rows of 12 slots, both with standard 9 mm multi-channel spacing.



PR 648 and PR 600 Slot Blot Filtration Manifolds

Detection of HRP-antibody conjugates. Dilutions (from 1:1.67 to 1:20) of goat anti-rabbit antibody conjugated with horseradish peroxidase were filtered onto a nitrocellulose membrane in the Slot Blot. Colour development was performed with a TMB peroxidase substrate system.



Membranes

Validated, Optimised, Variety

Hybond Hybridization Membranes

Amersham Biosciences Hybond™ protein membranes are renowned for their excellent reproducibility, optimisation for various applications and careful packaging to maximise shelf life.

Hybond-C pure

- 100% pure unsupported nitrocellulose
- Excellent signal:noise across all labelling and detection systems—radioactive, non-radioactive or chromogenic

Hybond ECL

- 100% pure unsupported nitrocellulose
- Validated for use with ECL™ Western blotting system

Hybond-P, PVDF

- Ideal for reprobing
- Hydrophobic polyvinylidene difluoride (PVDF) membrane optimised for protein transfer
- Higher physical strength for significant handling advantages over unsupported nitrocellulose
- Particularly recommended for use with the ECL Plus™ and ECF™ Western blotting and ECL glycoprotein systems

Hybond-C extra

- High physical strength, supported mixed-ester nitrocellulose
- Protein binding capacity 80 - 100 µg/cm²
- Highly recommended for expression screening with its low background, high signal:noise and handling ease

Protein blotting membranes - recommended applications

	Hybond-C pure	Hybond ECL	Hybond-P	Hybond-C extra
Western Blotting Detection System				
Radioactive	✓✓✓	✓✓	✓✓	✓✓
Enhanced chemiluminescence	✓✓	✓✓✓	✓✓✓	✓
Chemifluorescence	✓	✓	✓✓✓	x
Chromogenic	✓✓✓	✓✓	✓✓	✓
Colloidal gold	✓✓✓	✓✓	✓✓	✓
Specialty Labelling				
ECL Western blotting kit	✓✓	✓✓✓	✓✓	✓
ECL Plus Western blotting kit	✓	✓✓	✓✓✓	✓
ECF Western blotting kit	✓	✓	✓✓✓	x
Glycoprotein detection kit	✓✓	✓✓	✓✓✓	✓
Expression screening	✓	✓	✓	✓✓✓
Reprobing	✓	✓	✓✓✓	✓✓
✓✓✓	Highly recommended			
✓✓	Recommended			
✓	Can be used			
x	Not recommended			

Chemiluminescent Blot Detection

Sensitive, Optimised, Proven

ECL Western Blotting

The ECL Western Blotting system is the world's most widely used and referenced chemiluminescent immunodetection system.

- High sensitivity compared to radioactive or colourimetric methods
- Results in seconds on film
- Reprobing membranes is easy
- Quantifiable, linear response in the range of 0.2 to 2.0 OD units
- Proven performance with hundreds of publications world wide
- Optimised for use with Amersham Biosciences ECL HRP Conjugates

For optimum performance we strongly recommend Hybond ECL nitrocellulose membranes.

ECL Plus Western Blotting

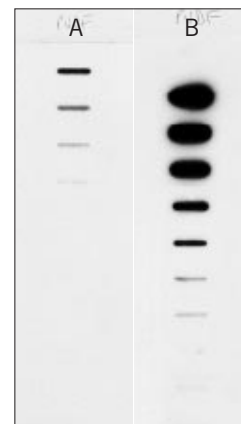
The ECL Plus Western blotting system offers still greater sensitivity and longer light emission for detecting very low abundance proteins.

- Very high sensitivity, up to 20-fold increase over the traditional ECL from Amersham Biosciences when used with Hybond-P (PVDF) membranes
- Light emission continues for 24-48 hours following initiation, allowing multiple exposures
- Greater sensitivity means cost savings with lower primary antibody concentrations
- Optimised for use with ECL HRP conjugates

For optimum performance Amersham Biosciences Hybond-P, PVDF membrane is highly recommended.



Target: rat brain homogenate western blotted on to PVDF (RPN 2020F). Loading; doubling dilutions starting at 1:20 dilution of the homogenate: detection primary antibody- 1:5000 dilution of mouse anti-tubulin (N357); secondary antibody-1:5000 dilution of anti-mouse Ig HRP conjugate (NA931) using ECL PPlus detection reagent (RPN 2132). Exposure on Hyperfilm ECL (RPN 2103) for 60 minutes, 24 hours after initiation of the detection reaction.



Target: mouse IgG slot blotted on to PVDF (Hybond P RPN 2020F) Loadings: doubling dilutions starting at 5 ng. Detection: 1:2500 dilution of anti-mouse Ig HRP conjugate (NA931) using (A) ECL detection reagents (RPN 2106); (B) ECL Plus detection reagents (RPN 2132). Exposure on Hyperfilm ECL (RPN 2103) for 5 minutes.

Also for Blotting

Rainbow Molecular Weight Markers

Low and High range Rainbow™ protein molecular weight markers.

- Continuously visible during a gel run or blotting procedure
- Discrete coloured bands for easy identification and accurate weight determination
- Ready to use formulation for convenience
- Consists of natural proteins in 50% glycerol

Full Range Rainbow Molecular Weight Markers

- Instant visualisation on gels and blots
- Wide range of defined molecular weights
- Strong coloured, sharp bands for accurate quantification
- Recombinant proteins giving batch to batch size reproducibility
- Supplied in a ready-to-load buffer for convenience

And more fully-qualified products ...

- Hyperfilm™ ECL
- Gel casting reagents
- Electrophoresis equipment
- Unstained molecular weight markers
- Primary and secondary antibodies and antibody conjugates
- Imaging hardware and analysis software

...can be found in our catalogues.



Rainbow markers

High Molecular Weight		Low Molecular Weight		Full Range
Protein	Mr	Protein	Mr	Mr
Lysozyme	14,300	Insulin chain A	2,350	10,000
Trypsin inhibitor	21,500	Insulin chain B	3,400	15,000
Carbonic anhydrase	30,000	Aprotinin	6,500	25,000
Ovalbumin	46,000	Lysozyme	14,300	30,000
Bovine serum albumin	66,000	Trypsin inhibitor	21,500	35,000
Phosphorylase b	97,000	Carbonic anhydrase	30,000	50,000
Myosin	220,000	Ovalbumin	46,000	75,000
				105,000
				160,000
				250,000

Ordering Information

Contact your local Amersham Biosciences sales office worldwide to place your order.

Product	Quantity	Code No.	Product	Quantity	Code No.
Power Supplies			Slot/Blot Manifolds		
EPS 2A200 - Up to 2 A at 100V	1	80-6406-99	24-Well Slot Blot Manifold, PR 600	1	80-6094-25
EPS 301 - Up to 300 V or 400 mA at 80 W	1	18-1130-01	48-Well Slot Blot Manifold, PR 648	1	80-6095-58
EPS 601 - Up to 600 V, 400 mA or 100 W	1	18-1130-02	ECL and ECL Plus Reagents		
EPS 1001 - Up to 1000 V, 400 mA or 100 W	1	18-1130-03	ECL Western blotting reagents		
TE 70 Series Semi-Dry Transfer Units			For 1000 cm ² membrane		
SemiPhor Transfer Units (Includes starter kit of blotter paper, cellophane, solid masks)			1 kit RPN2109		
SemiPhor Transfer Unit, TE 70, 14 x 16 cm	1	80-6210-34	For 2000 cm ² membrane		
SemiPhor Transfer Unit, TE 77, 21 x 26 cm	1	80-6211-86	1 kit RPN2106		
Blotting Paper			ECL Western blotting analysis system		
20 x 25 cm	25 sheets	80-6211-29	ECL Plus Western blotting detection reagents, for 1000 cm ² membrane		
14 x 16 cm, sheet	25 sheets	80-6211-67	Rainbow Molecular Weight Markers		
7 x 8 cm	25 sheets	80-6211-48	Low molecular weight range (2.35-46.0 kDa.)		
Masks and Cellophane			1 kit RPN755		
TE 70			High molecular weight range (14.3- 220 kDa.)		
Cellophane, 20 x 35.5 cm	50 sheets	80-6210-53	Full range molecular weight markers (10-250 kDa.)		
Masks, solid, 16.5 x 18.5 cm	4	80-6210-72	Membranes for Protein		
Masks, for 7 x 8 cm gels	4	80-6210-91	Hybond-C pure		
Masks, for 14 x 16 cm gels	4	80-6211-10	20 x 20 cm		
TE 77			10 sheets RPN2020W		
Masks, solid, 23 x 28 cm	4	80-6212-05	20 cm x 3m		
Masks, for 14 x 16 cm gels	4	80-6212-24	30 cm x 3 m		
Mighty Small Transphor Series Tank Transfer Units			1 roll RPN203W		
Mighty Small Transphor Electrophoresis Unit, TE 22 (includes starter kit of foam sponges and blotter paper)			1 roll RPN303W		
Blotter Paper			Hybond-P		
9 x 10.5 cm	50 sheets	80-6205-40	20 x 20 cm		
Standard Transphor Series Tank Transfer Units			30 x 3 m		
Transphor and Transphor II Units (includes starter kit with sponges and blotter paper)			Hybond ECL		
Transphor II Cooled Unit, with Power Lid, TE 62X			6 x 8 cm		
115 VAC	1	80-6209-77	20 x 20 cm		
230 VAC	1	80-6209-96	30 cm x 3 m		
Transphor II Cooled Unit, TE 62			Hybond-C extra		
Transphor Unit, with Power Lid, TE 52X			20 x 20 cm		
115 VAC	1	80-6208-63	30 x 50 cm		
230 VAC	1	80-6208-82	20 cm x 3 m		
Transphor Unit, TE 42			30 cm x 3 m		
Transphor Power Lid, with Power Lid, TE 50X			10 sheets RPN2020E		
115 VAC	1	80-6207-87	5 sheets RPN3050E		
230 VAC	1	80-6208-06	1 roll RPN203E		
Optional Heat Exchanger for TE 42, TE 52X	1	80-6207-49	1 roll RPN303E		
Blotter Paper					
14.5 x 21.5 cm sheet	50	80-6207-30			

For more information about
products,
please contact your local office...

...or visit us on the web:

www.amershambiosciences.com

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