



Life Sciences

Pall Life Sciences builds alliances designed to anticipate new challenges and opportunities, and provide solution-based technologies that accelerate progress in biotechnology research and development. As a partner of Pall Life Sciences, you'll have access to our global team of application scientists and R&D engineers. We can help you solve complex problems, test products, explore new product applications, and provide you with ongoing technical support.

Our goal is to provide customers with a systems solution approach by combining the strengths of Pall's technical expertise and product offering with strategic partnerships.

If you are interested in partnering with us, contact one of our local offices listed below.

Discover Endless Potential

Products for Genomics, Proteomics, and Drug Discovery

reliable

proven

innovative



Life Sciences

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Filtration. Separation. Solution.SM

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PN 33286

Filtration. Separation. Solution.SM

Exploring new technologies to accelerate your discovery

From the discovery and development stages of new drugs, through production and delivery of therapies, you can count on Pall Life Sciences for high-performance products that expedite and simplify your processes. We have traditionally provided many of the sample preparation and detection tools used in basic research, genomics, proteomics, ADME-Tox and combinatorial chemistry applications. Today, we partner with life scientists around the world to develop innovative

separation, purification, filtration, and detection products for a wide range of sample sizes.

We are constantly looking for new ways to expand our product offering to meet your needs and ease your application challenges. Our product innovations are the result of truly understanding your applications and valuing the amazing contributions your work can make to the quality of all our lives.

Engineering superior-performing membranes and innovative platforms

Whether you are processing a single sample or detecting thousands of samples, we offer a variety of device configurations and the largest portfolio of membrane chemistries for sample preparation and detection technologies. Pall Life Sciences is one of the few resources to offer true scalability, allowing single- or multiple-sample processing of similar techniques from benchtop to high throughput.

Explore the many performance advantages featured below. If you don't find the exact product you need, talk to us. We have a long-standing commitment to industry partnerships that advance the science of drug discovery.



MULTI-WELL FILTER PLATES

AcroPrep™ 96 350 µL and 1 mL Filter Plates, AcroPrep 384 Filter Plates, AcroWell™ 96 Filter Plates

See pages 6-11 for more information.

- **Reduce crosstalk** – proprietary sealing technology individually seals membrane in each well, reducing well-to-well crosstalk
- **Add versatility** – chemically resistant / biologically inert polypropylene housing eliminates both extractables and non-specific binding
- **Eliminate worry** – single-piece design strengthens these plates for automated applications
- **Assure consistency** – built in accordance with Society for Biomolecular Screening (SBS) standards
- **Gain convenience** – serialized barcode allows the use of automated tracking systems



MICROARRAY SLIDES

Vivid™ Gene Array Slides

See pages 12-13 for more information.

- **Increase binding capacity** – membrane based slides exhibit higher binding than glass substrates
- **Improve sensitivity** – membranes allow shorter imaging time than traditional glass substrates
- **Control consistency** – membranes provide better consistency than certain glass coatings
- **Assure reproducible spot geometry** – three-dimensional membrane structure exhibits reproducible, uniform spot size
- **Keep it simple** – slides are ready for use, no surface activation is necessary
- **Make it convenient** – slides are compatible with a variety of systems for detection and printing systems

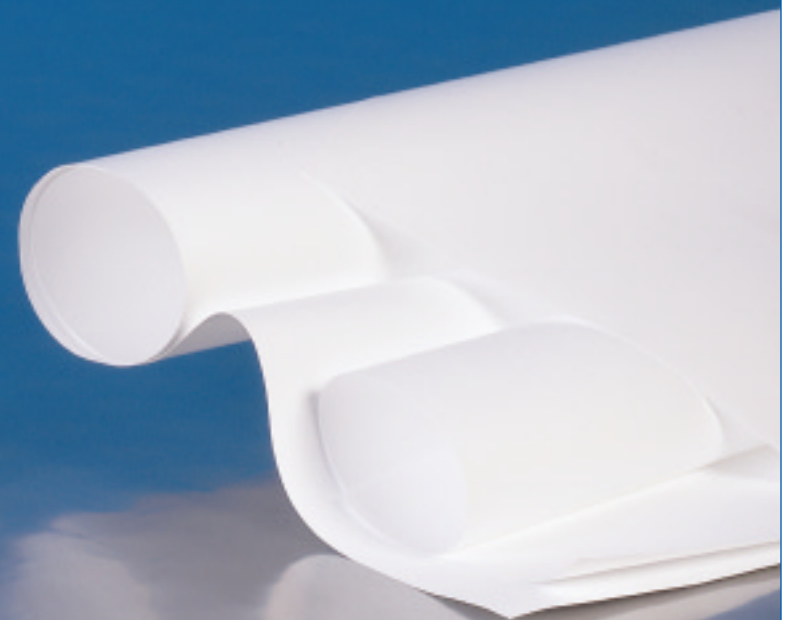


CENTRIFUGAL DEVICES

Nanosep® Device, Microsep™ Device, Macrosep® Device, Jumbosep™ Device

See pages 14-15 for more information.

- **Speed processing** – quickly concentrate samples from starting volumes of <50 µL up to 60 mL
- **Ease visual identification** – devices are color-coded for a wide variety of membranes, ranging from 1 kD to 0.45 µm
- **Maximize sample recovery** – obtain high flow rates and low non-specific protein and nucleic acid binding with Omega™ PES membrane
- **Minimize binding** – low binding Bio-Inert® and GHP membranes allow the greatest recovery of samples requiring microfiltration
- **Prevent solution bypass** – membrane seals stop solution leakage, eliminating sample loss



TRANSFER MEMBRANES

BioTrace™ NT and PVDF Membranes, FluoroTrans® Membranes, Biodyne® Membrane, UltraBind™ Membrane

See pages 16-18 for more information.

- **Exhibit low burn-through** – see higher signal on your colony and plaque lifts with BioTrace NT membrane
- **Improve Western transfers** – high protein binding, chemically resistant FluoroTrans family of PVDF membrane is ideal in Western transfers and n-terminal protein sequencing
- **Choose broad chemical resistance** – versatile BioTrace PVDF membrane is perfect for protein transfers
- **Provide high sensitivity** – intrinsically hydrophilic Biodyne membrane has high sensitivity and low background for enhanced resolution
- **Facilitate covalent protein binding** – UltraBind membrane is well suited for chemical binding

Optimize the performance of your application

At the heart of Pall Life Sciences is the development and manufacture of membrane technologies. Pall pioneered the first nylon membrane for transfer technologies over 20 years ago. Our membranes now set the standards for sample preparation and detection applications in laboratories around the world. Today, our impressive offering of membranes and device platforms enables us to supply the best combination for your filtration, separation, purification, and detection applications.

Pall Life Sciences has the largest portfolio of membrane chemistries from which to choose. If you are looking for something specific and you don't see it in this brochure, let us know. Define your needs and let us put our vast resources to work for you. With expertise from among the best membrane chemists in the world, we have the ability to optimize our membranes to meet your specific needs.

Filter media selection is simple

No membrane is ideally suited for all applications. To help assist in your selection process, we have created a table of our most popular medias used in the drug discovery process (see page 19). It is important to consider your specific application and to match the membrane's unique characteristics for optimal performance to the application.

Sample Preparation

Membranes that exhibit extremely high yield with low binding are ideal for the purification and concentration of biomolecules. For concentration and purification steps requiring ultrafiltration of nucleic acid and protein samples, Omega™ modified polyethersulfone (PES) membrane offers low binding, high recoveries, and superior chemical and physical properties. For preparation of chemical compounds or applications such as lysate clearing, drug binding studies, and bead-based assays, choose Bio-Inert® modified Nylon 6,6 or GHP hydrophilic polypropylene membrane. Glass fiber medias offer flexibility in product design to best support your application requirements, whether used alone or in series with another membrane chemistry. To replace conventional bead technology for ion exchange, select the innovative Mustang® membranes for fast flow rates, high capacity, and superior resolution.

In harsh chemical environments such as chemical or molecular synthesis or purification of compound libraries, the best membranes are those that resist chemical degradation and do not shed unwanted extractables. Our patented GHP membrane is unmatched in chemical resistance, low binding capabilities, and low extractables. Hydrophobic PTFE membrane provides chemical resistance and durability in applications such as peptide or drug synthesis and solvent-based assays.

Transfer and Detection

For reproducible detection of minute genomic samples, Biodyne® nylon membranes can be efficiently stripped and reprobbed, and perform optimally with all detection systems. Our BioTrace™ NT membrane features high nucleic acid binding capacities, ideally suited for colony/plaque lifts.

To facilitate the transfer and detection of rare and low-abundant proteins for further characterization, we offer an impressive range of membranes featuring superior binding capacities and extremely low background. FluoroTrans® PVDF membrane is recommended for n-terminal protein sequencing and is compatible with all reagents involved in the Edman reaction. FluoroTrans W and BioTrace PVDF membranes exhibit low background and high tensile strength for optimum performance for detection of proteins after Western transfer. BioTrace NT pure nitrocellulose membrane offers high protein binding for Western transfers.

Move to higher density, lower-volume formats to speed the rate of discovery

As samples get smaller and more numerous, the need for novel methods to purify samples and improve assays has led Pall Life Sciences to develop a broad line of multi-well filter plates.

We now offer many filter plate platforms targeting specific application challenges, giving us a performance edge that sets us apart from our competitors. The AcroPrep™ and AcroWell™ filter plates feature individually sealed membranes that eliminate crosstalk and solution weeping. Pall Life Sciences vast membrane portfolio can be integrated in our plates to build products that meet ever-changing industry needs. Our proprietary sealing technology allows us to seal virtually any type of membrane or membrane configuration into these device platforms.



Special features

Proprietary Sealing Technology

Patented sealing method individually seals each well, eliminating lateral cross-contamination and solution weeping.

Worry-free Performance

Filter plates are designed in accordance with the standards of the Society for Biomolecular Screening (SBS). The plate's rigid one-piece construction facilitates ease of use in automated processing systems.

Chemically Resistant and Low Binding

Chemically resistant / biologically inert polypropylene housing is durable when used with harsh chemicals and is low binding to proteins and nucleic acids.

Versatile

Available in 96- or 384-well formats; well volumes of 100 μ L, 350 μ L, or 1 mL, and with an assortment of single- and multi-layer membranes, plate color choices, and outlet tip lengths.

Ideal for High-volume Robotic Applications

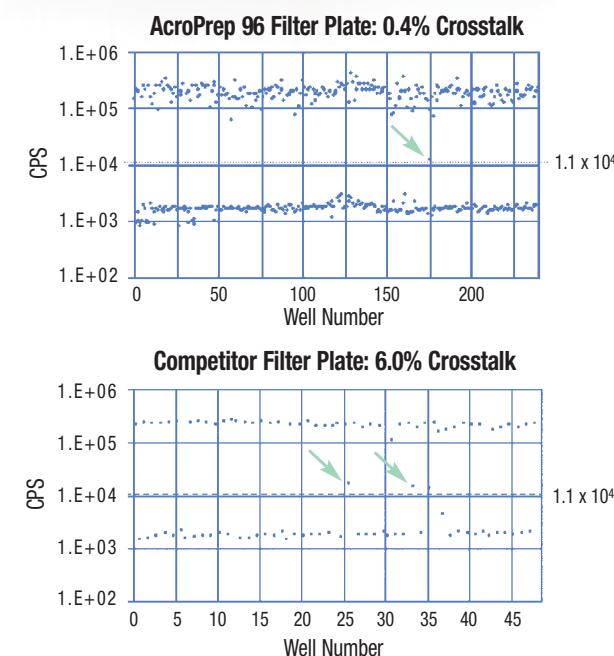
Compatible with robotic equipment including: Titantele, Tecan U.S., Qiagen Inc., Tomtec, PerkinElmer Inc., Beckman Technologies, Matrix Technologies Corp., Adept Technology, Inc., Robbins Scientific Corp., Oyster Bay Pump Works, Inc., Velocity 11, Robocon, Cyber Lab, Porvair, Waters, and Hamilton Company.

Traceable

Plates are labeled with a serialized barcode and lot number, as well as clearly printed part number, membrane type, and pore size for easy identification.



AcroPrep™ 96 filter plates exhibit less crosstalk than competitor plates.



Fluorescein dye (200 μ L of a 2 μ g/mL H₂O stock) was added to wells of AcroPrep 96 plates with GHP membrane (5 plates total) and a competitor plate in a checkerboard pattern. Alternate wells were filled with 200 μ L of water. Fluid was evacuated from wells into a solid bottom receiver plate using vacuum filtration at 30 cm Hg (12 in. Hg) for 15 seconds. Filter plates were carefully removed and receiver plates read in a VICTOR® 1420 Multilabel Counter. Wells filled with water that show a CPS reading above the dashed line (1.1 x 10⁴ CPS, which is = "Average" Background + 5% Signal) constitute a crosstalk event.

CPS = Counts Per Second

Use our versatile multi-well filter plates in applications requiring the recovery of either the filtrate or retentate.

Researchers are moving beyond current practices to higher-density, lower-volume formats to speed the rate of discovery. Two primary advantages of these practices are increased throughput and lower volume, both of which translate into lower costs.

Our AcroPrep™ filter plates are engineered with special outlets and splash guards for filtrate applications. They are available with short outlet tips, long outlet tips, and in 96- or 384-well formats. AcroWell™ 96 filter plates are designed to support retentate and hybridization based binding applications.

Basic Procedures



1. Place filter plate on vacuum manifold or hold the plate so the outlets or membrane on the bottom of the plate are not touched.



2. Add sample and incubate. Apply vacuum (or centrifuge).



3A. Release vacuum from the manifold. Remove filter plate and retained sample for further processing.



OR **3B.** Release vacuum from the manifold. Remove filter plate. Remove collection (receiver) plate and utilize collected filtrate in downstream application.



Our filter plates are available in a variety of colors, well volumes, and membrane configurations.

Pall Life Sciences takes the time to truly understand the needs of today's researchers. We have listened to your needs and developed a line of filter plates unmatched by anyone in the market.

Pall's broad line of multi-well filter plates are the product of a focused team dedicated to the application needs of our customers. They are designed to meet the stringent requirements of high throughput drug discovery applications and will add reliability throughout the process. Our multi-well filter plates will reduce sample loss/hold-up, enhance consistency, and make complete automation easy for popular plate-based processes.



Applications

- Particulate Removal
- Concentration of DNA
- Concentration of Proteins
- Nucleic Acid Dot Blots
- Molecular Diagnostics
- Cell-based Immunodiagnostics
- Nucleic Acid:Protein Interaction Studies
- Protein:Protein Interaction Studies
- ELISA Assay
- ELISPOT Assay
- Kinase Assay
- Lysate Clearing
- Bead-based Assays
- Sample Clean-up
- Oligo Synthesis
- SNP Assays
- Gross Fractionation
- Drug Binding Studies

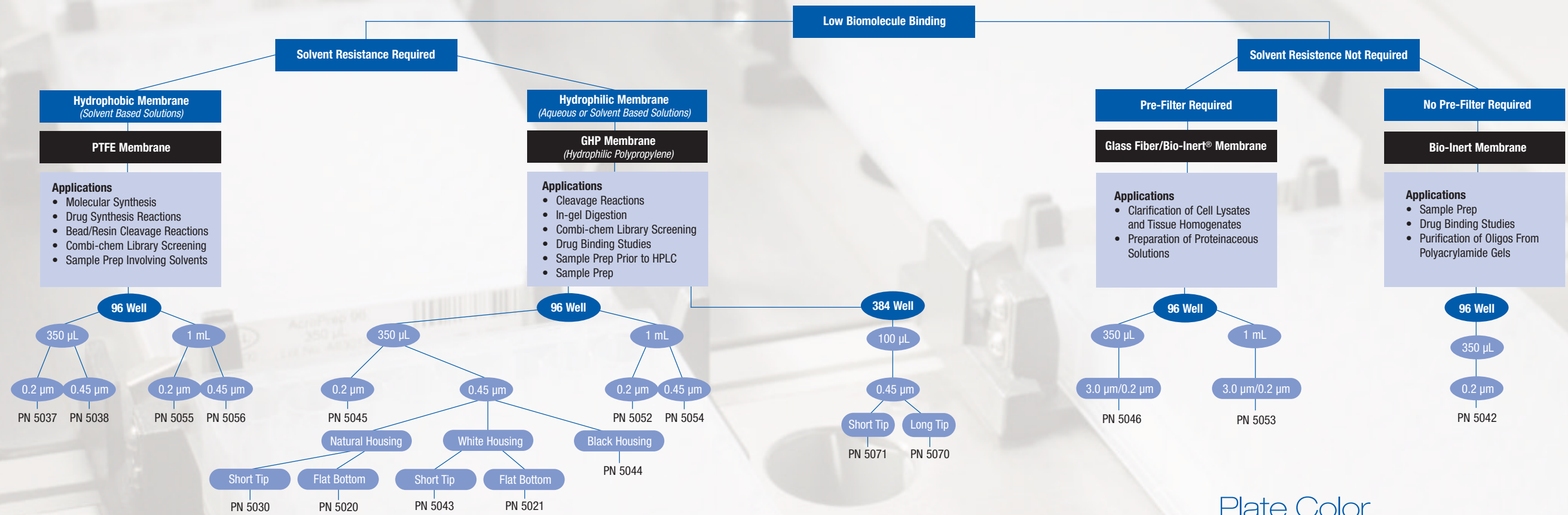
Reference Material

Also available online at www.pall.com/lab

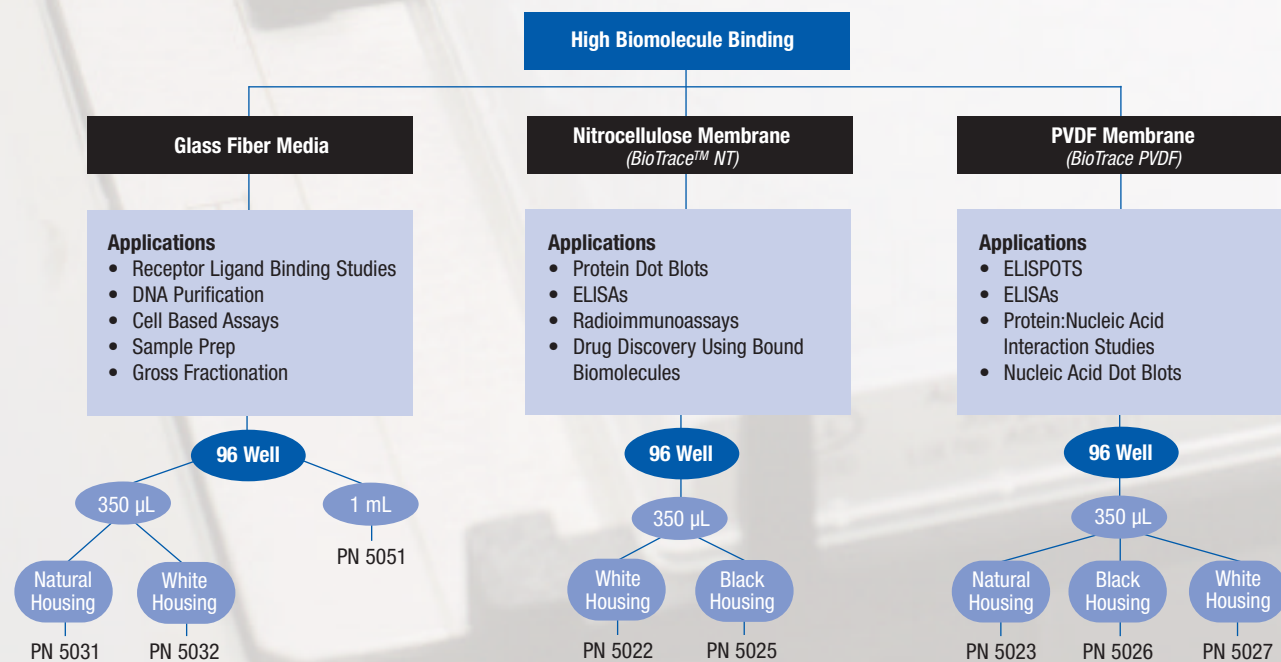
- Protocol, Using the AcroWell™ 96 Filter Plate for Receptor/Ligand Binding, PN 33179
- Protocol, Biomolecule Binding and Blocking Procedures for AcroWell 96 Filter plates with BioTrace™ NT and BioTrace PVDF Membranes, PN 33189
- Technical Report, The AcroWell 96 Filter Plate: Low Fluorescence Background Using the DELFIA System, PN 33137
- Technical Report, The AcroWell 96 Filter Plate Minimizes Crosstalk, PN 33177
- Technical Report, Automated Purification of Combinatorial Libraries Using AcroPrep 96 Filter Plate with GHP Membrane, PN 33245
- Protocol, Desalting/Buffer Exchange for Biomolecules Using AcroPrep 96 Ultrafiltration Filter Plates, PN 33309
- Product Data, AcroWell 96 Membrane Bottom Filter Plates, PN 33296
- Product Data, AcroPrep Membrane Bottom Filter Plates, PN 33306

Filter Plate Application Selection Guide

Low Biomolecule Binding



High Biomolecule Binding



Molecular Separations

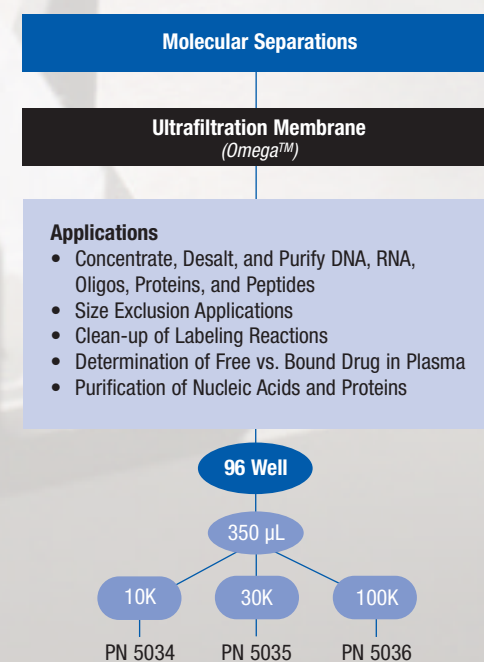


Plate Color Selection Guide

Detection results can be optimized by selecting the proper plate color. Use the following recommendations as a guideline for easy selection.



Natural (semi-opaque)
– fluorescence, TRF

White (opaque)
– radioactivity, chemiluminescence

Black (opaque)
– lowest background for fluorescence, TRF

Detect information with optimum accuracy

Vivid™ Gene Array slides feature a modified nylon membrane for the production of high quality reproducible microarrays. The unique three-dimensional membrane printing area offers increased surface area that strongly binds both cDNA's and oligonucleotides. Vivid Gene Array slides exhibit higher signal-to-noise ratios than traditional glass slides and facilitate shorter imaging times.

Vivid Gene Array slides can be used with standard protocols developed for nylon membranes. No modification of the DNA or printing area is needed before immobilization, so the slides are ready to use straight from the box. Also adding to the versatility, the Vivid Gene Array slides can be used with a variety of detection (chemiluminescence, direct fluorescence, radioactive, chemifluorescence, and colorimetric) and printing (solid pin, solid quill, and piezo electric) systems.

Special features

High Binding

Unique three-dimensional membrane construction offers increased surface area.

High Signal

Vivid Gene Array slides offer higher sensitivity than traditional glass substrates, thereby allowing shorter imaging time.

Less Template Needed

< 100 ng of mRNA sample needed to get detectable results.

Consistency

Vivid Gene Array slides exhibit small uniform spot size and geometry, without the appearance of “donut” rings seen on two-dimensional glass surfaces.

Easy Protocols/Simple Immobilization Steps

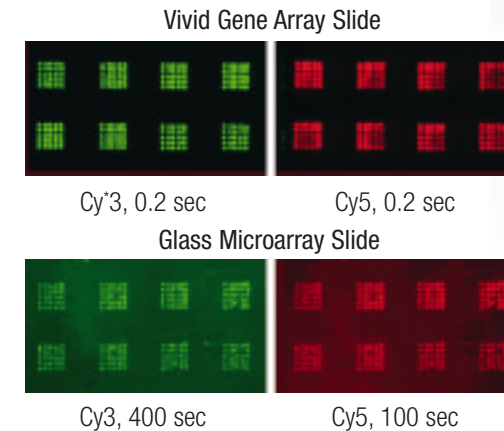
Vivid Gene Array slides are provided ready for use – no surface activation necessary.

Flexible

Works with proteins as well as DNA. Also, Vivid Gene Array slides can be used with a variety of detection and printing systems.

Vivid Gene Array slides exhibit high binding and signal levels, resulting in greater sensitivity and decreased exposure time.

CCD Exposure Time Required for Detection



Slides were printed with 5 x 5 patches of 49 mer oligo with an amino C6 linker on the 5' end and a Cy3 modification on the 3' end. After imaging on the GeneTAC® 2000 Analyzer Cy3 setting, slides were hybridized with complementary Cy5-labeled oligo and were imaged again using the Cy5 setting.

Applications

- Binding of cDNA or oligonucleotides for Genetic Analysis or Gene Expression Analysis
- Gene Expression Analysis
- SNP Analysis
- Oligo Arrays

Reference Material

Also available online at www.pall.com/lab

- Product Data, Vivid Gene Array Slides, PN 33263
- Protocol, Chemifluorescent Detection on the Vivid Gene Array Slides, PN 33299
- Protocol, Direct Fluorescent Detection on the Vivid Gene Array Slides, PN 33298
- Protocol, Chemiluminescent Detection on the Vivid Gene Array Slides, PN 33297
- Protocol, Radioactive Detection of Expression Arrays using Vivid Gene Array Slides, PN 33300
- Double Antibody Nano Immunoassay with Direct Fluorescent Detection, PN 33273

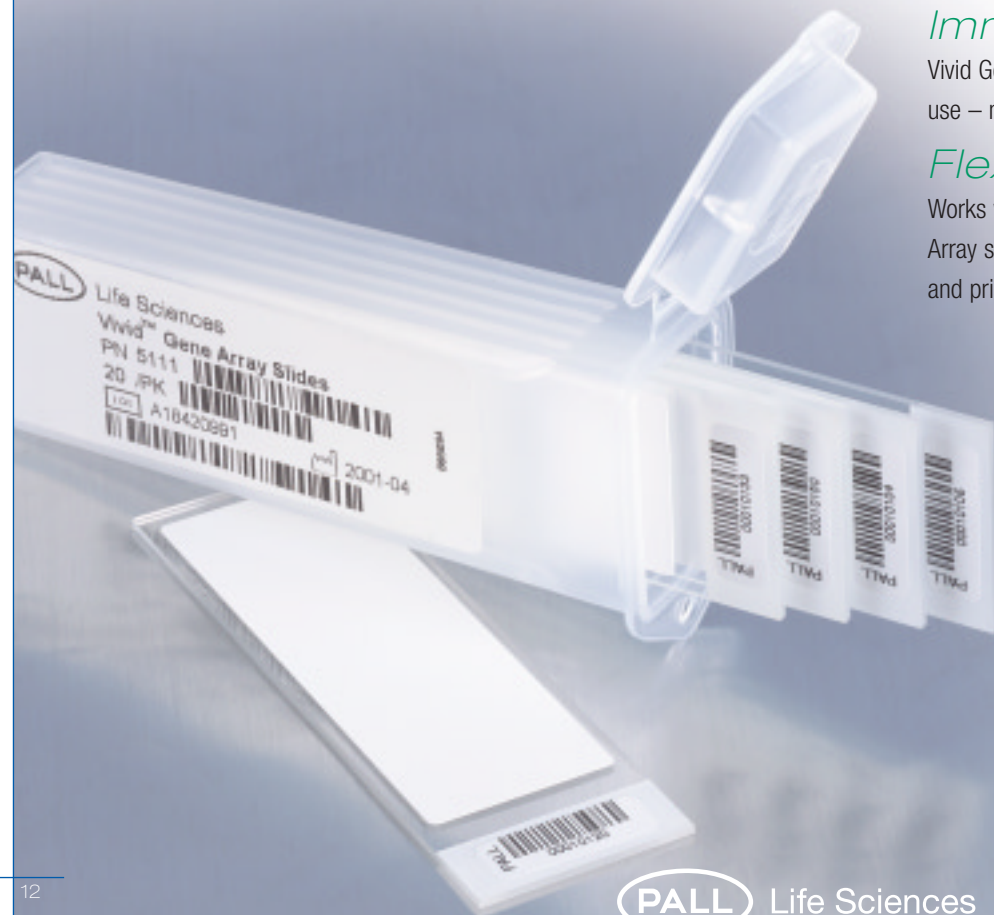
Basic Procedures



(G3 robotic workstation, Research Genetics, Invitrogen, Carlsbad, CA)



1. Remove slide from box. Print PCR product or oligo on Vivid Gene Array slide using one of many printing instruments.
2. Air dry and fix with UV.
3. Label cDNA and hybridize to slide.
4. Detect using any standard detection method including radioactive ³³P, direct fluorescence, chemiluminescence, chemifluorescence, and colorimetric.



Facilitate pure product with high recoveries in just minutes

Pall Life Sciences centrifugal devices for ultrafiltration and microfiltration simplify many common nucleic acid and protein handling procedures. Our Nanosep®, Microsep™, Macrosep®, and Jumbosep™ devices are available in a wide range of molecular weight cutoffs and pore sizes, each color-coded for easy identification. These devices provide efficient concentration and desalting of samples from 50 µL to 60 mL in just minutes. Ultrafiltration reduces the amount of handling that can cause damage to samples. Therefore, concentrated samples are ready for direct incorporation into downstream applications at critical stages in the discovery process.

Special features

Rapid Processing

It takes as little as five to ten minutes to achieve 90% recoveries.

Wide Variety of MWCO's

Once you have identified the right MWCO or pore size, our devices are color-coded for easy visual identification.

Low Protein Binding

Devices are constructed of low-binding polypropylene.

Device	Sample Volume
Nanosep device	< 0.5 mL
Microsep device	0.5 - 3.5 mL
Macrosep device	3 - 15 mL
Jumbosep device	15 - 60 mL



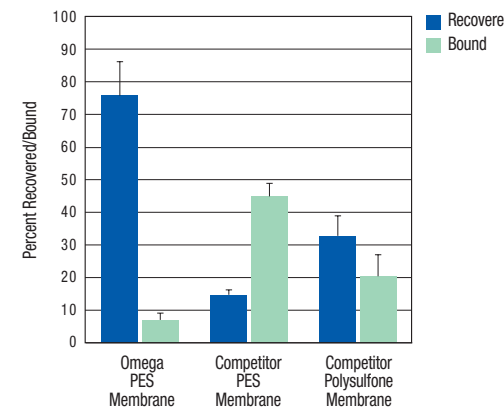
MWCO Selection for Nucleic Acid Applications

MWCO	Base Pairs (DS)	Bases (SS)
1K	5 - 16 Bp	9 - 32 Bs
3K	16 - 32 Bp	32 - 65 Bs
5K	25 - 50 Bp	50 - 95 Bs
10K	50 - 145 Bp	95 - 285 Bs
30K	145 - 285 Bp	285 - 570 Bs
50K	240 - 475 Bp	475 - 950 Bs
100K	475 - 1,450 Bp	950 - 2,900 Bs

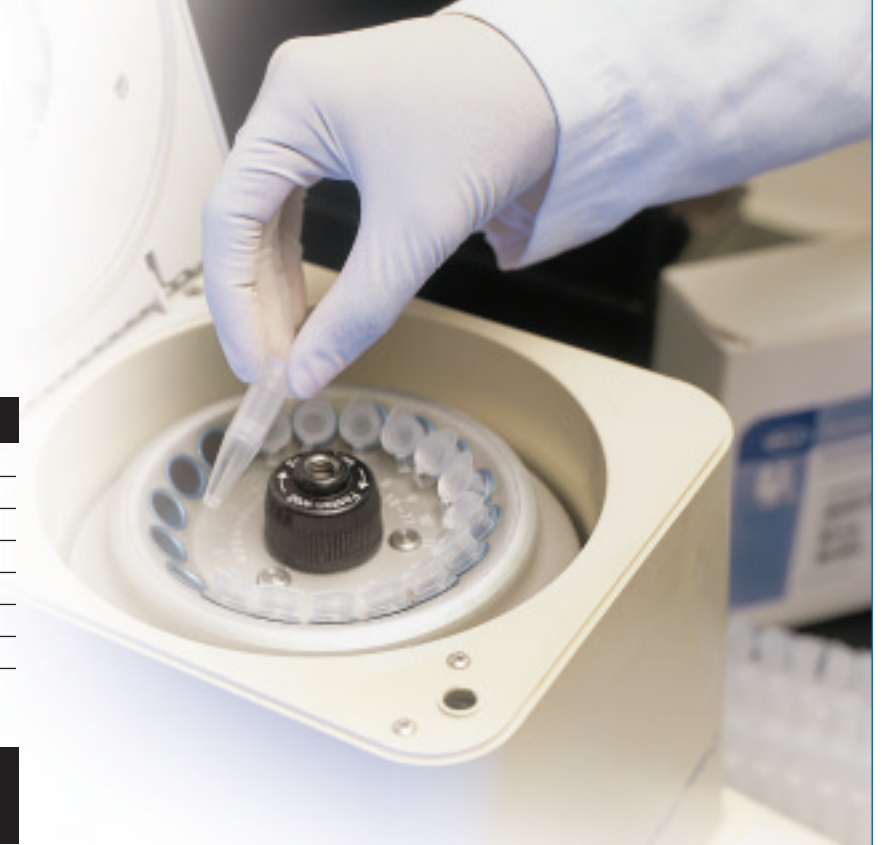
MWCO Selection for Protein Applications

MWCO	Membrane Nominal Pore Size*	Biomolecule Size	Biomolecule Molecular Weight
1K			3K - 10K
3K			10K - 20K
5K			15K - 30K
10K			30K - 90K
30K			90K - 180K
50K	5 nm	15 - 30 nm	150K - 300K
100K	10 nm	30 - 90 nm	300K - 900K
300K	35 nm	90 - 200 nm	900K - 1,800K

Low biomolecule-binding membranes and device housings ensure reproducible results and high recoveries with minimal product loss.



Nanosep devices with Omega PES membrane and commonly-used competitor membrane devices were used to filter and recover radioactively-labeled BSA. The graph contains the results of two independent experiments where each device was analyzed in triplicate. The protein-bound graph (green bars) represents lower values than actual due to interference from the intact device being submerged in scintillation cocktail.



Applications

- Polymerase Chain Reaction (PCR*) Clean-up
- Desalting
- Buffer Exchange
- Sequencing Clean-up
- Sample Fractionation
- Sample Purification
- Dye-terminator Clean-up
- Remove Free Nucleotides
- Concentrate DNA
- Concentrate Proteins
- Remove Label
- Remove Protein from Gel
- NMR Preparation

Reference Material

Also available online at www.pall.com/lab

- Product Data, Centrifugal Devices for Ultrafiltration & Microfiltration, PN 32984
- Product Data, Stirred Cell Systems and Ultrafiltration Membrane Disc Filters, PN 32985
- Product Data, Laboratory Tangential Flow Filtration Devices and Systems, PN 32986
- Protocols, Nanosep Centrifugal Devices, PN 32989
- Technical Report, Purification and Handling of DNA Fragments, PN 32981
- Technical Report, Nanosep Centrifugal Ultrafiltration Devices and PCR: Before and After, PN 32980
- Technical Report, Single-tube DNA Purification and Cloning Using Ultrafiltration Devices, PN 33205
- Technical Report, Fast and Efficient Elution of Proteins from Polyacrylamide Gels Using Nanosep Centrifugal Units, PN 33216

Interpret highly sensitive and detailed structural information with Pall membrane technology

Pall Life Sciences manufactures an entire line of transfer membranes compatible with all common protein and nucleic acid detection procedures. Our strict quality specifications ensure consistent, precise performance from lot to lot and blot to blot. Our membranes set standards for reproducible results, durability, and high signal-to-noise ratios. The following membranes are available in a range of commonly used formats including rolls, discs, and sheets, as well as custom cuts.

Proteomic Detection

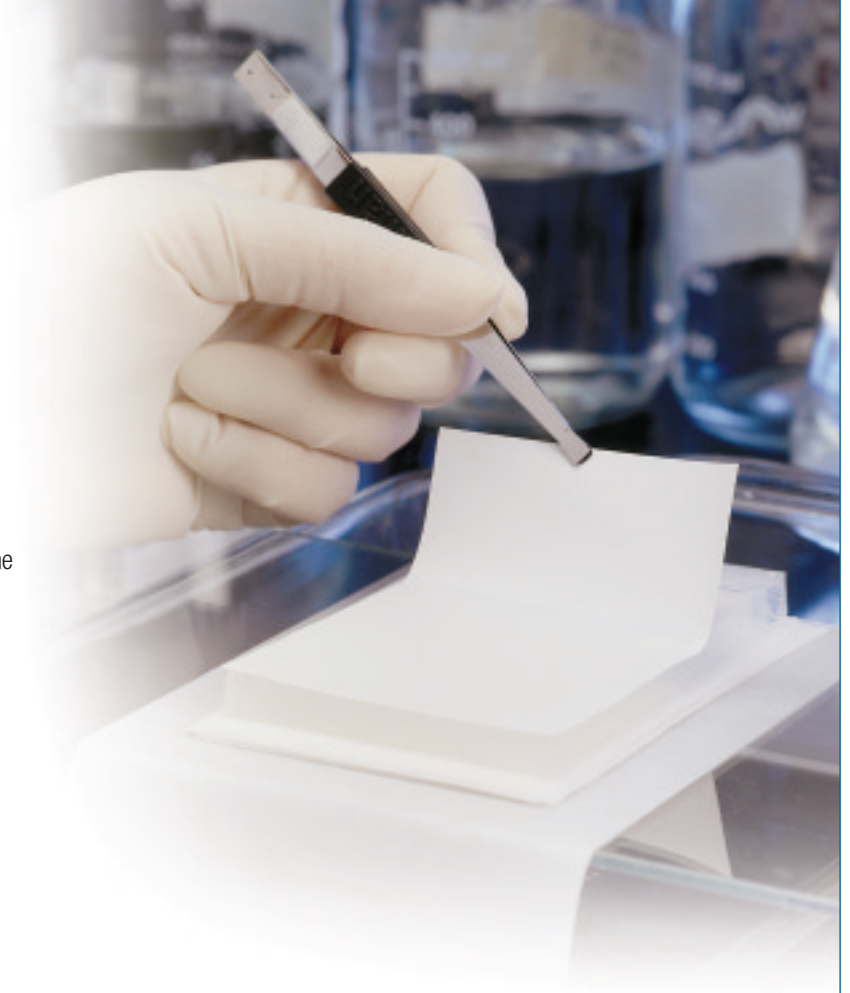
A variety of proteomic technologies are now being used to identify proteins and measure differences in cellular abundance. For protein characterization, the use of membrane technology is still the ideal choice for obtaining detailed structural information. Pall Life Sciences offers membranes with superior binding capacity to facilitate the transfer and retention of rare and low-abundant proteins for detection and further characterization.

Genomic Detection

Detection techniques are important for interpreting results in all areas of genomic research and molecular diagnostic applications. As sample sizes become smaller and more valuable, the need intensifies for highly sensitive detection platforms that exhibit low background. Pall Life Sciences offers a complete portfolio of membranes and materials that provide the sensitivity needed for detecting minute genomic samples.

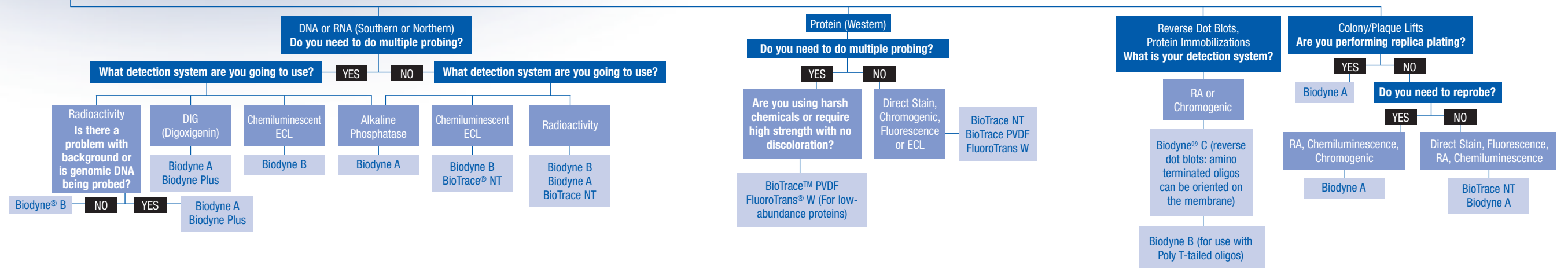
Applications

- Western Blots
- Northern Blots
- Southern Blots
- Dot Blots
- Protein Sequencing
- Protein Arrays
- Colony/Plaque Lifts
- Probe Biotinylation
- Protein Immobilization



Membrane Selection

What are you binding? What technique are you using?



Membrane chemistries for sensitive detection and consistent results

Biodyne® Membranes

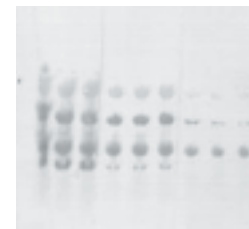
Intrinsically hydrophilic Nylon 6,6 membranes provide high sensitivity and low background for enhanced resolution in northern and Southern blots.



Dilutions of HindIII-digested lambda-DNA (1000 - 1 ng/lane) were separated in an agarose gel and transferred to a Biodyne Plus membrane. Signal was generated using a fluorescein-labeled probe, anti-fluorescein-alkaline phosphatase conjugate, and precipitating substrate. The image was generated by scanning the blot with a FluorImager® system.

BioTrace™ NT Membrane

Pure, unsupported nitrocellulose exhibits low burn-through in protein transfers.



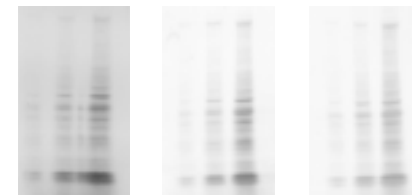
Brand A Brand B BioTrace NT Nitrocellulose Membrane Second Layer

Prestained proteins were separated in a polyacrylamide gel and electrophoretically transferred to the indicated nitrocellulose membranes. A double layer of membrane was used, one directly against the gel, followed by the second layer. Signal intensity on the second layer is indicative of burn-through, which can lead to loss of signal.

FluoroTrans® Membranes

Naturally hydrophobic membranes are ideal for a wide variety of protein analysis applications.

FluoroTrans PVDF membrane FluoroTrans W membrane Competitor PVDF membrane



Rabbit reticulocyte lysate (Amersham) was loaded in lanes of polyacrylamide gels at full strength, 1/3 and 1/10 dilutions. After electrophoresis, proteins were transferred to membranes. Membranes were stained with 0.1% Amido Black, 45% methanol, 2% acetic acid for 4 minutes and were then destained for 5 minutes with 2 changes of 90% methanol, 2% acetic acid. Stained membranes were rinsed in water and air dried.

BioTrace™ PVDF Membrane

Versatile membrane performs well in protein transfers and exhibits low background with various detection systems.

UltraBind™ Membrane

Possesses aldehyde functional groups that provide for effective covalent binding of amine groups on proteins.

Reference Material

Also available online at www.pall.com/lab

- Product Data Sheet, Membranes for Transfer and Immobilization, PN 33082
- Protocol, Transfer and Detection Procedures for Pall Membranes, PN 33167

Drug Discovery Media Chart

This table will help you evaluate the membrane options based on desired media characteristics for your application.

Membrane Name	Medium	Surface Chemistry	Characteristic												Recommended Applications							
			Capture, Release, and Concentrate	High DNA Binding	High Protein Binding	Low Protein Binding	Binds Leukocytes	Viral Particle Capture/Release	Hydrophobic	Hydrophilic	Compatible with Harsh Chemicals	Membrane Chromatography	Filtration	Pretreatment								
Biodyne® A	Nylon 6,6 (neutral)	Unmodified		•	•								•			•	•	•	Macroarrays, microarrays, Southern blots, northern blots, dot blots, reverse dot blots, DNA fingerprinting, colony and plaque lifts, ELISA			
Biodyne B	Nylon 6,6 (positively-charged)	Quaternary ammonium		•	•								•				•	•	Macroarrays, microarrays, Southern blots, northern blots, dot blots, reverse dot blots, DNA fingerprinting, binds negatively-charged molecules			
Biodyne C	Nylon 6,6 (negatively-charged)	Carboxyl			•													•	Reverse dot blots, ELISA, binds positively-charged molecules			
Biodyne Plus	Nylon (positively-charged)	Quaternary ammonium		•	•														•	Macroarrays, microarrays, Southern blots, northern blots, dot blots, DNA fingerprinting, ELISA		
Bio-Inert®	Modified Nylon	Hydroxyl						•											•	Clarification of cell lysate and tissue homogenates, gross fractionation		
BioTrace™ NT	Nitrocellulose	Nitrocellulose		•	•														•	Western blots, colony/plaque lifts, Southern blots, protein/nucleic acid dot blots, flow-through diagnostic tests, northern blots		
BioTrace PVDF	PVDF	Unmodified			•															•	Western transfers, protein dot blots	
Fluorodyne®	PVDF	Hydroxyl																		•	Filtration of low concentration proteins, sample preparation, general filtration	
FluoroTrans® PVDF	PVDF	Unmodified			•																•	N-terminal protein sequencing
FluoroTrans W	PVDF	Unmodified			•																•	Western transfers, Southern transfers
GH Polypro (GHP)	Polypropylene	Polyethylene glycol																			•	Time-resolved fluorescence, bead-based assays, prefiltration, fluorescent detection of analytes, sample prep prior to HPLC, general filtration of aqueous and organic solvents
Immunodyne® ABC	Modified Nylon	Proprietary activated surface		•	•																•	Oligonucleotide arrays, reverse dot blots, protein arrays, immunoassays
Leukosorb®	Proprietary	Proprietary																			•	Leukodepletion, nucleic acids extraction, <i>in situ</i> PCR
LoProdyne® LP	Nylon	Hydroxyl																			•	Filtration of low concentration proteins, sample preparation
Mustang® E	Polyethersulfone (positively-charged)	Quaternary ammonium		•																	•	Removes endotoxin from buffers, water, charged neutral salt and sugar solutions, saline
Mustang Q	Polyethersulfone (positively-charged)	Quaternary amine		•	•	•															•	Strong anionic exchanger for DNA clearance, nucleic acids and negatively-charged proteins, viral particle purification/concentration
Mustang S	Polyethersulfone (negatively-charged)	Sulfonic acid		•	•																•	Strong cationic exchanger for positively-charged proteins, viral particle purification/concentration
Omega™ UF (Ultrafiltration)	Modified Polyethersulfone	Proprietary		•																	•	Sample preparation, PCR cleanup, sequencing cleanup, ultrafiltration separations, nucleic acid, and protein purification and concentration
Pallflex®	Glass fiber	Unmodified																			•	Prefilters, DNA extraction
PTFE	PTFE	PTFE																			•	Vent filters, chemical and molecular synthesis
Supor®	Polyethersulfone	Proprietary																			•	General filtration applications
Supor R	Polyethersulfone	Repel™ treated																			•	Vent filters
UltraBind™	Modified Polyethersulfone (unsupported)	Aldehyde			•																•	Affinity chromatography, ELISA, ELISPOT
Versapor®	Acrylic copolymer on a nonwoven support	Proprietary																			•	General filtration applications
Versapor R	Acrylic copolymer on a nonwoven support	Repel treated																			•	Vent filters
Z-Bind™	Polyethersulfone	Hydroxyl																			•	Filtration of low concentration proteins, sample preparation, microplate bead assays

Media Chemical Compatibility Chart

The guidelines provided below should be followed when using filtration and detection devices in this catalog with the listed chemicals under certain conditions noted below.** It is recommended, however, that chemical compatibility be verified under actual use conditions.

	Acetone	Acetonitrile	Acetic acid, glacial	n-Butanol	Chloroform (0.98%)	Dioxane	Dimethyl formamide (20%)	Dimethyl sulfoxide (20%)	Ethanol	Ethyl acetate	Ethyl ether	Freon TF	Hydrochloric acid (1N)	Hexane, dry	Methanol	Methylene chloride	Methyl ethyl ketone (10%)	N-Methylpyrrolidone	Isopropanol	Sodium hydroxide (3N)	Tetrahydrofuran	Tetrahydrofuran/water (50/50)	Toluene	Water
Bio-Inert® membrane	L	L	N	R	R	●	L	L	R	N	R	●	N	R	R	L	R	●	N	R	R	R	R	R
BioTrace™ NT membrane	N	N	N	N	R	●	N	N	N	N	N	●	●	R	N	N	N	●	R	●	N	●	R	R
BioTrace PVDF membrane	N	R	R	R	R	●	N	N	R	R	R	●	R	R	R	R	N	●	R	N	N	●	R	R
FluoroTrans® membrane	N	R	R	R	R	●	N	N	R	R	R	●	R	R	R	R	N	●	R	N	N	●	R	R
GH Polypro (GHP) membrane (hydrophilic polypropylene)	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Glass Fiber	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Nylon membrane	R*	R	N	R	R	●	R*	R*	R	R*	R	R	N	R	R	R	R*	R*	R	L	R	R	R	R
Omega™ PES membrane	R	R	R	R	R	●	R	R	R	R	●	●	R	●	●	●	R	R	R	R	R	●	R	●
PTFE membrane within multi-well plates	L	●	N	L	R	N	N	●	R	R	N	●	R	●	L	R	L	●	L	R	R	●	L	R
Supor® PES membrane (polyethersulfone)	N	R	R	R	N	●	N	N	R	N	R	L	R	L	R	N	N	N	R	R	N	●	R	R
Versapor® membrane (acrylic copolymer)	N	N	N	R	N	N	N	N	R	N	N	R	L	N	L	N	N	N	R	R	N	●	N	R

* 2 mL of solvent was filtered with UV absorbance set at 254 nm. Membrane integrity was tested by bubble point.
 ** Test Methods: The data presented in this chart is a compilation of testing by Pall Corporation with certain chemicals, manufacturer's data, or compatibility recommendations from the *Compass Corrosion Guide*, by Kenneth M. Pruett. This data is intended to provide expected results when filtration devices are exposed to chemicals under static conditions for 48 hours at 25 °C (77 °F), unless otherwise noted. This chart is intended only as a guide. Accuracy cannot be guaranteed. Users should verify chemical compatibility with a specific filter under actual use conditions. Chemical compatibility with a specific filter, under actual use conditions, is affected by many variables, including temperature, pressure, concentration, and purity. Various chemical combinations prevent complete accuracy.

Note:
R = RESISTANT. No significant change was observed in flow rate or bubble point of the membrane.
L = LIMITED RESISTANCE. Moderate changes in physical properties or dimension of the membrane were observed. The filter may be suitable for short term, non-critical use at room temperature.
N = NOT RESISTANT. The membrane is basically unstable. In most cases, extensive shrinkage or swelling occurs. The filter may gradually weaken or partially dissolve after extended exposure.
● = INSUFFICIENT DATA. Information not available. Trial testing is recommended.



Multi-well Filter Plates

AcroPrep™ 96 350 µL Filter Plates

Product No.	Description	Packaging
5030	AcroPrep 96 filter plate with 0.45 µm GHP membrane, natural, 350 µL well	10/pkg
5031	AcroPrep 96 filter plate with 1.0 µm Glass Fiber, natural, 350 µL well	10/pkg
5032	AcroPrep 96 filter plate with 1.0 µm Glass Fiber, white, 350 µL well	10/pkg
5034	AcroPrep 96 filter plate with Omega™ 10K membrane, natural, 350 µL well	10/pkg
5035	AcroPrep 96 filter plate with Omega 30K membrane, natural, 350 µL well	10/pkg
5036	AcroPrep 96 filter plate with Omega 100K membrane, natural, 350 µL well	10/pkg
5037	AcroPrep 96 filter plate with 0.2 µm PTFE membrane, natural, 350 µL well	10/pkg
5038	AcroPrep 96 filter plate with 0.45 µm PTFE membrane, natural, 350 µL well	10/pkg
5042	AcroPrep 96 filter plate with 0.2 µm Bio-Inert® membrane, natural, 350 µL well	10/pkg
5043	AcroPrep 96 filter plate with 0.45 µm GHP membrane, white, 350 µL well	10/pkg
5044	AcroPrep 96 filter plate with 0.45 µm GHP membrane, black, 350 µL well	10/pkg
5045	AcroPrep 96 filter plate with 0.2 µm GHP membrane, natural, 350 µL well	10/pkg
5046	AcroPrep 96 filter plate with 3.0 µm Glass Fiber/0.2 µm Bio-Inert membrane, natural, 350 µL well	10/pkg

AcroPrep 96 1 mL Filter Plates

Product No.	Description	Packaging
5051	AcroPrep 96 filter plate with 1.0 µm Glass fiber media, natural, 1 mL well	5/pkg
5052	AcroPrep 96 filter plate with 0.2 µm GHP membrane, natural, 1 mL well	5/pkg
5053	AcroPrep 96 filter plate with 3.0 µm Glass fiber media/0.2 µm Bio-Inert membrane, natural, 1 mL well	5/pkg
5054	AcroPrep 96 filter plate with 0.45 µm GHP membrane, natural, 1 mL well	5/pkg
5055	AcroPrep 96 filter plate with 0.2 µm PTFE membrane, natural, 1 mL well	5/pkg
5056	AcroPrep 96 filter plate with 0.45 µm PTFE membrane, natural, 1 mL well	5/pkg

AcroPrep 384 Filter Plates

Product No.	Description	Packaging
5070	AcroPrep 384 filter plate with 0.45 µm GHP membrane, long tips, natural plate, 100 µL well	10/pkg
5071	AcroPrep 384 filter plate with 0.45 µm GHP membrane, short tips, natural plate, 100 µL well	10/pkg

† Glass Fiber plates have polypropylene support
 †† PTFE plates have polyester support

AcroWell™ 96 Filter Plates

Product No.	Description	Packaging
5020	AcroWell 96 filter plate with 0.45 µm GHP membrane, natural, 350 µL well	10/pkg
5021	AcroWell 96 filter plate with 0.45 µm GHP membrane, white, 350 µL well	10/pkg
5022	AcroWell 96 filter plate with 0.2 µm BioTrace™ NT membrane, white, 350 µL well	10/pkg
5025	AcroWell 96 filter plate with 0.2 µm BioTrace NT membrane, black, 350 µL well	10/pkg
5023	AcroWell 96 filter plate with 0.45 µm BioTrace PVDF membrane, natural, 350 µL well	10/pkg
5026	AcroWell 96 filter plate with 0.45 µm BioTrace PVDF membrane, black, 350 µL well	10/pkg
5027	AcroWell 96 filter plate with 0.45 µm BioTrace PVDF membrane, white, 350 µL well	10/pkg

Microarrays Slides

Vivid™ Gene Array Slides

Product No.	Description	Packaging
5110	Vivid Gene Array Slides	10/pkg
5111	Vivid Gene Array Slides	20/pkg

Centrifugal Devices

Jumbosep™ Centrifugal Devices

Starter Kits		
Product No.	Description	Packaging
FD00K65	Generic starter kit, (no membrane or inserts)	4/pkg
FD003K65	3K starter kit, gray	4/pkg
FD010K65	10K starter kit, blue	4/pkg
FD030K65	30K starter kit, red	4/pkg
FD100K65	100K starter kit, clear	4/pkg
FD300K65	300K starter kit, orange	4/pkg

Jumbosep Device Membrane Inserts

Product No.	Description	Packaging
OD003C65	3K membrane insert, gray	12/pkg
OD010C65	10K membrane insert, blue	12/pkg
OD030C65	30K membrane insert, red	12/pkg
OD100C65	100K membrane insert, clear	12/pkg
OD300C65	300K membrane insert, orange	12/pkg

Accessory Products

Product No.	Description	Packaging
FD001X65	Filtrate receiver and cap	12/pkg
FD002X65	Sample reservoir and cap	12/pkg
FD003X65	Insert release	24/pkg

Macrosep® Centrifugal DevicesMacrosep Centrifugal Devices
with Omega™ Membrane

Product No.	Description	Packaging
OD001C36	1K, yellow	6/pkg
OD001C37	1K, yellow	24/pkg
OD001C38	1K, yellow	100/pkg
OD003C36	3K, gray	6/pkg
OD003C37	3K, gray	24/pkg
OD003C38	3K, gray	100/pkg
OD003C39	3K, gray	500/pkg
OD010C36	10K, blue	6/pkg
OD010C37	10K, blue	24/pkg
OD010C38	10K, blue	100/pkg
OD030C36	30K, red	6/pkg
OD030C37	30K, red	24/pkg
OD030C38	30K, red	100/pkg
OD050C36	50K, green	6/pkg
OD050C37	50K, green	24/pkg
OD050C38	50K, green	100/pkg
OD100C36	100K, clear	6/pkg
OD100C37	100K, clear	24/pkg
OD100C38	100K, clear	100/pkg
OD300C36	300K, orange	6/pkg
OD300C37	300K, orange	24/pkg
OD300C38	300K, orange	100/pkg
OD990C36	1000K, purple	6/pkg
OD990C37	1000K, purple	24/pkg
OD990C38	1000K, purple	100/pkg

Microsep™ & Microsep MF Centrifugal DevicesMicrosep Centrifugal Devices
with Omega Membrane

Product No.	Description	Packaging
OD001C41	1K, yellow	24/pkg
OD001C46	1K, yellow	100/pkg
OD003C41	3K, gray	24/pkg
OD003C46	3K, gray	100/pkg
OD010C41	10K, blue	24/pkg
OD010C46	10K, blue	100/pkg
OD030C41	30K, red	24/pkg
OD030C46	30K, red	100/pkg
OD050C41	50K, green	24/pkg
OD050C46	50K, green	100/pkg
OD100C41	100K, clear	24/pkg
OD100C46	100K, clear	100/pkg
OD300C41	300K, orange	24/pkg
OD300C46	300K, orange	100/pkg
OD990C41	1000K, purple	24/pkg
OD990C46	1000K, purple	100/pkg

Microsep MF Centrifugal Devices
with Bio-Inert® Membrane

Product No.	Description	Packaging
ODM02C67	0.2 µm, aqua	24/pkg
ODM02C68	0.2 µm, aqua	100/pkg
ODM45C67	0.45 µm, wildberry	24/pkg
ODM45C68	0.45 µm, wildberry	100/pkg

Nanosep® & Nanosep MF Centrifugal DevicesNanosep Centrifugal Devices
with Omega Membrane

Product No.	Description	Packaging
OD003C33	3K, gray	24/pkg
OD003C34	3K, gray	100/pkg
OD003C35	3K, gray	500/pkg
OD010C33	10K, blue	24/pkg
OD010C34	10K, blue	100/pkg
OD010C35	10K, blue	500/pkg
OD030C33	30K, red	24/pkg
OD030C34	30K, red	100/pkg
OD030C35	30K, red	500/pkg
OD100C33	100K, clear	24/pkg
OD100C34	100K, clear	100/pkg
OD100C35	100K, clear	500/pkg
OD300C33	300K, orange	24/pkg
OD300C34	300K, orange	100/pkg
OD300C35	300K, orange	500/pkg

Nanosep MF Centrifugal Devices
with Bio-Inert Membrane

Product No.	Description	Packaging
ODM02C33	0.2 µm, aqua	24/pkg
ODM02C34	0.2 µm, aqua	100/pkg
ODM02C35	0.2 µm, aqua	500/pkg
ODM45C33	0.45 µm, wildberry	24/pkg
ODM45C34	0.45 µm, wildberry	100/pkg
ODM45C35	0.45 µm, wildberry	500/pkg

Nanosep MF Centrifugal Devices
with GHP Membrane

Product No.	Description	Packaging
ODGHPC34	0.45 µm, clear	100/pkg
ODGHPC35	0.45 µm, clear	500/pkg

Transfer Membranes**Biodyne® Transfer Membranes**

Description	Packaging	Membrane Product Numbers					
		Biodyne A Membrane, 0.2 µm	Biodyne A Membrane, 0.45 µm	Biodyne A Membrane, 1.2 µm	Biodyne B Membrane, 0.45 µm	Biodyne C Membrane, 0.45 µm	Biodyne Plus Membrane, 0.45 µm
82 mm discs	50/pkg		60102		60202	60316	60402
85 mm discs	50/pkg		60103		60203	60317	60403
132 mm discs	50/pkg		60104		60204	60318	60404
137 mm discs	50/pkg		60105		60205	60319	60405
7 x 8.5 cm sheets	10/pkg		60101		60201	60315	60401
20 x 20 cm sheets	10/pkg		60100		60200	60314	60400
20 cm x 1 m roll	1/pkg				60209		
20 cm x 3 m roll	1/pkg			60120		60208	
30 cm x 3 m roll	1/pkg	60113	60106	60108	60207	60320	60406

FluoroTrans® Transfer Membrane

FluoroTrans PVDF Membrane

Product No.	Description	Packaging
PVM020C-160	7 x 8.4 cm sheets	10/pkg
PVM020C1015	10 x 15 cm sheets	10/pkg
PVM020C2020	20 x 20 cm sheets	10/pkg
PVM020C-099	3.3 m roll	1/pkg

FluoroTrans W Membrane

Product No.	Description	Packaging
BSP0158	7 x 9 cm sheets	10/pkg
BSP0157	10 x 15 cm sheets	10/pkg
BSP0159	20 x 20 cm sheets	10/pkg
BSP0161	3.3 m roll	1/pkg

UltraBind™ Affinity Membrane

Product No.	Description	Packaging
66544	20 x 20 cm sheets	10/pkg
66545	30 cm x 3 m roll	1/pkg

BioTrace™ NT Nitrocellulose Transfer Membrane

Product No.	Description	Packaging
66487	82 mm discs	50/pkg
66595	85 mm discs	50/pkg
66518	132 mm discs	50/pkg
66488	137 mm discs	50/pkg
66593	7 x 8.5 cm sheets	10/pkg
66489	20 x 20 cm sheets	10/pkg
66485	30 cm x 3 m roll	1/pkg

BioTrace PVDF Transfer Membrane

Product No.	Description	Packaging
66594	7 x 8.5 cm sheets	10/pkg
66542	20 x 20 cm sheets	10/pkg
66547	20 cm x 1 m roll	1/pkg
66543	30 cm x 3 m roll	1/pkg