Operator's Manual

MaGELin Protein System

Vertical Gel Electrophoresis Unit

Gel Size: 10cm x 10cm

IBI Catalog Number: **IB94000**
IB94100
IB94300

IBI SCIENTIFIC

9861 Kapp Court • P.O. Box 219 • Peosta, IA 52068
Tele: (563) 690-0484 • Toll Free: (800) 253-4942
Fax: (563) 690-0490 • E-Mail: info@ibisci.com
WWW.IBISCI.COM

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A. Safety Information

Important Safety Information!

- Please read this manual carefully before operating your new IBI MaGELin Protein System.
- This manual contains important operating and safety information.
- To best use the product, please read the entire manual carefully prior to use.
- To avoid possible injury, this product should only be used for its intended purpose.

B. Package Contents

Upon receiving this product, please verify all of the noted parts and accessories are contained in this package.

IB94000

- MaGELin Buffer Tank
- Patented MaGELin Vented Lid
- Casting System w/Lid
- Gel Capture Device
- Casting Fixture
- 3 Sets of Notched and Plain Glass Plates
- 2 Sets of Rubber Glass Plate Holders (4ea.)
- One Set of 0.8mm x 12 Tooth Combs (2ea.)
- One Set of Power Cords (Red and Black)
- Buffer Dam
- Operation Manual

IB94300

- MaGELin Buffer Tank
- Patented MaGELin Vented Lid
- Gel Capture Device
- One Set of Power Cords (Red and Black)
- Buffer Dam
- Operation Manual

NOTE: Carefully inspect all items in the package to insure no items are broken or missing. If there are items broken, please inspect the package carefully for signs of shipping damage. If there is ANY sign of shipping damage, please contact the carrier and file a claim with them immediately. Contact the distributor from which you purchased the item or IBI Scientific for assistance at (800) 253-4942 or (563) 690-0484.

C. Product Specifications

	Height	Width	Length
Unit Dimensions	19.0cm	17.0cm	18.0cm
Gel Dimensions		10.0cm	10.0cm

Maximum Sample Capacity: 15 Samples - 1 Comb
Buffer Capacity: 350ml-Minimum / 850ml-Maximum

D. Operating Instructions

Your new MaGELin Protein System is cleaned and wiped prior to packaging; however, components should be washed in warm soapy water prior to use in the laboratory. A mild dish washing liquid, like Joy, works well.

Gently wash the tank, lid, glass slides, and casting fixture in warm soapy water, taking care not to break the glass slides or scratch the acrylic components. Allow items to dry prior to use, taking special care to ensure the casting system and glass holders are dry prior to use. Gently dry the glass plates in preparation for casting, it is also recommended that the glass slides be cleaned with alcohol prior to use. Wipe glass plates dry with lint-free towel. Do NOT wash power cords.

Preparation and Assembly of Gel Sandwich

The IB94100 dual casting fixture is designed to provide many years of trouble free service in the laboratory environment. After gently cleansing and drying the casting fixture, glass slides, and glass holders you are now ready to assemble the gel sandwich.

1.) Match up a notched glass slide (thicker) and a square outer glass slide (thin). There are three sets included with each MaGELin Protein System, and replacement parts are available.

2.) Take each of the rubber glass holders and while holding at each end, gently tug at either end, stretching the piece slightly. This should be done, prior to use, each time a gel sandwich is assembled. (See Photo 1)

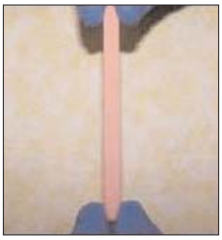

Photo 1

3.) Observe the inside of the rubber glass holder, note that there are grooves in the rubber holder that match up with the different glass slides. The thicker (notched) glass slide fits into the wide groove, while the thin (square) glass slide fits into the narrow groove.

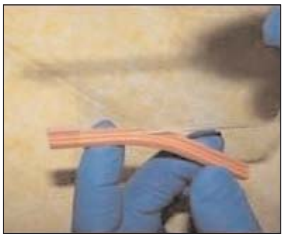

Photo 2

4.) Starting with the notched (thick) glass slide, place the rubber holder onto the slide by starting at the top of the notched slide and working your way down toward the bottom. Ensure the glass slide is fully inserted into the holder. Once the rubber holder reaches the bottom of the glass plate, make certain the bottom edge of the glass slide is seated entirely inside the bottom cross section of the glass holder. (See Photo 2)

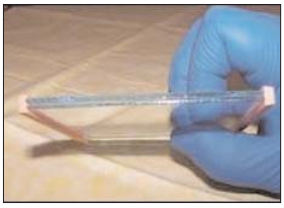

Photo 3

5.) Now insert the square (thin) glass slide into the rubber holder that already contains the notched (thick) glass slide, making certain the bottom edge of the glass stays within the glass holder. Neither slide should protrude outside the edge of the grooves in the rubber holder, at the bottom of the holder.

Photo 4

6.) Now apply the other rubber holder to the opposite side of the glass plates. Again, starting at the top of the glass plates and working down to the bottom, make sure certain that the bottom edge of each glass plate stays within the rubber holder and stay aligned with one another. (See Photo 3) Standing the assembly on a flat surface and applying slight pressure at the top of the gel sandwich will align the bottom edge of the assembly so the plates align evenly. (See Photo 4)

7.) Once assembled, gently squeeze the rubber holders into glass plate assembly to ensure the glass plates are seated properly.

8.) Repeat steps 1 through 7 to form the second gel sandwich, if required.

9.) You are now ready to insert (one or two) glass plate assemblies into the casting fixture.

10.) Position the casting fixture on a flat and level counter top or table. Insert the first glass plate assembly into the slotted sides of the casting fixture, making certain the notched plate is facing toward the inside of the casting fixture. Repeat this with the second gel sandwich in the remaining slot of the casting fixture. (See Photo 5)

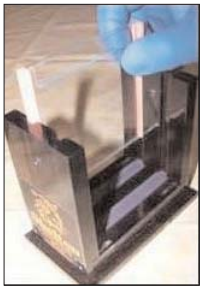

Photo 5

11.) Place the lid on the casting fixture, pressing down to compress the bottom of the gel sandwiches into the gasket at the bottom of the fixture. Align the holes in the lid with the threaded holes of the casting fixture and screw in the thumb screws to secure, you will need to continue to apply pressure downward on the fixture to do this. The lid will bottom out against the sides of the casting fixture ensuring the proper amount of downward pressure is applied to the gel sandwiches. (See Photo 6)

Photo 6

12.) The glass slides are now ready to be poured. Please review the next section of this manual carefully to ensure proper amounts of acrylamide are mixed and cast correctly.

CASTING THE GEL

Mix the Acrylamide:Bisacrylamide, ddi water, and Tris HCl buffer together in a 50ml (or larger) conical tube, and degas for approximately 15 minutes. See Gel Recipes section for exact mixtures. Once the acrylamide:bisacrylamide mixture has degassed add the TEMED and Ammonium Persulfate. Mix the solution by slowly inverting the tube, try not to cause any foaming.

NOTE: Make a fresh solution of Ammonium Persulfate daily.

Resolving Gel:

Mix 5.5ml of resolving gel. Use the opening in the lid to access the gel sandwiches and add solution. It can be advantageous to pipette the material into the corner of the notched portion of the glass plate, slightly tilting the casting fixture may also help reduce the chance for air bubbles in the gel. Fill the gel sandwich to approximately 1cm below the notch in the glass plate. Repeat this process for the second gel sandwich. NOTE: If air bubbles appear while pouring the gel disrupt the bubbles using paper or a pipette tip as soon as possible. Now that the resolving gel has been poured, overlay the top of the gel with 1% isobutanol and allow to solidify for approximately 30 minutes. (See Photo 7)

Photo 7

Stacking Gel:

Mix 2ml of stacking gel. Once the resolving gel has set,remove the isobutanol and irrigate with ddi water to remove any excess isobutanol. Mix the acrylamide:bisacrylamide, ddi water, and Tris HCl buffer together in a 50ml (or larger) conical tube, and allow to degas for approximately 15 minutes. See Gel Recipes section for exact mixtures. Once the mixture has degassed, add the TEMED and Ammonium Persulfate, mix the solution by slowly inverting the tube. Try not to cause any foaming during mixing.

NOTE: Make a fresh solution of Ammonium Persulfate daily.

Now place the casting system on a flat surface and slowly add the solution to the side of the gel sandwich, try to avoid making any air bubbles. Once filled, slowly insert the comb until it bottoms out on the notched glass plate and repeat procedure with second gel sandwich. If bubbles should appear use pipette tip or paper to disrupt as soon as possible. Allow the gel sandwich to solidify. (See Photo 8).

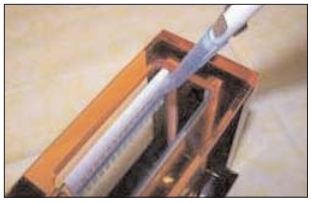

Photo 8

Removing the Comb:
Once the gel has polymerized, slowly remove the comb by gently rocking it back and forth. Use caution not to disrupt or tear the gel between the wells of the comb. If comb is sticking, irrigate with ddi water or buffer solution to help loosen.

Placing the Cast Gels into the Gel Capture Device

Once the gels have polymerized inside the glass plates, place the gel capture assembly onto a level counter top or table. The gel capture assembly has four locking cams, one located at each corner of the device. Each cam has a tab that is used to turn operate the cam, for loading the gel sandwiches rotate the cam tab direct outward from the gel capture device. This will allow the maximum amount of clearance for loading and unloading the gel sandwiches. (See Photo 9)

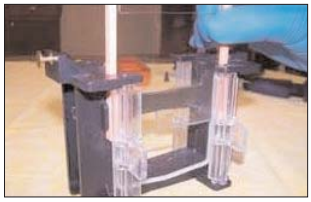

Photo 9

Now remove the gel sandwiches from the casting fixture by loosening the thumb screws and removing the lid from the casting fixture. Gently lift the gel sandwiches from the casting fixture and insert into the gel capture device, making certain the notched glass plate is again facing the inside of the gel capture device. When the gel sandwiches are in place, slowly rotate the cams so the tabs of the cams are pointed toward on another. (See Photo 10)

Photo 10

NOTE: If using precast gels, rotate the cams away from one another to properly seat the gels. (See Photo 12)

If you wish to only run one gel in your gel capture device an acrylic buffer dam is included with your unit to use on the opposite side of the gel capture device. Simply insert the buffer dam the same way you would insert a gel sandwich. Once in place, rotate the cam tabs outward or away from one another to seat. (See Photos 11 & 12)

Photo 11

With the gels loaded into the gel capture assembly, you are now ready to place the gel capture device into the buffer tank. The buffer tank will only allow the gel capture device to be inserted one way, it is keyed to ensure the positive and negative posts are oriented the same every time. To ensure orientation is correct, examine the notches in the tank sides (there is a wide one and a narrow one), these will match up with the widths of the proper gel capture tabs when the gel capture is placed into the tank. Place the gel capture device into the buffer tank, buffer can now be added to the buffer tank. A minimum of 350ml is require to run a gel, and a maximum of 850ml should be added to the tank. Buffer is now added to the center of the gel capture device (between the two gels), the gel capture should be filled until the buffer level is overtop the exposed gel at the top of the notched plate, but not over the top of the gasket material. Once the desired amount of buffer has been placed in both, place the lid on top of the buffer tank and connect to a power supply(red to anode/black to cathode). (See Photos 13 and 14).

Photo 12

Photo 13

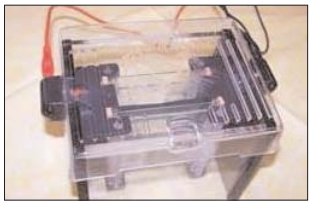

Photo 14

Power Supply Connection and Settings

Potentially lethal voltage is present during the operation of this device. The MaGELin Protein System is designed to be operated with the safety lid in place, it is also recommended that the MaGELin Protein System be used in conjunction with a power supply that can detect a ground fault and/or no load conditions. The use of any other power supplies may result in injury to the user.

Place the lid on top of the lower buffer chamber to fully enclose the buffer tank. The correct orientation is made by matching the color of the power cord with the matching color of cap nut, located at the terminals of the gel capture device. For the user's safety, the MaGELin Protein System is also keyed so the lid will only fit one way.

Attach the electrical leads to a suitable power supply (200V minimum) with the proper polarity.

Apply the power to the MaGELin Protein System and begin electrophoresis. The recommended power condition for optimal resolution and minimal thermal band distortion is 150V constant voltage setting. No adjustment of the setting is necessary for thickness or number of gels. The typical run-time is approximately 40-45 minutes from start to finish. The current should run at approximately 50mA per gel (100mA for two gels) at the beginning of the run. During the 45 minute run, the current will slowly drop out to approximately 20mA per gel (40mA for two gels). This is caused by the in buffer ions in the gel causing a slow rise in resistance.

The IB94000 MaGELin Protein System should be operated by qualified technically trained personnel. Please read through the entire manual prior to operating this system.

E. Gel Recipes

To make a 30% solution using IBI acrylamide (37.5 ratio) models IB70018 and/or IB70019.

- For IB70018 (40gm) add ddi water until a final volume of 133ml is reached.
- For IB70019 (200gm) add ddi water until a final volume of 667ml is reached.

To make a 40% solution using IBI acrylamide (37.5 ratio) models IB70018 and/or IB70019.

- For IB70018 (40gm) add ddi water until a final volume of 100ml is reached.
- For IB70019 (200gm) add ddi water until a final volume of 500ml is reached.

Gel Recipes:

For 10ml Solution Nondenaturing Resolving Gel:

	8%	10%	12%
30% Acryl/Bis 37.5:1	2.67ml	3.33ml	4.00ml
5X Tris HCl(pH 8.8)	2.50ml	2.50ml	2.50ml
ddi water	5.68ml	4.00ml	3.35ml
10% APS	100µl	100µl	100µl
TEMED	5µl	5µl	5µl

For 10ml Solution Denaturing Resolving Gel:

	8%	10%	12%
30% Acryl/Bis 37.5:1	2.67ml	3.33ml	4.00ml
5X Tris HCl(pH 8.8)	2.50ml	2.50ml	2.50ml
ddi water	5.68ml	4.00ml	3.35ml
SDS, 10% Solution	100µl	100µl	100µl
10% APS	50µl	50µl	50µl
TEMED	5µl	5µl	5µl

For 10ml Solution Nondenaturing Resolving Gel:

	4%
30% Acryl/Bis 37.5:1	1.33ml
5X Tris HCl(pH 8.8)	2.50ml
ddi water	6.10ml
SDS, 10% Solution	100µl
10% APS	50µl
TEMED	10µl

Buffer Recipes:

Tris HCl 1.5M - pH 8.8

Tris	27.23gm
ddi water	80ml
Adjust pH to 8.8 w/6N HCl	
Add ddi water	150ml

SDS, 10% Solution

SDS	10gm
ddi water	90ml

After mixing stir gently and heat if necessary
After the SDS is in solution add ddi water to a total volume of 100ml

Tris-Glycine Running Buffer, 10X

Tris	29gm
Glycine	144gm
ddi water	1L

Dilute 10X with ddi water to 1X to a pH of 8.3

Tris-Glycine-SDS Running Buffer, 10X

Tris	29gm
Glycine	144gm
SDS	10gm
ddi water	1L

Dilute 10X with ddi water to 1X to a pH of 8.3

Tris-Tricine-SDS Running Buffer, 10X

Tris	12.1gm
Tricine	179.0gm
SDS	10gm
ddi water	Adjust to 1L

Sample Loading Buffer Recipes:

2X Sample Loading Buffer SDS

SDS, 10%	4.0ml
50% Glycerol	2.0ml
0.1% Bromophenol Blue	1.0ml
0.5M Tris-HCl, pH 6.8	2.5ml
2-mercaptoethanol	0.2-0.5ml
ddi water	Bring to 10ml

2X Sample Loading Buffer

50% Glycerol	2.0ml
0.1% Bromophenol Blue	1.0ml
0.5M Tris-HCl, pH 6.8	2.5ml
ddi water	Bring to 10ml

Sample Preparation

Add an equal amount of Sample Loading Buffer to your sample and heat the sample and buffer for 3 to 5 minutes at 100°C. If the sample becomes cloudy you may centrifuge for 3 minutes at 6,000rpm.

Staining Protein Gels:

Coomassie Blue Solution (1X)

Ethanol	400ml
Coomassie Blue R-250	1.25gm
Acetic Acid	100ml
ddi water	500ml

Mix in sequence to get Coomassie Blue into solution.

Destain

Ethanol	50ml
Acetic Acid	75ml
ddi water	Adjust to 1L

F. Replacement Parts & Accessories

MaGELin Accessory Items and Replacement Parts:

Catalog #	Description
IB50500	Replacement Power Cords
IB92010	Replacement Inner Notched Glass Plates, 5ea.
IB92020	Replacement Outer Glass Plates, 5ea.
IB92025	0.8mm Spacer Set/Glass Holders, 2ea.
IB94010	Replacement Buffer Tank
IB94020	Replacement Gel Capture Device
IB94030	Replacement Lid
IB92070	Replacement Casting Fixture Gaskets, 2ea.
IB92071	Replacement Casting Fixture Knobs, 2ea.
IB92072	Replacement Tank Connector Kit
IB94074	Replacement Gel Capture Device Gaskets, 2ea.
IB94100	Casting Fixture, 2 Place
IB94200	Casting Fixture, 8 Place
IB95000	Western Transfer Module

MaGELin Combs

Catalog #	Comb Description	Well Width	Sample Volume Per mm Gel
IB92030	0.8mm, 10 tooth	5.9mm	28.2ul
IB92031	0.8mm, 12 tooth	4.2mm	20.3ul
IB92032	0.8mm, 15 tooth	3.4mm	16.2ul
IB92033	0.8mm, 0 markers, 1 sample	70.0mm	336.0ul

G. Related IBI Products

IB50000 IBI QSH Lab-Pal (5 X 7cm Horizontal Electrophoresis Unit)
Comes complete with buffer tank, vented lid, 2-place casting tray, two 1.5mm by 5-tooth combs, four glass slide, power cords, and manual.

IB51000 IBI QS-710 (7 X 10cm Horizontal Electrophoresis Unit)
Comes complete with buffer tank, vented lid, casting fixture and UVT tray, two 1.5mm by 8-tooth combs, power cords, leveling bubble and manual.

IB53000 IBI MP-1015 (10 X 15cm Horizontal Electrophoresis Unit)
Comes complete with buffer tank, vented lid, casting fixture and UVT tray, two 2.0mm by 16-tooth combs, power cords, buffer port set, leveling bubble and manual.

IB56000 IBI HR-2025 (20 X 25cm Horizontal Electrophoresis Unit)
Comes complete with buffer tank, vented lid, casting fixture and UVT tray, two 2.0mm by 20-tooth combs, power cords, buffer port set, leveling bubble and manual.

IB57000 IBI HR-2525 (25 X 25cm Horizontal Electrophoresis Unit)
Comes complete with buffer tank, vented lid, casting fixture and UVT tray, four 2.0mm by 50-tooth combs, power cords, buffer port set, leveling bubble and manual.

IB62000	IBI VCV Vertical Electrophoresis System (18 X 22cm Vertical Electrophoresis Unit) Comes complete with main assembly, safety cover, three glass plates (inner, outer, and frosted), one 1.5mm by 12-tooth and 1.5mm by 20-tooth combs, a 1.5mm spacer set (which includes one bottom and two sided spacers as well as two spacer tabs), one set of power cords, four sandwich clips, and manual.
IB80000	IBI STS-45i Manual Sequencer (36 X 43cm Vertical Electrophoresis Unit) Comes complete with main assembly, aluminum thermoplate, two glass plates, one 0.4mm comb and spacer set (includes two 32-tooth and 64-tooth conventional combs, two 64-tooth sharkstooth combs, one bottom and two sided spacers and four spacer tabs) one set of power cords, and manual.
IB94000	IBI MaGELin Universal Protein System (for Cast-Your-Own or Precast Gels) Comes complete with buffer tank, gel capture device, vented lid, vertical casting fixture, two sets of 0.8mm side spacers, three outer glass plates, three inner notched plates, two 0.8mm by 12-tooth combs, power cords, and manual
SH-300	IBI 300V Power Supply (300V / 400mA / 120W) The SH-300 has constant voltage or constant current capability, memory settings, and a LED display. Comes complete with power supply, 120V grounded power cord, and manual.
SH-500	IBI 500V Power Supply (500V / 300mA / 150W) The SH-500 has constant voltage or constant current capability, memory settings, gel saver feature, and a LED display. Comes complete with power supply, 120V grounded power cord, and manual.

H. Related IBI Certified Reagents

IB01010	6X Loading Dye	5ml
IB01015	5X RNA Gel Loading Dye Kit	100RxN
IB01020	10X TBE Pouch	1 Pouch
IB01030	25X Tris-Acetate EDTA Buffer Pouch	1 Pouch
IB74020	Acridine Orange	25gm
IB70016	Acrylamide:Bisacrylamide, 29:1	40gm
IB70017	Acrylamide:Bisacrylamide, 29:1	200gm
IB70020	Acrylamide	100gm
IB70022	Acrylamide:Bisacrylamide, 19:1	40gm
IB70023	Acrylamide:Bisacrylamide, 19:1	200gm
IB70024	Acrylamide	500gm
IB70026	Acrylamide	1.5kg
IB70028	Acrylamide	3kg
IB70018	Acrylamide:Bisacrylamide, 37.5:1	40gm
IB70019	Acrylamide:Bisacrylamide, 37.5:1	200gm
IB70010	Acryliqud-40 (40% (w/v) Acrylamide solution)	500ml
IB70035	Agarose	25gm
IB70040	Agarose	100gm
IB70041	Agarose	250gm
IB70042	Agarose	500gm
IB70045	Agarose	1kg
IB70050	Agarose, Low Melting Point	50gm
IB70051	Agarose, Low Melting Point	25gm
IB70056	Agarose, Low Melting Point	100gm
IB70057	Agarose, Low Melting Point	250gm
IB70058	Agarose, Low Melting Point	500gm
IB70059	Agarose, Low Melting Point	1Kg
IB70052	3:1 Super Sieve Agarose	50gm
IB70053	3:1 Super Sieve Agarose	250gm

IB70054	Ultra Sieve Agarose	25gm
IB70055	Ultra Sieve Agarose	250gm
IB70060	Agarose, PFGE	25gm
IB70061	Agarose, PFGE	50gm
IB70062	Agarose, PFGE	100gm
IB70063	Agarose, PFGE	250gm
IB70064	Agarose, PFGE	500gm
IB70065	Agarose, PFGE	1Kg
IB15720	Alcohol-Anhydrous (Ethanol)	500ml
IB15721	Alcohol-Anhydrous (Ethanol)	1L
IB15724	Alcohol-Anhydrous (Ethanol)	4L
IB15620	Ammonium Acetate	500gm
IB70080	Ammonium Persulfate	100gm
IB02040	Ampicillin, Sodium Salt	25gm
IB70100	Bisacrylamide	25gm
IB70102	Bisacrylamide	100gm
IB70096	Boric Acid	2.5kg
IB74040	Bromophenol Blue	25gm
IB02010	Carbenicillin	1gm
IB02020	Carbenicillin	5gm
IB37060	Cesium Chloride, Optical Grade	100gm
IB37062	Cesium Chloride, Optical Grade	1kg
IB37042	Cesium Chloride, Technical Grade	1kg
IB02080	Chloramphenicol	25gm
IB05040	Chloroform	500ml
IB21040	Dithiothreitol (DTT)	5gm
IB21045	Dithiothreitol (DTT)	25gm
IB70180	EDTA, disodium salt	100gm
IB70182	EDTA, disodium salt	500gm
IB70184	EDTA Solution (0.5M), pH 8	100ml
IB70185	EDTA Solution (0.5M), pH 8	4x100ml
IB40060	Ethidium Bromide	5gm
IB40075	Ethidium Bromide Solution, 10mg/mL	10ml
IB72028	Formamide, ACS Grade	500ml
IB72020	Formamide, Spectral Grade	100ml
IB72024	Formamide, Spectral Grade	500ml
IB02030	Gentamycin Solution	20ml
IB15760	Glycerol	500ml
IB15762	Glycerol	1L
IB70194	Glycine	2.5kg
IB05080	Guanidine Hydrochloride	500gm
IB05085	Guanidine Hydrochloride Solution (6M)	500ml
IB05100	Guanidine Thiocyanate	500gm
IB01120	HEPES, Sodium Salt	100gm
IB01130	HEPES, Free Acid	50gm
IB01131	HEPES, Free Acid	250gm
IB01132	HEPES, Free Acid	500gm
IB01133	HEPES, Free Acid	1Kg
IB70012	InstaBIS-(2% (w/v) Bisacrylamide solution)	500ml
IB70000	InstaPAGE-(30% sol., 19:1 Acrylamide:Bisacrylamide)	500ml
IB70001	InstaPAGE-(30% sol., 19:1 Acrylamide:Bisacrylamide)	1L
IB70002	InstaPAGE-(30% sol., 29:1 Acrylamide:Bisacrylamide)	500ml
IB70003	InstaPAGE-(30% sol., 29:1 Acrylamide:Bisacrylamide)	1L
IB70004	InstaPAGE-(30% sol., 37.5:1 Acrylamide:Bisacrylamide)	500ml
IB70005	InstaPAGE-(30% sol., 37.5:1 Acrylamide:Bisacrylamide)	1L

IB70006	InstaPAGE-(40% sol., 29:1 Acrylamide:Bisacrylamide)	500ml
IB70007	InstaPAGE-(40% sol., 29:1 Acrylamide:Bisacrylamide)	1L
IB70008	InstaPAGE-(40% sol., 37.5:1 Acrylamide:Bisacrylamide)	500ml
IB70009	InstaPAGE-(40% sol., 37.5:1 Acrylamide:Bisacrylamide)	1L
IB70014	InstaPAGE-(40% sol., 19:1 Acrylamide:Bisacrylamide)	500ml
IB70015	InstaPAGE-(40% sol., 19:1 Acrylamide:Bisacrylamide)	1L
IB02100	IPTG	1gm
IB02105	IPTG	5gm
IB02125	IPTG	25gm
IB05120	Isobutanol	500ml
IB15730	Isopropanol	500ml
IB15735	Isopropanol	1L
IB02120	Kanamycin Sulfate	25gm
IB15750	Methanol - HPLC Grade	1L
IB15755	Methanol - Ultra Pure Grade	500ml
IB15756	Methanol - Ultra Pure Grade	1L
IB15757	Methanol - Ultra Pure Grade	4L
IB74050	Methylene Blue, Chloride, trihydrate	25gm
IB70170	MOPS	100gm
IB70175	MOPS Decp, 10X	100ml
IB05160	Phenol - Crystalline	100gm
IB05164	Phenol - Crystalline	500gm
IB05174	Phenol Chloroform Solution	400ml
IB05182	Phenol, Buffer Saturated, pH 6.6-8.0	100ml
IB05184	Phenol, Buffer Saturated, pH 4.3	100ml
IB05400	Proteinase K	100mg
IB05406	Proteinase K Solution (20mg/mL)	5ml
IB07080	Sarkosyl	100gm
IB07060	Sodium Dodecyl Sulfate (SDS)	100gm
IB07062	Sodium Dodecyl Sulfate (SDS)	500gm
IB07064	Sodium Dodecyl Sulfate (SDS) Solution, 20%	100ml
IB72010	SSC (20X)-Nucleid Acid Prep and Blotting Solution	1L
IB72015	SSPE (20X) - Nucleid Hybridization Solution	1L
IB02180	Streptomycin Sulfate	25gm
IB37160	Sucrose	1kg
IB70120	TEMED	50gm
IB02200	Tetracycline Hydrochloride	25gm
IB70142	Tris	500gm
IB70144	Tris	1kg
IB70145	Tris	5kg
IB70150	Tris Borate EDTA (10X TBE Buffer)	1L
IB70153	Tris Borate EDTA (10X TBE Buffer)	4L
IB70154	Tris Borate EDTA (10X TBE Buffer)	10L
IB70155	Tris Borate EDTA (20X Modified TBE Buffer)	1L
IB70160	Tris Acetate EDTA (10X TAE) Buffer	1L
IB70162	Tris-Hydrochloride	500gm
IB07100	Triton X-100	100ml
IB72060	Urea	500gm
IB72064	Urea	2.5kg
IB02260	X-GAL	1gm
IB02264	X-GAL	100mg
IB72120	Xylene Cyanol FF	25gm

I. References

1.) Lehrach, H., et al. 1977. Biochemistry 16:4743.

2.) Sambrook, J., Fritsch, E.F., and Maniatis, T., (1989). Molecular Cloning, A Laboratory Manual, volume 1. Cold Spring Harbor Press, New York.

3.) Selden, R.F. (1988) Analysis of RNA by Northern Hybridization," in Current Protocols in Molecular Biology, F.M. Ausubel, et. al, editors, volume 1, p.4.9.1. Green Publishing Associates and Wiley-Interscience.

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