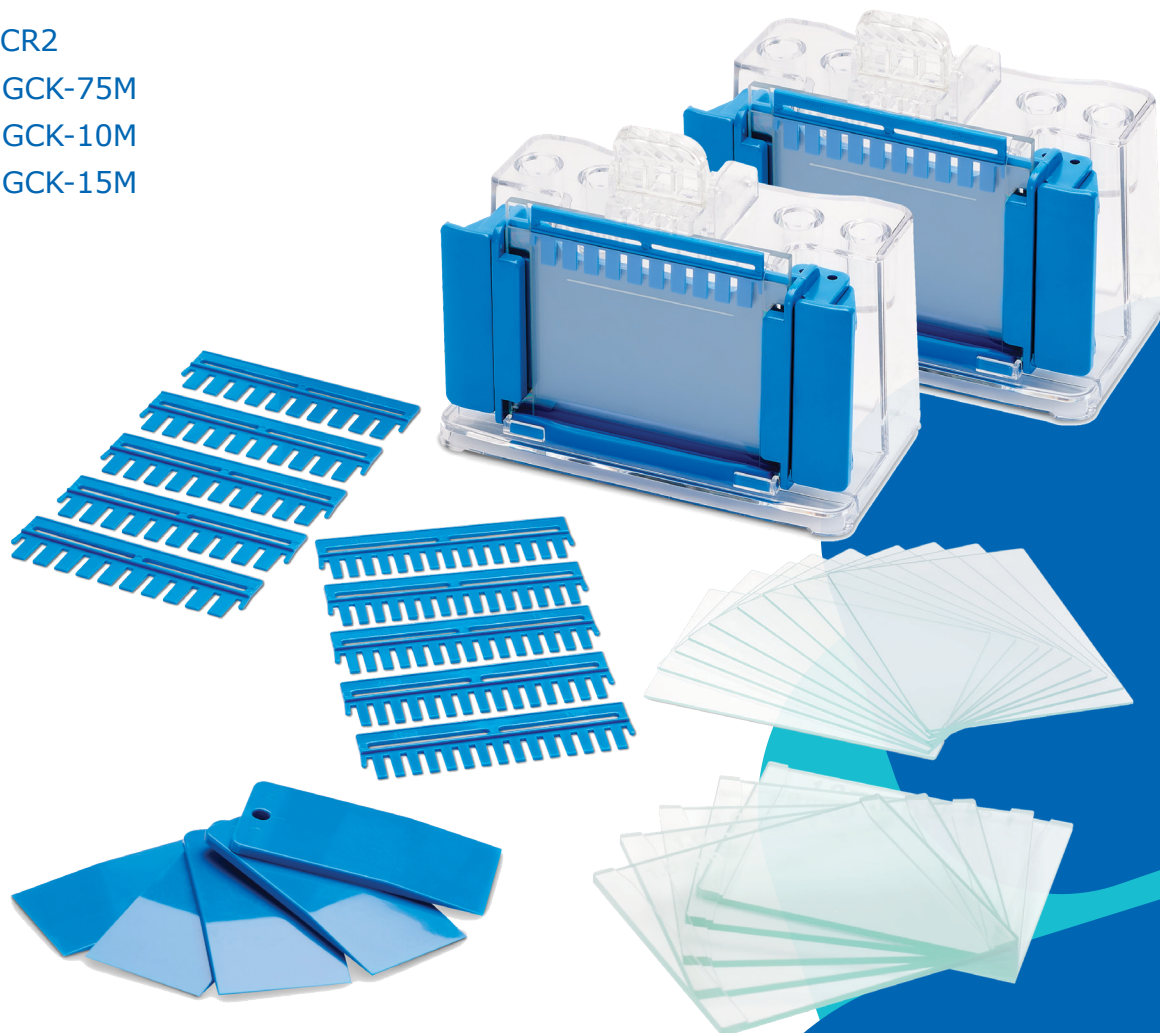


**User Guide**

**mPAGE® Gel Caster**

GCR2  
MGCK-75M  
MGCK-10M  
MGCK-15M



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## Introduction

The mPAGE® Gel Caster is used for hand casting of gels with a 0.75, 1.0, or 1.5 mm thickness. The system allows for the casting of two gels at the same time. The gels prepared with the mPAGE® Gel Caster are compatible with the mPAGE® Mini Gel Tank or any electrophoresis tanks that can accommodate 10.1 cm x 8.3 cm glass gel cassettes.

The mPAGE® Gel Caster has been designed to simplify gel hand casting and to eliminate leakage during the casting process.

### **mPAGE® Gel Caster, 2pk** GCR2

Contains:

- |                                     |   |
|-------------------------------------|---|
| • mPAGE® Gel Caster Base            | 2 |
| • mPAGE® Gel Caster Frame           | 2 |
| • mPAGE® Gel Caster Sealing Gaskets | 2 |
| • mPAGE® Gel Releasers              | 5 |

(Does not include plates or combs)

The mPAGE® Gel Casting Kits include the mPAGE Gel Caster, glass plates with permanently bonded spacers, short plates, and combs.

<b>mPAGE® Gel Casting Kit</b>		
	0.75 mm	MGCK-75M
	1.0 mm	MGCK-10M
	1.5 mm	MGCK-15M

Kit Contains:

- |                             |    |
|-----------------------------|----|
| • mPAGE® Gel Caster, 2pk    | 1  |
| • mPAGE® Combs 10 wells     | 5  |
| • mPAGE® Combs 15 wells     | 5  |
| • mPAGE® Mini Spacer Plates | 5  |
| • mPAGE® Mini Short Plates  | 10 |

To achieve the best performance, operate the system strictly according to this user guide.

## Specifications

### **Construction**

Gel caster frame  
Gel caster base  
Gel caster sealing gasket  
Combs  
Plates

### **Material**

Polycarbonate  
Polycarbonate  
Silicone elastomer  
Polycarbonate  
Glass

### **Dimensions**

Short Plate  
Spacer Plate  
Maximum Gel Cassette Size  
Maximum gel size  
Gel caster frame

### **Width x Height**

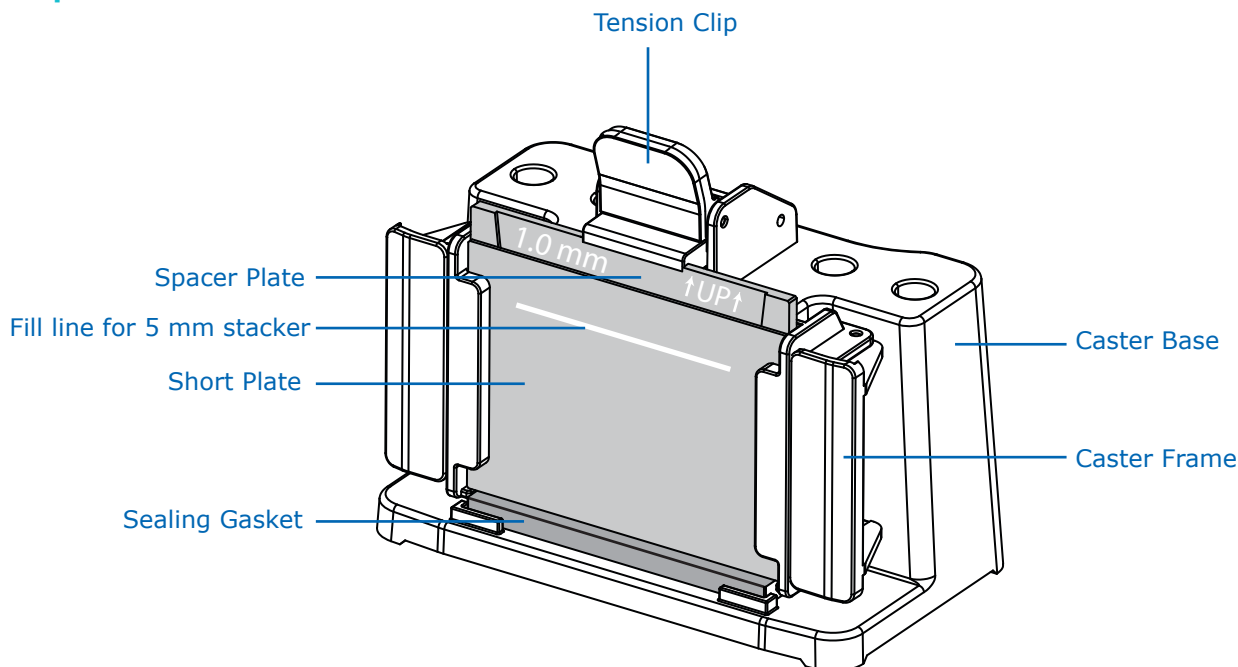
10.1 cm x 7.3 cm  
10.1 cm x 8.3 cm  
10.1 cm x 8.3 cm  
8.3 cm x 7.3 cm  
14.8 cm x 5.6 cm

## Maintenance of mPAGE® Glass Plates and Combs

Wash plates and combs with a laboratory detergent and rinse thoroughly with distilled water to remove acrylamide residue. Combs are not compatible with exposure to 100% TEMED. Spacer plates should not be submerged in strongly basic solutions or cleaning solutions for longer than 1 hour. 70% EtOH or other alcohols may be used to clean plates of particulates prior to gel casting. Proper maintenance will increase the lifespan of the plates.

## mPAGE® Gel Caster

### Components



#### mPAGE® Gel Caster Base

Holds the gel casting frame. Tensioned lever at top securely holds the gel cassette against the sealing gasket to prevent spills and leaks.

#### mPAGE® Gel Caster Frame

Evenly aligns the spacer and short plates and holds them in place for gel casting. Casting frame also displays a suggested fill line for resolving solution, which results in a 5 mm stacker.

#### mPAGE® Gel Caster Sealing Gasket

Used to seal the bottom of the gel cassette.

#### mPAGE® Gel Releaser

Used for opening gel cassette.  
(not shown)

#### mPAGE® Mini Spacer Plate

Tall glass plate with integrated spacers that determine the thickness of the gel. Spacer plates are available in 0.75-, 1.0-, and 1.5-mm thicknesses.

#### mPAGE® Mini Short Plate

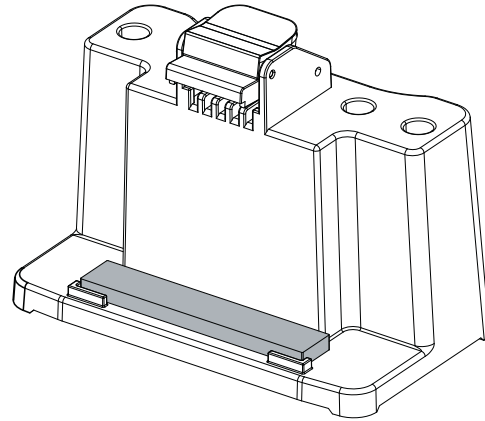
Short glass plate which forms the gel cassette when combined with the spacer plate.

#### mPAGE® Combs

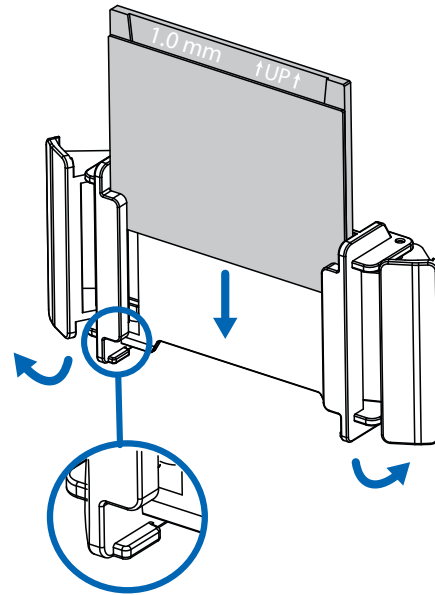
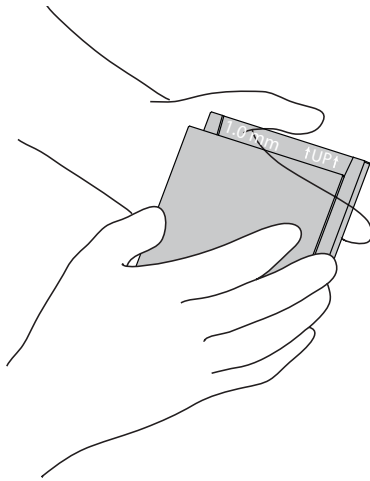
Used to create wells in gel.  
Available in 10 or 15 wells for all three gel thicknesses. (not shown)

## Assembly

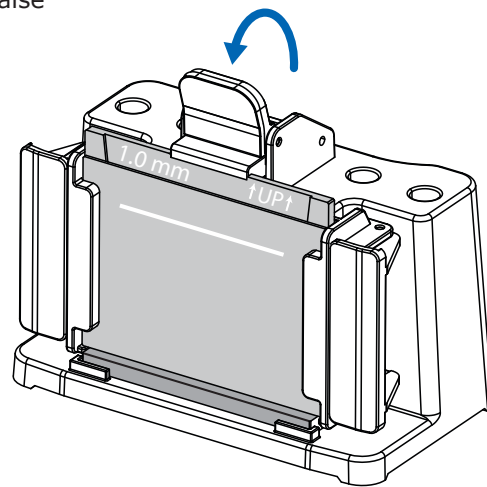
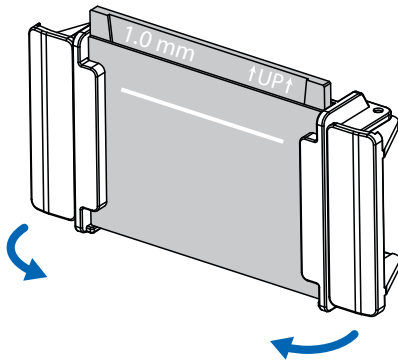
1. Inspect the gel sealing gasket for defects. Place defect-free gasket between the alignment tabs on the bottom of the gel caster base.



2. Place the short plate on top of the spacer plate to form a cassette, orient the spacer plate so the text is up and readable. With the side clamps open, slide cassette into caster frame until aligned on the dead-stops located on the bottom.



3. Secure glass cassette by swinging side clamps inward. Place the assembled caster frame onto the caster base and raise the tension clip to seal cassette against the gasket.



## Recommended Volumes

<b>Gel Casting Volumes</b>	<b>0.75 mm</b>	<b>1.0 mm</b>	<b>1.5 mm</b>
Resolving Solution	3.5 mL	4.8 mL	7.5 mL
Stacking Solution	1.0 mL	1.4 mL	2.0 mL
<b>Maximum Sample Volumes per well</b>			
	<b>0.75 mm</b>	<b>1.0 mm</b>	<b>1.5 mm</b>
10 well	33 $\mu$ L	43 $\mu$ L	62 $\mu$ L
15 well	20 $\mu$ L	26 $\mu$ L	39 $\mu$ L

## Troubleshooting

<b>Problem</b>	<b>Cause(s)</b>	<b>Solution(s)</b>
Leaking during hand casting	Chipped or incompatible glass plates	Inspect plates prior to use to ensure they are free of flaws  Ensure dimensions of glass plates are compatible with mPAGE <sup>®</sup> gel caster
	Spacer plate and short plate not level	Check alignment of plates prior to installing casting frame into base
	Sealing gasket is missing, dirty, flawed, or worn out	Inspect gasket prior to each use - ensure gasket is clean; replace gasket if defective or worn out
The side clamps on the casting frame are difficult to close or make noise when moving	Tension clip worn out, misaligned, or not engaged	Ensure tension clip is properly engaged prior to gel casting
	Residue has built up at the pivot point of the pressure cams	Rinse or wipe off residue after each use. Do not allow residue to dry

## Product Ordering

Order online at [SigmaAldrich.com](http://SigmaAldrich.com).

Description	Qty	Catalogue Number	Description	Qty	Catalogue Number
<b>Gel Caster and Device Kits</b>			<b>Gel Casting Reagents</b>		
<b>mPAGE® Gel Caster, 2pk</b>		<b>GCR2</b>	TurboMix® Bis-Tris Polyacrylamide Gel Casting Kit	1 KIT	TMKIT-60
Contains:			TurboMix® Resolving Solution	216 mL	TMRES-216ML
• mPAGE® Gel Caster Base	2		TurboMix® Stacking Solution	120 mL	TMSTK-120ML
• mPAGE® Gel Caster Frame	2		Ammonium persulfate, for molecular biology, suitable for electrophoresis, ≥98%	25 G	A3678
• mPAGE® Gel Caster Sealing Gaskets	2			100 G	A3678
• mPAGE® Gel Releasers	5		N,N,N',N'-Tetramethylethylenediamine (TEMED)	25 mL	T9281
				50 mL	T9281
				100 mL	T9281
<b>mPAGE® Gel Casting Kit, 0.75 mm</b>		<b>MGCK-75M</b>	<b>SDS-PAGE and Transfer Systems</b>		
Contains:			mPAGE® Mini Gel Tank, 2 gel	1	MGT-2
• mPAGE® Gel Caster, 2pk	1		mPAGE® Mini Gel Tank, 4 gel	1	MGT-4
• mPAGE® Combs 10 wells	5		mPAGE® Mini Wet Transfer System	1	MWTS
• mPAGE® Combs 15 wells	5		<b>SDS-PAGE and Transfer Reagents</b>		
• mPAGE® Mini Spacer Plates	5		mPAGE® Color Protein Standard	500 µL	MPSTD4
• mPAGE® Mini Short Plates	10		mPAGE® Unstained Protein Standard	500 µL	MPSTD3
<b>mPAGE® Casting Kit, 1.0 mm</b>		<b>MGCK-10M</b>	mPAGE® Western Protein Standard	250 µL	MPSTD2
Contains:			MES SDS running buffer powder for mPAGE® Bis-Tris gels, each packet makes 1L	5 pk	MPMES
• mPAGE® Gel Caster, 2pk	1		MOPS SDS Running Buffer Powder for mPAGE® Bis-Tris gels, each packet makes 1 L	5 pk	MPM0PS
• mPAGE® Combs 10 wells	5		mPAGE® Transfer Buffer Powder, each packet makes 1 L	10	MPTRB
• mPAGE® Combs 15 wells	5		<b>Immunodetection Devices</b>		
• mPAGE® Mini Spacer Plates	5		<b>SNAP id® 2.0 Systems</b>		
• mPAGE® Mini Short Plates	10		Mini, 7.5 cm x 8.4 cm	2	SNAP2MINI
<b>mPAGE® Gel Casting Kit, 1.5 mm</b>		<b>MGCK-15M</b>	MultiBlot, 4.5 cm x 8.4 cm	2	SNAP2MB3
Contains:			Mini, 7.5 cm x 8.4 cm and MultiBlot, 4.5 cm x 8.4 cm	1 pk	SNAP2MB1
• mPAGE® Gel Caster, 2pk	1				
• mPAGE® Combs 10 wells	5				
• mPAGE® Combs 15 wells	5				
• mPAGE® Mini Spacer Plates	5				
• mPAGE® Mini Short Plates	10				
<b>Gel Caster Additional Parts</b>					
<b>mPAGE® Combs</b>					
0.75 mm, 10 wells	5	C75M10W			
0.75 mm, 15 wells	5	C75M15W			
1.0 mm, 10 wells	5	C1M10W			
1.0 mm, 15 wells	5	C1M15W			
1.5 mm, 10 wells	5	C15M10W			
1.5 mm, 15 wells	5	C15M15W			
<b>mPAGE® Mini Spacer Plates</b>					
0.75 mm	5	MSPA75			
1.0 mm	5	MSPA10			
1.5 mm	5	MSPA15			
mPAGE® Mini Short Plates	10	MSHRT			
mPAGE® Gel Caster Base	1	GCBASE			
mPAGE® Gel Caster Frame	1	GCFRM			
mPAGE® Gel Caster Sealing Gaskets	5	GCSEAL			
mPAGE® Gel Releasers	5	GREL5			
mPAGE® Casting Plate Rack	1	CPS1			

Description	Qty	Catalogue Number
<b>Power Supplies</b>		
Basic power supply for protein and DNA electrophoresis	US Plug	MA400-US
	Euro plug	MA400-EU
	UK plug	MA400-UK
	Japan plug	MA400-NI
	China plug	MA400-ZH
High capacity power supply for electrophoresis and Western blotting	US Plug	MA700-US
	Euro plug	MA700-EU
	UK plug	MA700-UK
	Japan plug	MA700-NI
	China plug	MA700-ZH

## Staining Reagents

### Colorimetric

EZBlue™ Gel Staining Reagent	500 ML	G1041-500ML
	3.8 L	G1041-3.8L
Readyblue® Protein Gel Stain	1 L	RSB-1L
ProteoSilver™ Plus Silver Stain Kit	1	PROTSIL2-1KT
ProteoSilver™ Silver Stain Kit	1	PROTSIL1-1KT
Reversible Protein Detection Kit for membranes and polyacrylamide gels	1	RPROB-1KT
Ponceau S solution, 0.1% (w/v) in 5% acetic acid	1 L	P7170
Coomassie® Brilliant Blue G Solution, concentrate	1 L	B8522
Coomassie® Brilliant Blue R, pure	10 G	B7920-10G
	50 G	B7920
Fast Green FCF, die content ≥ 85%	5 G	F7252
	25 G	F7252
	100 G	F7252

### Fluorescent

EZFluor™ 1-step Fluorescent Protein Gel Stain	SCT145
EZFluor™ UV 1-step Fluorescent Protein Gel Stain	SCT147
SYPRO® Orange Protein Gel Stain	S5692
SYPRO® Ruby Protein Gel Stain	S4942

Description	Qty	Catalogue Number
<b>Transfer Membranes and Blotting Paper</b>		
<b>Immobilon® Blotting Filter Paper</b>		
sheet, 7 cm x 8.4 cm	100	IBFP0785C
<b>Immobilon®-E Blotting Sandwich</b>		
sheet, 7 cm x 8.4 cm	20	IESN07852
<b>Immobilon®-E PVDF Membrane</b>		
roll, 26.5 cm x 1.875 m	1	IEVH00005
roll, 8.5 cm x 10 m	1	IEVH85R
sheet, 7 cm x 8.4 cm	50	IEVH07850
<b>Immobilon®-FL PVDF Membrane</b>		
roll, 26.5 cm x 1.875 m	1	IPFL00005
roll, 26.5 cm x 3.75 m	1	IPFL00010
roll, 8.5 cm x 10 m	1	IPFL85R
sheet, 7 cm x 8.4 cm	10	IPFL07810
<b>Immobilon®-P Blotting Sandwich</b>		
sheet, 7 cm x 8.4 cm	20	IPSN07852
<b>Immobilon®-P PVDF Membrane</b>		
roll, 26.5 cm x 1.875 m	1	IPVH00005
roll, 26.5 cm x 3.75 m	1	IPVH00010
roll, 8.5 cm x 10 m	1	IPVH85R
sheet, 7 cm x 8.4 cm	20	IPSN07852
sheet, 7 cm x 8.4 cm	50	IPVH07850
<b>Immobilon®-PSQ PVDF Membrane</b>		
roll, 26.5 cm x 1.875 m	1	ISEQ00005
roll, 26.5 cm x 3.75 m	1	ISEQ00010
roll, 8.5 cm x 10 m	1	ISEQ85R
sheet, 7 cm x 8.4 cm	50	ISEQ07850
<b>Immobilon®-NC Transfer Membrane</b>		
roll, 33 cm x 3 m	1	HATF00010
Roll, 8.5 cm x 10 m	1	HATF85R
sheets, 7 cm x 8.4 cm	50	HATF07850
<b>Immobilon® NOW Dispenser</b>	1	IMDISP

## Western Blotting Detection Reagents

Immobilon® UltraPlus Western HRP Substrate	20 mL	WBULP-20ML
	100 mL	WBULP-100ML
Immobilon® ECL Ultra Western HRP substrate	20 mL	WBULS0100-20ML
	100 mL	WBULS0100
Immobilon® Western Chemiluminescent HRP substrate	2x 50 mL	WBKLS0100
	2x 250 mL	WBKLS0500
Immobilon® Forte Western HRP substrate	100 mL	WBLUF0100
	500 mL	WBLUF0500
Immobilon® Crescendo Western HRP substrate	100 mL	WBLUR0100
	500 mL	WBLUR0500
Immobilon® Classico Western HRP substrate	100 mL	WBLUC0100
	500 mL	WBLUC0500

Description	Qty	Catalogue Number
<b>Blocking, Enhancing and Stripping Reagents</b>		
Immunoblot Blocking Reagent	20 G	20-200
ChemiBLOCKER™, 500 mL	2	2170
5% Alkali-soluble Casein	225 mL	70955
Tris Buffered Saline	1 L	T5912
TWEEN® 20, for molecular biology, viscous liquid	50 mL	P9416
	100 mL	P9416
Immobilon® Block-PO Reagent, Phosphoprotein Detection	100 mL	WBAVDP001-100ML
	500 mL	WBAVDP001
Immobilon® Block-FL Reagent, Fluorescent Detection	100 mL	WBAVDFL01-100ML
	500 mL	WBAVDFL01
Immobilon® Block-CH Reagent, Chemiluminescent Detection	100 mL	WBAVDCH01-100ML
	500 mL	WBAVDCH01
Western Blocker™ Solution	400 mL	W0138
Immobilon® Signal Enhancer for Immunodetection	100 mL	WBSH0500-100ML
	500 mL	WBSH0500
Blot Restore Membrane Rejuvenation Kit, 10x		
• Solution A, 50 mL	1	2520-M
• Solution B, 50 mL		
Re-Blot™ Plus Mild Antibody Stripping Solution	1	2502
Re-Blot™ Plus Strong Antibody Stripping solution, 10X, 25 mL	2	2504
Western-Re-Probe Reagent	100 mL	WB59

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