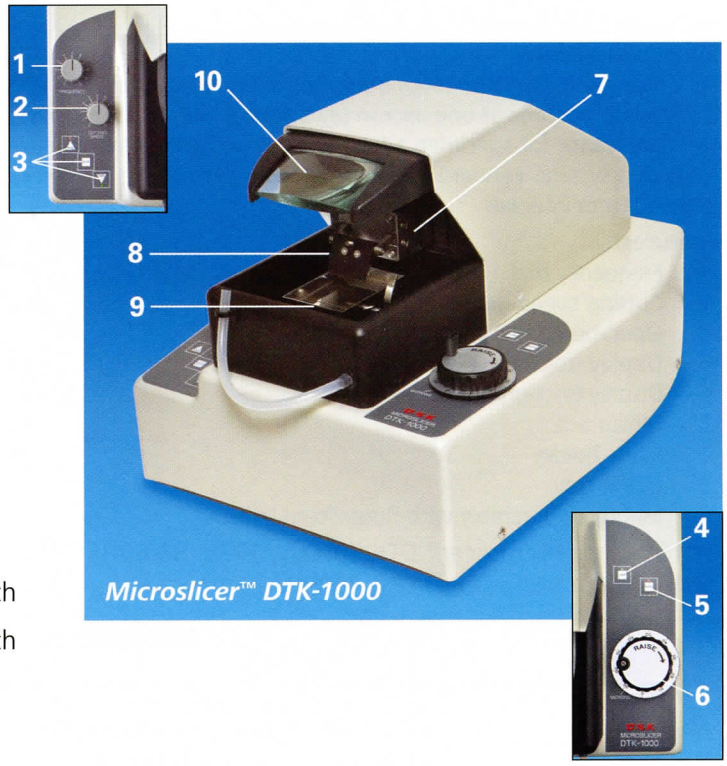
DTK Microslicers™

The DTK Microslicers™ have a unique design for the vibratory motion of the cutting blade. They are made to cut sections of extremely soft tissues like brain, liver or similar difficult-to-section material. The Microslicers™ line of instruments are well known for their quality and their superior results, enjoying an excellent reputation in the neuroscience research community.

The Microslicers™ are available in three models:



■ Microslicer™ DTK-1000

A high quality, basic vibrating microtome, suitable for a busy laboratory, with many users.

Functions Include:

1. Frequency dial
2. Cutting speed dial
3. Function switch: reverse; stop; forward
4. Lamp switch
5. Main switch
6. Section thickness dial
7. Motor box
8. Blade holder
9. Buffer tray
10. Magnifier assembly with fluorescent lamp

10000 Microslicer™ DTK-1000, 120V, 60Hz . . . . . .each

10000-220 Microslicer™ DTK-1000, 220V, 50/60Hz . . . .each

■ Microslicer™ DTK-Zero 1

the first vibrating microtome with Zero "Z" technology

This model Microslicer™ with Zero Z technology dramatically reduces the Z-axis vibrations to approximately 2.5 microns. It is also equipped with a specimen retraction system. The specimen advance is manual but the specimen can be moved up or down by a motorized button. A function switch can stop, advance or retract the cutting action, saving valuable time.

Functions Include:

1. Frequency dial
2. Cutting speed dial
3. Function switch: reverse; stop; forward
4. Lamp switch
5. Main switch
6. Section thickness knob
7. Motor box
8. Blade holder
9. Buffer tray
10. Magnifier assembly with fluorescent lamp
11. Up switch
12. Down switch
13. Retraction switch

10111 Microslicer™ DTK-Zero 1, 115V, 50/60Hz . . .each

10111-220 Microslicer™ DTK-Zero 1, 220V, 50/60Hz . . .each

Journal references to research work done using Dosaka Microslicer™: http://www.tedpella.com/microslicer_html/10110ref.htm

continued on next page

■ Microslicer™ DTK-3000W

70 x 70mm maximum specimen size

This is the most sophisticated model. The maximum specimen size is 70 x 70mm, in addition to having all the excellent features of the model DTK-Zero 1.

Functions Include:

Fully automatic single or continuous mode. Selection of section thickness is possible at one micron units with a high performance stepping motor for specimen advance. Equipped with a specimen retraction system. Forward and reverse blade movements are selectable at 1mm intervals.

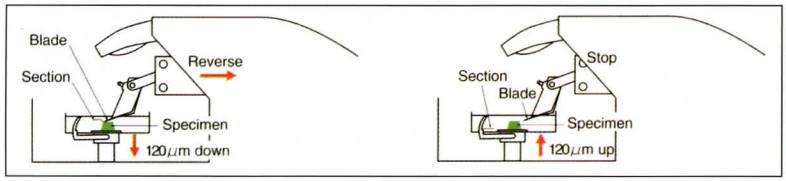
Features:

1. Frequency dial
2. Cutting speed dial
3. Operation panel
4. Display (thickness)
5. Display (sectioning range)
6. Motor box
7. Blade holder
8. Buffer tray
9. Magnifier assembly with fluorescent lamp

10150 Microslicer™ DTK-3000W, 115V, 50/60Hz .each
10150-220 Microslicer™ DTK-3000W, 220V, 50/60Hz . .each

Microslicer™ Specifications

Model	Prod. No. 10000 and 10000-220 Microslicer™ DTK-1000	Prod. No. 10111 and 10111-220 Microslicer™ DTK-Zero 1	Prod. No. 10150 and 10150-220 Microslicer™ DTK-3000W
Electrical	100/120/220/240, 50/60Hz	same	same
Blade Oscillating Frequency	0~55Hz	same	same
Blade Oscillating Width	2mm fixed	same	same
Cutting Speed	0-68/mm/min. (about)	0-68/mm/min. (about)	0-90/mm/min. (about)
Reverse Speed	104mm/min. (about)	same	same
Maximum Specimen Height	20mm	same	same
Specimen Retraction Function	No	Yes	Yes
Maximum Specimen Size	25 x 30mm	25 x 30mm	70 x 70mm
Blade Holder Size	For 30mm blade	For 30mm blade	For 30 / up to 70mm blade
Automatic Operation	No	No	Yes



The retraction mechanism is a function that prevents the retracting blade from touching the face of the specimen. The specimen tray is lowered by 120 micrometers after the cutting of each section and is raised by the same distance when a new cutting cycle starts.

Microslicer™ Blade Exchange Tool

A flat ended key for easy blade removal and insertion.

10112 Microslicer™ Blade Exchange Tool . . . . . .each

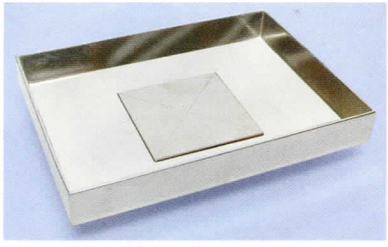
Microslicer™ Blade Holder

10110-20B Black Nylon Blade Holder, Microslicer™ .each

Microslicer™ Consumables

121-4 Injector Blades, Stainless Steel, PTFE-treated. pkg/20
121-96 PELCO® Thin Blade, Stainless Steel, 120mm L x 20mm W x 0.12mm thick . .pkg/125
121-18 Sapphire Knife, 1.5" long . . . . . .each
121-18R Sapphire Knife, Resharpening . . . . . .each
10035 Loctite® 404 Tissue Adhesive, 9.3g, 10ml . .each

Specimen Trays



Inside dimensions:
76 x 55 x 9.5mm
(3 x 2-3/16 x 3/8")

10113 Microslicer™ Specimen Tray . . . . . .each

Stainless Steel

Inside dimensions:
74 x 55 x 12.7mm
(2.91 x 2-3/16 x 1/2")

101-40M Microslicer™ Specimen Tray and Adapter . .each
101-40 Vibratome® Specimen Tray and Adapter . . .each

Black Anodized Aluminum

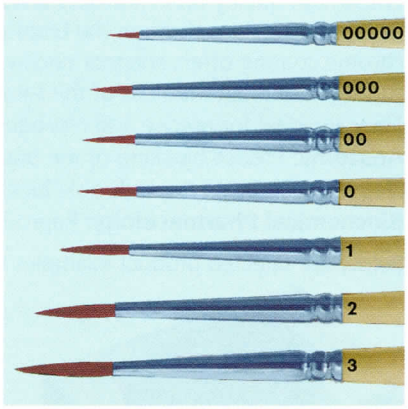
Inside dimensions:
74 x 55 x 12.7mm
(2.91 x 2-3/16 x 1/2")

101-42M Microslicer™ Specimen Tray and Adapter . .each
101-42 Vibratome® Specimen Tray and Vise Adapter . . . . . .each

Red Sable Brushes

For precise Microslicer™ section manipulation. Sable hairs are springy and relatively fine, which gives them a special place in the microscopist's tool set. Length of hairs are short for better manipulation.

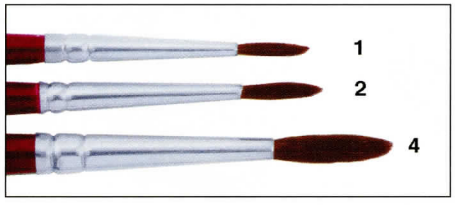
Enameled wood handles and seamless nickel ferrules. Offered in packages of 3 brushes.



Prod. No.	Brush Number at Ferrule	Brush Width at Ferrule	Brush Length
11806	#00000	0.8mm	4.0mm
11807	#000	1.0mm	6.0mm
11808	#00	1.0mm	7.0mm
11810	#0	1.3mm	8.0mm
11812	#1	1.5mm	9.5mm
11814	#2	1.8mm	11.5mm
11816	#3	2.0mm	13.0mm

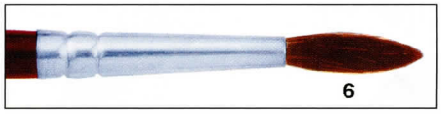
11806 Red Sable Brushes, #00000 . . . . . .pkg/3
11807 Red Sable Brushes, #000 . . . . . .pkg/3
11808 Red Sable Brushes, #00 . . . . . .pkg/3
11810 Red Sable Brushes, #0 . . . . . .pkg/3
11812 Red Sable Brushes, #1 . . . . . .pkg/3
11814 Red Sable Brushes, #2 . . . . . .pkg/3
11816 Red Sable Brushes, #3 . . . . . .pkg/3

Camel Hair Brushes



Useful for histology, vibrating microtome, section manipulation, SEM, geology, forensic. Seamless ferrules, red enameled handles. Tips shown actual size.

11859 Camel Hair Brushes, #1 . . . . . .pkg/3
11860 Camel Hair Brushes, #2 . . . . . .pkg/3
11862 Camel Hair Brushes, #4 . . . . . .pkg/3
11870 Set: Camel Hair Brushes, #1, #2, #4 . . . . . .pkg/3



Camel Hair Brush for larger brushing work on specimens.

11878 Camel Hair Brush, #6 . . . . . .pkg/3

■ Brain and Tissue Matrices

These high quality Brain Matrices are designed for freehand slicing of discrete regions of the brain. They allow slicing of either coronal or sagittal sections through the brain at intervals of 1mm and of 2mm for large brains. The all-metal design with a hard, durable chrome coating offers superior cooling properties. They may be heated, sterilized, chilled and scrubbed clean without damaging the surfaces. All Brain Matrices of the same animal are identical to give reproducible sections.

They are ideal for precise and reproducible blocking of living or fixed brain tissue in:

Anatomy: Precise blocking of the brain prior to microtome sectioning;

Neurophysiology: Reproducible blocking of the brain prior to sectioning; and

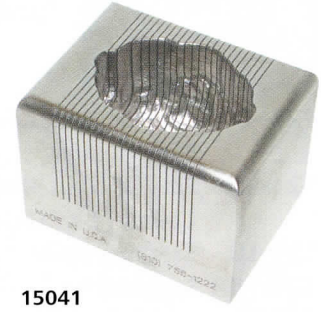
Biochemical Pharmacology: Reproducible removal of small brain regions for biochemical analysis

Below are selected product examples with ordering information on the following page.

15039
Rhesus Monkey, Coronal, 2mm

15043
Cynomolgus Monkey, Coronal, 2mm

15044
Cynomolgus Monkey, 2mm Cerebellum



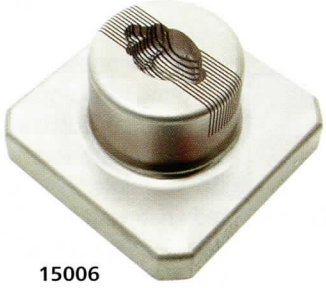
15041
Cat, Coronal, 2mm

15026
Rabbit, Coronal, 1mm

15022
Guinea Pig, Coronal, 1mm

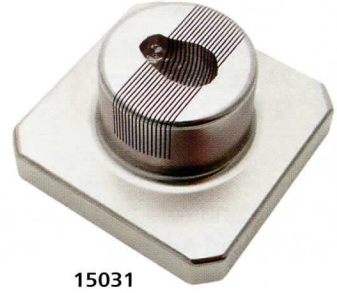
15001
Gerbil, Coronal, 1mm

15007
Rat, Coronal, 1mm



15006
Rat, Sagittal, 1mm

15009
Rat, Dorsal/Ventral, 1mm



15031
Rat, Heart, 1mm

15002
Gerbil, Sagittal, 1mm

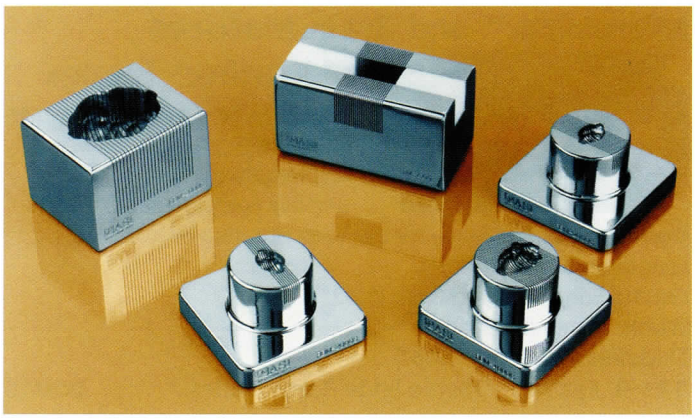
15003
Mouse, Coronal, 1mm

15013
Tissue Matrix, 10 x 10mm Chamber, 1mm

15019
Tissue Matrix, 6mm Spherical, 1mm

15017
Tissue Matrix, 10mm rod or V, 1mm

Brain and Tissue Matrices *continued*

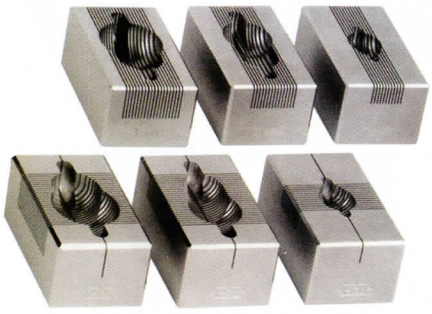


These Matrices may be heated, sterilized, chilled and scrubbed clean without damaging the surfaces. Precise, reproducible blocking of living or fixed brain tissue.

Immediate soaking in liquid cleaner is advisable after use.
To keep tissue cool and viable, chill matrices before use.

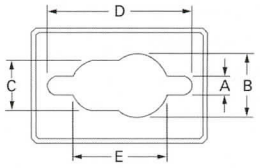
15003 Mouse, 30g adult, coronal, 1mm slots . . . . . .each
15004 Mouse, 30g adult, sagittal, 1mm slots . . . . . .each
15028 Rat, 30g pup, coronal (12-14 days), 1mm slots . . . . . .each
15029 Rat, 30g pup, sagittal (12-14 days), 1mm slots . . . . . .each
15005 Rat, 125-185g adult, coronal, 1mm slots . . . .each
15006 Rat, 125-185g adult, sagittal, 1mm slots . . . .each
15007 Rat, 200-400g adult, coronal, 1mm slots . . . .each
15008 Rat, 200-400g adult, sagittal, 1mm slots . . . .each
15009 Rat, 200-400g adult, dorsal, ventral, 1mm slots . . . . . .each
15031 Rat, Heart, adult, 1mm slots . . . . . .each
15001 Gerbil, 70g adult, coronal, 1mm slots . . . . . .each
15002 Gerbil, 70g adult, sagittal, 1mm slots . . . . . .each
15022 Guinea Pig, 350g adult, coronal, 1mm slots . .each
15023 Guinea Pig, 350g adult, sagittal, 1mm slots . .each
15024 Ferret, adult, coronal, 1mm slots . . . . . .each
15025 Ferret, adult, sagittal, 1mm slots . . . . . .each
15026 Rabbit, 70g adult, coronal, 1mm slots . . . . .each
15027 Rabbit, 70g adult, sagittal, 1mm slots . . . . . .each
15037 Hamster, 100g, coronal, 1mm slots . . . . . .each
15038 Hamster, 100g, sagittal, 1mm slots . . . . . .each
15013 Tissue, 10 x 10mm chamber, 1mm slots . . . .each
15014 Tissue, 15 x 15mm chamber, 1mm slots . . . .each
15015 Tissue, 20 x 20mm chamber, 1mm slots . . . .each
15016 Tissue, 25 x 25mm chamber, 1mm slots . . . .each
15017 Tissue, 10mm rod or V shape, 1mm slots . . .each
15018 Tissue, 4mm spherical chamber, 1mm slots . .each
15019 Tissue, 6mm spherical chamber, 1mm slots .each
15039 Monkey, Rhesus, adult (2-3 year old, weight 2-3Kg) 40 slots, coronal, 2mm slots . .each
15043 Monkey, Cynomolgus, adult, cerebrum, 2mm slots . . . . . .each
15044 Monkey, Cynomolgus, adult, cerebellum, 2mm slots . . . . . .each
15041 Cat, adult, 35 slots at 2mm, coronal . . . . . .each

Stainless Steel Brain Matrices, 1mm



Stainless Steel Matrices are precisely machined to insure reproducible sections. This will allow the investigator to slice either coronal (perpendicular to center line) or sagittal (parallel to center line) sections through the brain at 1mm intervals.

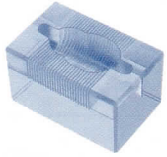
Features:
- Stainless Steel
- Highly polished
- Precision machined
- Precise blocking of the brain
- Repeatable 1mm segments



Size (mm)	A	B	C	D	E	Cavity Depth
15065 Rat, small, coronal (175-300g)	4.76	15.9	12.7	36.6	23.8	7.61
15066 Rat, large, coronal (300-600g)	4.76	19.8	14.7	36.6	24.7	10.91
15067 Mouse, coronal (40-75g)	3.18	11.1	8.73	19.1	12.2	7.4
15068 Rat, small, sagittal (175-300g)	4.76	15.9	12.7	36.6	23.8	7.61
15069 Rat, large, coronal (300-600g)	4.76	19.8	14.7	36.6	24.7	10.91

15065 Rat, 175-300g, coronal, 1mm . . . . . .each
15066 Rat, 300-600g, coronal, 1mm . . . . . .each
15067 Mouse, 40-75g, coronal, 1mm . . . . . .each
15068 Rat, 175-300g, sagittal, 1mm . . . . . .each
15069 Rat, 300-600g, sagittal, 1mm . . . . . .each

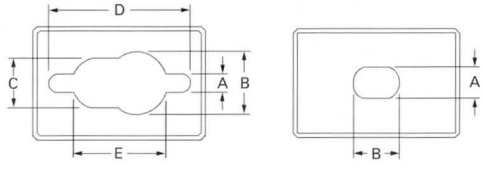
Acrylic Brain Matrices



An economical alternative to metal brain matrices. The acrylic coronal brain matrices have the additional feature of a mid-line sagittal cut to facilitate the separation of the left and right hemispheres. All divisions are 1mm apart.

15050 Mouse, 30g adult, coronal, 1mm . . . . . .each
15051 Mouse, 30g adult, sagittal, 1mm . . . . . .each
15052 Rat, 175-300g adult, coronal, 1mm . . . . . .each
15053 Rat, 175-300g adult, sagittal, 1mm . . . . . .each
15054 Rat, 300-600g adult, coronal, 1mm . . . . . .each
15055 Rat, 300-600g adult, sagittal, 1mm . . . . . .each

■ Stainless Steel Brain/Heart Matrices, 0.5mm



These Matrices are made of hard stainless steel. They can be cooled, cleaned, and autoclaved. They have smooth surfaces that do not chip. The investigator will be able to get repeatable coronal or sagittal sections enabling precise blocking prior to microtome sectioning.

It is advisable to not let any tissue dry onto the matrix but rather soak the matrix immediately after use for easier cleaning.

Features:
- Stainless Steel
- Highly polished
- Precision machined
- Precise blocking of the brain or heart
- Repeatable 0.5mm segments

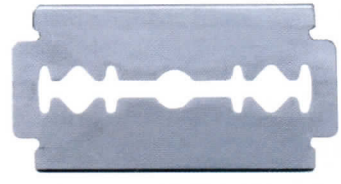
Size (mm)	A	B	C	D	E	Cavity Depth
15045 Mouse, coronal (40 - 75g)	3.18	11.1	8.73	19.1	12.2	7.4
15046 Mouse, sagittal (40 - 75g)	3.18	11.1	8.73	19.1	12.2	7.4
15047 Large Rat, coronal (300 - 600g)	4.76	19.8	14.7	36.6	24.7	10.91
15048 Large Rat, sagittal (300 - 600g)	4.76	19.8	14.7	36.6	24.7	10.91
15056 Mouse, heart	8.3	12.1				4.8
15057 Rat, heart	12.7	19.9				9.6

15045 Mouse, 40 - 75g, coronal, 0.5mm . . . . . .each
15046 Mouse, 40 - 75g, sagittal, 0.5mm . . . . . .each
15047 Large Rat, 300 - 600g, coronal, 0.5mm . . . . .each
15048 Large Rat, 300 - 600g, sagittal, 0.5mm . . . . .each
15056 Mouse heart, 0.5mm . . . . . .each
15057 Rat heart, 0.5mm . . . . . .each

Blades for use with the Vibratome®, Microslicer™ and Brain Matrices

■ Feather® Blades

double edge, carbon steel blade
Sharp edges; may be broken in half lengthwise (protect fingers and use eye protection). This is the recommended blade for use with vibrating microtomes.
Length: 42.8mm (1.685")
Cutting Edge Length: 36mm (1.42")
Width: 22mm (.865")
Thickness: 0.127mm (.005")
121-9 Feather® Double Edge Razor Blades box/10



■ Double Edge, Breakable Style Razor Blades

PTFE-treated stainless steel, individually wrapped and bulk packed.
Length: 42.9mm (1.69");
Cutting Edge Length: 37.1mm (1.46");
Width: 21.7mm (.855")
Thickness: 0.10mm (.004")
121-6 Double Edge Stainless Steel Razor Blade box/250

■ Injector Style, Stainless Steel, PTFE-Coated Blades

Useful for vibrating microtome sectioning and other sectioning applications. Single edge, 20 per dispenser.
Length: 38.1mm (1.5");
Cutting Edge Length: 36.3mm (1.43");
Width: 8mm (.314")
Thickness: 0.25mm (.010")
121-4 Injector Blades, 20 blades in dispenser . . . . . .each

■ Injector Style, Carbon Steel Blades

Single Edge, heavy duty, bulk packed.
Length: 38.1mm (1.5");
Cutting Edge Length: 36.3mm (1.43");
Width: 8mm (.314")
Thickness: 0.25mm (.010")
121 Blades, Injector Style box/500

■ New PELCO® Blades for Large Brain Sections

120mm L x 20mm W x 0.12mm thick. Single edge carbon steel.
121-96 Thin Blades for use with large Brain Matrices pkg/25

Sapphire Blade

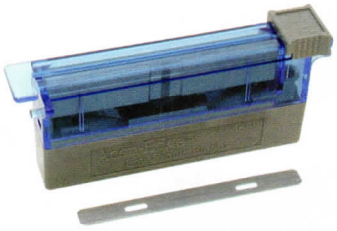
With a sapphire blade, thinner sections are possible with the Microslicer™ or other vibrating microtomes. Made from synthetic single crystal sapphire. The near perfect cutting edge of this blade gives distortion-free sections down to 10 microns thick. Sapphire, while not as hard as tungsten carbide or diamond, is still hundreds of times harder than steel razor blades. Size: 1.5 x 0.5" (40 x 12mm)

121-18 Sapphire Blade . . . . . .each
121-18R Sapphire Blade Resharpening . . . . . .each

Microslicer™ and Vibratome® Consumables

121-4 Injector Blades, Stainless Steel, PTFE treated. pkg/20
10035 Loctite® 404 Tissue Adhesive, 9.3g, 10ml . .each

Tissue-Tek® Accu-Edge® High and Low Profile Disposable Blades



- Reliably sharp, uniformly consistent
- Ultrasharp edges with PTFE resin coating
- Obtain acceptable ribbons sooner
- Increase quality sections
- Low profile for sections less than 3µm
- High profile for tough material and sections over 3µm

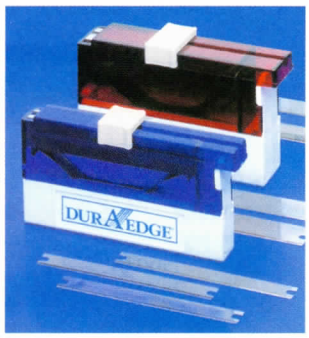
For Sale in U.S.A. Only

27235 Accu-Edge® 4689 Low Profile Blades, Dispenser of 50 blades, 80 L x 8.31 W x 0.26mm T (3.15" L x .327" W x .01" T) . . . . . .each

27236 Tissue-Tek® Feather® 4980 Low Profile Blades, Dispenser of 50 blades, 80 L x 8 W x 0.24mm T (3.15" L x .315" W x .009" T) . . . . . .each

27237 Accu-Edge® 4685 High Profile Blades, Dispenser of 50 blades, 75.7 L x 14 W x 0.31mm T (2.98" L x .55" W x .012" T) . . . . . .each

DuraEdge™ Microtome Blades



PTFE-coated Low and High Profile blades

- High quality hardened stainless steel finely honed and polished for flaw-free edge.
- Special proprietary process ensures edge quality and promotes durability.
- Uniform PTFE coating reduces friction, eliminates striations and compressions, and requires no break-in period.
- LP= Low Profile
- HP= High Profile

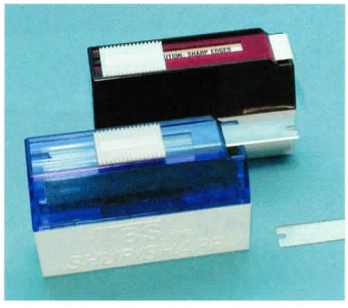
Economy High Profile Blades
Ceramic coated, eliminating edge corrosion and enhancing product life.

27239 DuraEdge™ 7221 Low Profile disposable Microtome Blades, PTFE-coated, 77 L x 8 W x .3mm T (3" L x .315" W x .012" T), Dispenser of 50 blades . . . . . .each

27241 DuraEdge™ 7310 High Profile disposable Microtome Blades, PTFE-coated, 77 L x 14 W x .3mm T (3" L x .55" W x .012" T), Dispenser of 50 blades . . . . . .each

27243 DuraEdge™ 7203 High Profile disposable Microtome Blades, ceramic coated, economy blades, 77 L x 14 W x .3mm T (3" L x .55" W x .012" T), Dispenser of 50 blades . . . . . .each

Shur/Sharp™ Disposable Microtome Blades



Choose from these three disposable microtome blades to meet all your sectioning needs. Standard Low Profile blades for routine thin tissue samples, High Profile blades for thicker sections and Heavy Duty for difficult to section samples like uterus.

27230 Shur/Sharp™ Standard Low Profile Disposable Microtome Blades, 76 L x 7.93 W x 0.3mm T (3" L x .312" W x .012" T), dispenser of 50 blades . . . . . .each

27231 Shur/Sharp™ High Profile Disposable Microtome Blades, 76 L x 14.05 W x 0.3mm T (3" L x .553" W x .012" T), dispenser of 50 blades . . . . . .each

27232 Heavy Duty Disposable Microtome Blades, 76.2 L x 12.6 W x 0.52mm T (3" L x .498" W x .02" T), dispenser of 35 blades . . . . . .each

Dumont Tweezers *essential tools for micro work, highest quality*

	Prod. No.	Style	Length	Points Metal	Width x Thickness	Finish
DUMOSTAR® Biology	**525**	5	110mm	DS	0.05 x 0.01mm	Polished
Stainless Steel	**505**	5	110mm	SS	0.05 x 0.01mm	Polished
Non-Magnetic SS	**505-NM**	5	110mm	NM-SS	0.05 x 0.01mm	Polished
DUMOSTAR®	**525-PS**	5	110mm	DS	0.05 x 0.01mm	Matt
Stainless Steel	**505-PS**	5	110mm	SS	0.05 x 0.01mm	Matt
Non-Magnetic SS	**505-PS-NM**	5	110mm	NM-SS	0.05 x 0.01mm	Matt
Stainless Steel	**505-U**	5	110mm	SS	0.025 x 0.005mm	Matt
Stainless Steel	**33025-5-MR**	5	110mm	SS	0.05 x 0.01mm	Mirror Polished
Titanium	**5925-PS**	5	110mm	Ti	0.05 x 0.01mm	Matt
Carbon Steel	**5101**	5	110mm	CS	0.08 x 0.04mm	Matt

DUMOSTAR® Biology	**527**	7	115mm	DS	0.07 x 0.03mm	Polished
Stainless Steel	**507**	7	115mm	SS	0.10 x 0.06mm	Polished
Non-Magnetic SS	**507-NM**	7	115mm	NM-SS	0.10 x 0.06mm	Polished

DUMOSTAR® Biology	**524**	4	110mm	DS	0.06 x 0.02mm	Polished
Stainless Steel	**504**	4	110mm	SS	0.06 x 0.02mm	Polished
Non-Magnetic SS	**504-NM**	4	110mm	NM-SS	0.06 x 0.02mm	Polished

Carbon Fiber Tweezers

• Smooth surface, high mechanical strength; • Maximum Temperature -40 to +150°C; • Excellent chemical reisistance; • Resistant to UV and X-Rays; • Excellent for handling soft specimens (PVDF - Polyvinylidene Fluoride)

PELCO® SV Carbon Fiber	**5412**	sharp 707	114mm	PVDF / Carbon Reinforced	0.12 x 0.12mm	Flat Black

PELCO® SV Carbon Fiber	**5415**	sharp 708	111mm	PVDF / Carbon Reinforced	0.25 x 0.12mm	Flat Black

Soft Grip Tweezers The soft and elastic handles are made of NBR vulcanized nitrile rubber and have a low surface resistivity of 108 – 109 Ohm.

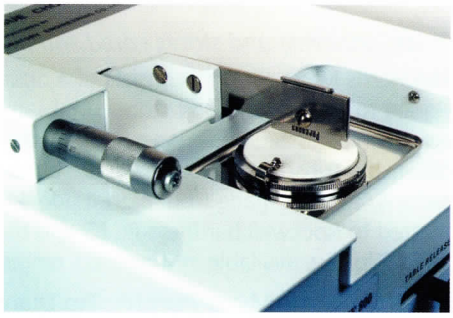
precision tips

PELCO® SV ESD	**5080**	AA	130mm	NM-SS	0.4 x 0.20mm	Matt

very fine tips

PELCO® SV ESD	**5081**	5	115mm	NM-SS	0.2 x 0.12mm	Matt

McIlwain Tissue Chopper



This device is designed to cut fresh or fixed tissue for metabolic experiments. It is especially advantageous for slicing small or irregular shaped specimens as one might obtain from biopsies. The McIlwain Tissue Chopper causes much less disturbance of the cell structure than homogenizers or blenders and has been used on various tissues of the central nervous system as well as for liver and kidney.

Slices up to 1mm thickness and cubes or prisms up to 1mm cross section can be prepared with the chopper in 30 seconds. Stepless variation of slice thickness from zero to the maximum is done by means of an indexing clutch in conjunction with a micrometer head calibrated in microns. The specimen is placed on the circular white disc on the stainless steel table and is transversed automatically from left to right at an adjustable speed. At the same time, the blade is raised and dropped at speeds varying from zero to over 20 strokes per minute. The process may be repeated with the table turned 45° if prisms are desired. Turn the table 90° on the second cut for cubes. Electrical: 110 and 220VAC.

Dimensions: 31 x 28.5 x 15cm H (12 x 11 x 6" H)
Weight: 8kg (17.6 lbs.)

10180	McIlwain Tissue Chopper, 110V	.each
10180-220	McIlwain Tissue Chopper, 220V	.each
10180-01	Replacement Plastic Disc	.pkg/10
10180-02	Blade Holder, McIlwan Chopper	.each
10180-03	Replacement Cutting Table	.each
10180-04	Additional Table Clips	.each
10180-08	Replacement Blade Clamp Spanner	.each

T = Tech Note on web page

PELCO® R2 Rotator

low-speed mixer for EM specimen infiltration preparations (½ - 7.5 RPM), design provides two angles 55° or 35°

PELCO® R2 Rotator with 1051 heads shown in the 55° and 35° positions

The slow rotational speed of the PELCO® R2 lends itself to EM tissue processing techniques. Slow rotation is recommended for processing specimens and leads to more complete infiltration without air mixing, giving improved results for tissue preparations. The PELCO® R2 has rubber cushioned feet on the bottom as well as on the back so it may be placed on either of two angles, 35° from horizontal when placed on the "bottom feet" and 55° from horizontal when placed on the "back feet".

A high torque motor maintains constant speed at full load. Variable speed is easily set with a rotary control. Rotational speed is 1.5 - >7.5 RPM. The PELCO® R2 has been tested under heavy load conditions to assure reliability. T

A black-anodized head (1051) with 18 holes for bottles or vials up to 30mm in diameter comes with the PELCO® R2. Our 12706 or 12708 Snap-Cap® Vials are used in this head. Optional head is available (1054).

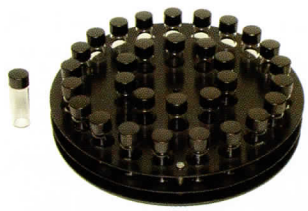
Dimensions:
Head -19.7cm (7-¾") O.D., 18 holes (32mm ø)
Body -18.6cm (7-5/16") W, 16.5cm (6-½") H, 20.3cm (8") D

With 1051 head mounted, the PELCO® R2 occupies the following Dimensions: 19.7cm (7-¾") W, 19.5cm (7-11/16") H, 20.3cm (8") D

Weight with 1051 head: 2.4Kg (5.25 lbs.)

1050	PELCO® R2 Rotator with 1051 Head, 115VAC, 60Hz	.each
1053	PELCO® R2 Rotator with 1051 Head, 220VAC, 50/60Hz	.each
1051	R2 Rotator Head, with 18 holes (32mm ø)	.each
1050-115-1	Replacement Motor, 115V and 220V	.each
1054	R2 Rotator Head, 31 holes (16.3mm ø)	.each

1054 Rotator Head for the PELCO® R2



1054 Rotator Head with #411 Specimen Vials

Dimensions: Head -19.7cm (7-¾") O.D., 31 holes (16.3mm ø)

Harris Uni-Core™ *disposable*

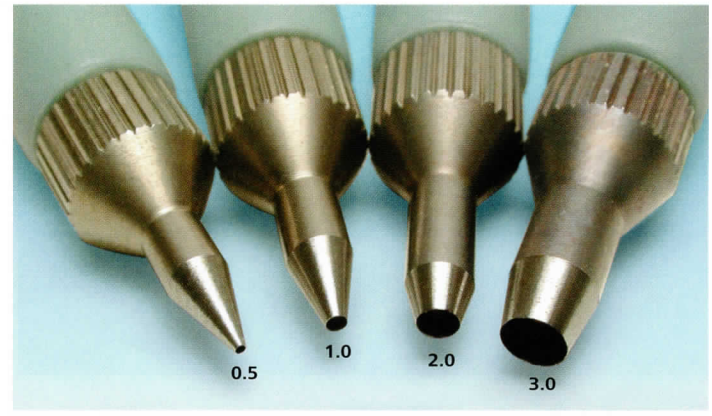
The Harris Uni-Core™ consists of a razor sharp stainless steel cutting tip designed to cut, retrieve and store cored samples from source materials such as tissue, gels, paper, cloth, leaves, paint chips, films or other thin, soft substrates. The tip is protected by a removable cover cap. Stock sizes are available in a variety of diameters: 0.35 to 8.0mm. The body is made from polypropylene plastic. Each Harris Uni-Core is individually pouched and ethylene oxide sterilized. A 2.5 x 3.0" x 1.5mm thick, inert, self-healing cutting mat with dual cutting surfaces is sold separately. The Uni-Core is a limited reusable, disposable sampling tool, ideal for tissue processing or forensic applications. They may be disposed of after use or cleaned and reused. Cleaning: Clean tip between each sample extraction by coring blank filter paper; rinse with ethanol or spray with compressed air to remove dried artifacts. Rinse mat with ethanol after each sample extraction. Autoclave for 20 minutes at 250°F and 15 p.s.i. Recommended autoclave 3 to 5 times.

15070 Harris Uni-Core™, Tip Diameter .35mm . . . . .each
15071 Harris Uni-Core™, Tip Diameter .50mm . . . . .each
15072 Harris Uni-Core™, Tip Diameter .75mm . . . . .each
15099 Harris Uni-Core™, Tip Diameter 1.0mm . . . . .each
15074 Harris Uni-Core™, Tip Diameter 1.25mm . . . .each
15075 Harris Uni-Core™, Tip Diameter 1.5mm . . . . .each
15076 Harris Uni-Core™, Tip Diameter 2.0mm . . . . . each
15077 Harris Uni-Core™, Tip Diameter 2.5mm . . . . .each
15078 Harris Uni-Core™, Tip Diameter 3.0mm . . . . .each
15079 Harris Uni-Core™, Tip Diameter 3.5mm . . . . .each
15080 Harris Uni-Core™, Tip Diameter 4.0mm . . . . .each
15081 Harris Uni-Core™, Tip Diameter 5.0mm . . . . .each
15082 Harris Uni-Core™, Tip Diameter 6.0m . . . . . each
15083 Harris Uni-Core™, Tip Diameter 7.0mm . . . . .each
15084 Harris Uni-Core™, Tip Diameter 8.0mm . . . . .each

Cutting Mats:

15097 Harris Cutting Mat™, 6 x 8" . . . . . .each
15098 Harris Cutting Mat™, 2.5 x 3" . . . . . .each

Harris Micro-Punch®



"Cuts, retrieves, and stores cored samples in one operation"
The Harris Micro-Punch™ consists of a razor sharp cutting tip designed to cut, retrieve and store cored samples from source materials such as tissue, gels, paper, cloth, leaves, paint chips, films or other thin substrates. Ideal for tissue processing or forensic applications. Tips are made from high-grade 440c Stainless Steel, heat treated to Rockwell hardness Rc 65 and then individually sharpened. Tips are available in diameters ranging from 0.5 to 3.0mm.

15090 Harris Micro-Punch®, Tip Diameter 0.5mm . .each
15091 Harris Micro-Punch®, Tip Diameter 1.0mm . .each
15092 Harris Micro-Punch®, Tip Diameter 1.25mm .each
15093 Harris Micro-Punch®, Tip Diameter 2.0mm . .each
15094 Harris Micro-Punch®, Tip Diameter 3.0mm . .each

Replacement Tips:

15090-1 Harris Replacement Tip 0.5mm . . . . . .each
15091-1 Harris Replacement Tip 1.0mm . . . . . .each
15092-1 Harris Replacement Tip 1.25mm . . . . . .each
15093-1 Harris Replacement Tip 2.0mm . . . . . .each
15094-1 Harris Replacement Tip 3.0mm . . . . . .each

Replacement Plungers (stainless steel):

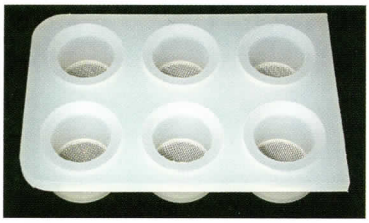
15090-2 Harris Replacement Plunger 0.5mm, St. St. each
15091-2 Harris Replacement Plunger 1.0mm, St. St. each
15092-2 Harris Replacement Plunger 1.25mm, St. St. each
15093-2 Harris Replacement Plunger 2.0mm, St. St. each
15094-2 Harris Replacement Plunger 3.0mm, St. St. each

Replacement Plungers (plastic):

15095 Harris Replacement Plunger 1.20mm, Plastic each
15096 Harris Replacement Plunger 2.0mm, Plastic each

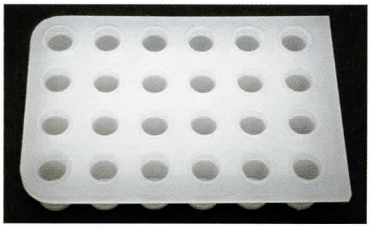
Cutting Mats:

15097 Harris Cutting Mat™, 6 x 8" . . . . . .each
15098 Harris Cutting Mat™, 2.5 x 3" . . . . . .each



36168 PELCO Prep-Eze™ 6-wellplate Insert

36170 PELCO Prep-Eze™ 12-wellplate Insert



36172 PELCO Prep-Eze™ 24-wellplate Insert

■ PELCO Prep-Eze™ Rectangular Wellplate Inserts

These rectangular polypropyene wellplate inserts have 6, 12, or 24 wells and will fit into the Corning Costar® Tissue Culture Plates (below right or into TCP listed on page 290 under Lab Supplies, General) which is the standard 6/12/24 wellplate design. A 420µm opening, polypropylene mesh is at the bottom of each of the insert wells.

The outside dimensions of the wellplate inserts are: 81.3mm W x 123.5mm L x 2.4mm H (3.2" W x 4.86" L x .88" H). Depth of well from top to bottom (all): 17.68mm (0.696").

Well dimensions of 6-wellplate inserts: 24.1mm dia. x 22.3mm D (.95" dia. x .88" D)

Well dimensions of 12-wellplate inserts: 14.2mm dia. x 22.3mm D (.56" dia. x .88" D)

Well dimensions of 24-wellplate inserts: 11.2mm dia. x 22.3mm D (.44" dia. x .88" D)

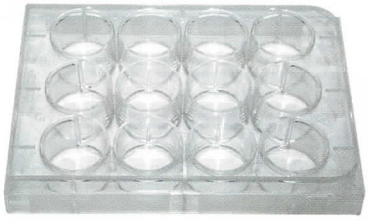
PELCO Prep-Eze™ Ordering Information

36168 PELCO Prep-Eze™ 6-wellplate Insert . . . . . .each
36170 PELCO Prep-Eze™ 12-wellplate Insert . . . . . .each
36172 PELCO Prep-Eze™ 24-wellplate, Insert . . . . . .each

Replacement Mesh

36168-16 6-Well Insert (or 24.1mm dia.) Replacement Mesh, 840µm pkg/30
36168-15 6-Well Insert (or 24.1mm dia.) Replacement Mesh, 590µm pkg/30
36168-8 6-Well Insert (or 24.1mm dia.) Replacement Mesh, 420µm pkg/30
36170-14 12-Well Insert (or 14.2mm dia.) Replacement Mesh, 420µm pkg/36
36170-24 24-Well Insert (or 11.2mm dia.) Replacement Mesh, 420µm pkg/48

36168-6 6-cavity Costar® Tissue Culture Plate



36170-12 12-cavity Costar® Tissue Culture Plate

36172-24 24-cavity Costar® Tissue Culture Plate

■ Corning Costar® Tissue Culture Plates

Tissue Culture-treated Plates are designed for a wide range of applications including general cell growth experiments, cloning studies, virus isolation and in vitro testing.

Plate bottoms are of a uniform thickness, allowing for distortion-free observation. Alpha-numeric coordinates are placed on the same focal plane as cell growth, for convenient referencing of cell position. Gripping edges make handling easier.

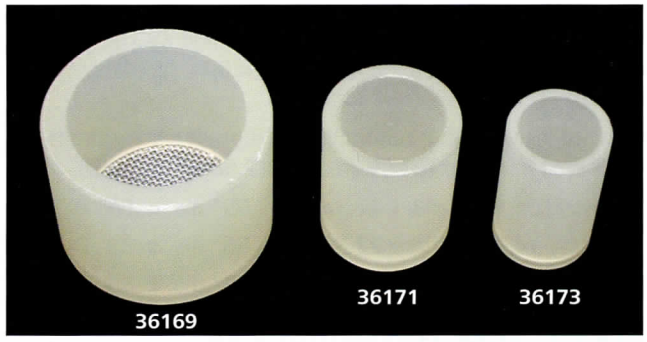
All plates have non-reversible covers with condensation rings to minimize evaporation and the risk of contamination.

Plates are made of optically clear, medical-grade polystyrene and are used for processing of tissue on the bench or in the microwave. The corresponding Wellplate Inserts (on next page) are 36168 for the 6 cavity, 6170 for the 12 cavity, and 36172 for the 24 cavity.

Corning Costar® Tissue Culture Plates Ordering Information

Prod No.	No. of Wells	Well Dia.	Well Growth Area	Total Well Volume	Working Volume	Pkg
36168-6	6	35mm	9.5 cm^2	15 ml	10 ml	case/50
36170-12	12	32.6mm	3.8 cm^2	3 ml	3 ml	case/50
36172-24	24	16mm	1.9 cm^2	2 ml	2 ml	case/50

■ PELCO Prep-Eze™ Individual Wells



Great for processing individual specimens or keeping specimens separate from others. Same wells as used in the Wellplate Inserts above but on an individual basis. Made entirely from polypropylene.

36169 Individual Well, 24.1mm dia x 22.3mm D, 420µm opening screen, all polypropylene . . .each
36171 Individual Well, 14.2mm dia x 22.3mm D, 420µm opening screen, all polypropylene . . .each
36173 Individual Well, 11.2mm dia x 22.3mm D, 420µm opening screen, all polypropylene . . .each

■ Polypropylene Petri Dishes

Suitable for use with PELCO Prep-Eze™ and for microwaving. Very sturdy.

Bottom inside dimensions: 50mm dia. x 12mm deep.

Lid inside dimensions: 56mm dia. x 10mm deep

36135 Polypropylene Petri Dishes pkg/100

■ PELCO Prep-Eze™ Round Tissue Holders

The specimen holders accommodate 6 or 12 specimen batches from fixation through resin infiltration and are suitable for microwave or bench processing. They eliminate handling and save time and reduce the amount of costly chemicals. The holders fit our 36135 Polypropylene Petri Dishes.

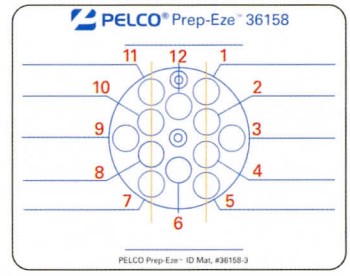
The outside dimensions of the holders are:
50.8mm diameter x 19mm (44.5mm with rod handle),
(2" dia. x .75" H [1.75" H with rod handle]).

36157-1 has 6 wells, 12.7mm dia. x 17mm D
(.5" dia. x .67" D).

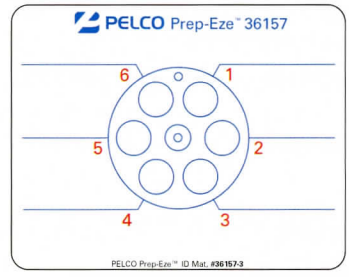
36158-1 has 12 wells, 9.5mm dia. x 17mm D
(.375" dia. x .67" D).

The mesh openings are 420µm.

The small hole is intended to receive a temperature probe while processing tissue in the microwave.
Numbered mats, available for both sizes, are plastic laminated to resist chemicals and can be written on with a marker. With the holder placed on the mat, identification of specific wells is easy. The kits include one specimen holder, one ID mat and 20 polypropylene petri dishes (52 x 12.5mm high, Prod. No. 36135) suitable for use in the microwave.

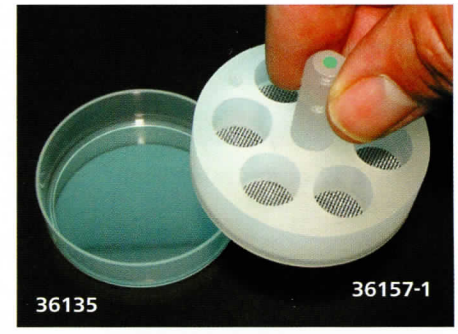


PELCO Prep-Eze™ 12-well ID Mat



PELCO Prep-Eze™ 6-well ID Mat

PELCO Prep-Eze™ 12-well Holder



PELCO Prep-Eze™ 6-well Holder being placed into a Polypropylene Petri Dish

6-well Holder

36157 PELCO Prep-Eze™ 6-well Kit . . . . . .each
36157-1 PELCO Prep-Eze™ 6-well Holder . . . . . .each
36157-3 PELCO Prep-Eze™ 6-well ID Mat pkg/3

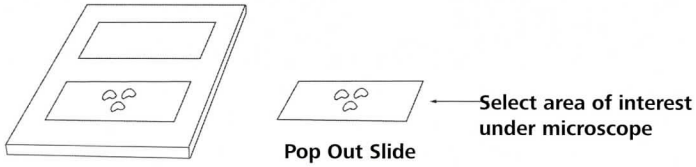
12-well Holder

36158 PELCO Prep-Eze™ 12-well Kit . . . . . .each
36158-1 PELCO Prep-Eze™ 12-well Holder . . . . . .each
36158-3 PELCO Prep-Eze™ 12-well ID Mat pkg/3

Cast-A-Slide *by Giammara-Hanker*

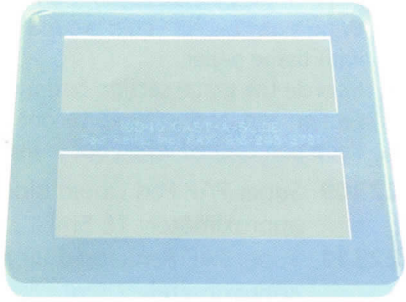
A one-step casting procedure is performed with stained cells or tissue sections embedded in the form of an epoxy microscope slide.

Fixed Microslicer™ or Vibratome® sections or cytochemically stained cells, post-fixed with osmium tetroxide are dehydrated and infiltrated with epoxy. The Cast-A-Slide mold is made from silicone rubber, **Prod. No. 10545**, not autoclavable



■ Giammara-Hanker Cast-A-Slide Translucent Mold

survey slides, LM, TEM & STEM, HVEM cytochemistry

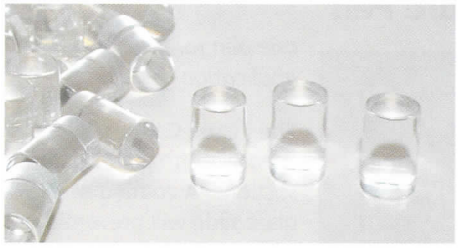


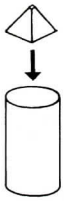
Silicone rubber mold. Produces 2 slides. See reference below. Fixed Microslicer™ or Vibratome® sections or cytochemically stained cells, post-fixed with osmium tetroxide, are dehydrated and infiltrated with resin by routine or rapid embedding methods. The sample is placed into a mold recess and resin teased to the edges. Photomicrography may be performed. Selected specimens are excised, glued to blank blocks with cyanoacrylate adhesive and are then sectioned for ultramicroscopy. Translucent.

Reference: Giammara BL, Hanker JS, 1982. Epoxy slide embedment for LM, TEM, STEM and HVEM cytochemistry. 40th Ann Proc Elec Mic Soc Amer. Wash DC, ed. G.W. Bailey, pp 358-359.

10545 Cast-A-Slide . . . . . .each

■ Mounting Cylinders





Pyramid Tip Embedment placement on Cylinder Mount

Plastic cylinders for attaching pyramid-tips (from Molds 10585 and 10586).
8mm diameter x 13mm length. Smooth ends for easy attachment. Lucite.

10580 Mounting Cylinders pkg/100

■ Specimen Slug-Mounts, Size 00

For controlled specimen orientation, Specimen Slug Mounts are aluminum cylinders machined at the tip to a conical shape and a flat 3/16" tip. Specimens can be mounted and oriented on the tip using an adhesive (see Adhesives). The Specimen Slug is then inserted into a 00 size ultramicrotome chuck for sectioning. 7/16" long (11mm).

14400 Specimen Slug-Mounts pkg/10

■ ACLAR® Film

ACLAR® Film provides an oxygen barrier when flat embedding specimens for electron microscopy and light microscopy . It separates easily from epoxy and is chemically inert.

Features of ACLAR® Film:

- Separates easily from epoxy
- Transparent fluorinated-chlorinated thermoplastic which contains no volatile components
- Chemically inert; for all practical purposes, ideal for growing cell cultures
- Cells adhere to it readily and remain attached after fixation, dehydration and critical point drying or embedding
- Accepts metal sputter coating
- Stable in the SEM; melting point 202°C
- ACLAR® is as transparent as glass
- Fluorescence microscopy possible since ACLAR® exhibits no detectable autofluorescence
- Can be sectioned and does not damage ultramicrotomy knives
- Considerably simplifies the preparation of cultured cells for all types of microscopy
- Sterilizable
- Gives flat sections
- Soft, can be sectioned
- Smooth surface makes light microscopy observations possible
- Does not degrade under UV or gamma ray radiation
- UV transmission
- Used as an O_2 barrier when flat embedding methacrylate or acrylic resins

Physical Data	
Thickness	0.0078" (0.198mm) / 0.002" (0.05mm)
Clarity	Clear
Water absorption	Nil
Dimensional change	< or =2.5% (10 min. at 149°C)
Crystalline melting point	202-204°C
Flammability	Nonflammable
Chemical Resistance Data	
Acetone	No effect
100% Ethyl Alcohol	No effect
Liquid Nitrogen	Remains flexible
Osmium Tetroxide	No effect
Propylene oxide	No effect

continued on next page

■ ACLAR® Film *continued*

ACLAR® is offered in sheet form, 8 x 12.5" (7.8mil) or 8 x 10" (2mil) in package quantities of 10 or 25 for both thicknesses. For larger cuts or quantities, please inquire.

1. Masurovsky EB, Bunge RP, 1968. Fluoroplastic coverslips for long-term nerve tissue culture. Stain Technology, 43, (3): 161-165.
2. Mawe GM, Bresnahan JC, Beattie, MS, 1983. Ultrastructure of HRP-labelled neurons: a comparison of two sensitive techniques. Brain Research Bulletin 10: 551.
3. Kingsley RE, Cole NL, 1988. Preparation of cultured mammalian cells for transmission and scanning electron microscopy using Aclar film. J of Electron Microscopy Technique (10): 77-85.

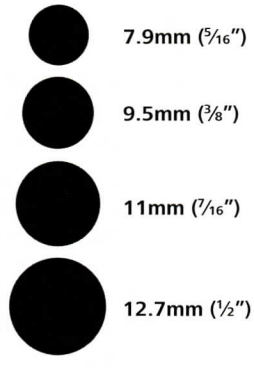
10501-10 ACLAR® Plastic Film, 200µm (7.8mil) thickness, 203 x 318mm (8 x 12.5") pkg/10

10501-25 ACLAR® Plastic Film, 200µm (7.8mil) thickness, 203 x 318mm (8 x 12.5") pkg/25

10503-10 ACLAR® Plastic Film, 50µm (2mil) thickness, 203 x 254mm (8 x 10") pkg/10

10503-25 ACLAR® Plastic Film, 50µm (2mil) thickness, 203 x 254mm (8 x 10") pkg/25

■ Disc Punches



SEM: For placing adhesive tapes or sheet material on specimen mounts, punch a conveniently shaped circle.

TEM: Punch circles from ACLAR® film for growing cells and then mounting on a rod-type holder end for ultramicrotomy. Thinner, 2mil ACLAR® available for easier punching.

Maximum thickness for punching: 0.067" (1.7mm)

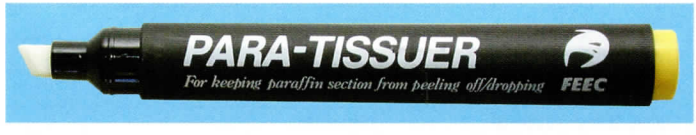
54740 Disc Punch, 7.9mm ø circle (5/16") . . . . . .each

54741 Disc Punch, 9.5mm ø circle (3/8") . . . . . .each

54742 Disc Punch, 11mm ø circle (7/16") . . . . . .each

54743 Disc Punch, 12.7mm ø circle (1/2") . . . . . .each

■ Paraffin Pen



Adhesive pen for paraffin sections. Coating of a glass slide will prevent paraffin sections from falling off or wrinkling. Will flatten sections in room temperature water. Stable to 120° C. T

22301 Paraffin Pen . . . . . .each

PAP Pens for Immunohistochemical Applications

■ Super PAP Pen Liquid Blocker

ready-to-use hydrophobic barrier pens

PAP Pens are used for immunohistochemical applications. The hydrophobic properties allow the user to draw barriers on the slide, in any pattern, to confine the flow of reagents to a defined area. A minimum of valuable antiserum will be used. Visible marking is light green/blue and can be removed with xylene.

For immunohistochemistry, the PAP Pen should be applied after deparaffinization. M T

Directions:

1. Deparaffinize tissue sections and hydrate to water.
2. Wipe away excess liquid around the section on the glass slide with tissue paper.
3. Encircle the tissue section or draw lines on both sides of the section and let dry (10-15 seconds). Soak slides in PBS.
4. Keep pen capped when not in use.

22309 Super PAP Pen Liquid Blocker, regular size, approximately 16.5ml . . . . . .each

22311 Super PAP Pen Liquid Blocker, mini size, approximately 7.5ml . . . . . .each

■ Pen for Frozen Sections

Adhesive pen for frozen sections. Will prevent sections from falling off or wrinkling. Effective with PAP/PAAP, ABC, LAB-SA and immunofluorescent methods. Stable up to 110°C. T

22302 Pen for Frozen Sections . . . . . .each

■ Tissue Capture Pen

one pen for two applications

The Tissue Capture Pen is used with frozen or paraffin sections. A coating of the glass slide will prevent the sections from falling off or wrinkling. Stable up to 110°C. Pen contains material for 3000-5000 applications. T

22310 Tissue Capture Pen . . . . . .each

ImmEdge™ Pen

The ImmEdge™ Pen, a hydrophobic barrier pen for immunohistochemistry and *in situ* hybridization detection methods, is designed for use with frozen or paraffin-embedded tissue sections mounted on glass slides. The ImmEdge™ Pen provides a water repellent barrier that keeps staining reagents localized on the tissue sections, prevents mixing of reagents when differentially staining two sections on the same slide, and allows the use of less reagents per section.
The boundary deposited by the ImmEdge™ Pen is lightly colored and easily visible. It is insoluble in alcohol and acetone, but is removed by most clearing agents. The ImmEdge™ Pen is compatible with all commonly used enzyme or fluorescent-based detection systems.

22312 ImmEdge™ Pen . . . . . .each

STATMARK™ Permanent Marker for Cassette and Slide Marking

The STATMARK™ Pen is the ideal black marker - the one that histology and cytology labs have been waiting for. It has a permanent ink that resists even the harshest chemicals, including formalin, ethanol, isopropanol and xylene. The writing remains clean, clear and legible throughout the range of laboratory procedures - including processing and staining. The ink dries quickly and will not run or smear. It lasts through fixatives, baths, dips, stains, bleaches and more. Best of all, the STATMARK™ Pen will not readily dry out!

22313 STATMARK™ Pen box/12

Manomark™ Pens

all surface markers

This Manomark™ Pen writes on all plastics, glass, metal, wood, paper and cloth, including PTFE fluoropolymer resins. A precision seal valve provides smooth ink flow and preserves the pen's life, even if it's left uncapped. When dry, the solvent based ink is temperature resistant from 0°C to 155°C (32°F to 310°F). Markings are insoluble in water or hydrocarbons, resists many solvents and are easily removed with alcohol. The pens are offered in black or in a package of assorted colors, 4 black, 2 red, 2 green, 2 blue and 2 orange.

27305-1 Manomark™ Pens, Black . . . . . .each
27305-A Manomark™ Pens, Assorted Colors box/12

Securline® Lab Marker

General Use: Microbiology, Histology

Writing Surface: Polystyrene petri dishes, metal, glass and most plastic, cold moist surfaces.

Resistant To: Autoclaving and water. Remove from nonporous surfaces with mineral oil or petroleum jelly.

Durable porous plastic tips with permanent, quick-drying, water resistant ink that writes on cold or wet surfaces, plastic bags, or disposable labware. Markings will not smear on reusable glass, metal, or porcelain labware, but can be scrubbed off. Suitable for general lab, hospital or industrial use (black).

Not suitable for freezing temperatures below 0°C (32° F).

27175 Securline® Lab Marker, Extra Fine Tip, Black pkg/5

Securline® Marker II

General Use: Histology, Cytology

Writing Surface: Plastic embedding cassettes and frosted end of microscope slides.

Resistant To: Water, ethanol, formalin, xylene and other solvents. Remove from non-porous surfaces with acetic acid, chloroform or ethanol/xylene mixture.

Ultra-permanent ink that resists solvents such as xylene, ethanol, acetone and formalin. Ideal for histology and cytology. Markings will not run on embedding cassettes, frosted or painted slides or labware through repeated washes and solutions. Markings can be removed with acetic acid, ethanol/xylene mixture or paraffin. Testing is advised before use on actual specimens (black).

Service temperature range: -15°C to 100°C (5°F to 212°F).

27176 Securline® Lab Marker II, Black pkg/5

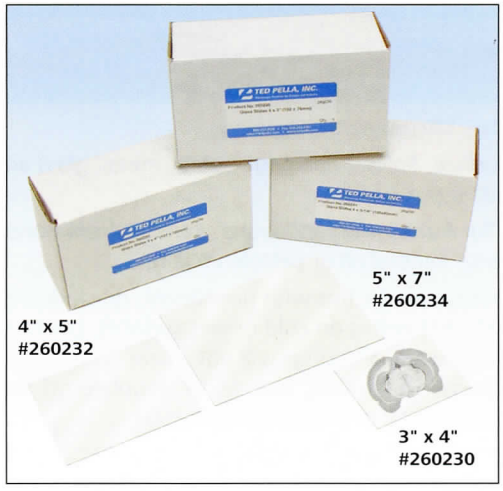
Moist Mark Plus™ Pens

Premium Slide/Cassette Marker - Resistant to all solvents. Writes smooth, dark and fine on all cassettes and all slides. Use for cytology as a " dotting" reference marker as well.

22314 Moist Mark™ Plus Pen box/10

M = MSDS on web page
T = Tech Note on web page

Slides for Large Tissues



These slides are 1.2mm thick and are sold in packages of 36. Not available with frosted ends.

260230 Glass Slides, 3" x 4" (76 x 102mm) pkg/36
260231 Glass Slides, 3-¼" x 4" (83 x 102mm) . . .pkg/36
260232 Glass Slides, 4" x 5" (102 x 127mm) pkg/36
260233 Glass Slides, 4-½" x 6" (114 x 152mm) . .pkg/36
260234 Glass Slides, 5" x 7" (127 x 178mm) pkg/36

Large Cover Glass

Thickness #2 (0.19-0.25mm)
Packaging: 36 cover glasses in shrink-wrapped package
Large cover glass specially made for the large microscope slides. Thickness #2 (0.19-0.25mm). Made from optical grade borosilicate glass. Sizes available 3 x 3-¼" up to 4-½ x 6-¼". Packed as 36 cover glasses per shrink-wrapped package.

260450 Large Cover Glass, 3" x 3-¼" (76 x 83mm) pkg/36
260451 Large Cover Glass, 3" x 3-½" (76 x 89mm) pkg/36
260452 Large Cover Glass, 3-¾" x 4-½" (95 x 114mm) pkg/36
260453 Large Cover Glass, 4-⅛" x 5-½" (105 x 140mm) pkg/36
260454 Large Cover Glass, 4-½" x 6-¼" (114 x 159mm) pkg/36

Fluor-Ref™ Fluorescence Reference Slides

Fluoresence Reference Slides enable a check of how evenly a fluoresence illuminator is filling the field of view and whether it is centered. Are the laser output and MT settings for your Confocal Microscope being monitored?

Fluor-Ref™ Fluorescence Reference Slides provide a quick, easy-to-use solution. Made of durable plastic, they provide a continuous fluorescent field. No hunting for microspheres. No cellular photo bleaching.

The full Fluor-Ref™ set comes with four slides with spectra approximating the most commonly used fluorophores:

- Blue excitation (DAPI / Indo / Fura)
- Green excitation (FITC / GFP)
- Yellow excitation (Acridine Orange)
- Red excitation (Rhodamine / Texas Red)

To keep the slides clean, dust-free, and easy to find, the set comes packaged in its own storage box

Fluor-Ref™ Slides are the innovation of Dr. P.C. Cheng of SUNY / Buffalo, NY.

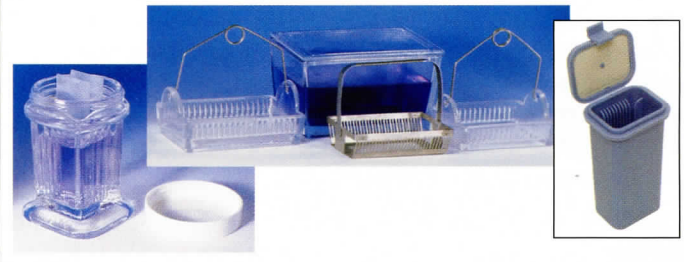
2273 Fluor-Ref™ set of 4 slides . . . . . .each

Single Slides

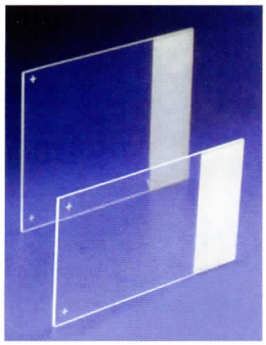
2273-B Fluor-Ref™ Single Slide, blue . . . . . .each
2273-R Fluor-Ref™ Single Slide, red . . . . . .each
2273-G Fluor-Ref™ Single Slide, green . . . . . .each
2273-Y Fluor-Ref™ Single Slide, yellow . . . . . .each

More Slides and Cover Glass on pages 256 & 262

Staining Vessels



See Staining Vessels Section, pages 552 to 556



■ Large Microscope Slides

260238 Adhesion Super Frost + Slides, 38 x 75mm (1-½" X 3") pre-cleaned . . . .10 gross

260239 Adhesion Super Frost + Slides, 51 x 75mm (2" X 3") pre-cleaned . . . .10 gross

■ Large Cover Glasses

Made of borosilicate glass. Packed in 3 oz. plastic dispenser box

260460 Cover Glass, 36 x 60mm (1.42" x 2.36"), No. 1, 37 pcs/oz. . . . .pkg/3 oz.

260461 Cover Glass, 36 x 60mm (1.42" x 2.36"), No. 1-½, 30 pcs/oz. . . . .pkg/3 oz.

■ Economy Slide Boxes

Made of heavy cardboard with a grey linen paper outside and white inside, diecut, for 25 large or standard slides. Outer dimensions: 156 x 98 x 51 or 32mm (6-⅛" X 3-⅞" X 1-5/16" or 1-¼").

21081 Economy Slide Box for 25 slides, Large, 38 x 75mm or 50 x 75mm slides . . . . . .each

21080 Economy Slide Box for 25 slides, Standard, 25 x 75mm slides . . . . . .each

■ Wooden Large Slide Boxes

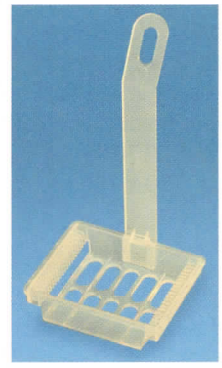
Durable, hardwood construction for 100 slides

38 x 75mm or 50 x 75mm (1-½" x 3" or 2" x 3").

21079 Wooden Slide Storage Box for 100 slides 38 x 75mm . . .each

21077 Wooden Slide Storage Box for 100 slides 50 x 75mm . . .each

Staining Racks and Vessels for Larger Slides



■ Staining Rack for 20 Slides

Made of polypropylene plastic for use with 21086 Staining Dish listed below. Holds 20 slides of size 25 x 75mm, 38 x 75mm or 50 x 75mm (1", 1-½" or 2" x 3"). Dimensions (excluding handle) : 86 x 79 x 21mm high (3.39" x 3.11" x .83" H).

21087 20-Slide Staining Rack . . .each

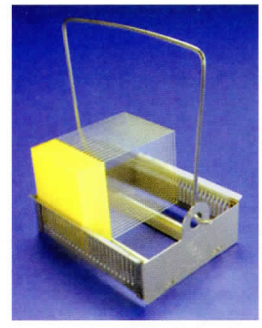
■ Staining Dish

Plastic staining dish made of polymethylpentane. Supplied with 2 lids – one lid for when rack is not in use, providing evaporation-free storage of staining liquid – a second lid with a special opening to allow handle of staining rack to be inserted. Xylene can cause etching after 2 days at room temperature.

Dimensions: 101 x 81 x 86mm high (3.98" x 3.19" x 3.39" H).

21086 20-Slide Plastic Staining Dish with Lids . . . . . .each

■ Staining Rack, for 30 Slides, 3"



Made of welded 303 stainless steel, rugged construction. Rack has a removable wire handle allowing the user to cover the staining dish. Holds 30 – 3" long slides. Dimensions: 3-½" x 3-⅞ x 1" high with a 4" high handle.

See next page for 21054 Staining Dish with Cover.

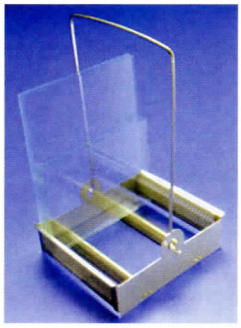
21082 30-Slide Stainless Steel Rack . . . . . .each

Staining Dish with Cover, for 30 Slide Rack

Wheaton "800" glass staining dish with cover. Holds rack 21082, listed on previous page. Not suitable for temperatures below -15°C or above 80°C (5°/176°F). Dimensions: 130 x 100 x 70mm H (5-1/8" x 4" x 2-3/4" H).

21054 Staining Dish, Glass with Cover for 21082 . . .each

Staining Rack for 30 Slides, 4"



Made of welded 303 stainless steel, rugged construction. Rack has a removable wire handle allowing the user to cover the staining dish. Holds 30 – 4" long slides up to 5" tall. Two handles included to accommodate different slide heights. Dimensions: 111 x 97 x 25mm high (4-3/8" x 3-13/16 x 1" H) with 101.6mm and 149mm high handles (4" and 5-7/8" H).

21089 30-Slide Stainless Steel Rack for 4" long x 5" high slides . . . . . .each

Stainless Steel Dishes with Covers

Holds No. 21089 Staining Rack for 30 Slides, 4" long
Dimensions: 137 x 149 x 102mm (5-3/8" x 5-7/8" x 4" H)

21083 Stainless Steel Staining Dish with lid for 21089 . . . . . .each

Holds No. 21089 Staining Rack with 4" x 5" H Slides
Dimensions: 137 x 149 x 152mm (5-3/8" x 5-7/8" x 6" H)

21084 Stainless Steel Staining Dish with lid for 21089 with 4" x 5" slides . . . . . .each

Holds No. 21084 Staining Rack for 50 Slides, 3" long
Dimensions: 137 x 149 x 102mm (5-3/8" x 5-7/8" x 6" H)

21085 Stainless Steel Staining Dish with lid for 21089 . . . . . .each

Staining Rack for 50 Slides, 3"

Rugged construction of 303 stainless steel. Rack has a removable wire handle making it possible to cover the staining dish. Holds 50 of 3" long slides.

Dimensions: 178 x 89 x 25.4mm high (7" x 3-1/2" x 1" H) with a 102mm (4") high handle.

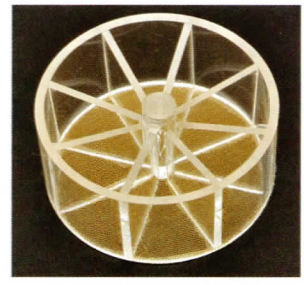
21084 50-Slide Stainless Steel Rack for 3" long slides . . . . . .each

Staining Dish with Cover

Wheaton "800" glass staining dish with cover. Holds rack 21084, listed above. Not suitable for temperatures below -15°C or above 80°C (5°/176°F). Dimensions: 195 x 100 x 75mm high (7-11/16" x 4" x 2-3/4" H).

21058 Staining Dish, Glass with Cover for 21084 . . .each

8-Section Staining Nets



Dimensions: 3-1/2" diameter x 1-1/2" high (89 x 38mm), 32 or 64 mesh netting. Rod in center of net can be grasped to lift net from staining Dish 36754-60, below.

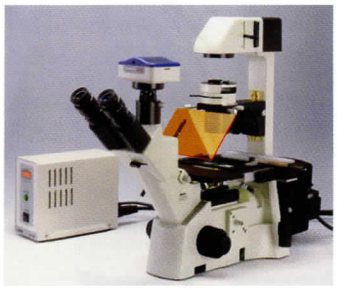
36154-32 8-Section Staining Net, 32 mesh . . . . . .each
36154-64 8-Section Staining Net, 64 mesh . . . . . .each

Pyrex® Staining Dish

4" diameter x 2" high (100mm diameter x 50mm H), for use with above Staining Nets.

36754-60 Pyrex® Staining Dish . . . . . .each

Motic EPI-Fluorescence Microscopes



Inverted model

Upright model

Two types of fluorescence microscopes are available. The upright models are used for viewing fluorescing specimens on glass microscope slides. The inverted models have their microscope objectives facing up, and are used for viewing fluorescing specimens in the bottom of a Petri dish, such as for researching tissue culture samples in cellular biology.

Fluorescence microscopy is a rapidly expanding technique, both in the medical and biological sciences. The technique has made it possible to identify cells and cellular components with a high degree of specificity. For example, certain antibodies and disease conditions or impurities in inorganic material can be studied with fluorescence microscopy.

In fluorescence microscopy, the technique is based on the phenomenon that certain material emits energy detectable as visible light when irradiated with the light of a specific wavelength. The sample can either be fluorescing in its natural form like chlorophyll or treated with fluorescing chemicals.

Fluorescence microscopy differs from other microscopy methods in that the visible light in the microscope eyepieces is not the original light emitted by the light source. The light you see is actually light that has fluoresced from the fluorescing microscope specimen. A high intensity light source is used and is passed through a dichroic filter cube containing a fluorescence bandpass excitation filter. Only specific wavelengths of light are allowed to pass and excite the specimen. Excitation light reflecting back into the microscope objective to the dichroic filter is filtered out by the emission filter. The specimen fluoresces, and it is this fluorescing light that passes back through the fluorescence emission filter and to the microscope eyepieces to provide a fluorescent image of the specimen.

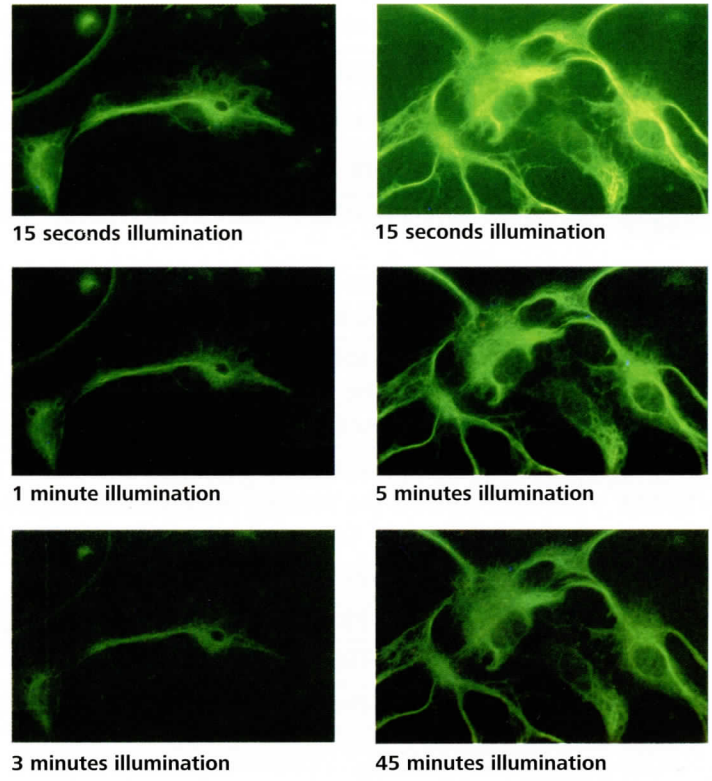
The selection of the fluorescence excitation filters and fluorescence emission filters is critical to achieving the proper fluorescence image. Different fluorescence specimens fluoresce at various wavelengths of light. Choosing from several dichroic filters of various wavelengths is needed to optimize the microscope. The filters used with the Motic microscopes will outperform standard fluorescence filters because they are made to precise wavelength specifications and because they pass less undesired wavelengths. It is recommended to review your fluorescing biological sample and the fluorescing stain. For example, if you are using GFP (Green Fluorescence Protein), which has a specific narrow light wavelength spectrum, your fluorescence filters should match this wavelength spectrum for optimal imaging. We are happy to work with you to ensure your fluorescence stain is matched to the correct fluorescence filters.

22434-14 AE31 Trinocular (80/20) Inverted Microscope, WF10x/22 Eyepieces, Plan Achromat PL4x Plan Achromat Phase 10x and 20x objectives, ELWD condenser, Phase slider, PH1, PH3 and phase centering telescope, plain stage, 6V/30W Quartz illumination with Complete EPI-Fluorescence Kit. Requires filter sets each

22434-18 AE31 Trinocular (100/0) Inverted Microscope, WF10x/22 Eyepieces, Plan Achromat PL4x Plan Achromat Phase 10x and 20x objectives, ELWD condenser, Phase slider, PH1, PH3 and phase centering telescope, plain stage, 6V/30W Quartz illumination with Complete EPI-Fluorescence Kit. Requires filter sets. each

See page 343 for microscopes

Citifluor Antifadent Solutions



Courtesy of Dr. M. Noble, Institute of Neurology, London

The use of fluorescent labels and markers is now widespread and immuno-fluorescence, which relies on the use of antibodies tagged with labels such as fluorescein, is a well-established technique.

A common problem associated with the microscopical examination of these materials is that the illumination used for stimulating the fluorescence also causes degradation of the label and this causes fading of fluorescence. This also is a problem when trying to visualize materials having a low level of labeling. The photofading of labeled materials can be retarded by the use of the Citifluor mountants.

continued on next page

■ Citifluor Antifadent Solutions *continued*

Antifadent (AF) Solutions

The antifadent solutions AF1, AF2 and AF3 were specifically developed for use with FITC polyclonal antibodies but their use is now far more widespread. They show improved signal preservation with many other fluorochromes including rhodamines and DAPI. AF4 contains the antifadent propyl gallate, which is particularly suitable for use with DAPI and Alexa dye-stained materials, as well as FITC-labelled materials.

AF-1 - Glycerol-phosphate buffered solution containing antifadent for use with labeled tissue and dead cells. Available in two sizes. M

Citifluor Antifadent (AF) Solutions			
Prod. No.		**Description**	**Qty.**
19470	AF-1	Glycerol-phosphate buffered solution, containing antifadent for use with labelled tissue sections and dead cells.	25ml
19470-1	AF-1	Glycerol-phosphate buffered solution, containing antifadent for use with labelled tissue sections and dead cells.	100ml
19472	AF-2	Glycerol solution containing antifadent for use with labelled tissue sections and dead cells.	25ml
19472-1	AF-2	Glycerol solution containing antifadent for use with labelled tissue sections and dead cells.	100ml
19474	AF-3	Phosphate-buffered saline solution containing antifadent for examination of whole live cells.	25ml
19474-1	AF-3	Phosphate-buffered saline solution containing antifadent for examination of whole live cells.	100ml
19476	AF-4	Glycerol solution containing n-propyl gallate for use with labelled tissue sections and dead cells.	25ml
19490	AF-100	Phosphate-buffered saline solution containing antifadent specially prepared for use with UVM23 solution where fluorochrome fading is a problem.	5ml
19491	AF-200	Glycerol solution containing antifadent, specially prepared for use with UVM2 solution where DAPI is the staining material. The solutions can also be used with other fluorochromes such as fluorescein, Alexa dyes and Hoescht dyes.	10ml
19492	AF-300	Glycerol solution containing antifadent, specially prepared for use with UVM2 solution where DAPI is the staining material. The solutions can also be used where fluorescein is the staining material. The solution can also be used with other fluorochromes such as rhodamines, etc.	10ml
19493	CFM1	Glycerol-PBS ref. index similar to glass	10ml
19494	CFM1	Glycerol-PBS w/AF, ref. index similar to glass	10ml
19495	CFM1	Glycerol-TRIS buffer, ref. index similar to glass	10ml
19496	CFM1	Glycerol-Phosphate & AF, ref. index similar to glass	10ml

UV Mount Media (UVM)			
Prod. No.		**Description**	**Qty.**
19497	UVM1	Methacrylate based solution.	10ml
19498	UVM2	Methacrylate-based solution containing anti-bleaching agent.	10ml
19499	UVM3	High refractive index methacrylate-based solution designed to be used with AF-100 where fluorochrome fading is a problem.	10ml
Solid Mountants			
19469	Kit	Citifluor Solid Mountant Kit is comprised of PVA solution, 25ml and Citifluor antifident in buffer, 5ml. The components can be mixed as required, applied to the specimen and allowed to dry to give a clear film.	30ml

Thermal-Conductive Tools

A New Way of Organizing and Managing your Temperature-sensitive Samples.

- The CoolRacks® provide the ultimate convenience in storing, finding and transferring samples.
- One-handed labeling, cap access and sample construction on a secure and stable platform.
- No tipping, ever. No more "soggy" experiment days. No more floating tubes.
- No more cap contamination. No more lost labels or samples.
- No more jamming tubes into dry ice. No more unorganized experiments.
- Walk away without worry while your samples remain organized, cool and safe.
- Reorganize your freezers and cryogenic storage systems.
- Thermal-Conductive tools are perfect for dry ice and LN_2 cooling. Snap freeze samples with ease. Excellent for water bath applications.
- CoolSystems let you maintain your samples all day without adding ice.

■ CoolRacks®

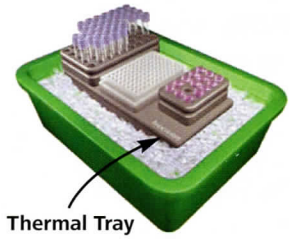
For Temperature-sensitive Sample Management Features:

- Machined from a special aluminum alloy and anodized for a corrosion resistant finish
- Large thermal mass keeps constant temperature
- Minimum air gap between module and tube/plate and well wall means uniform temperature distribution for edge effect suppression and uniform cooling/heating
- **300 times more thermal-conductive than ice or water. Quickly achieve the correct temperature without direct immersion**
- Modules can be used in a wide range of temperatures:
  - LN_2: -196°C, storage and snap-freezing
  - Dry Ice: -70°C, snap freezing
  - Ice: 0° to 4°C for as long as it is in contact with ice
  - Incubator and water bath 37°C, 5-10 times faster thawing, incubations - can also be used with a block warmer
- Ideal for use with ThermalTray or CoolTray for stable, level work below 4°C for over 10 hours without changing ice
- Easy to autoclave. Bake or treat with 5% bleach or RNAseA-way
- Prevents RNA degradation by eliminating contamination

Applications:

Snap Freezing

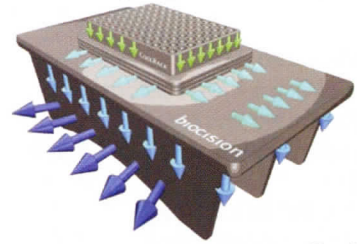
Samples need to go through the 0°C phase transition quickly to prevent large ice crystals from building up to prevent protein, DNA, RNA, enzyme damage.



Cooling - Ice

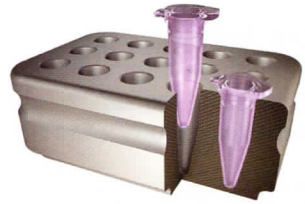
CoolRack® on Thermal-Conductive Platform

- <4°C in under 120 seconds
- >14 hours cooling with a **single pan of Ice**



Thawing - Water Bath 37°C

CoolRack® on Thermal Conductive Platform is **5x faster than current ambient method.** Temperature dissipation or regulation through bottom fins.



Profile-fit Racks

Enables very rapid temperature shifts.

- Excellent contact between tubes and CoolRack®
- Remove or add heat from samples quickly
- Same principle as used in PCR Thermal-Cyclers

CoolRack® M15

15 tube capacity accomodates 1.5/2.0ml
Dimensions: 102 L x 66 W x 38 H (mm)
(4" L x 2.6" W x 1.5" H)
Weight: .45 Kg (1 lbs.)

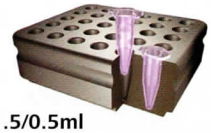
20925 CoolRack® M15 . . . . . .each

1.5/2.0ml

CoolRack® M30

30 tube capacity; Accommodates 1.5/2.0ml tubes
Dimensions: 119 L x 102 W x 38 H (mm)
(4.7" L x 4" W x 1.5" H)
Weight: .9 Kg (2 lbs.)

20908 CoolRack® M30 . . . . . .each



1.5/0.5ml

CoolRack® M30 PF 1.5ml tubes

30 Profile Fit microfuge tube holder for rapid freezing and thawing.
Dimensions: 119 L x 102 W x 38 H (mm)
(4.7" L x 4" W x 1.5" H)
Weight: .9 Kg (2 lbs.)

20928 CoolRack® M30 PF 1.5ml . . . . . .each

20937 CoolRack® M30 PF 0.5ml each

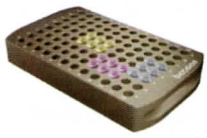
CoolRack® M90

90 tube capacity accomodates 1.5/2.0ml tubes
Dimensions: 274 L x 114 W x 38 H (mm)
(10.8" L x 4.5" W x 1.5" H)
Weight: 2.4 Kg (5.2 lbs.)

20902 CoolRack® M90 . . . . . .each

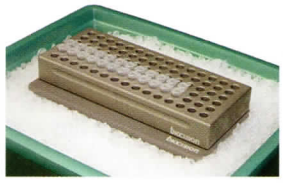
continued on next page

■ CoolRacks® / CoolSystems *continued*



CoolRack® M96 ID Well Tube Holder
96 tube capacity with indexing and handle
Dimensions: 254 L x 152 W x 38 H (mm)
(10" L x 6" W x 1.5" H)
Weight: 3.18 Kg (7 lbs.) Accomodates 1.5/2.0ml tubes

20916 CoolRack® M96 ID . . . . . .each



CoolSystem M90
Thermal-Conductive Platform with 1 CoolRack M90 and Ice pan
Dimensions: 406 L x 330 W x 114 H (mm)
(16" L x 13" W x 4.5" H)
Weight: 4.3 Kg (9.5 lbs.)

20917 CoolSystem M90 . . . . . .each

CoolSystem M30 x 3
Thermal-Conductive Platform with 3 CoolRacks® M30 and Ice pan
Dimensions: 406 L x 330 W x 114 H (mm)
(16" L x 13" W x 4.5" H)
Weight: 4.3 Kg (9.5 lbs.)

20918 CoolSystem M30 x 3 . . . . . .each

CoolRack® CF15
Thermal-Conductive tube holder with a 15 CRYO and FACS tube capacity
Wells: 12.5ml diamets
Dimensions: 102 L x 66 W x 38 H (mm)
(4" L x 2.6" W x 1.5" H)
Weight: 0.45 Kg (1 lbs.)

20926 CoolSink CF15 . . . . . .each

CoolRack® CF30 Cryo FACS
30 tube capacity - CoolBox 30 Compatible
Dimensions: 152 L x 127 W x 76 H (mm)
(4.7" L x 4" W x 1.5" H)
Wells: 12.5ml diamets
Weight: 0.9 Kg (2 lbs.)

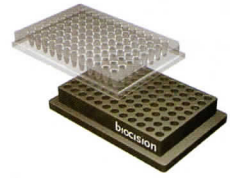
20929 CoolRack® CF30 . . . . . .each

CoolRack® CF45 Cryo FACS
45 tube capacity - CoolBox 30 Compatible
Dimensions: 173 L x 97 W x 38 H (mm)
(6.8" L x 3.8" W x 1.5" H)
Wells: 12.5ml diamets
Weight: 1.18 Kg (2.6 lbs.)

20905 CoolRack® CF45 . . . . . .each

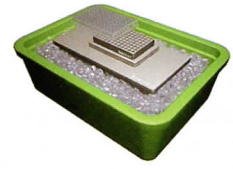
CoolSystem CF
Thermal-Conductive Platform with 1 CoolRack® CF45 and Ice pan
Dimensions: 406 L x 330 W x 114 H (mm) (16" L x 13" W x 4.5" H)
Wells: 12.5ml diamets
Weight: 3.18 Kg (7 lbs.)

20919 CoolSystem CF . . . . . .each



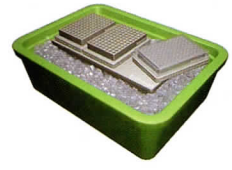
CoolRack® PCR96
Profile-Fit Thermal-Conductive PCR (0.2ml) 96-well Tubes and Plate Holder
Dimensions: 135 L x 89 W x 25.4 H (mm)
(5.3" L x 3.5" W x 1.0" H)
Weight: 0.59 Kg (1.3 lbs.)

20920 CoolRack® PCR96 . . . . . .each



CoolSystem PCR96 (1)
Thermal-Conductive Platform with 1 PCR (0.2ml) 96-well Tubes and Plate Holder with Ice Pan
Dimensions: 406 L x 330 W x 114 H (mm)
(16" L x 13" W x 4.5" H)
Weight: 2.4 Kg (5.3 lbs.)

20921 CoolSystem PCR96 (1) . . . . . .each



CoolSystem PCR96 (3)
Thermal-Conductive Platform with 3 PCR (0.2ml) 96-well Tubes and Plate Holder with Ice Pan
Dimensions: 406 L x 330 W x 114 H (mm)
(16" L x 13" W x 4.5" H)
Weight: 4.3 Kg (9.5 lbs.)

20922 CoolSystem PCR96 (3) . . . . . .each

■ Coldbox Ice-Free Systems

CoolBox 30 System
CoolBox 30 with lid, +2°C Cooling Cartridge (blue), Dry-ice Conductor, Dry Ice Tray (red) and instruction sheet.
Dimensions: 152 L x 165 W x 127 H (mm) Box only, no CoolRack® included.
(6" L x 6.5" W x 5" H)
Weight: 0.45 Kg (1 lb.)

20930 CoolBox 30 System . . . . . .each

CoolBox M30 System
CoolRack® M30, CoolBox 30 with lid, +2°C Cooling Cartridge (blue), Dry-ice conductor, Dry Ice Tray (red) and instruction sheet.
Dimensions: 152 L x 165 W x 127 H (mm) Box only accomodates 1.5/2.0ml tubes
(6" L x 6.5" W x 5" H)
Weight: 0.45 Kg (1 lb.)

20933 CoolBox M30 System . . . . . .each

CoolBox M30 PF System
CoolRack® M30 PF, CoolBox 30 with lid, +2°C Cooling Cartridge (blue), Dry-ice conductor, Dry Ice Tray (red) and instruction sheet.
Dimensions: same as 20933 above.
Accomodates 1.5/2.0ml tubes

20934 CoolBox M30 PF System . . . . . .each

■ CoolSystem / CoolSinks / CoolTray

CoolBox CF30 System
CoolRack® CF30, CoolBox 30 with lid, +2°C Cooling Cartridge (blue), conductor, Dry Ice Tray (red) and instruction sheet.
Dimensions: same as 20933 previous page. Wells 12.5ml diamets.

20935 CoolBox CF30 System . . . . . .each

Cooling Cartridges +2°C
+2°C Cooling Cartridge (blue), for use in the CoolBox 30
Weight: 0.45 Kg (1 lb.)

20932 Cooling Cartridges pkg/3

Freezing Cartridges -12°C
-12°C Cooling Cartridge (green), for use in the CoolBox 30
Weight: 0.45 Kg (1 lb.)

20931 Freezing Cartridges pkg/3

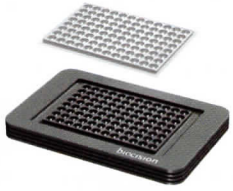
CoolSink 48
Will hold Tissue Culture Plates 6, 12, 24 and 48-well plates
Dimensions: 173 L x 114 W x 15 H (mm)
(6.8" L x 4.5" W x 0.6" H)
Weight: .77 Kg (1.7 lbs.)

20901 CoolSink 48 . . . . . .each

Note: For Tissue Culture Plates see page 290

CoolSink 96F
Hold one 96-well Plate (flat bottom)
Dimensions: 173 L x 114 W x 15 H (mm)
(6.8" L x 4.5" W x 0.6" H)
Weight: .77 Kg (1.7 lbs.)

20906 CoolSink 96F . . . . . .each



CoolSink 96U
Hold one 96-well Plate (U bottom)
Dimensions: 173 L x 114 W x 15 H (mm)
(6.8" L x 4.5" W x 0.6" H)
Weight: .77 Kg (1.7 lbs.)

20907 CoolSink 96U . . . . . .each

Note: For Wellplates see page 290

CoolTray
Thermal-Conductive, round Platform with 14 holes. For use with any CoolSink or CoolRack® M, CF, PCR 96 or any other CoolRacks. Accommodates 8 15ml and 6 50ml tubes.
Dimension: 191 dia x 130 H (mm)
(7.5" dia x 5.1" H)
Weight: 1.8 Kg (4 lbs.)

CoolTray in Ice Pan #20915

20924 CoolTray . . . . . .each

■ ThermalTray LP and Hp

ThermalTray LP

ThermalTray HP

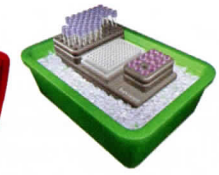
Solid thermal-conductive platform for all cold and warm temperature laboratory procedures. Ideal for use with CoolSinks and CoolRacks®.
Low Profile Dimensions: 279 L x 140 W x 51 H (mm)
(11" L x 5.5" W x 2" H)
High Profile Dimensions: 279 L x 140 W x 89 H (mm)
(11" L x 5.5" W x 3.5" H)
Weight, Low Profile: 1.6 Kg (3.6 lbs.); High Profile: 1.8 Kg (4 lbs.)

20923 ThermalTray LP, Low Profile . . . . . .each
20924 ThermalTray HP, High Profile . . . . . .each

■ Ice Pans, Bucket

Ice Pan Maxi, Green

Ice Pan Maxi, Red



ThermalTray in Ice Pan Maxi 20911

Highly acidic and basic solutions, salts, alcohol, acetone, chloroform, phenol, etc.

Ice Pan Maxi, 9L, Green or Red
Dimensions: 406 L x 343 W x 114 H (mm)
(16" L x 13.5" W x 4.5" H)

20911 Ice Pan Maxi, 9L, Green . . . . . .each
20912 Ice Pan Maxi, 9L, Red . . . . . .each

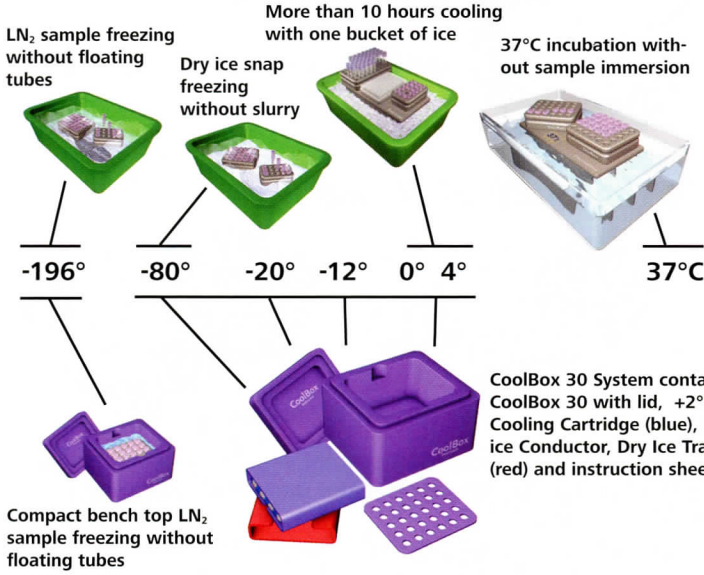
Ice Pan Midi, 4L, Green or Red
Dimensions: 330 L x 254 W x 127 H (mm)
(13" L x 10" W x 5" H)

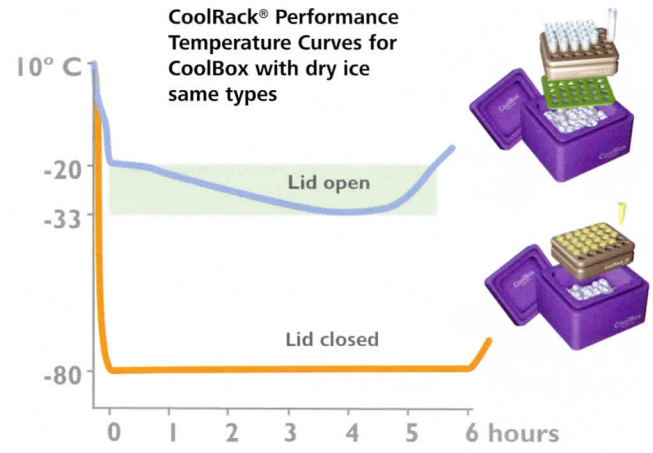
20913 Ice Pan Square, 4L, Green . . . . . .each
20914 Ice Pan Square, 4L, Red . . . . . .each

Ice Bucket, 4L, Green

20915 Ice Bucket, Round, 4L, Green . . . . . .each

CoolRacks® / CoolSystems *continued*





Unconjugated BBI Gold and Silver Colloids (Sols)

Nanometer-sized gold and silver particles of uniform shape and size are invaluable tools in nanotechnology (assembled arrays), light scattering (elastic - plasmon resonance; inelastic - Raman effect) and for single molecule detection. Gold nanoparticles can be attached to proteins, alkanethiols and DNA by various methods. Silver nanoparticles are evolving similar functional characteristics to their gold counterparts.

Ted Pella, Inc. is the leader in offering a wide range of both silver and gold nanoparticles for these applications. Talk to our applications specialist to find out about the new developments/applications. We are constantly developing new gold and silver colloids for new nanotechnology applications.

The nanometer sized gold colloids can be characterized as follows:

- Monodispersed gold nanoparticles supplied in water, having trace amounts of citrate, tannic acid and potassium carbonate
- Citrate stabilized with a net negative surface charge (Langmuir 2005, 21:9303-9307)
- 5-20nm gold colloids are supplied at a pH 6.0, larger particle sizes at pH 9.0
- Available in a size range from 2 to 250nm
- The particles are invaluable tools for light scattering, either Raman or plasmon resonance (Analytical Chemistry 1999, 71:4903-4908; Analytical Bio-Chemistry 1998, 262:137-156)

Gold Colloid Color/Size Variation

Unconjugated Gold Colloids (Sols)

The 2nm colloid is too small to scatter light and the solution is clear. The remaining sizes scatter light to different degrees and the solution color changes with increasing particle size.

continued on next page

Gold Colloids (Sols)				
Size nm	**Particles/ml**	**20ml Prod. No.**	**100ml Prod. No.**	**500ml Prod. No.**
2nm	1.5×10^{14}	**15701-20**	**15701-1**	**15701-5**
5nm	5.0×10^{13}	**15702-20**	**15702-1**	**15702-5**
10nm	5.7×10^{12}	**15703-20**	**15703-1**	**15703-5**
15nm	1.4×10^{12}	**15704-20**	**15704-1**	**15704-5**
20nm	7.0×10^{11}	**15705-20**	**15705-1**	**15705-5**
30nm	2.0×10^{11}	**15706-20**	**15706-1**	**15706-5**
40nm	9.0×10^{10}	**15707-20**	**15707-1**	**15707-5**
50nm	4.5×10^{10}	**15708-20**	**15708-5**	**15708-55**
60nm	2.6×10^{10}	**15709-20**	**15708-6**	**15708-65**
80nm	1.1×10^{10}	**15710-20**	**15708-8**	**15708-85**
100nm	5.6×10^{9}	**15711-20**	**15708-9**	**15708-95**
150nm	1.7×10^{9}	**15712-20**	**15709-10**	**15709-105**
200nm	7.0×10^{8}	**15713-20**	**15709-11**	**15709-115**
250nm	3.6×10^{8}	**15714-20**	**15709-12**	**15709-125**

■ Unconjugated Gold and Silver Sols - Gold/Silver Colloids (Sols) *continued*

Silver Colloids (Sols)

The silver colloids are a newer offering and have not been characterized as well as the gold colloids. They are supplied in water, have a negative surface charge and are available in 4 sizes from 20 to 80nm. The smaller colloids (20 and 40nm) are yellow in color and the larger sizes (60 and 80nm) are a light gray.

Silver Colloid Color/Size Variation

These products are known to be stable for a minimum of one year after opening. To avoid contamination after opening, it is best to handle the product under clean room conditions to avoid contamination. Temperatures for storage, after opening, can vary from 4-8°C (39-46°F) to room temperature depending on whether the application is diagnostic or research oriented. The colloid is stable on boiling and destroyed by freezing.

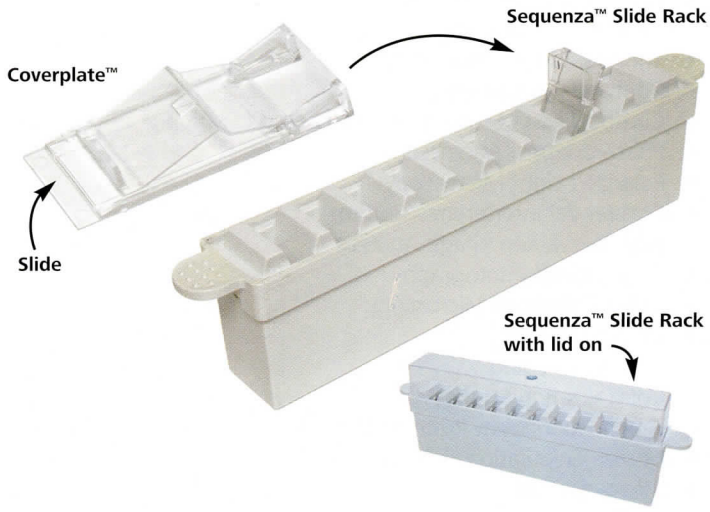
Silver Colloids (Sols)				
Size nm	**Particles/ml**	**20ml Prod. No.**	**100ml Prod. No.**	**500ml Prod. No.**
20nm	7.0×10^{11}	**15705-20SC**	**15705-1SC**	**15705-5SC**
40nm	9.0×10^{10}	**15707-20SC**	**15707-1SC**	**15707-5SC**
60nm	2.6×10^{10}	**15709-20SC**	**15708-6SC**	**15708-65SC**
80nm	1.1×10^{10}	**15710-20SC**	**15708-8SC**	**15708-85SC**

■ Immunostaining on Glass Slides *using the Sequenza™ Slide Rack and Coverplate™ system*

The Sequenza™ Slide Rack, holding 10 glass slides and Coverplates™, is a system designed for the immunolabeling of sections on glass slides. While originally designed for bench techniques, this system is uniquely suited for microwave-assisted applications. The Slide Rack holds glass slides covered with a Coverplate™. This combination forms a capillary gap between the slide and the plate. Reagent volumes, especially antibody, are greatly reduced using this versatile system. A reagent hopper forms the uppermost part of the plastic Coverplate™ allowing for easy dispensing of reagent into the capillary gap. Using a PELCO® Microwave Processor with a PELCO ColdSpot®, rapid immunostaining of sections on glass slides is reliable and easy.

36105 Sequenza™ Slide Rack . . . . . .each

36107 Coverplate™ Assemblies pkg/25



Glass Bottom Dishes *by Willco Wells*

Glass Bottom Dishes are used in fields of Life Science and Environmental Research, Molecular and Cell Biology, Cell Culture and Cell Physiology, Biotechnology, Neurology, Pathology, Pharmacology and more.

Applications:

- Live Cell Microscopy
- Multi-Photon Laser Scanning Microscopy (MPLSM)
- High Level Laser Fluorescence
- Fluorescence Lifetime Imaging Microscopy (FLIM)
- Fluorescence Resonance Energy Transfer Microscopy (FRET)
- Fluorescence Redistribution After Photobleaching Microscopy (FRAP)
- Epifluorescence Microscopy
- Fluorescence Imaging
- Immunofluorescence Microscopy
- Confocal Microscopy
- Confocal Laser Scanning Microscopy (CLSM)
- Phase Contrast Microscopy
- Polarized Light Microscopy
- Differential Interference Contrast
- High Resolution Image Analysis
- Time Lapsed Photography
- Video-Enhanced Microscopy
- Infrared Imaging
- Calcium Imaging
- Colocalization Studies
- Green Fluorescent Protein (GFP)
- Micromanipulation
- Microinjection

Advantages are:

1. Much larger effective range, using an objective lens with a short working distance
2. No birefringence effects because of a thin (0.17mm) glass bottom
3. Low rim/side wall of the dish and a larger effective working distance make micromanipulation and microinjection possible.
4. Higher effective N.A. make brighter images (in e.g.: fluorescence)
5. Higher effective N.A. make higher resolutions in image analysis
6. Microscope light passes through the bottom glass in a rectangular way, glass rests on stage
7. Direct heating from the microscope-stage, because the glass is (flush) in direct contact with stage
8. In IVF, no more oocyte-/embryo-transfer is needed from one plastic dish to another, unless different media are being used, saving a lot of time
9. Easy "perfusion" in the dish for continuous in and outflow of solutions, using "perfusion chamber insert"

CLEAR Wall Glass Bottom Dishes				
Prod. No.	**OD x H**	**Glass Area**	**Pkg. Type**	**Unit**
Dish Size: 35mm OD x 10mm H, Glass Area: ø12mm				
14020-20	35 x 10mm	12mm	Blister Pack	pkg/20
14020-120	35 x 10mm	12mm	Blister Pack	case/120
14021-20	35 x 10mm	12mm	Sleeve/20	each
14021-200	35 x 10mm	12mm	Sleeve/20	case/10 Sl
Dish Size: 35mm OD x 10mm H, Glass Area: ø22mm				
14022-20	35 x 10mm	22mm	Blister Pack	pkg/20
14022-120	35 x 10mm	22mm	Blister Pack	case/120
14023-20	35 x 10mm	22mm	Sleeve/20	each
14023-200	35 x 10mm	22mm	Sleeve/20	case/10 Sl
Dish Size: 50mm OD x 7mm H, Glass Area: ø30mm				
14024-10	50 x 7mm	30mm	Blister Pack	pkg/20
14024-120	50 x 7mm	30mm	Blister Pack	case/120
14025-20	50 x 7mm	30mm	Sleeve/20	each
14025-200	50 x 7mm	30mm	Sleeve/20	case/10 Sl
Dish Size: 50mm OD x 7mm H, Glass Area: ø40mm				
14026-20	50 x 7mm	40mm	Blister Pack	pkg/20
14026-120	50 x 7mm	40mm	Blister Pack	case/120
14027-20	50 x 7mm	40mm	Sleeve/20	each
14027-200	50 x 7mm	40mm	Sleeve/20	case/10 Sl

continued on next page

Glass Bottom Dishes *by Willco Wells, continued*

BLACK Wall Glass Bottom Dishes				
Prod. No.	**OD x H**	**Glass Area**	**Pkg. Type**	**Unit**
Dish Size: 35mm OD x 10mm H, Glass Area: ø12mm				
14028-20	35 x 10mm	12mm	Blister Pack	pkg/20
14028-120	35 x 10mm	12mm	Blister Pack	case/120
14029-20	35 x 10mm	12mm	Sleeve/20	each
14029-200	35 x 10mm	12mm	Sleeve/20	case/10 Sl
Dish Size: 35mm OD x 10mm H, Glass Area: ø22mm				
14030-20	35 x 10mm	22mm	Blister Pack	pkg/20
14030-120	35 x 10mm	22mm	Blister Pack	case/120
14031-20	35 x 10mm	22mm	Sleeve/20	each
14031-200	35 x 10mm	22mm	Sleeve/20	case/10 Sl
Dish Size: 50mm OD x 7mm H, Glass Area: ø30mm				
14032-20	50 x 7mm	30mm	Blister Pack	pkg/20
14032-120	50 x 7mm	30mm	Blister Pack	case/120
14033-20	50 x 7mm	30mm	Sleeve/20	each
14033-200	50 x 7mm	30mm	Sleeve/20	case/10 Sl
Dish Size: 50mm OD x 7mm H, Glass Area: ø40mm				
14035-20	50 x 7mm	40mm	Blister Pack	pkg/20
14035-120	50 x 7mm	40mm	Blister Pack	case/120
14036-20	50 x 7mm	40mm	Sleeve/20	each
14036-200	50 x 7mm	40mm	Sleeve/20	case/10 Sl

Light Sensitive Handling and Storage of Slides

Handy Mini Slide Box

Holds 25 3 x 1"slides, numbered index in lid, stackable. Protects Light Sensitive Specimens.

Outer dimensions: 9.5 x 8.25 x 3cm (3.7 x 3.25 x 1.18")

2108-6 Handy Mini Slide Box, black . . . . . .each

Immunostain Moisture Chamber

This is a low-cost, high precision moisture chamber for ten slides. Every moisture chamber is divided into ten individual compartments with approximately 12.7mm (½") empty space between the compartments. When the chamber lid is closed, eight barrier dividers are placed into the empty spaces between the microscope slide compartments completely isolating all compartments. This is a very desirable feature when doing immunostaining.

The microscope slides are placed on four pedestal posts and four corner posts each 11.5mm (0.460") high, thus raising the surface of the slides approximately 12.7mm (½") off the floor to keep the slides away from the water below and making the slides easily retrievable (either by hand or by forceps).

The chamber is fabricated out of heavy-duty polystyrene with an air-tight design to keep moisture in. The chamber is designed to be stackable in order to save counter and/or refrigerator space

21049-B Moisture Chamber, black . . . . . .each

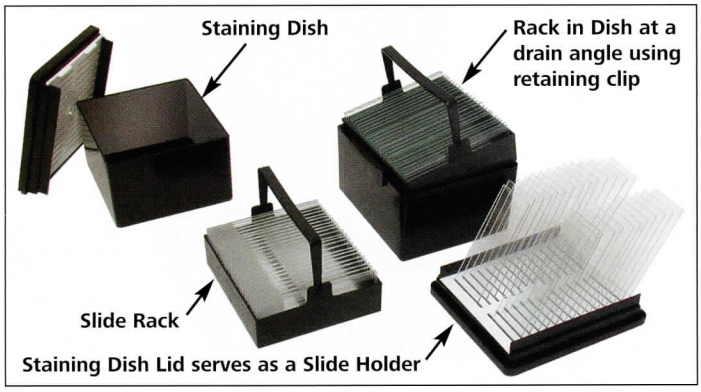
Handy Slide Box, Hinged, Black

Holds 100 3 x 1" slides and has a numbered index in bottom and lid. Protects light sensitive specimens. Stackable. Outer dimensions: 21 x 17 x 3cm (8.3" x 6.7" x 1.18").

2102-6 Handy Slide Box, black . . . . . .each

Slide Staining and Storage System

stain, file and store



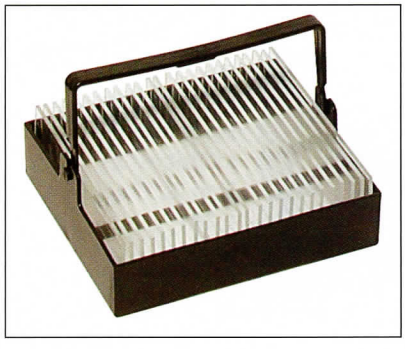
Universal slide rack and container for autoradiography gel staining and staining techniques. Molded of black polyoxymethylene-poly-acetal plastic which has great advantages over glass in all cytological and histological laboratories.

Slide Staining Dish

The Staining Dish has a light-tight lid, essential to easily evaporated baths and a compartment for a drying agent. The dish accommodates one slide rack, Product No. 21078, not included. The perforated slide partition which supports the drying agent has index numbers and a writing surface. A removable clip is placed on the top edge of the dish, permitting the stain solution to drain back into the reservoir from the tilted rack. The actual capacity of the small dish is 250ml but only 150ml is needed, which provides a saving on staining liquids, developing fluids and intermediates. Made from black polyoxymethylene-poly-acetal plastic the dish is easy to clean and especially suited to store enzymes. The cover will not jam in freezer storage. Maximum use temperature is 85° C (185° F). Dimensions: 94 x 81 x 49mm high (3.7" x 3.2" x 1.9").

21078-1 Staining Dish with Lid for Slide Rack 21078 . . . . . .each

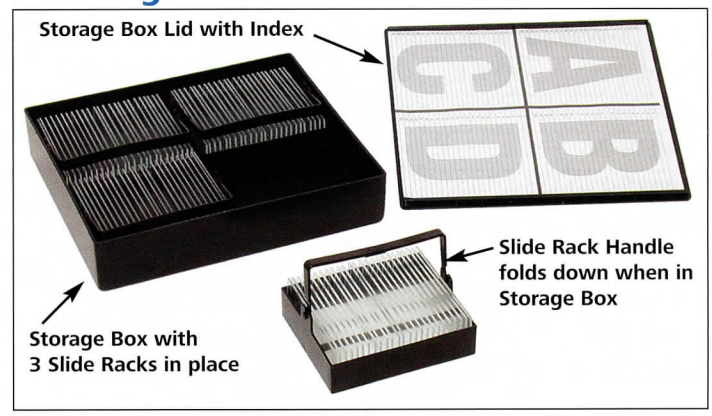
Slide Rack



The Slide Rack has an open bottom for rapid draining. It holds 25 x 15mm (3 x 1") slides in slots numbered 1-25. The handle folds flat on either side. Four of these racks fit into the Slide Storage Box (see below). Maximum temperature is 85°C (185°F).

21078 Slide Rack, holds 25 . . . . . .each

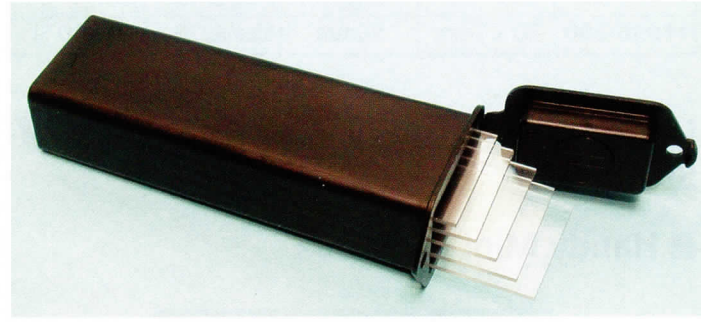
Storage Box



A black polystyrene storage box (not for staining) holds 4 Slide Racks (Prod. No. 21078), not included. Provides convenient, indexed storage for the slide racks. There is a paper index for each of the 4 racks and also a paper index inside the cover that marks each section numerically 1 to 25. The box measures 19 x 17 x 3.7cm high (7-½" x 6-⅝" x 1-½").

21078-2 Storage Box for 4 Slide Racks (slide racks not included) . . . . . .each

Microscope Slide Mailer



Disposable staining container is also useful for shipping, storing and handling of slides. Black (for light sensitive specimens).

Polypropylene container holds 5 single 3 x 1" slides in place so they will not touch. Positive lock and flip-top.

22519 Microscope Slide Mailer, black . . . . . .each

■ Black Desiccator Cabinets

from 12" x 12" to 24" x 18" x 24"

Designed to protect specimens from light in fluorescence applications. A well-constructed desiccator cabinet made from black acrylic. Also suited for forensic specimen storage or anytime where confidentiality is important.

12" x 12" (W x D)

22200-BLK Black Desiccator Cabinet, 12" x 12" x 12" with 2 perforated black shelves . . . . . .each

22204-BLK Black Desiccator Cabinet, 12" x 12" x 24" with 4 perforated black shelves . . . . . .each

22200-4 Black Acrylic Perforated Shelf 12" x 12" x ¼" . . . . . .each

22200-5 Stainless Steel Perforated Shelf 12" x 12" . . . . . .each

18" x 18" (W x D)

22206-BLK Black Desiccator Cabinet, 18" x 18" x 18" with 2 chambers and 4 perforated black shelves . . . . . .each

22206-4 Black Acrylic Perforated Shelf 18" x 18" x ¼" . . . . . .each

22206-5 Stainless Steel Perforated Shelf 18" x 18" . . . . . .each

24" x 18" (W x D)

22207-BLK Black Desiccator Cabinet, 24" x 18" x 24" with 2 chambers and 4 perforated black shelves . . . . . .each

22207-4 Black Acrylic Perforated Shelf 24" x 18" x ¼" . . . . . .each

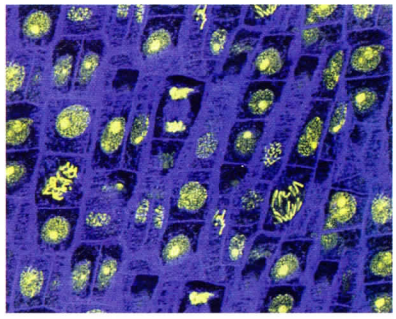
22207-5 Stainless Steel Perforated Shelf 24" x 18" . . . . . .each

■ PELCO BioWave® Pro - The Most Versatile Microwave for the Neurosciences

The proven capabilities of the PELCO BioWave® Pro that make it the best choice for immunostaining.

1. Precise sample temperature control
2. Full continuous wattage control capabilities
3. Preprogrammed lab tested protocols
4. Excellent results combined with significantly reduced turnaround times
5. Unmatched versatility

The functionality of the PELCO BioWave® Pro makes it your first choice in microwave technology for *in vivo* labeling.



Allium root tip meristem labeled with Syto 13 (Molecular Probes-Invitrogen) a vital nucleic acid stain. Samples were stained in 10µm Syto 13 for 6 min total microwave exposure at 250W of continuous power. Optical sections of groups of cells were collected by laser-scanning confocal microscopy using 488nm and 647nm wavelengths.

Source: Mark Sanders, Director, Imaging Center, Univ. of Minnesota, St. Paul, MN.

The publication by Munoz et al. (2004) in the Journal of Neuroscience Methods (137:133-139) describes the benefits of microwave-assisted immunostaining as:

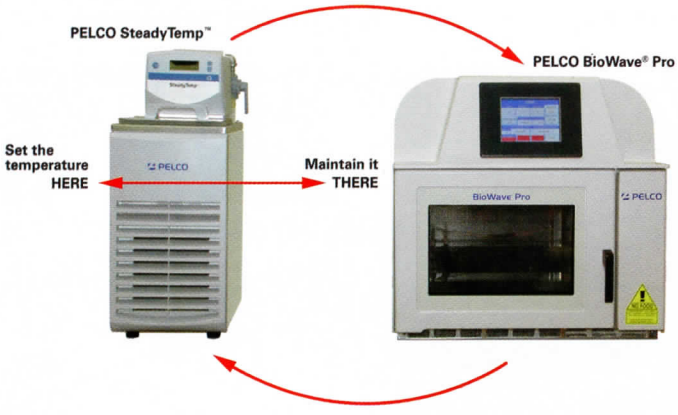
- Fast
- Consistent

The features of the PELCO® BioWave® Pro make immunostaining an efficient and error-free process for confocal, routine fluorescence or DAB.

The images on the next page are recent work with free-floating brain sections and neural tissue cultures. Multiple labeling protocols are quick and clean (reduced background) when compared to conventional techniques.

Continued on next page

PELCO BioWave® Pro *continued*

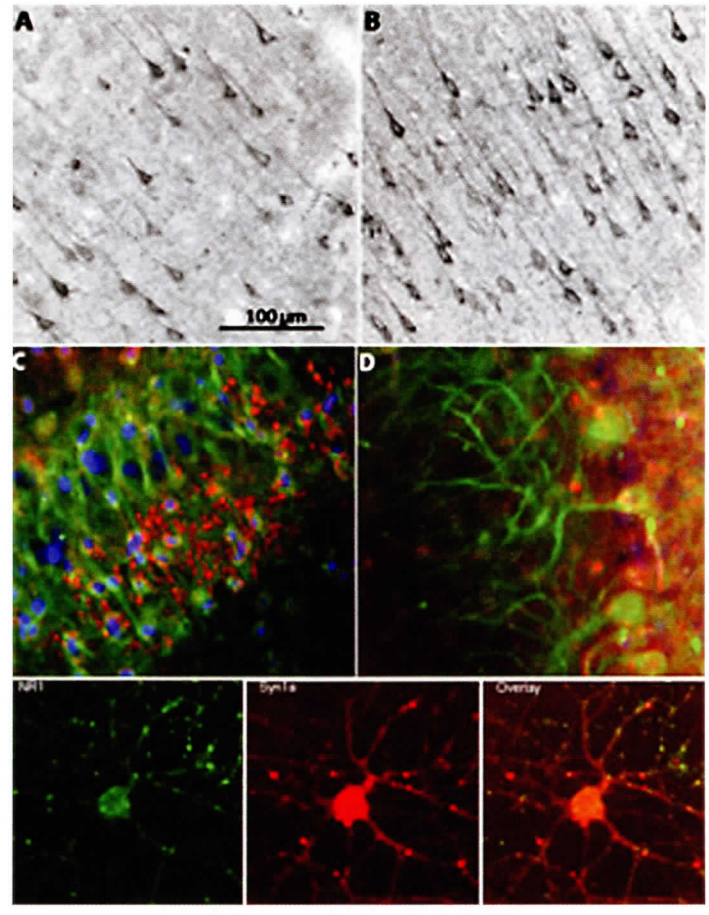


Microwave Immunolabeling Protocol:

Start at the step that is appropriate for the labeling protocol being used.

No.	Step	Microwave Settings Wattage/Temp Restriction	Time
1.	Coplin Jar - 50ml xylene - deparaffinization	250 W	4 min.
2.	Coplin Jar - 50ml 95% ethanol - rehydrate	250 W	4 min.
3.	Coplin Jar - Wash in tap water - rehydrate		
4.	Antigen Retrieval (if required)	No specific method is Recommended	
5.	Transfer Slides to Coverplate System[1] Tissues to wellplates or petri dish		
6.	Block Endogenous Peroxidase - 3 drops (~100ul) Enzyme based chromogens	150-250 W	1 min.
7.	Buffer Rinse - ~1ml (1 to 3 x 1 min.)	150-250 W	1 min.
8.	Blocking Step - 3 drops to ~1 ml Use Triton X or protease for thick sections (>6µm)	150-250 W	3 min.[2]
9.	Primary Antibody - 3 drops (~100µl) Vacuum + increase time for thick tissues (>20µm)	150-250 W 15-20" Hg	6 min.[3] 12 min.[4]
10.	Buffer Rinse -~1ml (1 to 3 x 1 min.)	150-250 W	1 min.
11.	Secondary Antibody - 3 drops (~100µl) Vacuum + increased time for thick tissues (>20µm)	150-250 W 15-20" Hg	6 min.[3] 12 min.[4]
12.	Buffer Rinse - ~1ml (1 to 3 x 1 min.)	150-250 W	1 min.
13.	Tertiary Attachment - 3 drops (~100µl) Vacuum + increased time for thick tissues (>20µm)	150-250 W 15-20" Hg	6 min.[3] 12 min.[4]
14.	Buffer Rinse - ~1ml (1 to 3 x 1 min.)	150-250 W	1 min.
15.	Chromagen - 100-500µl	150-250 W	1-6 min.
16.	Rinse in D.I. water - ~1ml (1 to 3 x 1 min.)	150-250 W	1 min.
17.	Counter Stain - 100-500µl	150-250 W	4 min.
18.	Rinse in D.I. water - ~1ml (1 to 3 x 1 min.)	150-250 W	1 min.
19.	**Remove Slides from Coverplate System**		
20.	Mount Coverslip and View		

[1]The Coverplate System is described on page: 457; [2]3 min. corresponds to a preprogrammed time sequence:
(1 min. on - 1 min. off -1 min. on)
[3]6 min. corresponds to a preprogrammed time sequence:
(2 min. on - 2 min. off - 2 min. on)
[4]12 min. corresponds to a preprogrammed time sequence:
(4 min. on - 4 min. off - 4 min. on)



A and B are stained with DAB for glutamate receptor subunit 2,3. The staining in excitatory cortical neurons is shown in Panel A using conventional staining protocol and in Panel B using the PELCO BioWave® Pro microwave.

C and D show fluorescent double labels achieved in approximately 3-4 hours using the same microwave.

Bottom Row: *Hippocampal neuron cell culture; Microwave immunofluorescence; Doublelabel;* Left, arrows showing NMDA R1 (NR1-FITC-green) immunoreactive (IR) punctuate distribution on neuronal processes. Middle, synapsin 1a (Syn 1a-TxRed-red), IR clusters (arrows) on same neuron. Right, overlay images of NR1 and Syn1a shows co-localized IR (yellow puncta) indicating nascent synapse formation.

Source: A. Ferris, Department of Biology, CSU, Chico.

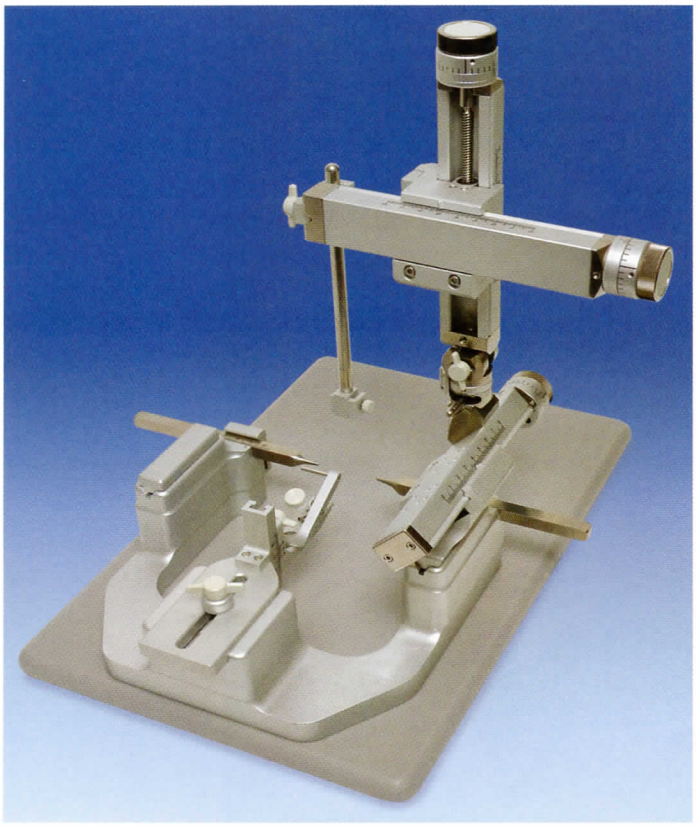
PELCO BioWave® Pro and Application Kits

- EM Tissue Processing
- Immunolabeling
- Formaldehyde Fixation and EDTA Decalcification
- Paraffin Tissue Processing
- Confocal Microscopy and *In Situ* Hybridization

36500 PELCO BioWave® Pro Standard System . . .each
36500-10 EM Tissue Processing Application Kit . . . .each
36500-20 Immuno Staining Kit . . . . . .each
36500-30 Formaldehyde Fixation and EDTA Decalcification Application Kit . . . . . .each
36500-40 Paraffin Tissue Processing Application Kit .each
36500-50 Confocal Microscopy and *In Situ* Hybridization Application Kit . . . .each

■ SAS-4100 Stereotaxic Systems

advanced, versatile features in a quality, value-priced system



This stereotaxic instrument has been developed with high standards of quality and with advanced features that provide superior performance and value over any competitive equipment in its feature class.

Features of the SAS-4100

- Calibrated knobs on all axes
- Advanced slide technology for higher accuracy, yielding no drift and producing a superior feel
- Innovative tilt-a-swivel mechanism
- Open "C" frame design

The SAS-4100 gives you a flexible, stable stereotaxic surgery platform for all small size animals.

Using this enhanced system you may position electrodes, probes, cannulas, and other research devices so precisely within the research animal that you are assured of obtaining more reliable data and repeatable results – at an affordable price.

The SAS-4100 was designed with the researcher's everyday needs in mind. The heart of each unit is the MM-4100 stereotaxic micromanipulator, which employs advanced slide technology to give the researcher the most rigid, accurate and easy-to-use micromanipulator with an economical price.

Calibrated knobs on all axes are easier to read and more accurate than the traditional vernier scales commonly found on other designs.

The unique DuPont™ Corian® base replaces the aluminum base of competitors. DuPont™ Corian® provides two advantages: first, it is a non-porous surface which is harder to stain, easier to clean and less likely to harbor bacteria than aluminum; and second, it has better thermal qualities than aluminum and therefore will not draw heat from your research animal. This reduces the number of potentially adverse variables in your research.

The open "C" frame design gives the researcher greater access to the research animal. It is mounted directly to the base providing a more stable platform than other raised frame designs.

The MM-4100 utilizes the innovative tilt-and-swivel mechanism with 90° of tilt and 360° of swivel, all controlled with a single-lever locking mechanism. This is by far the easiest-to-use universal joint available. This intelligent designed locking mechanism locks in place better than competing designs.

Adapters for 6mm ear bars and specialty head holders from other manufacturers are also available. This means that the SAS-4100 is compatible with other stereotaxic instruments in your laboratory.

The SAS-4100 comes with one MM-4100 stereotaxic micromanipulator. Also available is the SAS-4120 which comes with two MM-4100 stereotaxic micromanipulators.

The SAS-4100 Stereotaxic System precision-ground base features:

- A base size for 10" x `5" x 5"
- DuPont™ Corian® construction
- An open "C" frame design
- Ear bars 9mm square x 14cm long
- Ear bar height of 50mm
- A rodent adapter with AP and DV travel
- 30mm calibration and 1mm readability

The MM-4100 Micromanipulator has:

- 80mm of travel on all axis: anterior/posterior (AP), lateral/medial (LM), and dorsal/ventral (DV)
- Calibrated knobs with 100 microns readability and engraved scales on all three axes
- 3mm per revolution lead screws for all slides

The MM-4100 Micromanipulator's innovative tilt-and-swivel mechanism:

- Rotates 360°, calibrated +/- 45° with a readability of 5° (AP and LM) (tower has to be indexed for LM tilt)
- Tilts +/-90°, calibrated +/-90° with a readability of 5°
- Has zero points stops at 0° swivel and 0° tilt, removable at the option of the user
- Has an AP slide with three mounting points for the DV tower giving an additional 80mm of flexibility in the AP plane.

■ SAS-4100 Stereotaxic Systems

continued

Ordering Information

SAS-4100R Stereotaxic System (rat/1) complete with: Durable DuPont™ Corian® Base; U-frame Design; one MM-4100 Three Axis Micromanipulator (choice of right and left-handed); one EH-100 Standard Electrode Holder; one RA-100 Rat Adapter; and EB-918 Ear Bars with standard 18° tips. . . . . .each

SAS-4100M Stereotaxic System (mouse/1) complete with: Durable DuPont™ Corian® Base; U-frame Design; one MM-4100 Three Axis Micromanipulators (choice of right or left handed); one EH-100 Standard Electrode Holder; one RA-200 Mouse Adapter; and EB-945 Ear Bars with standard 45° tips. . . . . .each

SAS-4120R Stereotaxic System (rat/2) complete with: Durable DuPont™ Corian® base; U-frame Design; two MM-4100 Three Axis Micromanipulators; two EH-100 Standard Electrode Holders; one RA-100 Rat Adapter; and EB-918 Ear Bars, with standard 18° tips. . . . . .each

SAS-4120M Stereotaxic System (mouse/2) complete with: Durable DuPont™ Corian® Base; U-frame Design; two MM-4100 Three Axis Micromanipulators; two EH-100 Standard Electrode Holders; one RA-200 Mouse Adapter; and EB-945 Ear Bars with standard 45° tips. . . . . .each

Individual Accessories:

MM-4100R Micromanipulator, Right hand . . . . . .each
MM-4100H Micromanipulator, Left hand . . . . . .each
EH-100 Standard Electrode Holder . . . . . .each
RA-100 Rat Adapter . . . . . .each
EB-918 Ear Bars, Rat . . . . . .each
RA-200 Mouse Adapter . . . . . .each
EB-945 Ear Bars, Mouse . . . . . .each