

# Sunlight Medical

## Assisted Reproduction **Microtools**



[www.sunlightmedical.net](http://www.sunlightmedical.net)

Sunlight Medical Inc (SLM) manufactures and supplies a complete line of micropipettes for in vitro fertilization (IVF) procedures such as intracytoplasmic sperm injection (ICSI), embryo biopsy, assisted hatching, and other related procedures. We offer **consistency, precision, reliability, convenience, and value.**

### Quality Assurance

SLM micropipettes are designed and manufactured under the direct supervision of scientists who are experts in the field of assisted reproduction technology (ART) and micromanipulation. Each micropipette is hand-crafted by highly trained technicians in a controlled environment and is individually examined for quality assurance.

SLM micropipettes are **traceable** to the materials, procedures, and production and QA personnel in preparing each individual pipette for **quality assurance**. This extra step puts pressure on everyone of us for consistent high quality products, but gives you relaxation and confidence for **precision manipulations and desired outcomes.**

### Packaging

SLM pipettes are packed in our convenient **color coded** pipette safe cases. The case is designed with a **green** concept by using minimal materials for conservation and minimizing weight and size of the total package in the effort to reduce energy used for transportation. The outer box, including all labels, is made of paper for easy recycling.

*“High quality”*

*“Well made”*

*“Flexibility of the pipette tip is excellent (doesn’t break easily like other brands)”*

*“Needle to needle consistency”*

*“Inspires confidence in those that use them”*

*“Conforms to desired specification”*

We like the shape of the needle, it is very thin and sharp but maintains rigidity. The needles are consistent with very little variation. The packaging is easy to use and so we have no breakages when getting them out. The price is very competitive. Most importantly we have seen an improvement in fertilization rate and a decrease in damage rate.

— An anonymous embryologist from U.K.



## Select an ICSI pipette that is best for your need!

Sunlight Medical offers three types of spiked ICSI injection pipettes for our diversified customers. The table below summarizes their differences, characteristics and advantages.

V type



### Characteristics:

- Short taper
- Long parallel wall section
- Tip to elbow length (0.55 mm or 1.00mm)

### Advantages:

- Smooth control of sperm injection and cytoplasm suction,
- Less cytoplasm draws back when breaking oocyte membrane,
- Less damage to oocyte,
- Better fertilization and embryo development.
- Multiple sperm can be loaded and injected.

### Disadvantages:

- May not be easy in immobilizing sperm for some embryologists who need press down very hard on sperm tail.

H type



### Characteristics:

- Longer taper
- Short parallel wall
- Longer tip to elbow length (0.75 mm)

### Advantages:

- Multiple sperm can be loaded and injected.
- Smooth control of sperm injection.
- Less damage to oocyte,
- Better fertilization and embryo development.

### Disadvantages:

- Sperm may turn around when loading and injecting multiple sperm.

W type



### Characteristics:

- Short taper
- No parallel wall
- Standard tip to elbow length (0.55 mm)

### Advantages:

- Strong and Less flexible tip, so easy in immobilizing sperm

### Disadvantages:

- May suck lots of cytoplasm, especially for people who are not familiar with this type of pipette.
- Sperm may turn around when loading and injecting multiple sperm.

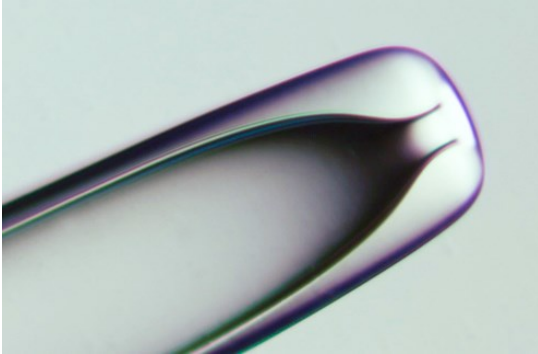
## ICSI Injection Pipettes

- SLM ICSI Injection Pipettes are used to perform intracytoplasmic sperm injection (ICSI).
- SLM offers three types of spiked and two types of non-spiked ICSI Injection Pipettes. See page 3 for details.
- All our injection pipettes are supplied with an angle of  $0^{\circ}$  -  $45^{\circ}$  and a tip to elbow length of 0.55 mm and 1.0 mm.
- The flat tip ICSI pipette is for Piezo injection
- Other specifications and customized pipettes are available on request.



Catalogue Number	Size	Tip Style	Tip to Elbow Length	Tip Angle degree
SIC-45V-xx, SIC-45V-xxL SIC-45W-xx, SIC-45W-xxL SIC-45H-xx	ID: 4.0-4.5 $\mu\text{m}$ OD: 5-6 $\mu\text{m}$	Spiked tip	xx – 0.55 mm xxL – 1.0 mm	xx – $0^{\circ}$ , $5^{\circ}$ , $10^{\circ}$ , $15^{\circ}$ , $20^{\circ}$ , $25^{\circ}$ , $30^{\circ}$ , $35^{\circ}$ , $40^{\circ}$ , $45^{\circ}$
SIC-45T-xx, SIC-45T-xxL SIC-45N-xx, SIC-45N-xxL	ID: 4.0-4.5 $\mu\text{m}$ OD: 5-6 $\mu\text{m}$	Non spiked tip	xx – 0.55 mm xxL – 1.0 mm	
SIC-50V-xx, SIC-50V-xxL SIC-50W-xx, SIC-50W-xxL SIC-50H-xx	ID: 4.5-5.0 $\mu\text{m}$ OD: 6-7 $\mu\text{m}$	Spiked tip	xx – 0.55 mm xxL – 1.0 mm	
SIC-55V-xx, SIC-55V-xxL SIC-55W-xx, SIC-55W-xxL SIC-55H-xx	ID: 5.0-5.5 $\mu\text{m}$ OD: 6-7 $\mu\text{m}$	Spiked tip	xx – 0.55 mm xxL – 1.0 mm	
SIC-50F-xxR	ID: 4.5-5.0 $\mu\text{m}$ OD: 6-7 $\mu\text{m}$	Flat tip	xxR – 2.0 mm	

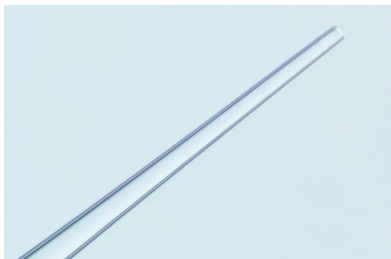
## Holding Pipettes



- SLM Holding Pipettes are used to hold an oocyte or embryo in position during ICSI and other micromanipulation procedures.
- There are three series and six sizes for selection. The classic series has an ID 15-20  $\mu\text{m}$  and OD in 90  $\mu\text{m}$ , 100  $\mu\text{m}$ , 120  $\mu\text{m}$ , 130  $\mu\text{m}$  and 150  $\mu\text{m}$ . The 'S' series has smaller ID (10-15  $\mu\text{m}$ ). The 'B' series has an ID 25-30  $\mu\text{m}$  and OD in 120  $\mu\text{m}$ , 130  $\mu\text{m}$ , 150 and 180  $\mu\text{m}$ . The 'B' series may be used for holding an oocyte with cumulus cells attached and for embryo biopsy.
- All our holding pipettes are supplied with a tip angle of  $0^{\circ}$  -  $45^{\circ}$  and a tip to elbow length of 0.65 mm.
- Packed in a box of 10.

Catalogue Number	Outer Diameter $\mu\text{m}$	Inner Diameter $\mu\text{m}$	Tip Angle degree
SHP-70S-xx	70	10-15	xx – $0^{\circ}$ , $5^{\circ}$ , $10^{\circ}$ , $15^{\circ}$ , $20^{\circ}$ , $25^{\circ}$ , $30^{\circ}$ , $35^{\circ}$ , $40^{\circ}$ , $45^{\circ}$
SHP-90-xx	90	15-20	
SHP-100-xx	100	15-20	
SHP-120-xx	120	15-20	
SHP-120B-xx	120	25-30	
SHP-130-xx	130	15-20	
SHP-130B-xx	130	25-30	
SHP-150-xx	150	15-20	
SHP-150B-xx	150	25-30	
SHP-180B-xx	180	25-30	

## Zona Drilling Pipettes



- SLM Zona Drilling Pipettes are used to apply acidic solution for creating a hole on the zona pellucida to enable assisted hatching and/or embryo biopsy.
- There are two sizes available for selection: ID 8 -10  $\mu\text{m}$  and ID 10-12  $\mu\text{m}$ . These pipettes are designed with a slightly fire-polished tip.
- They are supplied with  $0^{\circ}$  -  $45^{\circ}$  tip angle and a tip to elbow length of 0.55 mm.

Catalogue Number	Inner Diameter $\mu\text{m}$	Tip Style	Tip Angle degree
SZD-10-xx	8-10	Flat	xx – $0^{\circ}$ , $5^{\circ}$ , $10^{\circ}$ , $15^{\circ}$ , $20^{\circ}$ , $25^{\circ}$ , $30^{\circ}$ ,
SZD-12-xx	10-12	Flat	$35^{\circ}$ , $40^{\circ}$ , $45^{\circ}$

## Polar Body Biopsy Pipettes

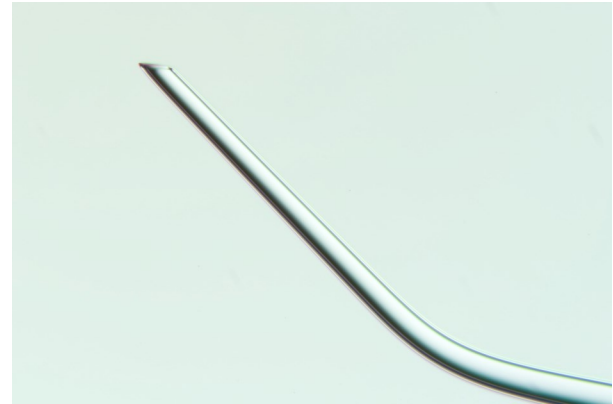


- SLM Polar Body Biopsy Pipettes are used to remove polar bodies from human oocytes and embryos for pre-implantation genetic diagnosis (PGD).
- There are three series of pipettes available for selection: 15Z (flat tip), 15X (beveled tip) and 15S (spiked tip).
- All these pipettes are designed with a fire polished edge to avoid damage to the cell membrane.
- They are supplied with a tip angle of  $0^{\circ}$  -  $45^{\circ}$  and a tip to elbow length of 0.55 mm.

Catalogue Number	Inner Diameter $\mu\text{m}$	Tip Style	Tip Angle degree
SPB-15Z-xx	13-15	Flat	xx – $0^{\circ}$ , $5^{\circ}$ , $10^{\circ}$ , $15^{\circ}$ , $20^{\circ}$ ,
SPB-15X-xx	13-15	Beveled	$25^{\circ}$ , $30^{\circ}$ , $35^{\circ}$ , $40^{\circ}$ ,
SPB-15S-xx	13-15	Beveled and Spiked	$45^{\circ}$

## Blastomere Biopsy Pipettes

- SLM Blastomere Biopsy Pipettes are used to remove blastomeres and trophectoderm cells from embryos for pre-implantation genetic diagnosis (PGD).
- There are five sizes and two series available for selection. The 'Z' series is flat tip while the 'X' series is beveled tip. Both styles are supplied with an ID in 20  $\mu\text{m}$ , 25  $\mu\text{m}$ , 30  $\mu\text{m}$ , 35  $\mu\text{m}$ , and 40  $\mu\text{m}$ . Size 20  $\mu\text{m}$  and 25  $\mu\text{m}$  are recommended for trophectoderm (TE) biopsy.
- There is no shrinkage at the bending section, so less likely to damage blastomere in case it is sucked through.
- All tips are fire polished to reduce damage to the cell membrane.
- They are supplied with a tip angle of  $0^\circ$  -  $45^\circ$  and a tip to elbow length of 0.55 mm.



For trophectoderm (TE) biopsy use  
ID 20  $\mu\text{m}$  and 25  $\mu\text{m}$  pipettes.

Catalogue Number	Tip Style	Inner Diameter $\mu\text{m}$	Tip Angle degree
SBB-20Z-xx	Flat	20 $\pm$ 0.2	xx – $0^\circ$ , $5^\circ$ , $10^\circ$ , $15^\circ$ , $20^\circ$ , $25^\circ$ , $30^\circ$ , $35^\circ$ , $40^\circ$ , $45^\circ$
SBB-25Z-xx	Flat	25 $\pm$ 0.2	
SBB-30Z-xx	Flat	30 $\pm$ 0.2	
SBB-35Z-xx	Flat	35 $\pm$ 0.2	
SBB-40Z-xx	Flat	40 $\pm$ 0.2	
SBB-20X-xx	Beveled	20 $\pm$ 0.2	xx – $0^\circ$ , $5^\circ$ , $10^\circ$ , $15^\circ$ , $20^\circ$ , $25^\circ$ , $30^\circ$ , $35^\circ$ , $40^\circ$ , $45^\circ$
SBB-25X-xx	Beveled	25 $\pm$ 0.2	
SBB-30X-xx	Beveled	30 $\pm$ 0.2	
SBB-35X-xx	Beveled	35 $\pm$ 0.2	
SBB-40X-xx	Beveled	40 $\pm$ 0.2	

## PZD Pipettes



- SLM PZD Pipettes are used to cut an opening on the zona pellucida of an oocyte mechanically to enable assisted hatching and/or embryo biopsy.
- The pipette is designed with a very sharp tip and a strong taper section for easy sharp tip and precision manipulation.
- They are supplied with a  $0^{\circ}$  -  $45^{\circ}$  tip angle and a tip to elbow length 0.55 mm.

Catalogue Number	Description	Tip Angle degree
SPD-30	Solid Sharp Tip	30

### Instructions for Use:

- To open the case, hold the case as shown in Figure 1. Make sure that the “Sunlight” mark is up facing your right hand.
- Using your left index finger and thumb press the case on both sides marked “IIII” then using your right index finger and thumb pull the top cover as shown in Figure 2.



Figure 1



Figure 2

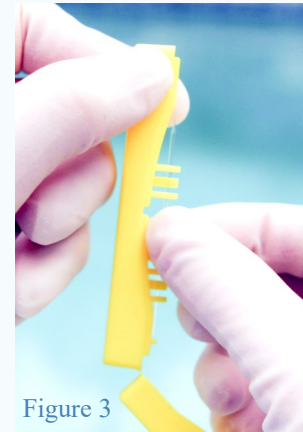


Figure 3

- Hold firmly the pipette in the middle and gently pull it out from the base as shown in Figure 3.

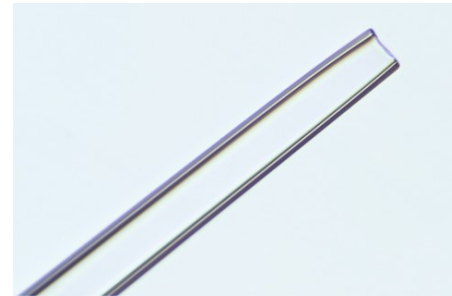


Caution: Consult accompanying document • Do not reuse • Sterilized using irradiation • Do not use if package is damaged • Store dry at room temperature • Keep away from Sunray



- SLM Denuding pipettes can be used with SLM 3-in-One Pipette Controller and other pipette holders for denudation, and gametes and embryo transfer.
- The pipettes are made of borosilicate glass which is known for its stability, and is resistant to corrosion and remains absolutely neutral, even to aggressive chemicals in nearly all fields of chemistry.
- The glass pipette has better wetting feature comparing to plastic one, and is less likely to have oil drops attached inside which can sometimes damage an oocyte and embryo.
- Unpolished pipettes are used to remove cumulus cells attached to zona prior to micromanipulation procedures and fertilization assessment.

## Denuding Pipettes



- Polished pipettes are used to transfer blastomere (during PGS), oocytes and embryos from one dish to another during other assisted reproduction procedures.

Catalogue Number	Inner Diameter $\mu\text{m}$	Tip Style	Catalogue Number	Inner Diameter $\mu\text{m}$	Tip Style
SDP-130	130-134	Unpolished	SDP-70P	65-74	Polished
SDP-140	135-144	Unpolished	SDP-80P	75-84	Polished
SDP-150	145-154	Unpolished	SDP-90P	85-99	Polished
SDP-160	155-164	Unpolished	SDP-100P	100-119	Polished
SDP-170	165-174	Unpolished	SDP-170P	170-189	Polished
			SDP-190P	190-219	Polished
			SDP-220P	220-249	Polished
			SDP-250P	250-289	Polished
			SDP-290P	290-319	Polished
			SDP-320P	320-360	Polished

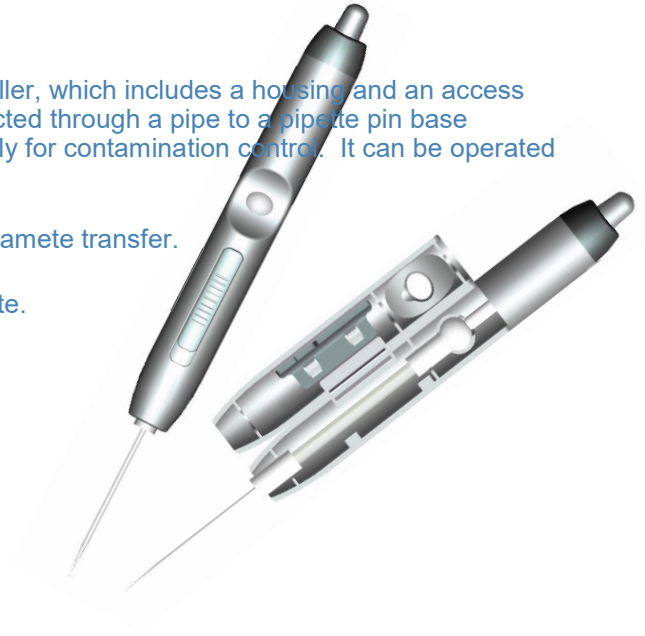
## Pipette Controllers

**SLM 3-in-One Pipettor** is a multi-actuated micro-pipette controller, which includes a housing and an access door, a ballonet seated at the housing. The ballonet is connected through a pipe to a pipette pin base (ballonet assembly). The ballonet assembly can be replaced easily for contamination control. It can be operated in three ways:

- Pressing on the top cap for denudation of cumulus cells and gamete transfer.
- Press on the ballonet directly for denudation and transfer.
- Take the ballonet assembly out and use it like a Pasteur pipette.

**Note:** This product is for use in research only.

**Sunlight Medical**  
*3 in One* PIPETTOR  
U.S. Patent approved



## Sperm Swimming Trapper

The sperm swimming trapper may be used for natural selection of sperm with high DNA integrity by avoiding centrifugation. It is simple and easy to use.

**Note:** This product is for use in research only.



Catalogue Number	Description	Package Size
RBC-2012	Sperm Swimming Trapper	Each
RBC-2012R	Sperm Swimming Rack	Each

## iVitri®-Straw

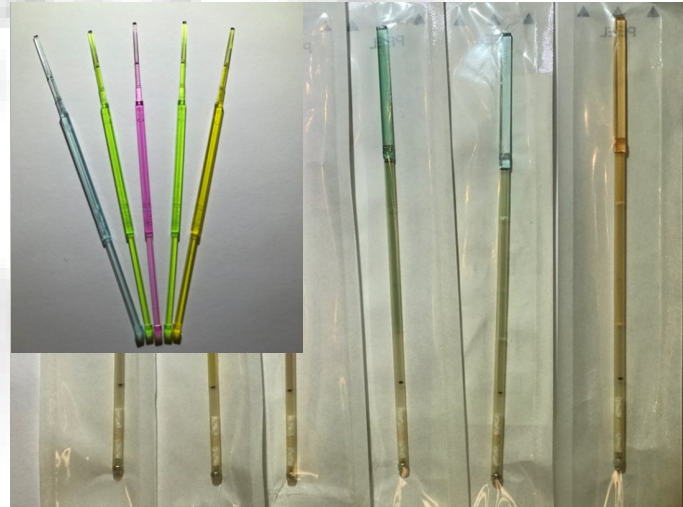
**iVitri® -Straw** is US patent and registered product (USPTO), specifically designed for vitrification, which can be used for freezing oocyte and embryos.

The device tip is made of special material and in a curved shape for keeping gametes and embryo in a defined droplet to reduce alteration of osmolarity which may seriously impact on the survive rate of oocyte and embryos after warming.

**This product is for use in research only.**

Reference:

1. Human Reproduction Vol.22. No.7 pp. 1959-1972, 2007
2. Proc Natl Acad Sci U S A 107(10): 4596-4600



## SperMagic® Medium

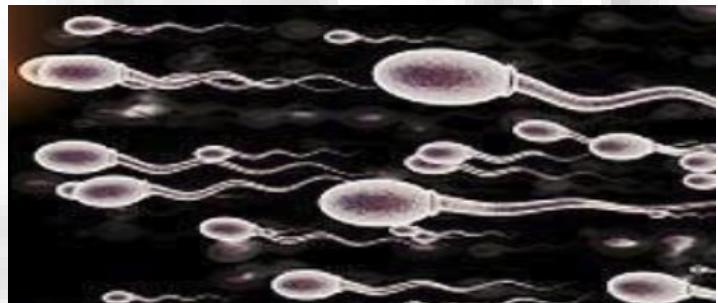
- Improving sperm function like magic.

1. SperMagic® can enhance  $\text{Ca}^{2+}$  influx via membrane  $\text{Ca}^{2+}$  channel, consequently increase dynamic movement of micro-tubules through signal transduction system, and finally promotes sperm motility.
2. SperMagic® could bind sperm membrane receptor and then stimulate receptor-linked signal transduction system, and increase  $\text{Ca}^{2+}$  influx, consequently promote sperm capacitation and hyper-activation.
3. SperMagic® can produce more ATP energy via increasing mitochondria metabolism, and further provide enough ATP for sperm movement.

**Note: This product is for use in research only.**

References:

1. Biology of Reproduction, Special Issue, P229-230, 2005
2. Theriogenology, Suppl. 2008, P36.
3. Reproduction, fertility & development, 2006; 18(1, 2):259.
4. Biology of Reproduction, 2008 SEP 15; 112(6): 182-182.



## How to order?

Please contact your local distributor when placing your order. If a distributor is not available in your region, orders can be placed by email: [slm@sunlightmedical.net](mailto:slm@sunlightmedical.net), fax: (904) 363 0958, or online at [www.sunlightmedical.net](http://www.sunlightmedical.net).

**We would be happy to send you samples for evaluation.**

Visit us at

**[www.sunlightmedical.net](http://www.sunlightmedical.net)**



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**ISO 13485**

**EC REP**

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