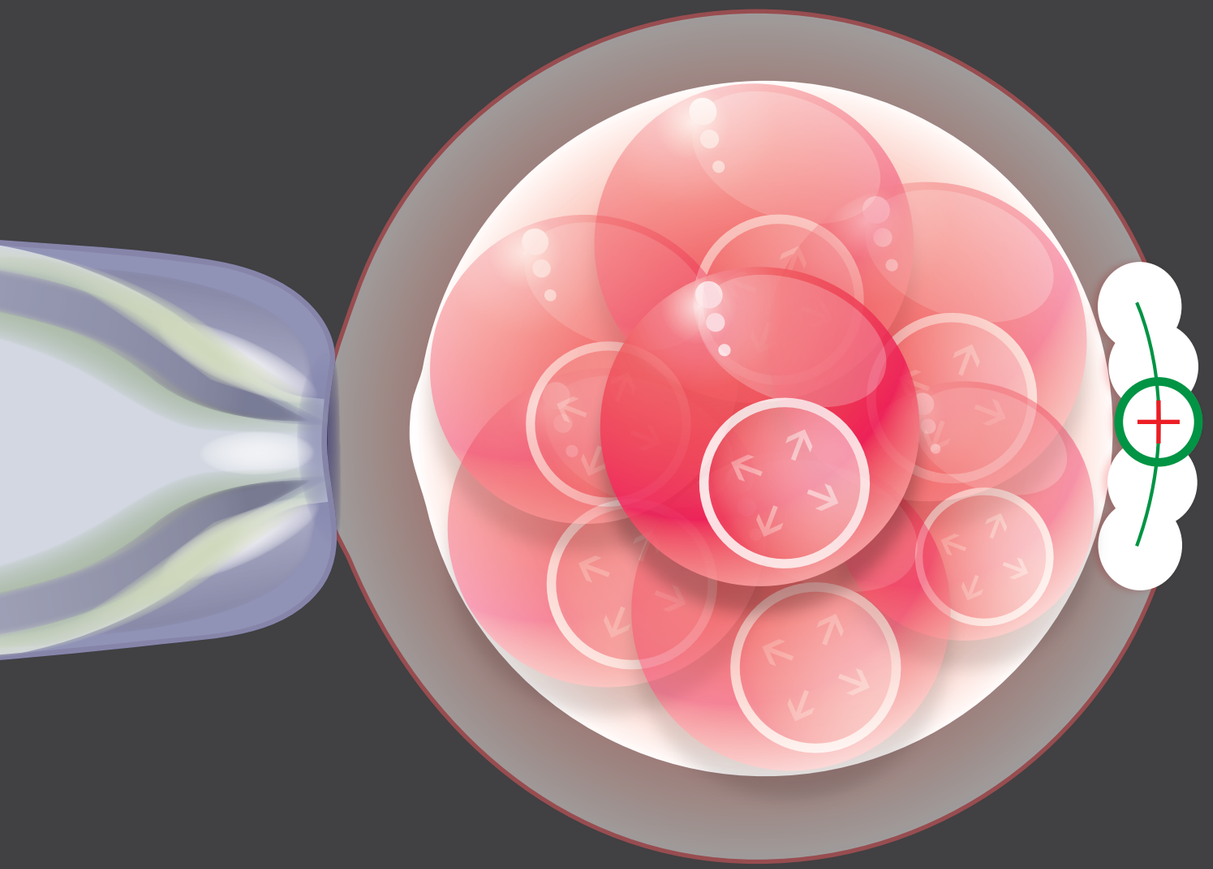
Saturn 5™

Laser Systems

www.research-instruments.com



Saturn 5™ Lasers

Fixed and Directional Laser Systems

“The moveable Saturn™ laser means I can ablate the zona exactly where I want to, without having to move the embryo”

Samantha Knight,
SPIRE London Fertility Clinic, UK

Precise

Sub-micron accuracy and unique computer controlled laser with guaranteed laser alignment

Easy to Use

Intuitive RI Viewer™ software with streamlined user interface. An optional programmable foot pedal controls software and laser functions

Safest Power

Lowest laser pulse times for minimal energy near critical cells. Exclusion Zone™ feature ensures cell safety

Curved Biopsy Mode

Biopsy Mode allows accurate laser drilling along a drawn straight or curved line

Rapid

Faster than ever directional laser increases functionality and decreases procedure times

Multi-Pulse Mode

Rapid fire options give more control over procedures

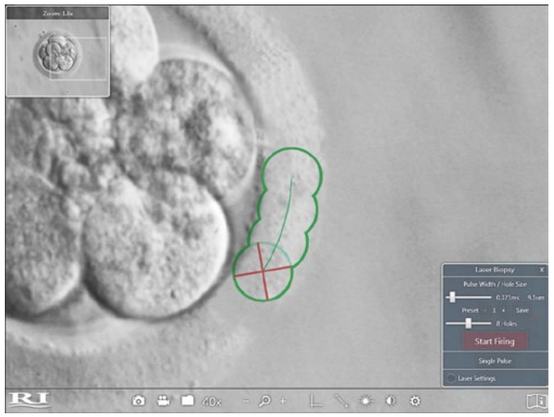
Saturn 5™ Lasers

Faster biopsies

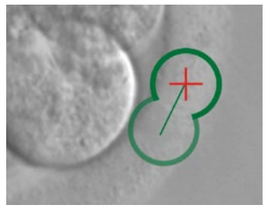
The Saturn 5™ Biopsy Mode is helping you to significantly improve biopsying methods; potentially reducing procedure time, lowering the incidence of blastocyst collapse and eliminating the need to mechanically tear off cells[1].

Using Biopsy Mode, you can draw a straight or curved line along the sample, select the number and size of holes, then simply “fire”. The laser will ablate exactly along the chosen path, meaning you no longer need to move the holding pipette at all. It is that easy.

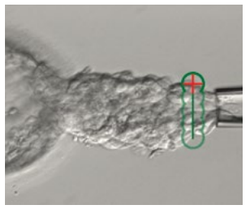
The Saturn 5™ Biopsy Mode is quickly proving to be an essential tool in the practice of biopsying across the world.



Biopsy Mode



Directional Laser Target



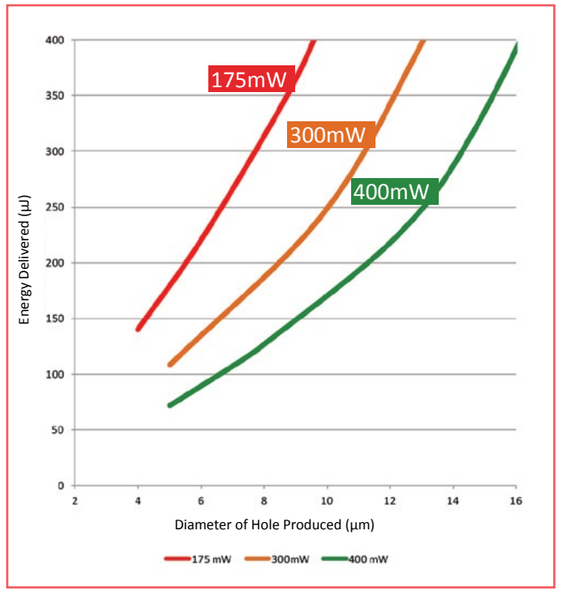
Blastocyst Biopsy

Totally committed to embryo safety

Multiple safety features reassure you that the Saturn™ laser is the safest laser on the market. To keep your embryos safe, features include the Exclusion Zone[2] which can be set according to distance or temperature.

By employing a higher laser power, the Saturn™ Laser applies less total energy to make a specified hole size, in comparison to lower power laser systems[3].

Energy delivered vs. hole diameter[3] using Saturn™ Laser



Biopsy Mode allows ablation along a drawn curved or straight line

Always spot-on

As the Saturn 5™ pilot laser travels down the same fibre optic path as the ablation laser, it guarantees consistent positioning. You can calibrate and verify hole size and firing position with sub-micron accuracy simply and quickly, leaving more time for your procedures.

As the pioneer of moveable lasers for ART, the Saturn 5 Active™ laser is spearheading a revolution in hatching and biopsy techniques in labs all over the world.

Intuitive software as standard

In addition to its intuitive use and safety assurances, the new Saturn 5™ features RI Viewer™ software. The software offers uncluttered full screen imaging from the microscope, digital magnification and a modern, clean user interface. RI Viewer™ also offers a recording function, line measurement tools which are visible on-screen and are printable, plus a built-in laser simulator for training and demonstration purposes. RI Viewer™ supports a range of languages.

Applications[4]

For **Blastocyst/Trophectoderm Biopsy**, the Saturn 5 Active™ is unparalleled in its ease of use. The directional laser allows the user to make multiple ablations across the trophectoderm cells without needing to move the blastocyst. This gives the user superb accuracy, safety and incredible speed.

[1]Lloyd S, Doshi A, Harper J, Application note. A new method of biopsying TE cells using the latest Saturn 5 Active™ Laser System, offers several potential ways to improve your procedures - Available on request.
[2]Chatzimeletiou, K., Picton, H.M & Handyside, A.H., 2001. Use of non-contact, infrared laser for zona drilling of mouse embryos: assessment of immediate effects on blastomere viability. Reproductive biomedicine online, 2(3), p.178. Available at: http://www.ncbi.nlm.nih.gov/pubmed/12537793 .

Faster Biopsies

Sub-micron Accuracy

Safest Lasers on the Market

Intuitive Software

For **Blastomere Biopsy, Polar Body Biopsy and Blastocyst Collapsing (for vitrification),** the Saturn 5 Active™ directional laser allows the embryo to stay in the desired position and focus so that ablations can be made wherever required without additional manipulation. Our Biopsy Mode also allows safe multi-pulse drilling along a predetermined line.

For **Assisted Hatching,** the directional laser means that accurate ablations can be made without the need to hold the embryo, making it very quick and accurate, with no additional consumable costs.

Using Saturn 5 Active™, you will find these procedures are almost effortless and can be performed quickly and accurately. These procedures can require difficult embryo manipulation when performed using fixed lasers. Using a Saturn 5 Active™ has clear advantages to the welfare of the embryo.

Saturn 5™ Laser Systems are Class I laser products as defined by international laser safety standards. They are CE-marked and FDA cleared[5].

[3]RI White Paper. A comparison of different power levels used by laser systems in the IVF laboratory – Available upon request.
[4]The applicability of procedures is dependent on the regulations of the country into which the device is sold.
[5]In the USA, FDA cleared for clinical use for Laser Assisted Hatching (LAH) only.

Saturn 5™ Lasers Specifications

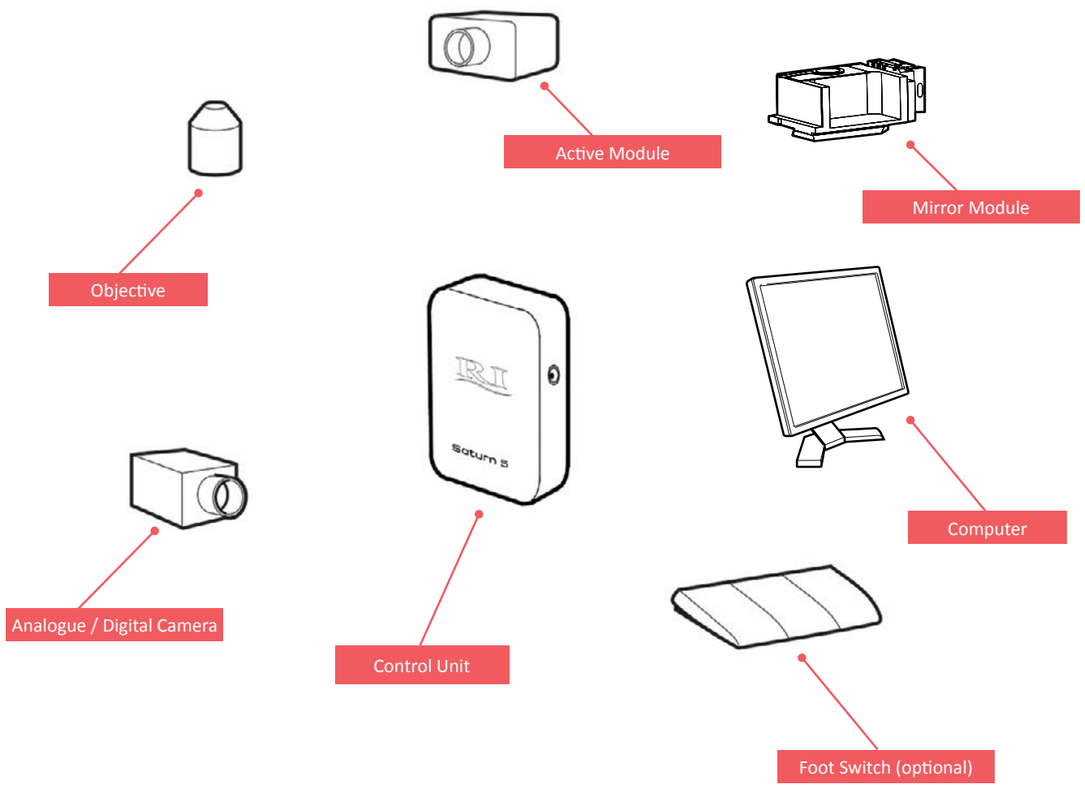
Microscope Compatibility

Nikon
TMD, Diaphot 200/300
TE200/300, TE2000, Ti

Leica
DMIRB, DMI3000B/4000B/6000B
DMIL

Olympus
IMT2, IX50/70,
IX51/71/81, IX53/73/83

Zeiss
Axiovert 40/100/200,
Axio Observer



Pilot Laser	630-650nm spot targeting solid state diode laser - red pilot beam guarantees the position of the invisible ablation laser
Objective	Custom designed objective for optimum laser transmission, crystal clear imaging and minimal laser pulse times. Tested and proven not to exhibit astigmatism with Saturn 5™ Laser Systems. 20x and 40x objectives are available
Ablation Laser	1480nm / 400mW solid state diode laser. Pulse length range 0.001-2.0ms / 1-2000 µs Class 1 laser product (IEC 60825-1:2007) Tested and proven not to exhibit thermal lensing
Laser Unit Dimensions (WxDxH)	220mm x 180mm x 34mm
CRi Oosight™ Compatibility	Compatible with CRi Oosight™ and SpindleView™ systems
Fluorescence Compatibility	Saturn™ Laser Systems are compatible with epi-fluorescence on selected microscopes. Contact us for details
Operation Software	RI Viewer™ imaging software included – with digital laser targeting
PC System Requirements	Operating systems: Windows 8.1, Windows 8, Windows 7 (SP1), Windows Vista, Windows XP (SP3)
Mains Input	100-240VAC, 50-60Hz

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