

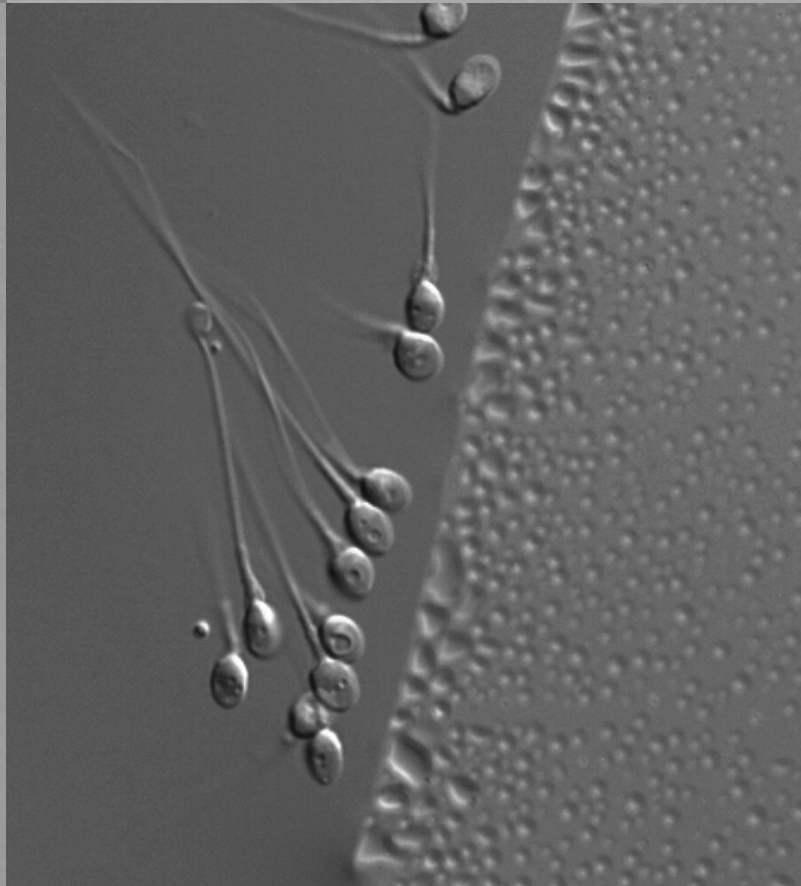
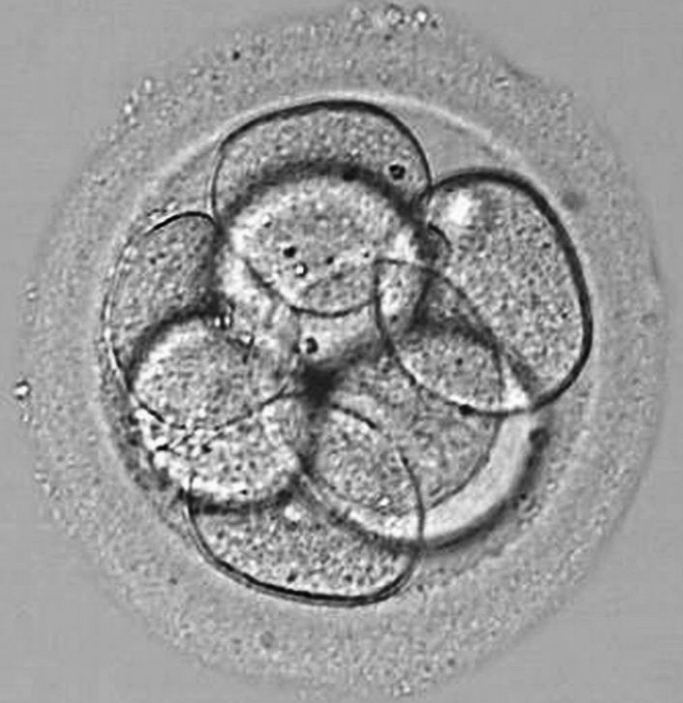
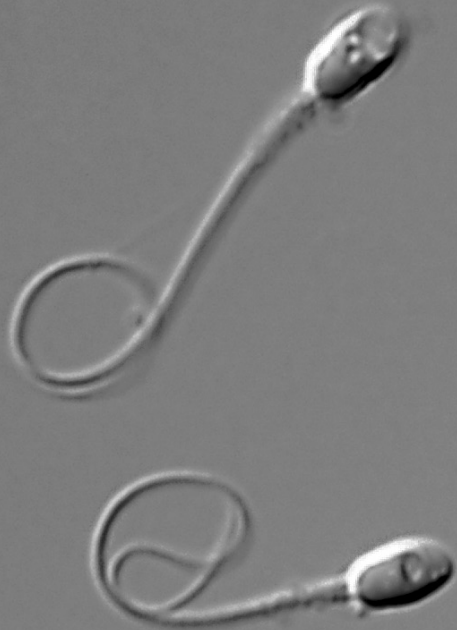
From Eye to Insight



IN VITRO FERTILIZATION

Your Applications – Our Solutions

Systems and Instruments for the IVF Lab



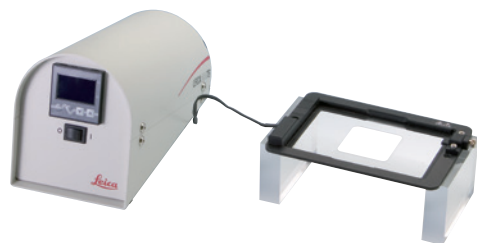
FOCUS ON THE OOCYTE

At a glance:

- Free of vibrations – stable stand to carry all common types of micromanipulators
- Freedom of choice – manual and automated components, such as stage, condenser, objectives
- Superior optics for brilliant images – unique Leica integrated modulation contrast for standard objectives 5x–63x
- Convenient handling of the petri dish at the right temperature – 37°C heating stage with flat surface and glass bottom
- Compatibility – further supporting components for daily routine or sophisticated research



Courtesy of: C. Mehnert, Zentrum für *In vitro* Fertilization, Giessen, Germany



The Leica TPX heating plate becomes flat with the stage surface to ensure easy handling of the specimens and easy operation of the manipulator

Intracytoplasmic Sperm Injection (ICSI) has become a standard method in IVF labs around the globe. The right equipment in your lab supports your effort to constitute a good laboratory practice, to work in a convenient and effective way and at the end to increase the reproduction rate.

The microscopes and accessories of Leica Microsystems are designed to support your daily work.

The Leica Microsystems inverted microscopes are especially appreciated for their optical performance in imaging oocytes, sperms and injection capillary. Stability and robustness are matters of course to provide you with best tools for your work.



A perfect ICSI workstation: Leica DMi8, 3-plate stage, condenser S40 for modulation contrast for objectives 5x to 63x, Narishige Takanome® micromanipulator with injection units, heating stage 37°C.

ZOOM IN ON THE SPERM

Interest in the method of intracytoplasmic morphologically selected sperm injection (IMSI) has grown significantly over the last years. In close collaboration, listening to the voice of our users, Leica Microsystems has developed a sophisticated and convenient working station for IMSI.

The Leica Microsystems solution provides excellent optical performance combined with ease of use: The microscope system Leica DMI8 equipped with IMSI technology allows the use of micromanipulator and microscope for IMSI and ICSI on one workstation. Ease of use via touch screen – one button control. The 100x objective with high numerical aperture together with additional optical magnification provides a total magnification of more than 8000x on an LCD screen to clearly identify and analyze the morphology of the sperm.



Excellent DIC at the push of a button. Depending on the user preferences the Leica Integrated Modulation Contrast is also available.



A perfect combined IMSI and ICSI workstation: Leica DMI8, motorized 3-plate stage, DIC or modulation contrast for objectives 5x up to 100x, Leica heating stage and Eppendorf TransferMan 4®.

At a glance:

- Manipulator and microscope connected via digital interface – manipulator movement is aligned to magnification
- Less vibration – one control panel for microscope and manipulators
- Reproducible images – all system functions are intelligently automated
- Only one company to deal with – one supplier for electronics, optics and mechanical components
- Ergonomic benefits and operating safety – by integral control and top level motorization



The optical zoom system accomplishes a continuous view of the moving sperms, while selecting the optimal magnification. You can keep the orientation to the edge of the drop of medium.



Perfect DIC – with dry Objective

The new HC PL FLUOTAR L 100x/0.85 CORR objective allows the visualization of highly magnified sperms through the glass heating insert and a glass bottom of the Petri dish

THE SPERMOGRAM

At a glance:

- Stability and robustness, combined with highest optical performance – choose from the complete range of routine phase contrast microscopes Leica DM1000 to DM3000
- Long working distance objectives – 10x, 20x, 40x, 63x to allow work with counting chambers
- Study the fine morphology of the sperm – up to 100x oil objective
- Heating stage 37°C available
- Ergonomical, fatigue-free working – height adjustable focus knobs and other equipment

The first step to assisted reproduction is to check the quality of spermatozoa via motility, morphology, composition of the ejaculate and other biochemical parameters.

Leica Microsystems' contribution to this step are high quality, ergonomic upright microscopes, equipped with 37°C heating stage to support your work perfectly. The phase contrast visualizes the sperm head as a small white sphere, while the flagellum shows up as a dark filament. Leucocytes present within the ejaculate can be easily identified.

A full range of ergonomic equipment like tilting tubes, height adjustable focus knobs, and ergonomical stages make work more comfortable, pleasant, and fatigue-free.



MAKLER Counting Chamber for rapid sperm analysis perfectly fits the Leica DM1000-3000 stages for convenient evaluation.



Ideal solution for sperm analysis: the unique ergonomic system microscopes Leica DM1000, DM2000, DM2500 and DM3000 with heating stages 37°C.

DECORONIZATION AND ZYGOTE OBSERVATION

After the collection of the oocytes via follicle puncture, the oocytes must be stripped of their granulosa cells. This delicate and important work requires excellent stereoscopic 3D visualization combined with a long working distance to offer easy and convenient access for the tools of the operator.

After fecundation, the zygotes are observed to check the number, size and location of the pronuclei. The stereomicroscope is one of the optical tools used for visualization of the development from the zygote to the blastocyst state. Highest image quality combined with ergonomic design, ease of use and reliability are crucial for this essential step within assisted reproduction.

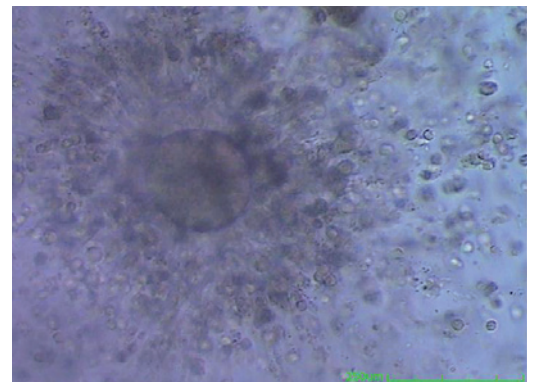
The new Leica stereomicroscopes are available as five preconfigured systems certified according to the European directive for *in vitro* diagnostics. Each of the systems works out-of-the box and is tailored to the specific requirements in an IVF laboratory.



Highly effective instruments for manual inspection:
Leica S- and M-Series stereomicroscopes.

The oocyte in stereo:

- Brilliant image quality
- Perfect stereo impression
- High working distance up to 135 mm
- Zoom up to 120x (1x objective)
- Stable and vibration free design
- Preconfigured systems including all required accessories like cameras, heating stages and transmitted light bases



Human oocyte before decoronization



Human oocyte after decoronization

Courtesy of: Pr.S. Viville, Dr. C.Wittemer CMCO-SIHCUS
Schiltigheim (France)

LEICA DMS1000 B

At a glance:

- **Stand-alone operation:** The built-in HD camera allows the user to visualize and to capture images of oocytes without the need for a PC.
- **No eyepieces needed:** The Leica DMS1000 B can be used even in closed laminar flow cabinets. More safety for the specimen and the user.
- **Built-in encoded zoom:** Capture calibrated images including a scale bar even without a PC.
- **Preconfigured system:** All required accessories are combined under one article number. Works out-of-the-box.
- **Fast live images:** Live images in full HD resolution with up to 30fps. Eliminates image delay during pipetting of oocytes.
- **Highly ergonomic:** The HD monitor can be easily adjusted to multiple users. Makes work more comfortable and fatigue free.

New Leica DMS1000 B digital microscope system – the core piece in *in vitro* fertilization! Observing the oocytes or zygotes without eyepieces, it is now possible to carry out experiments even in closed laminar flow cabinets. This keeps the risk of contaminating the specimen to a minimum.

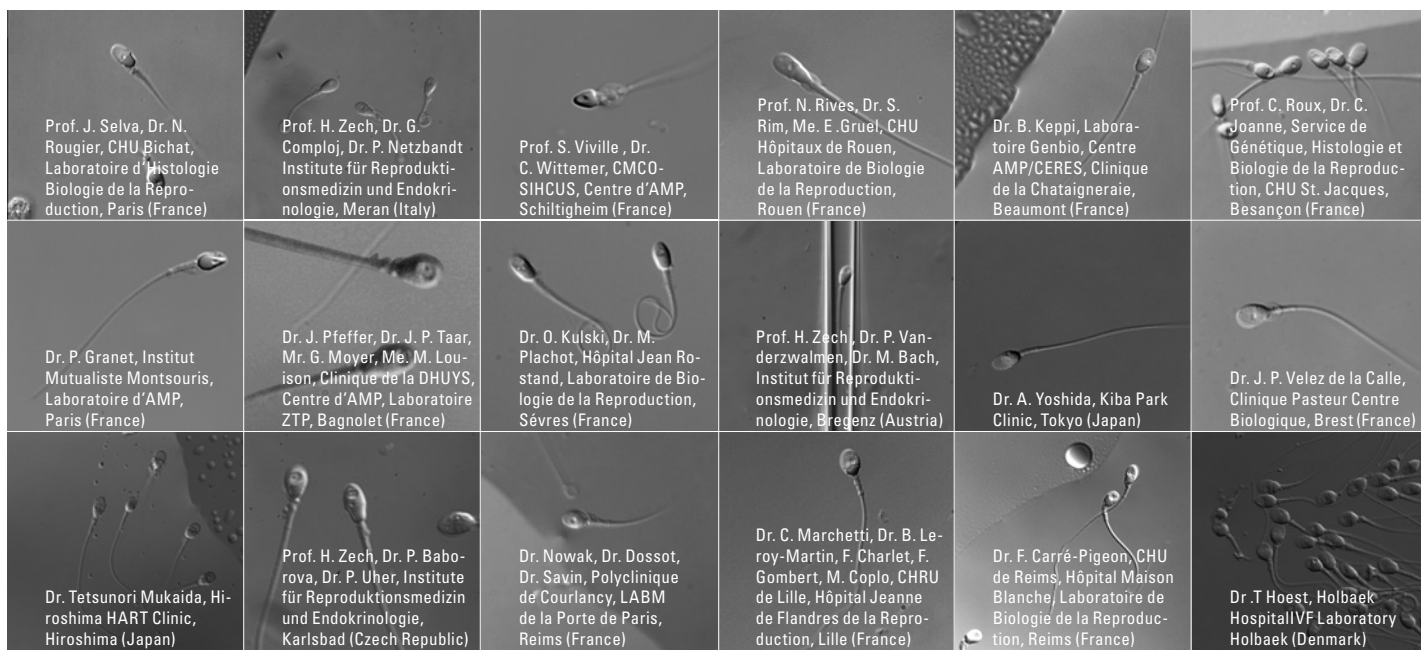
The integrated full HD digital camera enables the users to visualize, to capture and to store images of the oocytes or zygotes directly on the integrated SD card.

The accessories include Leica transmitted light bases as well as the Leica TPX heating stage which allow advanced contrasting for crystal clear images at a constant temperature of 37°C.



Ideal solution to document the zygote development:
The unique digital microscope system Leica DMS1000 B

MAKE SURE TO PICK UP THE RIGHT ONE



- Universal – IMSI and ICSI on the same workstation
- Flexible – Configure with your preferred micromanipulator brand
- Built with well known Leica optical quality



Micromanipulation System Leica DMi8 with Eppendorf TransferMan 4®



Micromanipulation System Leica DMi8 with Research Instruments Integra 3



Micromanipulation System Leica DMi8 with Narishige Takanome®

