



www.imv-technologies.com

Semen fertility analysis, a new dimension



A voyage inside the cell

Bench-top flow cytometer for sperm analysis

- **IMV unique ready-to-use protocols**
- **Intuitive software package**
- **Scientific technical support**
- **Easy-to-use technology**



easyCyte

Advanced semen quality assessment by flow cytometry.



Benefits of flow cytometry:

- Highest ejaculate quality selection
- Male management tool
- Semen quality certification
- Complete traceability

easyCyte: complete solution for semen analysis

IMV specialized scientists have been working for 5 years to provide you with additional tools to assess semen quality through flow cytometry.

■ Dedicated tests for advanced semen analysis

An array of sperm-specific tests have been selected, further developed and validated by a research and development team with renowned scientists. Six tests (**viability, sperm count, viability and acrosome integrity, mitochondria activity, membrane fluidity, and oxidation level**) are already built-in and others are under development. Nevertheless, users can work on the development of their own tests if needed.

■ Cytosoft and Easysoft, a complete software package

IMV developed intuitive proprietary softwares focused on semen evaluation. The pre set analyses and the pre arranged settings of **Cytosoft** allow easy acquisition and measurements of the sample. **Easysoft** extracts reports which can be exported, printed or saved.

■ Reagents kit for dedicated assays

To simplify lab work flow, IMV has developed ready-to-use kits with lyophilized reagents in 8x12 wells. These kits offer time savings and safety to the user, since there is no need for aliquoting reagents. Pipetting errors are avoided, improving repeatability. Logistics are simplified since the kits do not need refrigeration during shipping.



■ IMV support

Beyond the initial installation you benefit from IMV's expertise. A strong technical support team dedicated to flow cytometric semen analysis is at your service.

■ EasyBuffer, adapted extenders

As semen needs to be preserved in the best conditions, IMV has adapted extenders and dilution media to specific species to ensure accurate results over time.

■ EasyClean, a specific cleaning solution

A specific cleaning solution was selected by the R&D team to be used specially when using the flow cytometer for semen analysis.

IMV R&D expertise

Our R&D expertise ranges from biology, to veterinary medicine, to chemistry to mechanical engineering and electronic development. The core R & D group, based in L'Aigle, France, is dedicated to applied research. We also have developed a strong network of collaborations with universities worldwide to benefit from the expertise of renowned experts in the field of andrology. Through this network, IMV Technologies is involved in fundamental research in reproductive biology. Flow cytometry is the next frontier of semen evaluation. Considerable resources have been invested to validate a full range of tests on the robust easyCyte platform as a way to remain at the cutting edge of science and technology related to reproductive efficiency. Our work makes this technology available to artificial insemination centers worldwide.

Six pre-set assays... available today from IMV.

Assays can be performed on fresh or post thawed diluted semen.
Up to 5 000 spermatozoa can be evaluated in seconds.

■ Viability

Membrane permeability is an indicator of cellular viability. Through membrane integrity, this test indicates percentage of viable spermatozoa.



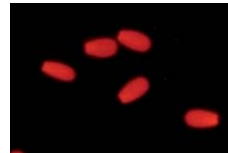
Live



Dead

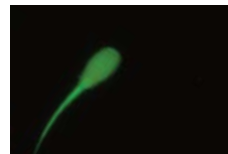
■ Sperm count

Assess accurate cell numbers and population percentages without reference beads.



■ Oxidation level

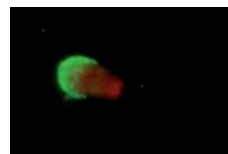
This assay measures the intracellular level of Reactive Oxygen Species needed for sperm function but that are harmful at a high level.



Strongly oxidized

■ Viability and acrosome integrity

The acrosome is essential for fertilization. A new combination of three stains was developed by IMV. Two of the stains monitor the integrity of the acrosome and of the membrane, simultaneously. The third fluorochrome is sperm-specific and thus allows to remove debris from the analysis.

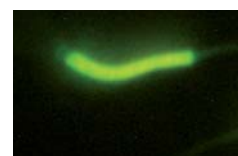


■ Mitochondria activity

To reach the ovocyte, the sperm needs energy which is produced by the mitochondria. This assay analyzes membrane potential (polarized, depolarized) to show the integrity of the mitochondria.



High potential



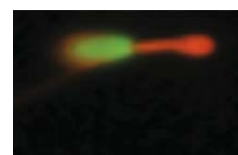
Low potential

■ Membrane fluidity

Membrane fluidity is critical for proper cell function and exchange with the outside environment. This assay assesses phospholipid disorder in the membrane.



Normal organization

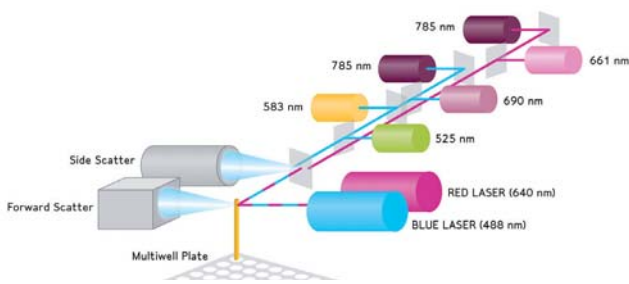


Membrane phospholipid disorder

With IMV protocols for boar and/or bull.
Pictures with fluorescent microscopy.



Principles of cytometry



A sample of fluorescently labeled cells is aspirated into a uniquely proportioned microcapillary flow cell.

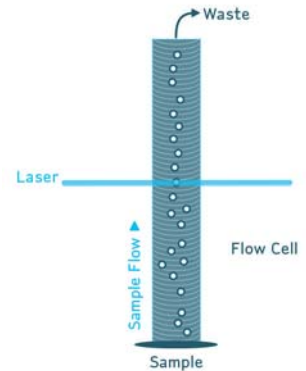
A diode laser excites the cells and each cell emits signals that are individually detected by photomultipliers and a photodiode.

The excitation laser provides up to five simultaneous detection parameters, including three fluorescent colors plus forward and side scatter for size and complexity determination.

Software modules show all relevant data and results immediately.

Patented microcapillary system

At the heart of the system is a patented microcapillary flow cell that eliminates the need for sheath fluid. This translates into less complexity, smaller samples, and minimal waste, saving you both time and money. Plus, since the flow cell is self-aligning and user-replaceable, you can remove it yourself at any time for cleaning and maintenance.



Waste solution optimisation

The microcapillary flow cell uses small sample volumes and generates less waste than traditional systems. The waste vial collects less than 80 ml of waste in a typical 8-hour workday. By contrast, a traditional flow cytometer can produce more than 8000 ml in an 8-hour run.



easyCyte II Plus

Ref. 022841

1 laser and 5 parameters (FSC + SSC + 3 colors), 96-well plate platform and 10 positions for tubes



easyCyte II Mini

Ref. 022843

1 laser and 5 parameters (FSC + SSC + 3 colors), for tubes



easyCyte for R&D

easyCyte 6HT/2L: 2 lasers and 6 parameters (FSC + SSC + 4 colors)

easyCyte 8HT: 2 lasers and 8 parameters (FSC + SSC + 6 colors)

For more information, please contact us.



- ISO 9001:2008 and medical reference ISO 13485:2003 certified
- Production site complies with the strictest standards of quality and safety
- Continuous improvement of product, production and quality control processes
- All materials and finished products potentially in contact with living cells tested for bio compatibility
- 95% made in France



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