

# Sperm preparation w'sHC







#### We are X-Lab Solutions

The story begins in 1992 when "a few good men" have founded a service organization for laboratory and blood gas instruments in Transilvania.

At first, X-Lab Solutions' activity focused on maintenance and repairs. Along the way, the development of turnkey medical projects and providing lab supplies, have become priorities.

**Today,** the main focus is on providing after-sales services for medical equipment and projects (installation, commissioning, training, application support, service, maintenance).

#### X-Lab Solutions achievements:

- OVER 110 equipped hospitals and the associated services delivered, all over Europe
- Over 120 private laboratories equipped with diagnostic systems and serviced
- Over 170 private healthcare institutions equipped with medical devices and accessories



### The pillars of X-Lab Solutions



**POC**Point of care



**W`sHC**In Vitro Fertilisation
& Medical Devices



**SP** Special Projects

**W`sHC** - delivering excellence at every stage of the journey to a healthy and happy life!

**IVF** offers perfectly controlled conditions and state-of-the-art equipment to make every woman's dream of becoming a mother come true.

### In Vitro Fertilisation

#### **Sperm preparation**





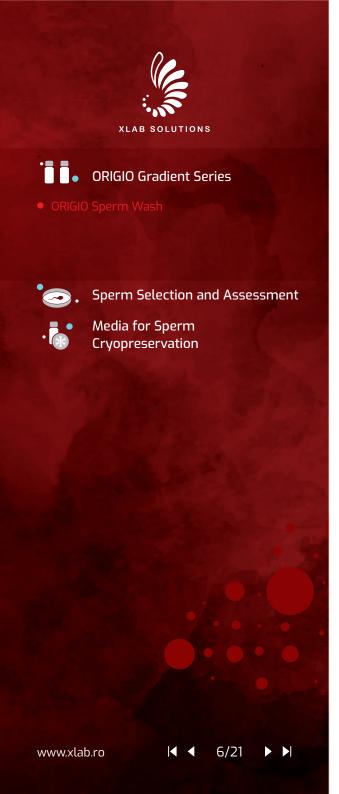




### ORIGIO Gradient Series

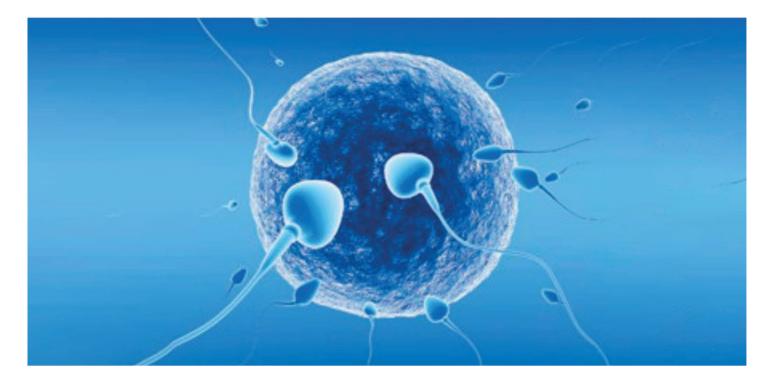
A unique and novel sperm preparation portfolio





## About • ORIGIO Gradient Series

- Our media have a more alkaline pH to mimic the physiological conditions sperm will encounter in vivo.
- Sperm are quite sensitive to acidic external pH, which will lower the intracellular pH (pHi) in the sperm cells and thus impede sperm motility and function and alkaline (high pH) external pH stimulates several sperm motility parameters.





### Advantages • ORIGIO Gradient Series

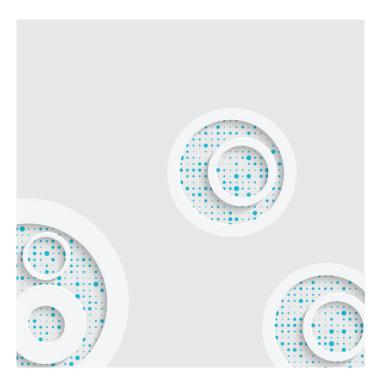
- Bicarbonate-rich formula enhances sperm progressive motility.
- pH 8.0-8.5 to mimic in vivo physiological conditions.
- High HSA concentration to support optimal sperm function.
- Antioxidants protect spermatozoa from oxidative damage.
- HEPES buffered for use outside CO<sub>2</sub> environment.
- Osmolality differentiated for sperm protection during isolation.
- Can be used for IUI, IVF, and ICSI.
- Shelf life after opening: 28 days.



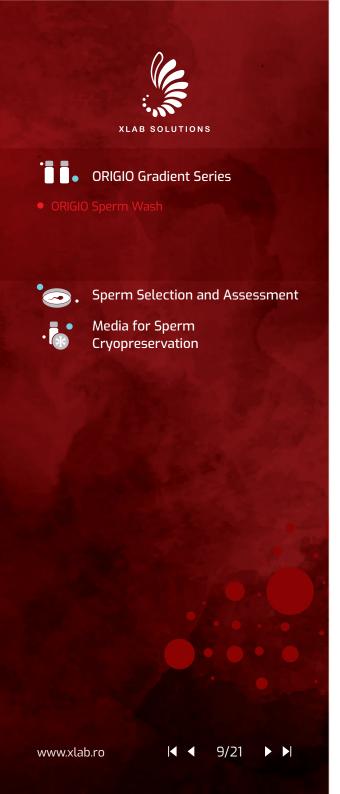


## ORIGIO Sperm Wash for sperm preparation by swim up

- High albumin concentration supports sperm physiology, reduces oxidative stress.
- Optimal swim-up conditions: physiological pH, bicarbonate, antioxidants, high HSA.
- Sperm washing and isolation of motile viable sperm.
- Holding medium for sperm before Intrauterine Insemination (IUI).







## ORIGIO Gradients for efficient separation of motile sperm

- ORIGIO Gradients facilitate the separation of motile sperm from extraneous cells and seminal plasma.
- They allow the selection of a subpopulation of cells with the highest fertilizing capacity for an oocyte.

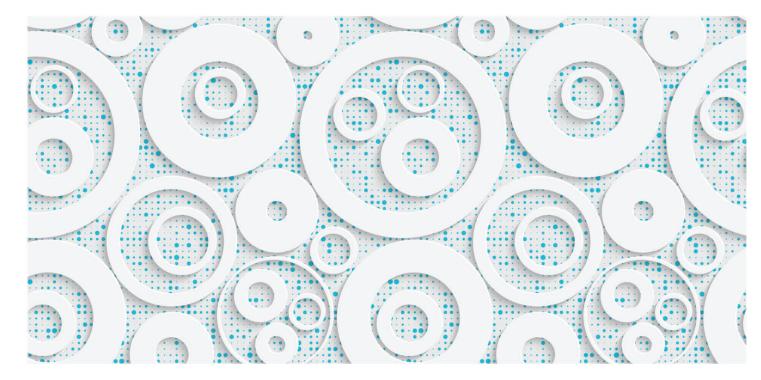






### **Sperm Selection and Assessment**

Quality media for every step of the ART journey

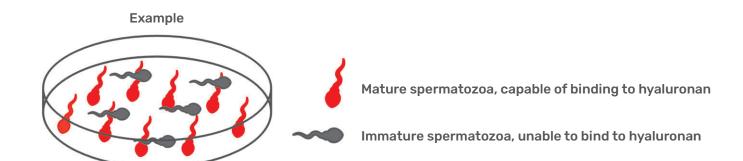




#### About •

#### Sperm selection for ICSI

- Hyaluronan-based sperm selection identifies mature, competent sperm with specific biomarkers.
- Sperm selection with hyaluronan, termed "physiologic ICSI", ensures the choice of mature sperm with enhanced DNA integrity.
- The ability of sperm to bind to hyaluronan correlates to:
  - better DNA integrity,
  - · lower DNA fragmentation rates,
  - proper DNA packaging,
  - · lower aneuploidy rates.
- It has been shown that sperm selection with hyaluronan:
  - significantly decreases miscarriage rates,
  - · improves live birth outcomes among older couples,
  - enhances outcomes post-failed standard ICSI cycles.





## About ● HBA<sup>™</sup> Assay

Diagnostic tool with dual hyaluronan-coated chambers for sperm sample analysis.

- Distinguishes mature sperm with hyaluronan receptors.
- Hyaluronan binding correlates with sperm maturity and chromatin integrity.
- Promotes lower chances of aneuploidy and improved DNA packaging.
- HBA index measures motile sperm binding to hyaluronan.
- There is correlation between HBA index and ICSI outcomes.





## Advantages • — HBA<sup>™</sup> Assay

- Easy to implement, simple to perform.
- Sperm sample evaluation takes minutes.
- More data on sperm quality for the informed choice of treatment tactics.



#### How to perform the HBA™ assay



Perform the assay at 20–30°C. Immediately before use, mix the semen and pipette a 7–10  $\mu$ L drop onto the assay chamber.



Immediately install the cover slip and avoid entrapping air bubbles. Incubate the chamber for at least 10 and not more than 20 minutes.



## Advantages • HBA<sup>™</sup> Assay



In 10 minutes, all the mature spermatozoa with hyaluronan receptors contact and bind to the immobilized hyaluronan layer. Bound motile spermatozoa cease progressive movement but retain active tail beating. Immature spermatozoa, lacking hyaluronan receptors, swim about freely. Dead and non-motile spermatozoa show no tail movement.



Calculate the percentage of hyaluronan-binding spermatozoa. The percentage of sperm binding to the hyaluronan layer is calculated as follows: %Bound=100 x (Bound Motile Sperm)/(Bound Motile Sperm+Unbound Motile Sperm)

The sample concentration should permit at least 30 motile spermatozoa to be counted. Acceptable assay precision will be achieved when the sum of bound plus unbound motile spermatozoa is greater than 200.





### About •

### SpermSlow<sup>™</sup> Medium

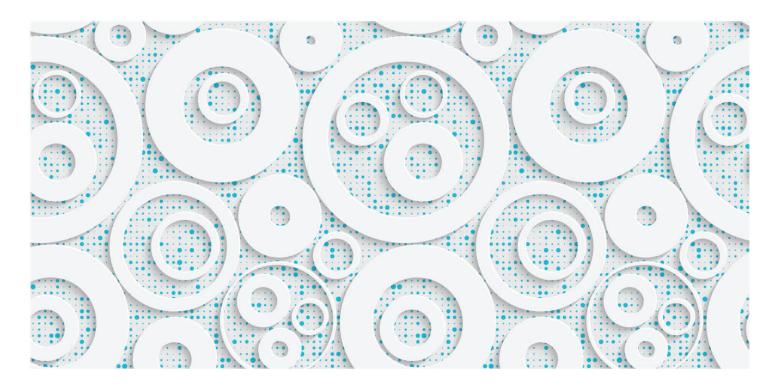
- Immobilizes and selects mature sperm for ICSI without the use of PVP.
- A semi-viscous hyaluronan-containing medium that slows down and selects mature sperm for ICSI.
- Hyaluronan-based sperm selection enhances embryo quality and implantation.





## Advantages • SpermSlow<sup>™</sup> Medium

- Significantly lower abnormal fertilisation rate.
- Significantly better embryo quality compared to standard ICSI.
- Significantly higher implantation rate compared to standard ICSI.
- Significantly lower DNA fragmentation rate of spermatozoa.
- Easy to implement in clinical practice.





## About • PICSI® Dish

- Significantly decreases miscarriage rates.
- Mitigates poor prognosis associated with advanced maternal age.
- May improve outcomes after failed ICSI cycles.
- Has Hyaluronan microdots for easy sperm selection.





#### About •-

#### **PVP Medium**

- 7% and 10% polyvinylpyrrolidone solutions for slowing down the movement of the spermatozoa for ICSI.

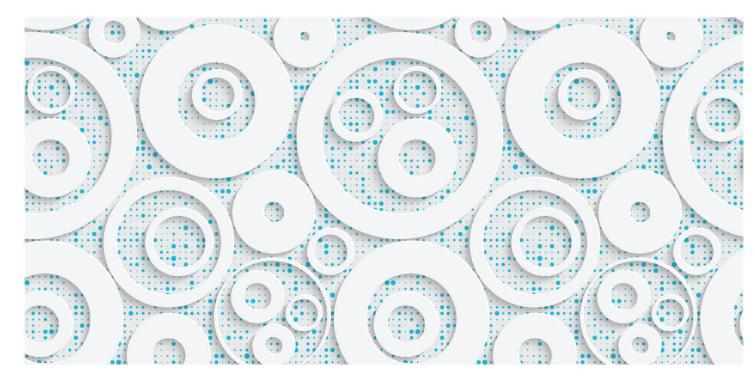






### **Media for Sperm Cryopreservation**

For freezing of human spermatozoa





## About • Media for Sperm Cryopreservation

#### **Sperm Freezing Medium**

Contains glycerol and sucrose as the cryoprotective agents. Glycine and HSA enhance sperm motility and function.

#### **CryoSperm<sup>™</sup> Medium**

Contains glycerol and raffinose as cryoprotectants.

HSA-free sperm freezing, devoid of animal components.

Glutamine, Glycine, and Taurine protect sperm during freezing.

#### Quinn's Advantage<sup>™</sup> Sperm Freezing Medium

Contains glycerol and sucrose as the cryoprotective agents. Glutamine, EDTA, and HSA support sperm functions.







#### Total availability in less than 24 h anywhere in Romania and Moldova.

Contact us for technical support, service for your equipment or consumables.



We are offering an unique and customized range of services:

#### SALES SERVICES

Our sales representatives deeply understand your needs and guide in taking your best decisions.

### TRAINING SERVICES

Through our training services you will know exactly how to operate your equipment according to the manufacturer's instructions.

### MAINTENANCE & SUPPORT

Our engineers are highly skilled in servicing the equipment we provide.

#### Cluj-Napoca Head Office

Calea Manastur 70, Ap 30, Cluj-Napoca, Romania
Tel.: +40 264 42 76 77 • E-mail: office@xlab.ro

#### **Bucharest**

Sos. Odai 207A Bucharest 1, Romania

Tel.: +40 21 332 76 31 • E-mail: office@xlab.ro

#### Chisinau

Negresteni 9, Chisinau, Moldova **Tel.:** +40 729038 316 • **E-mail:** office@xlab.ro

www.xlab.ro