



# Sperm preparation W`SHC



.....• pursuing the excellence



XLAB SOLUTIONS



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# 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



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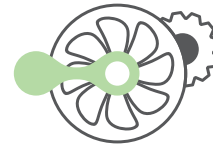
# The pillars of X-Lab Solutions



**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







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ORIGIO Gradient Series



Sperm Selection and Assessment



Media for Sperm  
Cryopreservation



CooperSurgical®

Fertility Solutions

# ORIGIO Gradient Series

A unique and novel sperm preparation portfolio





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# About •

## ORIGIO Gradient Series

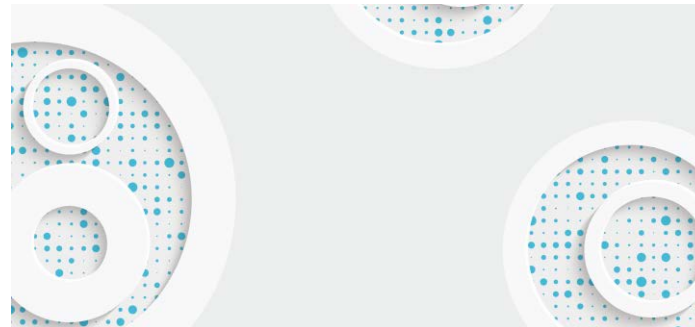
- Our media have a more alkaline pH to mimic the physiological conditions sperm will encounter *in vivo*
- Sperm are quite sensitive to acidic external pH, which will lower the intracellular pH (pHi) in the sperm cells and thus impede sperm motility and function and alkaline (high pH) external pH stimulates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

### ORIGIO Sperm Wash

for sperm preparation by swim up

### ORIGIO Gradients

for efficient separation of motile sperm





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# 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







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Sperm Selection and Assessment

- Sperm selection for ICSI
- HBA™ Assay
- SpermSlow™ Medium
- PICSI® Dish
- PVP Media



Media for Sperm  
Cryopreservation

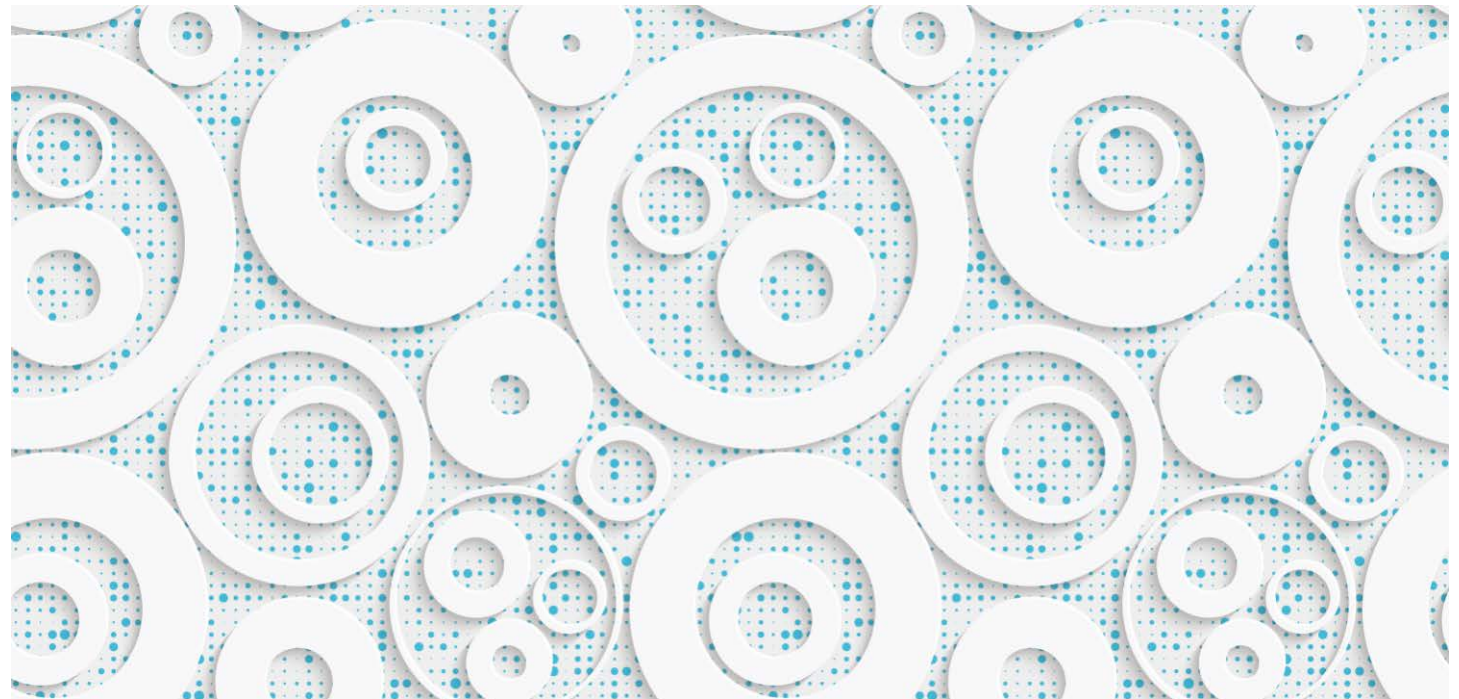


CooperSurgical®

Fertility Solutions

# Sperm Selection and Assessment

Quality media for every step of the ART journey







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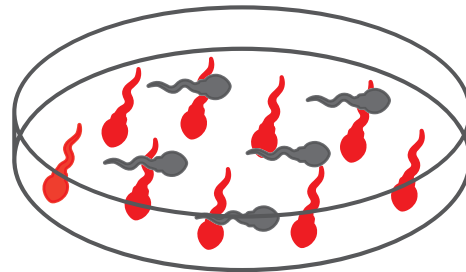
Media for Sperm  
Cryopreservation

## 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

Example



Mature spermatozoa, capable of binding to hyaluronan

Immature spermatozoa, unable to bind to hyaluronan



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Media for Sperm Cryopreservation

# About •

## HBA™ Assay

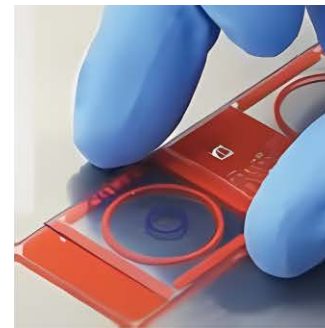
Diagnostic tool with dual hyaluronan-coated chambers for sperm sample analysis.

- 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
- 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 µL 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.



Within 10 minutes mature spermatozoa bind hyaluronan, cease their movement, but retain their tail beats. Immature spermatozoa swim freely and dead spermatozoa remain immobile.



Calculate the percentage of hyaluronan-binding spermatozoa. Sample must contain ≥30 motile sperm for counting. Assay precision is achieved if bound + unbound motile sperm >200.



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Media for Sperm  
Cryopreservation

## About • \_\_\_\_\_

# SpermSlow™ 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
- 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







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# 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





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# About ●—————

## PVP Medium

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





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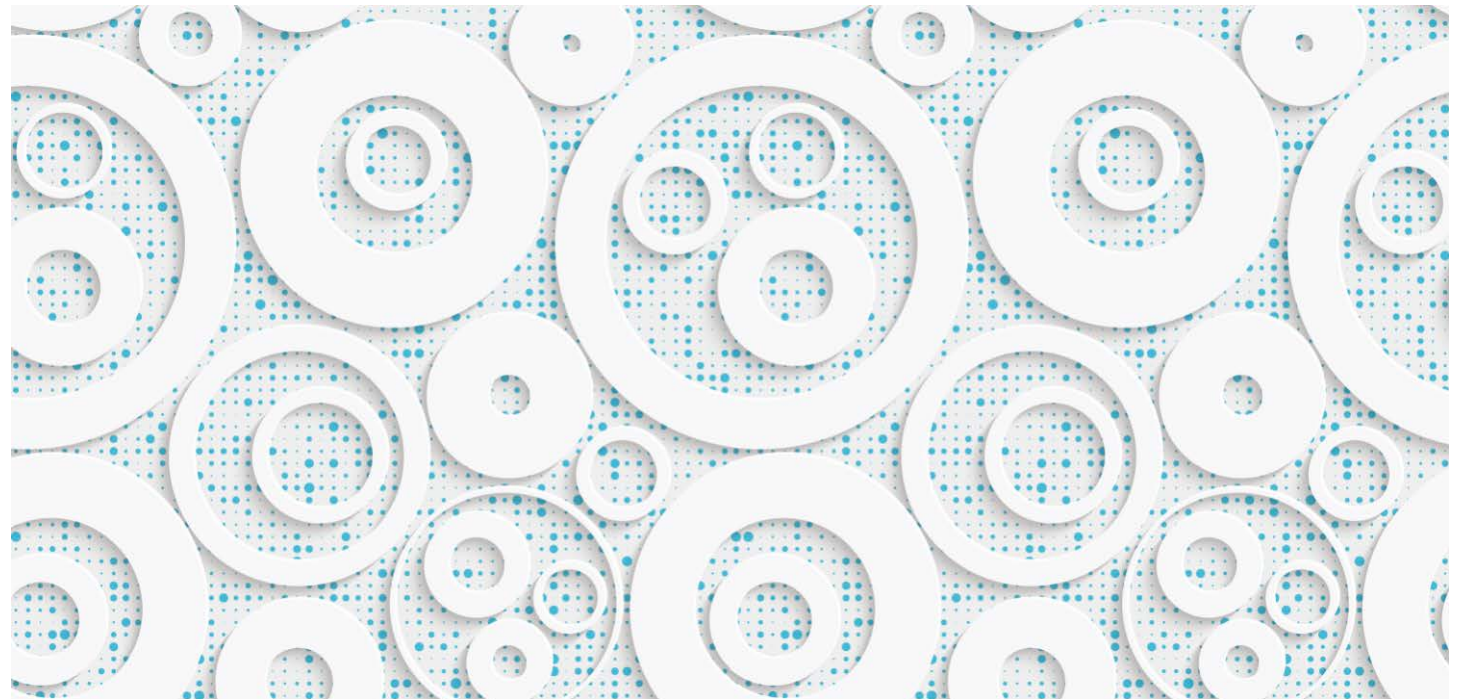


CooperSurgical®

Fertility Solutions

# Media for Sperm Cryopreservation

For freezing of human spermatozoa








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 Sperm Selection and Assessment

 Media for Sperm Cryopreservation

# 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™ 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™ Sperm Freezing Medium

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



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## MAINTENANCE & SUPPORT

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