Together. All the way™

Ultra RapidWarm Blast

Maintain stable results in a fraction of your time

Gain 1 hour of embryologist's working time per day[1]

Vitrolife
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Improve workflow without compromising clinical outcomes

While vitrification revolutionised cryopreservation in IVF, it is still labour-intensive. Consequently, users have been seeking to streamline the workflow with a consistent, efficient procedure.

Ultra-fast warming of blastocysts

Recently, the golden standard of using a multi-step warming process has been challenged. Several publications have shown that blastocysts can be warmed in a much faster way, in just one warming step.

The studies demonstrate that single-step ultra-fast warming is comparable to multi-step standard warming in terms of survival, re-expansion and clinical outcomes, with the added benefit of saving time[2,3,4].

New product innovation with an ultra-fast warming protocol

Ultra RapidWarm™ Blast is a single medium used for warming of vitrified human blastocyst-stage embryos. The medium contains 0.25 M sucrose, and is supplied in four 5 ml bottles. Each bottle can be used for two weeks after first opening, if aseptic technique is used and time outside the refrigerator is minimised.

20 ml of warming solution

Works with all cleared vitrification solutions and devices.

*"**Using an ultrafast blastocyst warming procedure** results in similar embryology and clinical outcomes as compared to standard warming protocol. Lab's work-flow was improved, as approximately 1 hour of embryologist's working time was gained every day, resulting in increased productivity and flexibility for other tasks.*

All members of staff reported feeling an improved quality of life at work with the implementation of this new protocol."

Professor Thomas Freour
Head of Infertility Department & ART Centre
University Hospital of Nantes, France

"We have seen clear benefits of a simplified warming protocol to save the time and labour required in the morning of ET day.

The HCG+ rates and GS+ rates after transferring those blastocysts warming in the ultrarapid protocol were comparable with the traditional method."

Tsuyoshi Okubo
IVF Lab Director
Shinbashi Yume Clinic, Japan

A game-changing warming procedure

- → Save 8-11 minutes per blastocyst[5,6,7]
- → Maintain safety and efficacy[1,8,9]
- → More robust protocol with reduced handling risk
- → Streamlined workflow with increased flexibility
- → Easy-to-train protocol

Low sucrose warming solutions reduce osmotic shock

Non-permeable cryoprotectants such as sucrose play an important role in the warming process by allowing elution of membrane-permeable cryoprotectants and gradual rehydration of cells.

Compared to the sucrose level in the vitrification solution, lower sucrose concentrations during warming reduce osmotic shock. Studies have shown that low sucrose solutions result in faster re-expansion and higher hatching rates compared to warming in higher sucrose solutions[10,11].

Re-expansion after warming is a key indicator of embryo viability and is positively correlated to pregnancy outcome[12].

Additionally, faster re-expansion can streamline workflow and reduce waiting times for embryo transfer.

9 out of 10

embryologists in a usability study experienced the difference in density when handling low sucrose warming solutions compared to high sucrose warming solutions[13].

Blastocysts sink rather than float

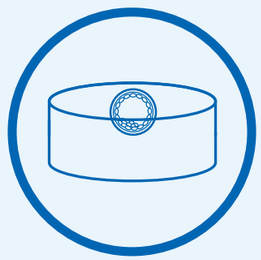
When plunging the storage device in the warming solution, the blastocyst will either sink towards the bottom of the dish (in low sucrose solutions) or float to the surface (in high sucrose solutions) due to the differences in density between low and high sucrose solutions. Practically, using a low sucrose solution may result in a more standardised warming protocol with less risk of loosing visual control and exceeding the time in solution.

0.25 M sucrose

Density 1.03 g/cm³

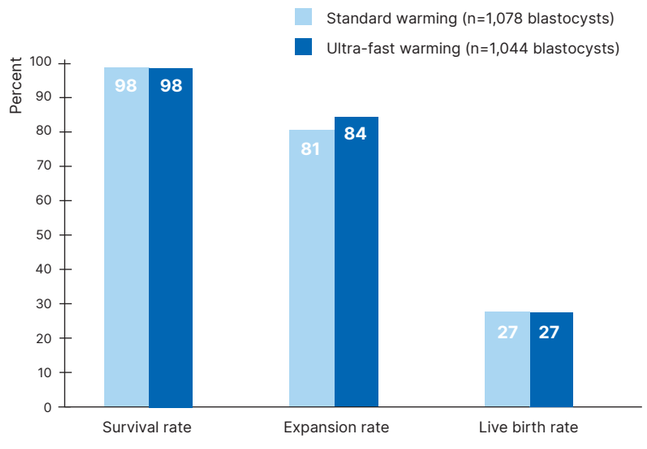
1 M sucrose

Density 1.13 g/cm³



Clinical evidence

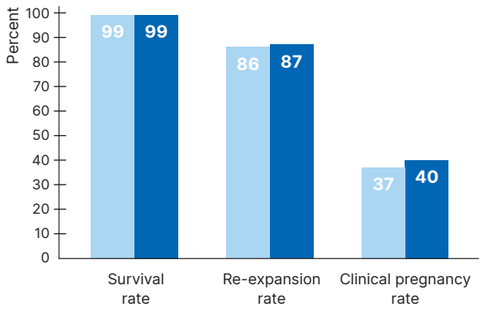
Several publications have shown that an ultra-fast warming protocol results in comparable embryology and clinical outcomes compared with a conventional multi-step warming protocol.



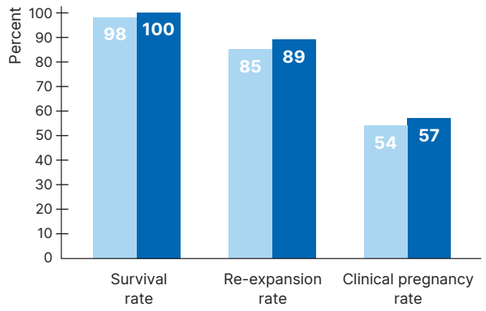
Clinical results from studies showing a comparison of the ultra-fast warming protocol (0.25 M sucrose) with the standard warming protocol using Vitrolife warming media.

The studies demonstrate that warming of blastocysts with an ultra-fast 1-step warming protocol results in comparable clinical outcomes to the conventional 3-step warming protocol[1,8].

IVF/ICSI patients



PGT patients



An analysis of retrospectively gathered clinical data comparing an ultra-fast warming protocol with the standard warming protocol for IVF/ICSI and PGT cycles. Blastocysts were vitrified using competitor media. Analysis shows that blastocyst survival rates, full re-expansion rates, and clinical pregnancy rates (based on fetal heartbeat) were similar between the ultra-fast and standard warming protocols in both patient groups[9].

"Data on rapid warming of vitrified research blastocysts were promising and convinced us to perform a pilot study in 2023. We found that the time saving procedure also gave benefits with fewer steps, fewer manipulations and fewer handling risks. In addition, it is an operator friendly and simple protocol easy to train to other lab technicians."

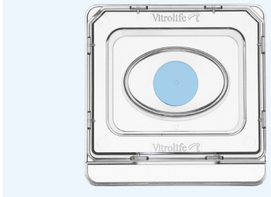
Lisbet Van Landuyt
Senior Clinical Embryologist
Brussels IVF, Belgium

"I'm in! I couldn't be happier with the product. It was a very easy roll in the fact that it is FDA-approved. The fact that there is a lot of clinical data on this made it for me very, very easy to implement."

Gerry Celia
Reproductive Laboratory Director
Offsite Director for the Women and Infants Hospital
Virginia Commonwealth University, USA

How to warm blastocysts with Ultra RapidWarm Blast

Preparation



Place at least 0.5 ml and up to 1 ml of warming solution into a dish and warm to 37 °C.

Warming

Leave the blastocyst in the solution for two minutes.

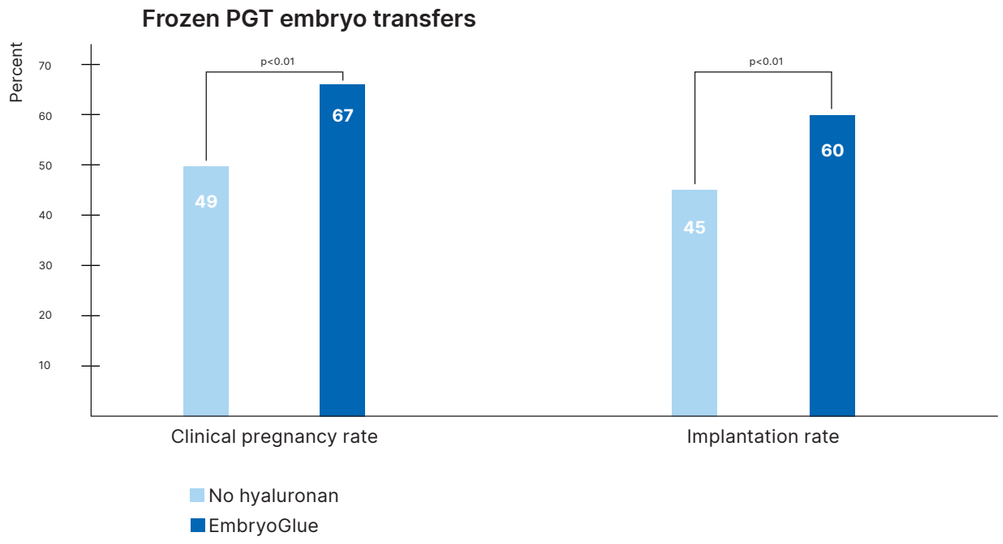
Post-warming

Wash the blastocyst several times with a culture medium, or a transfer medium such as EmbryoGlue®, then incubate until further use.

Optimised post-warming and transfer with hyaluronan

EmbryoGlue is a transfer medium, proven to significantly increase the clinical pregnancy rate, implantation rate and live birth rate[14], also for vitrified blastocyst transfers in PGT cycles. A hyaluronan-enriched transfer medium, such as EmbryoGlue, has been recommended as an add-on by ESHRE since 2023.

Both EmbryoGlue and Ultra RapidWarm Blast contain high concentrations of hyaluronan. Scientific data has shown the importance of hyaluronan during embryo development and embryo implantation, but also to provide additional protection against cryodamage and to increase cryo survivability[15,16,17,18].



Data indicates that frozen PGT embryo benefits from being transferred in EmbryoGlue. A retrospective study showed the clinical outcomes from 830 transferred embryos (557 in the control group with no hyaluronan added and 273 transferred with EmbryoGlue). The data showed an increase in both implantation rate and clinical pregnancy rate[19].

Quality all the way

We focus on quality from initial research and development to production, distribution and clinical and scientific support, and we provide an unbroken chain of innovative high-quality products that ensure optimal care every step of the way. Our commitment to quality control and clinical support ensures stability in your culture system.

Controlled manufacturing

Robust quality procedures ensure correct labelling including line clearance and in process measurements, complying with regulatory requirements. All work is reviewed and signed off.

MEA-tested

To detect toxic materials, Vitrolife has developed a highly sensitive 1-cell MEA (Mouse Embryo Assay) that follows the development of single-cell mouse embryos to expanded blastocysts. Using multiple endpoints increases the sensitivity of the assay. It ensures that the overall quality of our raw materials and finished products exceeds industry standards.

Lot-to-lot consistency

Lot-to-lot consistency is ensured by adhering to rigorous validated specifications and protocols. The quality of each lot is certified by a signed protocol to guarantee traceability. All stages of production are controlled, from raw materials to the final product.

"The sensitivity of the Mouse Embryo Assay (MEA) is determined by the way you perform the test and the endpoints that are measured. We are unique in that we perform MEA, beyond those stipulated by regulatory authorities and industry standards, on both raw materials and finished products.

We do this to deliver high quality and consistent products to our customers, so that their patients have the best chance to achieve their goal."

Erik Strait
MEA Lab Manager
Vitrolife Group

Product specification

REF	10150 Ultra RapidWarm™ Blast - **US Only** 10160 Ultra RapidWarm™ Blast
Size	4 × 5 ml
Sucrose	0.25 M
Application	Ready to use after warming to 37 °C in ambient atmosphere.
Storage	Media bottles can be used for up to 2 weeks after first opening. Use aseptic technique and minimise the time outside the refrigerator.
Quality control	pH Osmolality Sterility Bacterial endotoxins MEA (one-cell): Blastocyst formation as well as cell count

Additional products for transfer of frozen blastocysts

REF	Product	Size
16005	Centre Well Dish	400 pcs
10085	EmbryoGlue Transfer medium	10 ml
10168	EmbryoGlue 5 × 1.5 ml Transfer medium	5 × 1.5 ml

Visit vitrolife.com for more educational material such as e-learning courses, instructional movies, blog posts, short protocols, clinical evidence, and much more.

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References: 1. Freour et al., Quick as lightning, a French 12-month experience of ultrafast blastocyst warming on more than 1,000 single frozen-thawed blastocysts cycles, 2024, Fertility and SterilityVol. 122Issue 4Supplemente18. **2.** Manns et al., Validation of a New Ultra-Fast Blastocyst Warming Technique Reduces Warming Times to 1 minute and Yields Similar Survival and Re Expansion Compared to Blastocysts Warmed Using a Standard Method. Fertility and SterilityVol. 116Issue 3Supplemente165, 2021. **3.** Manns et al., 2022, Clinical validation of a new, ultrafast warming protocol, resulting in equivalent implantation rates and significant time savings versus routine warming protocol, a prospective randomized control. Fertility and Sterility 118(5):e7. **4.** Taylor et al., Ultrafast warming protocol demonstrates similar outcomes and significantly decreases embryology workload compared to standard warming protocols, a randomized control trial with euploid blastocysts. Fertility and SterilityVol. 118Issue 4Supplemente150, 2022. **5.** Package insert RapidWarm Blast REF 26086. **6.** Package Insert Brand A. **7.** Package Insert Brand B. **8.** Lammers et al., Ultra-fast warming procedure of vitrified blastocysts results in maintained embryology and clinical outcomes, Reprod Sci. 2025 Feb;32(2):495-501 **9.** Van Landuyt et al., FC-07 Results after 6 months of clinical use of a short one-step warming protocol for vitrified blastocysts, 52nd BSRM Scientific Meeting 2024. **10.** Gunst & Ahlström, Multicenter preclinical validation of warming procedures for human blastocysts involving a short exposure to a single sucrose solution shows promising survival, re-expansion and continued development, BSRM 2022. **11.** Liebermann et al., Rapid warming of human blastocysts: Is 1M sucrose the only choice? 65th AAB Conference 2023. **12.** Yoneyama et al., 2025, Blastocyst re-expansion rate immediately after warming is a strong dynamic indicator of embryo quality, Reprod. BioMedicine Online, In press. **13.** Vitrolife data on file 2025. **14.** Heymann et al., Cochrane Database Syst Rev. 2020 Sep 2;9(9):CD007421. **15.** Gardner et al., (1999) Hum. Reprod. 14, 2575-80. **16.** Stojkovic et al., (2002) Reproduction 124, 141-53. **17.** Lane et al., (2003) Mol. Reprod. Dev. 64, 70-8. **18.** Palasz et al., (2006) Mol. Reprod. Dev. 73, 1503. **19.** Reed M et al., (2022) Fert. Stert. Volume 118, Issue 5, Supplement e46-e47.

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