

Together. All the way™

Nurturing life's potential with bottled brilliance

Optimise embryo development with Vitrolife's all-inclusive IVF media suite

Complete
range



At Vitrolife Group, we believe that medically assisted reproduction should be fortified by cutting edge science and an unparalleled arsenal of tools. Our portfolio of IVF media is a testament to this belief – and a reflection of our commitment to creating the most supportive environment for embryo development.

Since we started in 1994, every product in our IVF media portfolio has been crafted with utmost precision to form a toolset that embodies the highest standards of consistency and excellence. As new breakthroughs in medically assisted reproduction emerge, our portfolio evolves to ensure that you are always equipped with the most efficient tools available.

Performing IVF procedures is a significant responsibility that requires a solid foundation of reliability, consistency, and scientific precision. This is precisely what our IVF media portfolio delivers. Year to year. Batch to batch.

As you navigate the journey of cultivating life, know that you are not alone. We are right there with you, offering the support and guidance you need to ensure your journey unfolds with stability and peace of mind. This is our commitment to you.

We invite you to explore an exceptional portfolio of IVF media solutions, each thoughtfully bottled with brilliance to nurture life's potential.



A pursuit of excellence in IVF media

In the complex world of IVF, we are constantly faced with challenges that demand precision, reliability, and an in-depth understanding of reproduction. Vitrolife's IVF media has been meticulously designed to address these challenges.

Achieving high pregnancy rates pose significant challenges for medically assisted reproduction centers. Gametes and embryos are exceptionally vulnerable to oxidative stress. When cultured *in vitro*, they lack the natural detoxification mechanisms of the human body.

By harnessing the power of scientific advancements and research, we have crafted a reliable media portfolio that strives to mimic nature's intended environment for the embryo, and to shield against *in vitro* stresses.

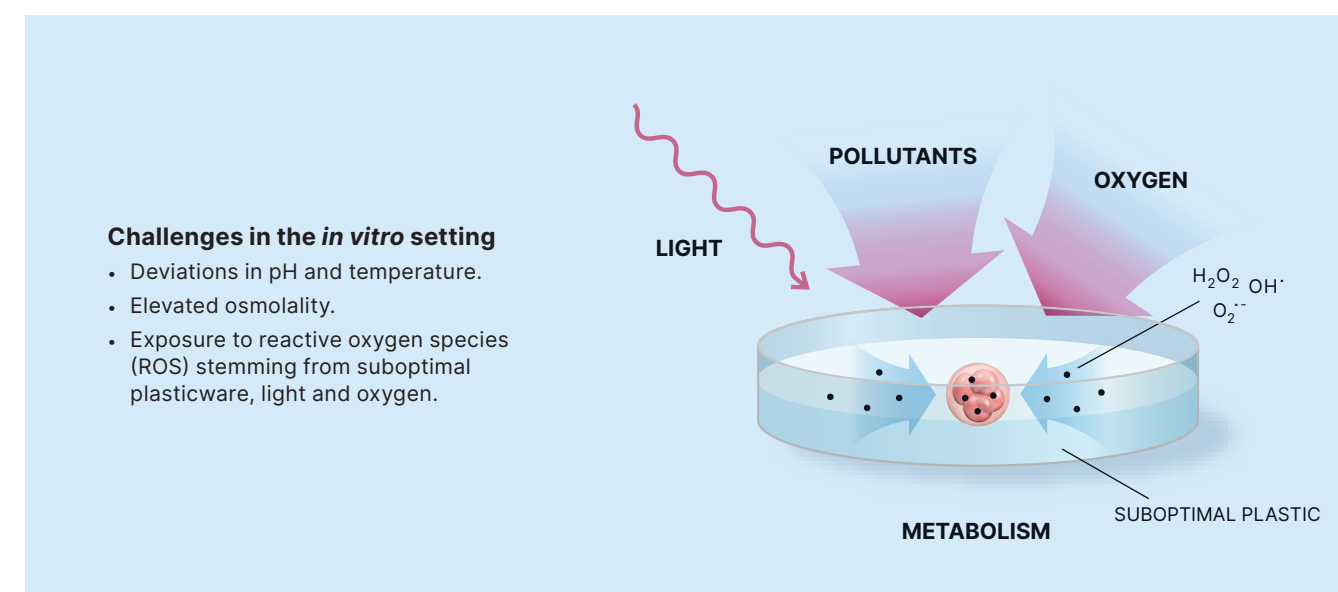
Factors influencing pregnancy rates

Success in the laboratory hinges on meticulous attention to detail. Even minor disruptions in the environment can diminish an embryo's ability to implant and subsequently reduce the likelihood of a live birth. Within the *in vitro* setting, gametes and embryos commonly face challenges.

To counter these, the chosen media should act as a buffer against external disturbances and optimise every embryo's chance of developing into a baby. From the moment of sperm collection and oocyte retrieval to the point of transfer, gametes and embryos depend on media developed to nurture biological processes and streamline laboratory workflows.

Vitrolife media in the IVF laboratory

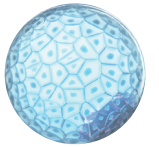
Within the human body, embryos develop in an optimal microenvironment within the female reproductive tract, shielded from external stressors. The ideal media composition must be tailored to gametes and embryos, as well as adapted to the *in vitro* laboratory processes and equipment, which are changing over time. This necessitates precise control of pH, osmolality, and temperature, along with the avoidance of any form of toxicity.



The evolution of our products has been shaped by years of in-depth media research and invaluable interactions with customers worldwide. The research of Professor David Gardener has also led to pivotal discoveries that are now integral components of our products:



David Gardener,
Distinguished Professor,
School of BioSciences,
University of Melbourne
and Scientific Director,
Melbourne IVF



1998 2003 2010

Sequential media

The development of blastocyst culture and transfer, marked by the creation of sequential culture media, G1 and G2¹, was a significant milestone in human IVF. These advancements substantially boosted the implantation rate and paved the way for single embryo transfers worldwide^{2,3}.

The inclusion of hyaluronan in culture media and the birth of EmbryoGlue

Discovering that the female reproductive tract contains not just albumin but various macromolecules, we explored the role of hyaluronan in supporting embryo development and viability. This research laid the groundwork for EmbryoGlue^{4,5}. Today, hyaluronan is a vital ingredient in Vitrolife's culture, transfer, and cryo media.

The development of the Rapid-i Vitrification System

Vitrolife's vitrification media is designed to operate at physiological temperature to preserve spindle integrity. Working at 37°C shortens the vitrification time and limits exposure to cryoprotectants like propanediol and ethylene glycol. A significant achievement was the design of a closed vitrification system, avoiding direct contact with liquid nitrogen, supporting oocyte and embryo safety^{6,7,8}.

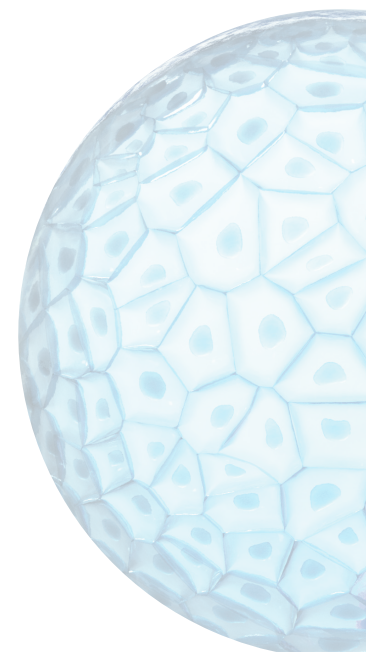
2015 2018

G-TL for time-lapse

The rise of time-lapse technology and the growing demand for uninterrupted culture led to the creation of the medium G-TL. This medium was specifically designed to ensure that when amino acids undergo deamination, the resulting ammonium levels remain non-toxic to embryos⁹.

Pioneering an antioxidant system

Oxidative stress is an inevitable outcome of metabolism and in vitro culture. Our research resulted in an antioxidant system, Gx Media, capable of effectively mitigating oxidative stress in gametes and embryos, in both ambient and reduced oxygen^{10,11,12}.





Use the complete system for optimal results

While time-lapse technology, preimplantation genetic testing and vitrification offer new treatment possibilities, they also present new challenges to the way we work. Vitrolife media is designed as a serie, with each product offering support to the specific developmental stage and treatment it addresses. Always crafted with your practice in mind, our media prioritises three core values: safety, viability, and clinical outcome.

Safety

Consistent results are achieved by ensuring a stable and non-toxic environment. We are committed to providing you with thoroughly developed products and validated protocols. For instance, achieving success with vitrification and ensuring cell viability requires balancing cryoprotectant concentration, exposure time, volume, and temperature. Our protocols have been validated and approved by regulatory authorities, assuring confidence in our processes.

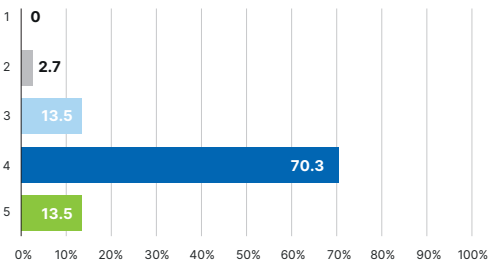
Adding a layer of safety

One of the most critical components in a culture media system is oil ¹³. Vitrolife's oils, OVOIL and OVOIL HEAVY, provide a protective environment for your culture systems. With carefully selected and tested raw materials, they support optimal control of:

- Ambient handling conditions through stable temperature and pH.
- Osmolality during uninterrupted culture.
- Toxicity, backed by testing that surpasses industry standard quality controls ¹⁴.

The two oils are equally supportive; the choice depends on your preference ¹⁵.

83.8% preferred OVOIL HEAVY



Ref: Vitrolife data on file 2020

Handling test: Comparing OVOIL HEAVY to the oil currently/usually used in the lab.

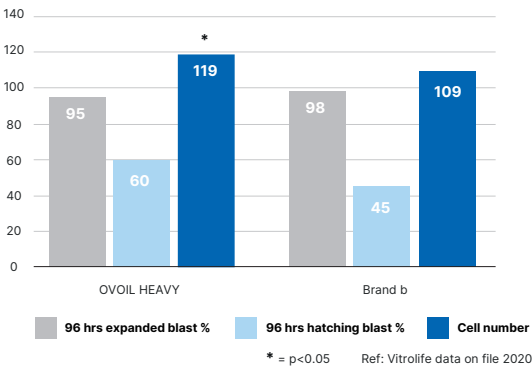
Respondents: 39 embryologists in 8 countries. Standardized questionnaire rating the test oil on a scale of 1 to 5, where 1 is much worse and 5 is much better compared to the lab's standard oil. 83.8% preferred OVOIL HEAVY.

Staying on the safe side:

- Select media designed to meet embryo needs and mitigate in vitro risks.
- Monitor and maintain laboratory performance indicators.
- Use mouse embryo-tested products, both media and disposables.

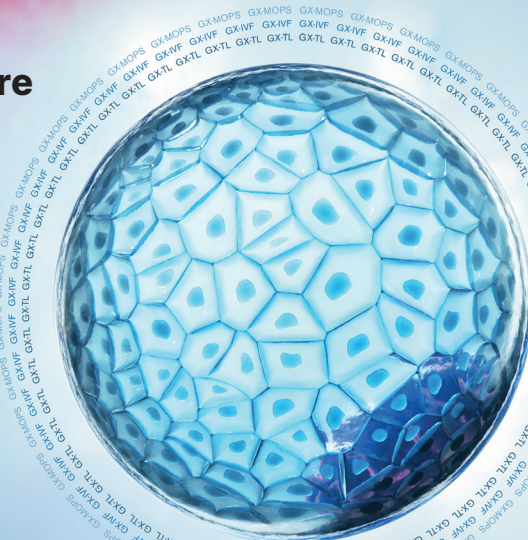


Higher embryo viability with OVOIL HEAVY – significantly higher cell number



OVOIL HEAVY compared to a mineral oil, using the Vitrolife micro droplet oil test. This assay is developed to maximise sensitivity of the MEA test and can detect the impact of suboptimal oil that does not show in a traditional MEA.

A protective trio inspired by nature



Viable embryos

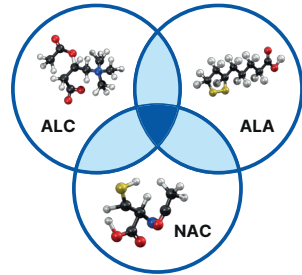
Reactive oxygen species are ubiquitous throughout any given IVF cycle, posing a significant threat to your embryo culture system. To keep embryos out of harm's way, we have developed Gx Media. The unique triple antioxidant combination in Gx Media, consisting of acetyl-L-carnetine, alpha-lipoate and acetyl-L-cysteine, form a protective barrier against oxidative stress and support embryo viability.

The triple antioxidant combination can be found in three familiar products, now becoming Gx Media, including Gx-MOPS PLUS, Gx-IVF and Gx-TL. These products support a wide range of laboratory procedures, including sperm preparation, oocyte pick-up, fertilisation by IVF and ICSI, as well as culture and transfer.

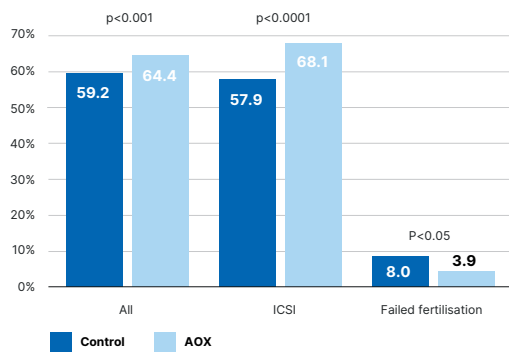
Studies have indicated that the Gx Media not only maintain the safety standards set by the Vitrolife IVF media, but often outperform or match them in terms of embryo development parameters ^{16, 17, 18}. A randomised trial by Kelley et al. (2023) shows that antioxidants increased the ICSI fertilisation rate, and consequently the number of blastocysts available, while the clinical pregnancy rate from fresh blastocyst transfers was not affected ¹⁷ (see graphs below).

Several clinical studies have been performed on Vitrolife media containing the triple antioxidants.

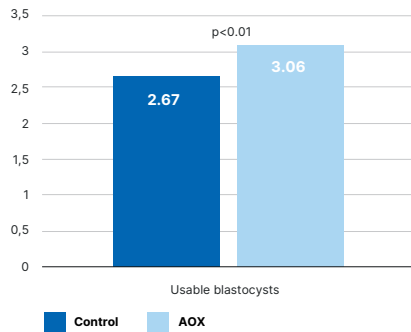
Altogether, these studies show a trend towards improved clinical outcomes, especially in women of advanced maternal age ^{16, 19, 20}.



Fertilisation data ¹⁷



Blastocyst utilisation ¹⁷





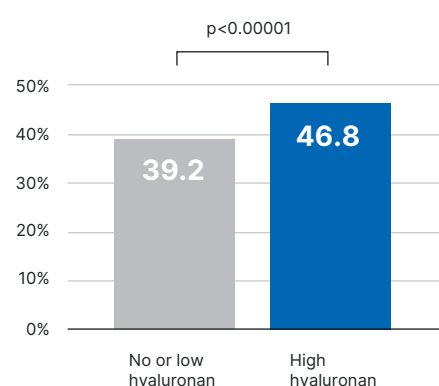
Clinical outcome

When speaking about clinical outcomes, EmbryoGlue holds a special position. It was developed exclusively for transfer and is the only existing transfer medium with a proven implantation-enhancing effect ²¹. It is suitable for transferring embryos at all developmental stages, from cleavage-stage embryos to blastocysts. Using EmbryoGlue for embryo transfers can notably increase both clinical pregnancy and live birth rates ²¹.

The 2020 Cochrane Review titled “Hyaluronic acid in embryo transfer media for assisted reproductive technologies” by Heymann et al. encapsulated the efficacy of hyaluronic acid in its conclusion:

“Moderate-quality evidence shows improved clinical pregnancy and live birth rates with the addition of hyaluronic acid as an adherence compound in embryo transfer media in ART.”

Clinical pregnancy rate ²¹



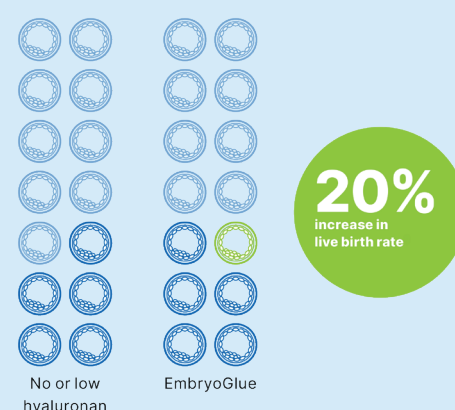
This review analysed 26 randomised, prospective, controlled trials involving a total of 6,704 IVF/ICSI-treated patients. Embryo transfers were performed using a medium with either no hyaluronan or a low concentration of it. These were then compared to transfers done in EmbryoGlue, which contains a high concentration of hyaluronan.

The live birth rate increased from 33.3% to 40.2% with the use of EmbryoGlue. According to a number needed to treat (NNT) calculation, based on the Cochrane Review, one additional live birth was achieved for every 14 transfers.

For a clinic with 700 cycles annually, this is one additional baby born per week, or a 20% increase in live births ²¹.

The number needed to treat varies between patient groups, and the strongest benefit is seen in women ≥35 years of age and women with Previous Implantation Failures (PIF) ²².

Number Needed to Treat = 14



A customer experience story about clinical customisation

Consistent results in more than two decades

With over 30 years of experience in IVF, Dr. Daniela Nogueira has witnessed the evolution of fertility treatments across the globe. Her professional journey spans three continents, touching countries like Belgium, France, the USA, India, and the UAE. Now, as the Honorary Scientific Director at Inovie Fertilité in France and the Global Laboratory Scientific Director at ART Fertility Clinics UAE, Dr. Nogueira knows the importance of customisation in clinical practices.

I first encountered Vitrolife media over 25 years ago when I was working in Brussels during the advent of blastocyst culture. Back then, we were partially producing our own media and partially using the first culture media at that time, B2 Menezo. However, Dr. David Gardner’s ground-breaking research in the 90s led to the development of the first commercial sequential media by Vitrolife Group.

What sets Vitrolife Group apart for me is their commitment to a scientifically sound approach in product development. In the past, when we produced our own media, troubleshooting was a constant issue, with inconsistencies between batches. However, since we switched to Vitrolife media, batch-to-batch consistency has become a non-issue, allowing us to focus on refining our processes. When I joined the french team about 15 years ago, they were already using Vitrolife media.

As an IVF lab director, my approach is to carefully observe and identify areas where process optimisation is possible. Having complete trust in the quality of Vitrolife media, I chose to retain it instead of adopting the approach of changing media. Instead, I focused on making improvements in other aspects of our workflow. Gradually, we saw significant enhancements in our results, evolving into a top clinic in France.

Over the years, I have tested numerous culture systems, and Vitrolife media has consistently proven to be superior in the respective working settings. Vitrolife Group has never let me down. In times of challenges, which inevitably arise, I have always received excellent support from the team of Vitrolife Group. My observations have been cared for with understanding and mutual concern.

In the early days of vitrification, when everyone was new to the technology, I decided to work with Vitrolife Group because I trusted the media and the company. It took us a year of practice and collaboration with the clinical support (Hubert Joris) to achieve the results we desired. Today, we boast some of the best clinical results in France on vitrified embryos.

In summary, my experience with Vitrolife media spans more than two decades. I can confidently say that their scientifically sound approach to product development, combined with their unwavering support, places them at the top of my list when choosing or advising on IVF products and media.

Daniela Nogueira PhD, Global Laboratory Scientific Director Art Fertility Clinics and Honorary Scientific Director Inovie Fertilité





Beyond industry standards to ensure embryo viability

The Mouse Embryo Assay (MEA) is our most important biological assay, the key to ensuring that we deliver safe and consistent products. Designed to detect toxicity and pinpoint suboptimal raw materials, contact materials, media, and instruments, our MEA is applied comprehensively. We rigorously screen the majority of materials used during manufacturing and test our finished products before they can be released.

What differentiates the Vitrolife MEA?

- Aiming not just for blastocyst development, but also adding cell count as an additional requirement.
- Specifically developed assays, adding additional stress to the embryo, for testing of critical raw materials such as HSA and oil.

It is essential to note that biology doesn't limit itself to just oocytes and embryos. Sperm can exhibit different reactions to toxicity compared to mouse embryos. Hence, we have integrated additional assays for media that can come into contact with sperm, like Human Sperm Survival Assay and Human Sperm Oil Assay.

Cumulus cell removal assay (HYASE)

The cumulus cell removal assay is one example of a functionality testing we perform. Before we release HYASE-10X, we mirror your working environment and the challenges you face. By immersing mouse cumulus complexes in HYASE-10X for a specified duration, we can assess enzyme activity.



"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

Advancing clinical excellence together

Products must be adapted to fit the unique needs and realities of your laboratory and clinic. While the Vitrolife product portfolio is designed for comprehensive utility, there may be times when customisation is beneficial. Peer discussions often offer valuable insights. This is where the Vitrolife Academy steps in - a global network of Vitrolife IVF specialists dedicated to providing clinical support to IVF clinics. The Academy emphasises the holistic product and procedural solutions that Vitrolife offers, with the goal of enhancing efficiency and improving clinical outcomes.

Training at your convenience – online and onsite

Vitrolife Academy focuses on providing workshops, webinars and educational material to our customers and we strive to help IVF laboratories to work in the most optimal way. Vitrolife Academy offers online training on demand, a complement to our other courses and workshops, to deepen your knowledge. Customers are welcome to request an account for free at vitrolife.com.



"By working through each of the processes together in the laboratory we combined the Vitrolife labware and media into a, for us, optimised way of working. From this day on we have seen huge improvements, on all important quality KPIs. The best with the system is its consistency. There are marginal gains, and it is a really robust system, tailored for our needs."

Qamar Waylat
Lab Manager, Birmingham Women's Fertility Centre

"Vitrolife Academy gives you access to many different educational concepts like webinars, e-learning modules and Academy Studio recordings – all with a strong scientific approach. Vitrolife Academy is a network of specialists and experts working together to enhance our advanced clinical support globally through external and internal education, training and collaboration."

Jaco Terblanche
Vitrolife Academy Manager

Vitrolife media

Product	REF	Description	Size
Media for rinsing			
G-RINSE™	10069	Rinse solution	125 mL
Media for follicle flushing			
ASP™	10100	Oocyte aspiration medium	125 mL
G-MOPS™	10129	Aspiration medium	125 mL
Media for handling			
G-MOPS™	10129	Handling medium	125 mL
G-MOPS™ PLUS	10130	Handling medium, containing HSA	125 mL
G-GAMETE™	10126	Handling medium, containing HSA	30 mL
Gx-MOPS PLUS™	10173	Handling medium, containing HSA and triple antioxidants	125 mL
Media for ICSI			
ICSI™	10111	Sperm handling solution	5 × 0.1 mL
HYASE™-10X	10176	Hyaluronidase concentrate	5 × 0.1 mL
Media for fertilisation			
G-IVF™ PLUS	10134	Fertilisation medium, containing HSA	30 mL
G-IVF™ PLUS	10136	Fertilisation medium, containing HSA	60 mL
Gx-IVF™	10171	Fertilisation medium, containing HSA and triple antioxidants	60 mL
Media for culture			
G-TL™	10145	Medium for embryo culture from fertilisation to the blastocyst stage	30 mL
G-1™ PLUS	10128	Cleavage medium, containing HSA	30 mL
G-2™ PLUS	10132	Blastocyst development medium, containing HSA	30 mL
Gx-TL™	10172	For embryo culture from fertilisation to the blastocyst stage, triple antioxidants	30 mL
Overlay Oil			
OVOIL™	10029	Paraffin oil for oil overlay	100 mL
OVOIL™ HEAVY	10174	High viscosity oil for oil overlay	100 mL
Media for embryo biopsy			
G-PGD™	10074	Medium for embryo biopsy	10 mL
Media for embryo transfer			
EmbryoGlue®	10085	Transfer medium	10 mL
EmbryoGlue® 5 × 1.5 mL	10168	Transfer medium	5 × 1.5 mL
Media supplements			
HSA-solution™	10064	Human serum albumin solution	10 mL
Media for vitrification			
RapidVit™ Blast	10119	For vitrification of blastocysts	3 × 10 mL
RapidWarm™ Blast	10120	For warming of vitrified blastocysts	3 × 10 mL
RapidVit™ Oocyte	10121	For vitrification of oocytes	3 × 10 mL
RapidWarm™ Oocyte	10122	For warming of vitrified oocytes	4 × 10 mL
RapidVit™ Omni	10123	For vitrification of all stages	3 × 5 mL
RapidWarm™ Omni	10124	For warming of all vitrified stages	4 × 5 mL
RapidVit™ Cleave	10117	For warming of vitrified cleavage stage embryos	3 × 10 mL
RapidWarm™ Cleave	10118	For vitrification of cleavage stage embryos	4 × 10 mL



For more educational material
such as instruction movies, blog
posts, short protocols, clinical
evidence and much more.



Orders & customer support

Products in this brochure might not be available in all markets.
Contact your local Vitrolife Group Sales Representative for prices and availability. Orders can be placed through our website at vitrolife.com.
You can also contact us by email and phone:

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