

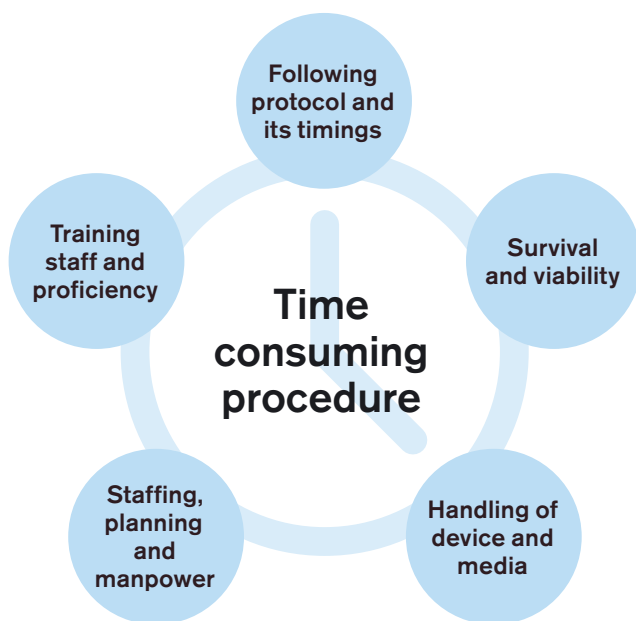
# RAPIDVIT & RAPIDWARM OMNI

Time-efficient, easy and successful vitrification  
for all cell stages.



# THE CHALLENGES IN VITRIFICATION

Vitrification has become the cryopreservation method of choice by the majority of IVF clinics worldwide. Although survival rates are continuously increasing there are still challenges to overcome.



## Challenges in the IVF lab

We asked the IVF community about the current challenges in vitrification. The respondents described vitrification as a time-consuming method. Protocols can be difficult to follow and have many time critical steps. Training new staff is time consuming. It was also a challenge to achieve high survival and viability of oocytes and embryos.

## High survival rates depend on a careful balance of conditions

The key to good results in vitrification is to find a balance between cryoprotectants, exposure time and temperature. Performing this procedure at physiological temperature (37°C) minimises stresses related to temperature fluctuations.

## The meiotic spindle is sensitive to temperature fluctuations

The meiotic spindle is composed of microtubules, which allows chromosome separation of maternal chromosomes during fertilisation.<sup>1</sup> These spindles are very sensitive to fluctuations in temperature.<sup>2</sup> In addition, cooling to room temperature can cause irreversible disruption of the meiotic spindle in human oocytes.<sup>3</sup>

# MEET THE CHALLENGES WITH RAPIDVIT & RAPIDWARM OMNI

Based on research and customer requirements, we have developed a solution that enables time-efficient, easy and successful vitrification for all cell stages.

The method, composition and design of RapidVit and RapidWarm Omni build on many years of knowledge and experience in the field of cryopreservation. The products also fulfil the increasing demand from clinics for IVF solutions that are easy to use and save time.

## RapidVit and RapidWarm Omni are used at physiological temperature

When using RapidVit and RapidWarm Omni, both vitrification and warming are performed at physiological temperature (37°C). This helps to maintain the spindle integrity and viability of oocytes and embryos.

Working at physiological temperatures shortens the vitrification time and minimises exposure of embryos to cryoprotectants and their potential toxic effects.

## Optimal support for oocytes and embryos

RapidVit and RapidWarm Omni are designed using the G-Series™ cryo base medium. This is a MOPS buffered medium that contains Human Serum Albumin (HSA), amino acids, energy substrates and hyaluronan to fully support embryo metabolism and improve post-cryopreservation survival<sup>4</sup>.

The G-Series has been developed to resemble conditions in the female reproductive tract and fulfil embryo requirements, building on two decades of thorough research and clinical experience.



Based on the G-Series with amino acids and energy substrates that support embryo metabolism.



MOPS buffered to stabilise pH during handling.



High levels of hyaluronan and HSA provide additional protection.

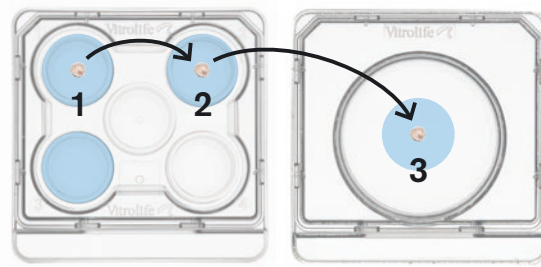


## Easy to use – for all cell stages

RapidVit and RapidWarm Omni can be used for vitrification and warming of all cell stages, from the oocyte through to the blastocyst stage, and using the same media with cell-specific timings.

Working at room temperature (22–27°C) risks variation in the method that can be avoided by working at a set temperature of 37°C.

Protocols for RapidVit and RapidWarm Omni use large volumes of media. This improves success compared with methods using microdroplets by prolonging stable conditions, such as osmolality and temperature.

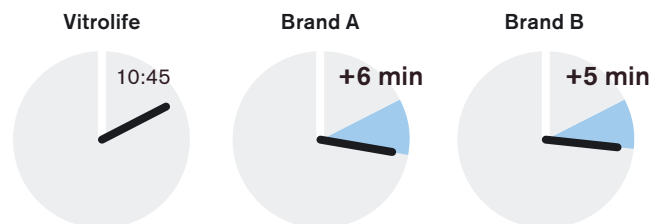


Simply move the embryos between wells in short, defined steps using ready-to-use media. This standardised approach with few handling steps reduces operator-related variation and decreases shear stress caused by manipulation.

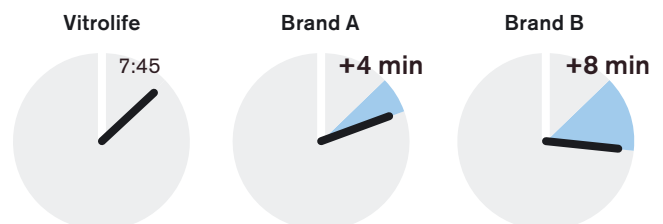
## Time-efficient protocols

Using RapidVit and RapidWarm Omni will save you time in every procedure. The graphs below compare the maximum times needed to vitrify using different brands.

### Vitrification of oocytes



### Vitrification of blastocysts



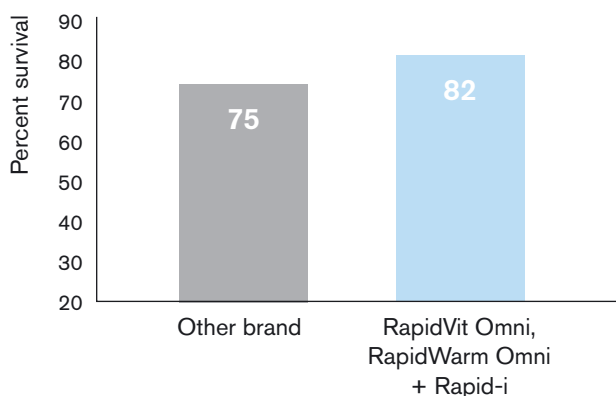
# SUCCESSFUL VITRIFICATION FOR ALL CELL STAGES

Preclinical testing of RapidVit and RapidWarm Omni has shown good results for all cell stages and Omni was validated on human oocytes and embryos. The compatibility of RapidWarm Omni for embryos vitrified in other media was also evaluated.

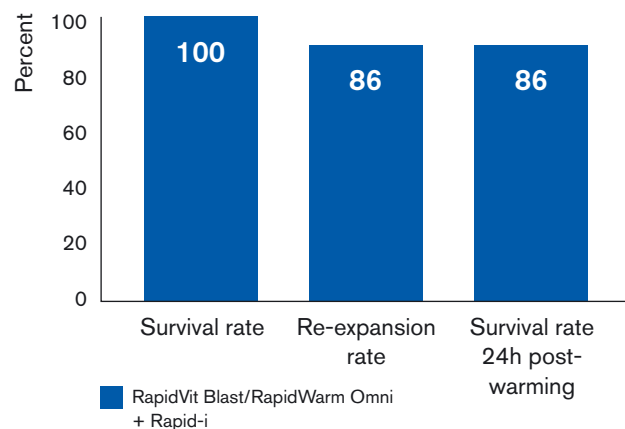
Comparison of the two different kits was done using oocytes and embryos not used clinically while assessment of compatibility of RapidWarm Omni

with other vitrification kits was assessed on embryos vitrified for clinical use and donated for research.

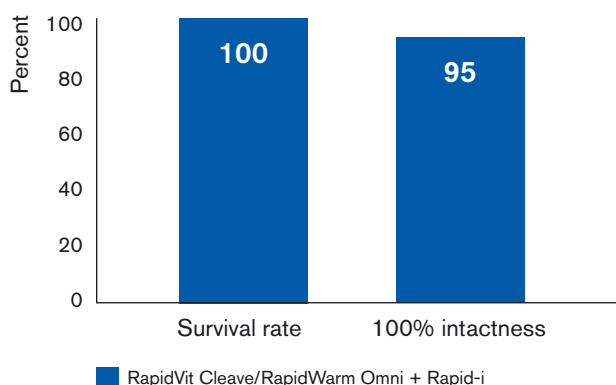
**Fig 1. Validation of oocyte vitrification using closed devices comparing two systems<sup>5</sup>**



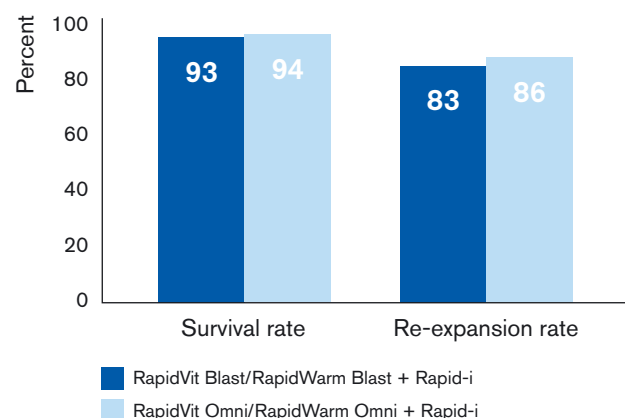
**Fig 3. Combining different Vitrolife kits on blastocysts using patient material donated for research<sup>5</sup>**



**Fig 2. Combining different Vitrolife kits for cleavage stage embryos using patient material donated for research<sup>5</sup>**



**Fig 4. Comparing different Vitrolife kits on blastocysts using discarded patient material<sup>5</sup>**





# WORKING TOGETHER FOR YOU

Vitrification from Vitrolife offers a simple, organised and stress-free working environment.

## Take control with ease

The Rapid-i workflow enables you to vitrify, seal and store without stress. Loading the Rapid-i is as simple as it is smart. Embryos are loaded onto the device and held with surface tension in a microdroplet. This provides easy visual control and assures the right volume of media has been used.

When warming, embryos simply fall back out into the warming solution due to minimal contact with the device.

## Streamline your way to maximum viability

RapidVit and RapidWarm Omni are ready-to-use vitrification and warming kits that support time-efficient methods, are easy to use, and deliver excellent survival and consistent results. Both vitrification and warming are performed at 37°C, to maintain spindle integrity and ensure maximum viability.



Product	Description	Size	REF
RapidVit™ Omni	For vitrification of oocytes, cleavage stage embryos and blastocysts	3 x 5 mL	10123
RapidWarm™ Omni	For warming of vitrified oocytes, cleavage stage embryos and blastocysts	4 x 5 mL	10124
Rapid-i™ Kit	Vitrification device, transparent*	20-pack	14406
Rapid-i™ Kit	Vitrification device, red color*	20-pack	14419
Rapid-i™ Kit	Vitrification device, green color*	20-pack	14420
Rapid-i™ Kit	Vitrification device, blue color*	20-pack	14421
Rapid-i™ Kit	Vitrification device, yellow color*	20-pack	14422
Rapid-i™ Cutter	Cutter	1-pack	14413
Rapid-i™ Forceps	Forceps	1-pack	14410
Rapid-i™ Sealer	PS-202, 120V	1-pack	14414
Rapid-i™ Sealer	PS-202, 230V	1-pack	14415
Rapid-i™ Goblet	Plastic tube to hold Rapid-i™ Kit	20-pack	14416
Rapid-i™ CryoCane	For storage of Rapid-i™ Kit in cryotank, holds 1 goblet	20-pack	14417
SmartBox™	Box for liquid nitrogen, used with Rapid-i™ tools	1-pack	14408

\* In the US - for 4-8 cell stage embryos only

All products in this brochure might not be available in all markets.

**Vitrolife**   
TOGETHER. ALL THE WAY™

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