

# VITRIFICATION CRYOTOP®





## THE CRYOTOP® METHOD

Kitazato is recognized as one of the pioneering brands in driving and improving vitrification. Its greatest contribution in this field has been the development of the renowned Cryotop® Method, the global leader in vitrification of oocytes and embryos, in all stages of development.

Cryotop® is the special vitrification container consisting of a fine, thin film strip attached to a hard plastic handle for the minimum volume to realize highest cooling & warming rates resulting in over 90% post-thaw survival. The Cryotop® Method is simple, reliable, universal safe and easy for anyone. After over a decade on the market, the Cryotop® Method has been applied in over 1,500,000 clinical cases in over 90 countries and 2,200 assisted reproduction centers. Hundreds of scientific publications certify their excellent results.



## MAIN ADVANTAGES

- Survival rates over 90%.
- Best Cooling and Warming rates in the market.
- Closed and Open system available. Same protocol, easy to follow.
- Valid for all stages of development: oocytes, PN, embryos, blastocysts.

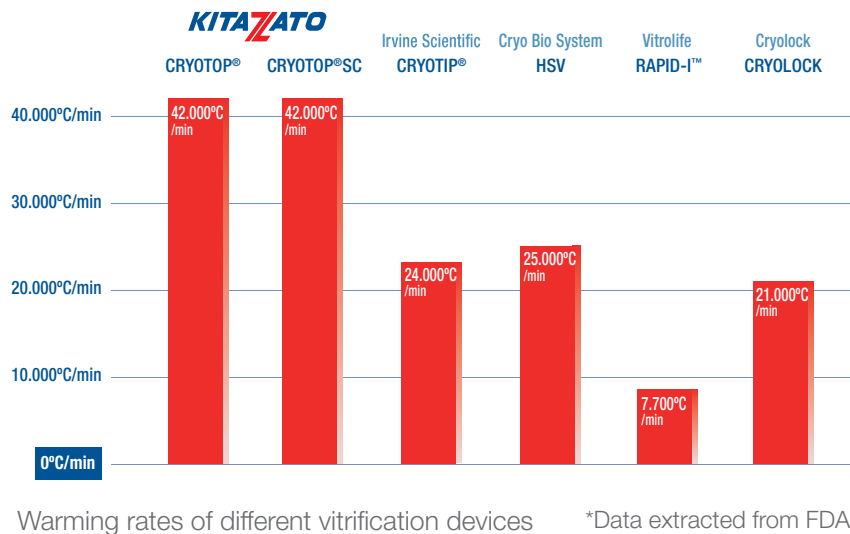
## VERSATILITY

- Egg Banking: to avoid difficult synchronization donor-recipient.
- PGD/PGS Analysis: grant the survival of your biopsied embryos.
- Fertility Preservation.
- Re-Vitrification: transfer of vitrified embryos from previously vitrified specimens.
- Deferred Embryo Transfer: to optimize the conditions of the endometrium before the transfer.
- Management of poor responders: accumulation of oocytes.

## STANDARIZATION

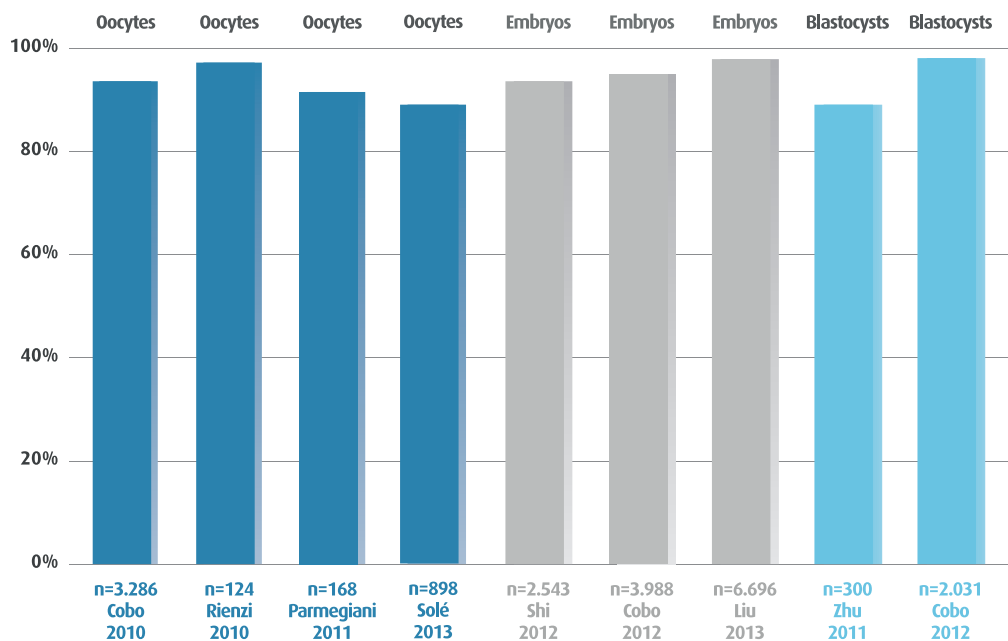
- Simplifies work routines.
- Helps optimizing scientific and global results.
- Speeds up the workflow.
- Makes easier the stock management.
- Reduces costs.

## WHY DO WE HAVE THE BEST SURVIVAL RATES?



Thanks to its protocol and the revolutionary design of its device, the Cryotop® Method has the best Warming Rate on the market for Open System and Closed System. Several studies have shown that the Warming Rate is one of the crucial factors for increasing survival rates.

All of this is possible due to the minimal volume required for proceeding with vitrification. Both Cryotop® and Cryotop® SC allow the loading of specimens with a volume of 0.1µl; this minimal volume allows the reduction of the concentration of “cryoprotectant agents”, increasing the likelihood of vitrification.



Cryotop® Survival rates in human specimen

There are excellent survival rates for oocytes and embryos in all stages of development, reported in numerous clinical publications with the largest study samples in the whole sector.

# THE WORLD LEADER IN CRYOPRESERVATION

**CRYOTOP® IS AVAILABLE IN MORE THAN 100 COUNTRIES SPREAD AMONG ALL CONTINENTS**

Leadership based on guaranteed quality, versatility and commitment with IVF professionals.



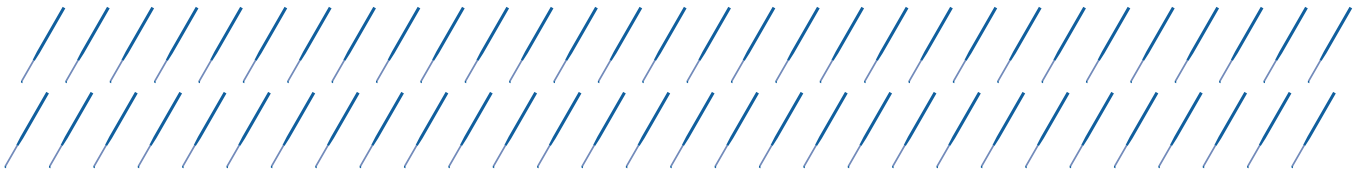
**+ 2.400 CLINICAL PAPERS  
PUBLISHED USING CRYOTOP®**



**+ 2.200 CLINICS  
PUT THEIR TRUST IN CRYOTOP®**



**MORE THAN +2.000.000 CRYOTOP® UNITS USED IN A YEAR**



**+ 5.000 EMBRYOLOGISTS TRAINED WORLDWIDE**



Other brands sell products, Kitazato provides results. That is why we have our own International Training Program focused on helping all embryologists obtain the excellent results provided by the Cryotop® Method.

## NEW CRYOTOP®

### NOT ONLY THE BEST PROVEN RESULTS, NOW ALSO THE BEST USER EXPERIENCE

Cryotop® is a vitrification device consisting of a fine strip of transparent film attached to a plastic handle resistant to liquid nitrogen.

Cryotop® is the logical choice for obtaining the best clinical results. Its unparalleled survival rates for oocytes and embryos, at every stage of development, have contributed to bringing hundreds of thousands of healthy babies into the world in the last decade.

**Available in 5 different colors.**

#### ORIENTATION MARKS

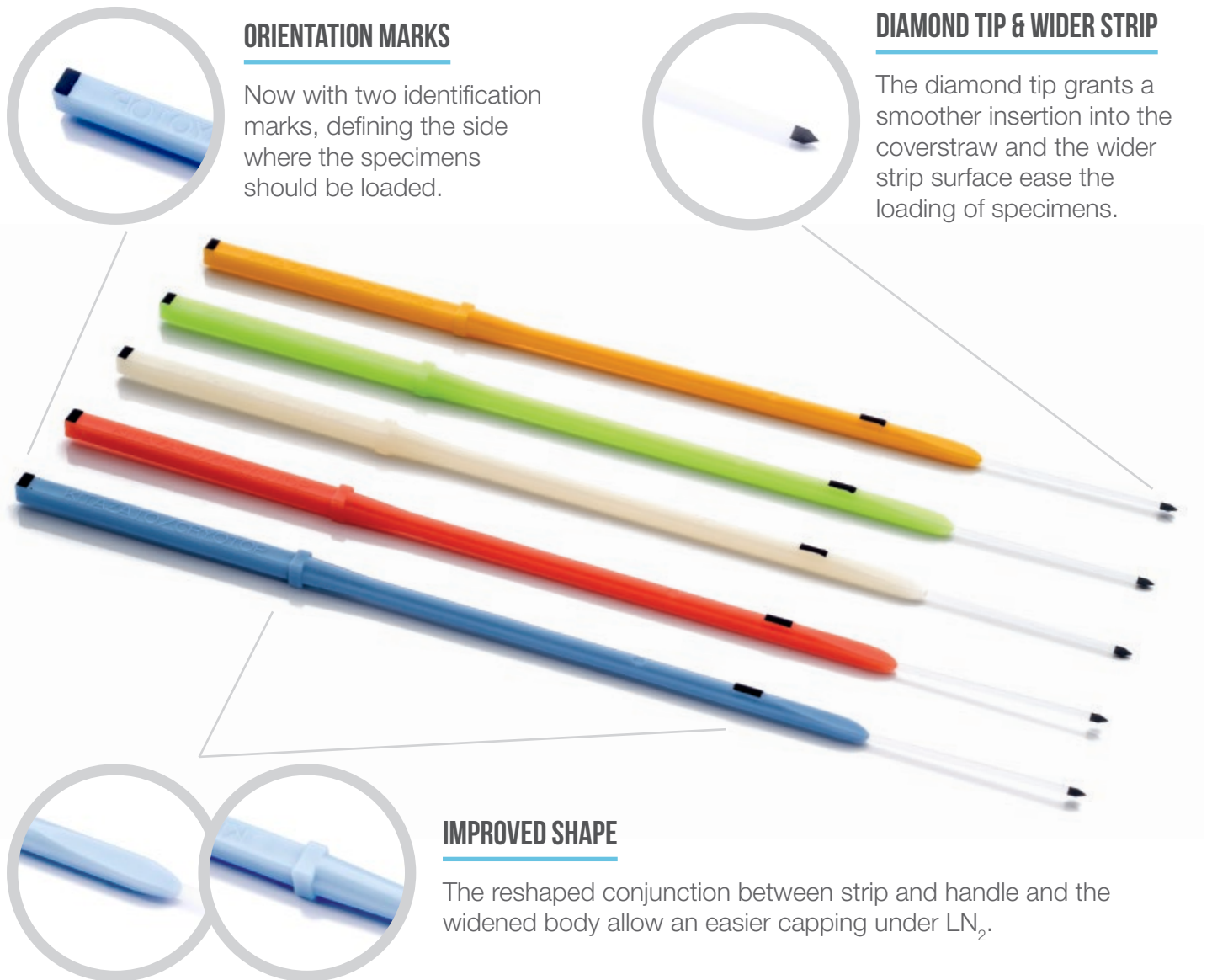
Now with two identification marks, defining the side where the specimens should be loaded.

#### DIAMOND TIP & WIDER STRIP

The diamond tip grants a smoother insertion into the coverstraw and the wider strip surface ease the loading of specimens.

#### IMPROVED SHAPE

The reshaped conjunction between strip and handle and the widened body allow an easier capping under LN<sub>2</sub>.



Its design allows the loading of specimens for vitrification with a minimum volume (0.1 µl), providing the best Cooling and Warming rates on the market (-23,000°C/minute and 42,000°C/minute respectively) which in turn lead to the best survival rates.

# MEDIA

## VT601 KITAZATO VITRIFICATION SOLUTIONS

4.1. p.d. Vitifikacijos rinkinys kiaušialąsčių užšaldymui

12 months shelf life



- 0 Vial 1.5 mL of BS (Basic Solution)
- 1 Vial 1.5 mL of ES (Equilibration Solution)
- 2 2 Vials 1.5 mL of VS (Vitrification Solution)

Kitazato Media are the most versatile option for cryopreservation in your laboratory. Reduce your costs by using the same media for vitrification and warming of oocytes and embryos, in all their stages of development, from Zygote Stage to Blastocyst. The composition of the Kitazato media is entirely synthetic. VT801/802 available in selected countries.

4.2. p.d. Vitifikacijos rinkinys kiaušialąsčių atšildymui

## VT602 KITAZATO THAWING SOLUTIONS

12 months shelf life

- 1 2 Vials 4.0 mL of TS (Thawing Solution)
- 2 Vial 4.0 mL of DS (Diluent Solution)
- 3 Vial 4.0 mL of WS (Washing Solution)



## QUALITY CONTROL

- pH: 7.2 - 7.6
- Osmolality
- Endotoxin: <0.25EU/mL
- Sterility
- MEA (Mouse Embryo Assay): One cell assay ≥80% after 96 hours

## COMPOSITION

- HEPES within Basic Culture Media
- Ethylene Glycol
- Dimethyl Sulfoxide
- Trehalose
- Hydroxypropyl Cellulose
- Gentamicin



## REPRO PLATE

Exclusively designed to follow the vitrification protocol with comfort; offers two slots to support the Cryotop®, allowing those who wish to carry out loading specimens statically. Has a flat base which allows the use of traceability labels.



## COOLING RACK

Designed to contain the liquid nitrogen during vitrification. Metallic cover for the interior also available, allowing sterilisation before use.

## CRYOTOP® SC CLOSED SYSTEM

Cryotop® SC is an evolution in vitrification with the Closed System of the successful Cryotop®; it allows the device to be sealed within a straw, allowing the vitrification of the specimens without them entering into direct contact with the liquid nitrogen. Its new sealed protocol ensures success during vitrification guaranteeing safe storage.

**Available in 5 different colors.**



L shaped tip to protect the specimen from an abrupt arrival at the end of the external straw during the insertion.



## HEAT SEALER

With a rapid application it allows the easy sealing of the external straw of the Cryotop® SC.



## STRAW CUTTER

Allows the external straw to be cut during the vitrification and warming processes.



## ALUMINUM BLOCK

Block of aluminium with three preset positions; guarantees success in the insertion and sealing process as well as the effective extraction of the Cryotop® from the straw during warming.

## CLINICAL REFERENCES

### FERTILITY PRESERVATION

- Cobo A., Oocyte vitrification as an efficient option for elective fertility preservation. *Fertility & Sterility*, 2016.
- Cobo A., Effect of oocyte vitrification on embryo quality: time-lapse analysis and morphokinetic evaluation. *Fertility & Sterility*, 2017.
- Diaz-Garcia C., Oocyte vitrification versus ovarian cortex transplantation in fertility preservation for adult women undergoing gonadotoxic treatments: a prospective cohort study. *Fertility & Sterility*, 2018.
- Grynberg M., BRCA1/2 gene mutations do not affect the capacity of oocytes from breast cancer candidates for fertility preservation to mature in vitro. *Human Reproduction*, 2018.
- Cobo A., Elective and Onco-fertility preservation: factors related to IVF outcomes. *Human Reproduction*, 2018.
- Creux H., Thirteen years' experience in fertility preservation for cancer patients after in vitro fertilization and in vitro maturation treatments. *Journal Assisted Reproduction Genetics*, 2018.
- Coello A., Effect of oocyte morphology on post-warming survival and embryo development in vitrified autologous oocytes. *Reproductive Biomedicine Online*, 2019.

### EGG BANKING

- Cobo A., Use of cryo-banked oocytes in an ovum donation program: a prospective, randomized, controlled, clinical trial. *Human Reproduction*, 2010.
- Solé M., How does vitrification affect oocyte viability in oocyte donation cycles? A prospective study to compare outcomes achieved with fresh versus vitrified sibling oocytes. *Human Reproduction*, 2013.
- Bárcena P., Should we worry about the clock? Relationship between time to ICSI and reproductive outcomes in cycles with fresh and vitrified oocytes. *Human Reproduction*, 2016.
- Domingues TS., Egg donation of vitrified oocytes bank produces similar pregnancy rates by blastocyst transfer when compared to fresh cycle. *Journal Assisted Reproduction Genetics*, 2017.
- Parmegiani L., Transnational oocyte donation program: fresh versus vitrified oocytes. *Human Reproduction*, 2019.

### PGT

- Ubaldi F.M., Reduction of multiple pregnancies in the advanced maternal age population after implementation of an elective single embryo transfer policy coupled with enhanced embryo selection: pre- and post-intervention study. *Human Reproduction*, 2015.
- Rodríguez-Purata J., Reproductive outcome is optimized by genomic embryo screening, vitrification, and subsequent transfer into a prepared synchronous endometrium. *Journal Assisted Reproduction Genetics*, 2016.
- Chamayou S., The Accumulation of Vitrified Oocytes Is a Strategy to Increase the Number of Euploid Available Blastocysts for Transfer After Preimplantation Genetic Testing. *Journal Assisted Reproduction Genetics*, 2017.
- Cimadomo D., Associations of blastocyst features, trophectoderm biopsy and other laboratory practice with post-warming behavior and implantation. *Human Reproduction*, 2018. (Kitazato, Irvine/Cryolock)
- Coll L., Transition from blastomere to trophectoderm biopsy: comparing two preimplantation genetic testing for aneuploidies strategies. *Zygote*, 2018.
- Hernandez-Nieto C., What is the reproductive potential of day 7 euploid embryos? *Human Reproduction*, 2019.
- Magli MC., Deoxyribonucleic acid detection in blastocoelic fluid: a new predictor of embryo ploidy and viable pregnancy. *Fertility & Sterility*, 2019.

### FREEZE-ALL

- Berkkanoglu M., Optimal embryo transfer strategy in poor response may include freeze-all. *Journal Assisted Reproduction Genetics*, 2017.
- Braga DP., Freeze-all, oocyte vitrification, or fresh embryo transfer? Lessons from an egg-sharing donation program. *Fertility & Sterility*, 2016.
- Xue Y., Freeze-all embryo strategy in poor ovarian responders undergoing ovarian stimulation for in vitro fertilization. *Gynecological Endocrinology*, 2018.
- Cardenas Arma D.F., Frozen-thawed blastocyst transfer in natural cycle increase implantation rates compared artificial cycle. *Gynecological Endocrinology*, 2019.

### EMBRYOS

- Cobo A., Outcomes of vitrified early cleavage-stage and blastocyst-stage embryos in a cryopreservation program: evaluation of 3,150 warming cycles. *Fertility & Sterility*, 2012.
- Cobo A., Outcome of cryotransfer of embryos developed from vitrified oocytes: double vitrification has no impact on delivery rates. *Fertility & Sterility*, 2013.
- Yang H., Comparison of differences in development potentials between frozen-thawed D5 and D6 blastocysts and their relationship with pregnancy outcomes. *Journal Assisted Reproduction Genetics*, 2016.
- Coello A., Analysis of the morphological dynamics of blastocysts after vitrification/warming: defining new predictive variables of implantation. *Fertility & Sterility*, 2017.
- Liu H., Elevated incidence of monozygotic twinning is associated with extended embryo culture, but not with zona manipulation or freeze-thaw procedure. *Fertility & Sterility*, 2018.
- Gu F., Perinatal outcomes of singletons following vitrification versus slow-freezing of embryos: a multicenter cohort study using propensity score analysis. *Human Reproduction*, 2019.
- La Marca A., A novel transnational fresh oocyte donation (TOD) program based on transport of frozen sperm and embryos. *Human Reproduction*, 2019.
- Liu H., Effect of endometrial thickness on ectopic pregnancy in frozen embryo transfer cycles: an analysis including 17,244 pregnancy cycles. *Fertility & Sterility*, 2019.
- Zhang J., 2020 The impact of embryo quality on singleton birthweight in vitrified-thawed single blastocyst transfer cycles. *Human reproduction*, 2020.

### SAFE STORAGE

- Cobo A., Storage of human oocytes in the vapor phase of nitrogen. *Fertility & Sterility*, 2010.
- Cobo A., Viral screening of spent culture media and liquid nitrogen samples of oocytes and embryos from hepatitis B, hepatitis C, and human immunodeficiency virus chronically infected women undergoing in vitro fertilization cycles. *Fertility & Sterility*, 2012.
- Cobo A., Six years' experience in ovum donation using vitrified oocytes: report of cumulative outcomes, impact of storage time, and development of a predictive model for oocyte survival rate. *Fertility & Sterility*, 2015.
- Li W., Influence of storage time on vitrified human cleavage-stage embryos frozen in open system. *Gynecological endocrinology*, 2017.
- Sekhon L., Blastocyst vitrification, cryostorage and warming does not affect live birth rate, infant birth weight or timing of delivery. *Reproductive Biomedicine Online*, 2018.
- Ueno S., Cryostorage duration does not affect pregnancy and neonatal outcomes: a retrospective single-centre cohort study of vitrified-warmed blastocysts. *Reproductive Biomedicine Online*, 2018.

## QUALITY RESULTS FOR LIFE

Kitazato applies the philosophy of continuous improvement. We cooperate with some of the most important fertility clinics in the world, listening attentively to their suggestions and adapting to the results of their research and their daily work to develop new methods to combat infertility and constantly improve our products.



Our relationship with the clinics is very close thanks to our international training program. We constantly organise workshops and talks for embryologists and doctors where they have the opportunity to see and learn about the correct use of our products. We are willing to share with you our experience so that you can obtain the quality results that we are capable of offering.

Because quality is the *raison d'être* of Kitazato; we believe in it from start to finish, from the selection of raw materials to the delivery of products to the clinics. This is our main objective, our daily challenge: to offer the highest standards of quality to guarantee that our clients achieve the best results, and thus be able to make the patients' dreams of being parents a reality.



# Dibimed

Manufactured by:  
Kitazato Corporation  
81 Nakajima, Fuji  
Shizuoka 416-0907 Japan  
Tel +81-545-66-2202  
Fax +81-545-60-5772  
[trading@kitazato.co.jp](mailto:trading@kitazato.co.jp)

Distributed by:  
Dibimed  
C/ Jorge Comín, 3 Bajo 1-2  
46015 Valencia, Spain  
Tel +34 96 305 63 95  
Fax +34 96 305 63 96  
[kitazato@dibimed.com](mailto:kitazato@dibimed.com)



[www.kitazato-dibimed.com](http://www.kitazato-dibimed.com)

v.2020.2