This catalogue shows a selection of articles on using the Cryotop® Method from Kitazato published in various scientific magazines. These publications were not created for commercial purposes; scientific dissemination is their only objective.

The purpose of this catalogue is to show the results provided by the Cryotop® Method from Kitazato as a cryopreservation method.
VITRIFICATION
CRYOTOP®

CLINICAL REFERENCES

OOCYTES

EMBRYOS
Zhu D., Vitrified-warmed blastocyst transfer cycles yield higher pregnancy and implantation rates compared with fresh blastocyst transfer cycles-time for a new embryo transfer strategy? Fertility & Sterility, 2011.
Cobo A., Outcome of cryotransfer of embryos developed from vitrified oocytes: doublevitrification has no impact on delivery rates. Fertility & Sterility, 2013.

FERTILITY PRESERVATION
Cobo A., Oocyte vitrification as an efficient option for elective fertility preservation. Fertility and Sterility, 2016.

PGD/PGS
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.

DEFERRED EMBRYO TRANSFER

FREEZE ALL

OTHER CRYOBIOLOGY ARTICLES
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 device consisting of a fine, thin film strip attached to hard plastic handle for the minimum volume cooling 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.

Cryotop® has been fine tuned for U.S. market. Cryotop® is now available in the U.S. with two distinct products for your vitrification requirements. Cryotop® US and Cryotop® CL are the most recent innovative vitrification device offerings from Kitazato that enable you to achieve the highest survival rates with a closed system.
THE CRYOTOP® METHOD

MAIN ADVANTAGES
- Survival rates over 90%
- Best cooling and warming rates in the market
- Same protocol, easy to follow
- Valid for all stage of development: oocytes, PN, embryos and 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
- Differed Embryo Transfer: to optimize the conditions of the endometrium before the transfer
- Management of poor responders: accumulation of oocytes

STANDARDIZATION
- Simplified Protocol
- Optimized results
- Efficient time saving technique
- Contributes to cost effective inventory control
KITAZATO VITRIFICATION

KITAZATO HAS THE DISTINGUISHED TECHNOLOGY

With its revolutionary design and protocol, Cryotop® Method has high cooling and warming rate. Several studies have shown that the warming rate is more crucial for increasing survival rates. Furthermore, all CryoTip, Cryotop®, Cryotop®US and Cryotop®CL are developed and patented by Kitazato.

High cooling rate and warming rate are achieved by minimal volume of the solution in the vitrification. All types of Cryotop® allow loading of the specimens with a volume of 0.1μL; this minimal volume allows the reduction of the concentration of “cryoprotectant agents”.

CRYOTOP® SURVIVAL RATES IN HUMAN SPECIMEN

There are high 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® METHOD IS PRACTICED IN 93 COUNTRIES WORLDWIDE

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®

8,000,000 CRYOTOP® UNITS SOLD WORLDWIDE

500 EMBRYOLOGISTS TRAINED PER YEAR
CRYOTOP® US

Cryotop® US is a newly designed vitrification device for the U.S. market. Its design innovations incorporate all of the benefits of the original Cryotop® enhanced with some additional features.

MAIN FEATURES

THIN TRANSPARENT STRIP FOR LOADING SPECIMENS
The thin transparent strip and the minimal volume of the vitrification media leads to the high cooling rate

U-SHAPED LOADING STRIP WITH ROUNDED CORNERS
U-shaped transparent strip protects specimens from all the angles. Rounded corners facilitate insertion into the cover straw

ORIENTATION MARKING
Ensure correct orientation for specimen loading

Available in 5 different colors

<table>
<thead>
<tr>
<th>Order number</th>
<th>Description</th>
<th>Color</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>81161</td>
<td>Cryotop®US(G)</td>
<td>Green</td>
<td>10/Pack</td>
</tr>
<tr>
<td>81162</td>
<td>Cryotop®US(R)</td>
<td>Red</td>
<td>10/Pack</td>
</tr>
<tr>
<td>81163</td>
<td>Cryotop®US(W)</td>
<td>White</td>
<td>10/Pack</td>
</tr>
<tr>
<td>81164</td>
<td>Cryotop®US(B)</td>
<td>Blue</td>
<td>10/Pack</td>
</tr>
<tr>
<td>81165</td>
<td>Cryotop®US(Y)</td>
<td>Yellow</td>
<td>10/Pack</td>
</tr>
</tbody>
</table>

* 4-8 cell and blastocyst stage embryo in the U.S.
CRYOTOP® CL

Cryotop® CL is a vitrification device especially designed to maximize the cooling rate of the closed system. It allows the whole device to be sealed in a cover straw, allowing the vitrification of the specimens without direct contact with the liquid nitrogen.

MAIN FEATURES

METAL STRIP EMBEBBED ALONG THE SIDE OF THE LOADING STRIP
Aids in accelerating the cooling rate as it comes in contact with the metal weight of the cover straw. The looped-tip design prevents the straw tip from scratching the dish during the thawing procedure.

METAL BAND ON THE HANDLE PART
Protects the Cryotop® CL handle from being cut in the thawing procedure.

TAPERED SHAPED STRAW
Facilitate the introduction of Cryotop® CL into the cover straw.

Available in 5 different colors

<table>
<thead>
<tr>
<th>Order number</th>
<th>Description</th>
<th>Color</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>81131</td>
<td>Cryotop® CL(G)</td>
<td>Green</td>
<td>10/Pack</td>
</tr>
<tr>
<td>81132</td>
<td>Cryotop® CL(R)</td>
<td>Red</td>
<td>10/Pack</td>
</tr>
<tr>
<td>81133</td>
<td>Cryotop® CL(W)</td>
<td>White</td>
<td>10/Pack</td>
</tr>
<tr>
<td>81134</td>
<td>Cryotop® CL(B)</td>
<td>Blue</td>
<td>10/Pack</td>
</tr>
<tr>
<td>81135</td>
<td>Cryotop® CL(Y)</td>
<td>Yellow</td>
<td>10/Pack</td>
</tr>
</tbody>
</table>

* 4-8 cell and blastocyst stage embryo in the U.S.

QUALITY CONTROL

- Sterility Test
- Endotoxin ≤0.5EU/device
- Mouse Embryo Assay ≥80%
- Appearance
- Tensile strength >5N
- Radiation Sterilization (SAL10*)
COOLING RACK
Liquid Nitrogen container for vitrification. Stainless Container interior which allows sterilization before use is also available.

REPRO PLATE
Exclusively designed to follow the vitrification protocol with ease; offers a slot to support the Cryotop®US and Cryotop®CL.

QUALITY CONTROL
- Endotoxin ≤ 0.5EU / device
- Mouse Embryo Assay (One Cell) ≥ 80%
- Appearance
THE CRYOTOP® METHOD

**HEAT SEALER**
With a rapid application, it allows the easy sealing of the external straw of the Cryotop® CL.

**STRAW CUTTER**
Optimal design for cutting the external straw of the Cryotop® CL.

**ALUMINUM BLOCK CL**
Block of aluminum with preset position; guarantees success in the insertion and sealing process as well as the effective extraction of the Cryotop®CL from the straw during warming.

<table>
<thead>
<tr>
<th>Order number</th>
<th>Description</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>84010</td>
<td>Cooling Rack (S)</td>
<td>2pcs/set</td>
</tr>
<tr>
<td>84014</td>
<td>Cooling Rack (L)</td>
<td>2pcs/set</td>
</tr>
<tr>
<td>94120</td>
<td>Stainless Container for Cooling Rack (S)</td>
<td>2pcs/set</td>
</tr>
<tr>
<td>94121</td>
<td>Stainless Container for Cooling Rack (L)</td>
<td>2pcs/set</td>
</tr>
<tr>
<td>94122</td>
<td>Set of Cooling Rack &amp; Stainless Container (S)</td>
<td>2pcs/set</td>
</tr>
<tr>
<td>94123</td>
<td>Set of Cooling Rack &amp; Stainless Container (L)</td>
<td>2pcs/set</td>
</tr>
<tr>
<td>84122</td>
<td>Aluminum Block CL</td>
<td>1</td>
</tr>
<tr>
<td>84117</td>
<td>Straw Cutter</td>
<td>1</td>
</tr>
<tr>
<td>84121</td>
<td>Sealer (Plug A)</td>
<td>1</td>
</tr>
<tr>
<td>83001</td>
<td>Repro Plate</td>
<td>50pcs/pack</td>
</tr>
</tbody>
</table>
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.

**VT601US - VITRIFICATION MEDIA**

1. Vial 1.5 mL of ES (Equilibration Solution)
2. Vials 1.5 mL of VS (Vitrification Solution)

**VT602US - THAWING MEDIA**

2. Vials 4.0 mL of TS (Thawing Solution)
1. Vial 4.0 mL of DS (Diluent Solution)
1. 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
**VT601US - TOP - VITRIFICATION KIT**

1. Vial 1.5 mL of ES (Equilibration Solution)
2. Vials 1.5mL of VS (Vitrification Solution)
4. pcs of Cryotop®US
2. pcs of Repro Plate

Vitrification Kit and Thawing Kit contains all the media, device and dish to follow the protocol.

**VT602US - KIT - THAWING KIT**

2. Vials 4.0 mL of TS (Thawing Solution)
1. Vial 4.0mL of DS (Diluent Solution)
1. Vial 4.0mL of WS (Washing Solution)
1. pc of Repro Plate
2. pcs of 35mm Dish

<table>
<thead>
<tr>
<th>Order number</th>
<th>Description</th>
<th>color</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>91110</td>
<td>VT601US</td>
<td></td>
<td>1 box</td>
</tr>
<tr>
<td>91130</td>
<td>VT602US</td>
<td></td>
<td>1 box</td>
</tr>
<tr>
<td>82311</td>
<td>VT601US-TOP (G)</td>
<td>Green</td>
<td>1 box</td>
</tr>
<tr>
<td>82312</td>
<td>VT601US-TOP (R)</td>
<td>Red</td>
<td>1 box</td>
</tr>
<tr>
<td>82313</td>
<td>VT601US-TOP (W)</td>
<td>White</td>
<td>1 box</td>
</tr>
<tr>
<td>82314</td>
<td>VT601US-TOP (B)</td>
<td>Blue</td>
<td>1 box</td>
</tr>
<tr>
<td>82315</td>
<td>VT601US-TOP (Y)</td>
<td>Yellow</td>
<td>1 box</td>
</tr>
<tr>
<td>82322</td>
<td>VT602US-KIT</td>
<td></td>
<td>1 box</td>
</tr>
</tbody>
</table>

* In the U.S., available for PN, embryos and blastocysts.
OOCYTE RETRIEVAL NEEDLE
OOCYTE RETRIEVAL NEEDLE

The superior rigidity achieved by using the highest quality steel enables Kitazato to offer the “Thin Wall” design.
It also features a triple bevel blade design that affords superior sharpness allowing quick, smooth follicle penetration and egg retrieval minimizing damage to the ovarian tissue.

The Thin Wall reduces retrieval time. The needle provides a larger internal diameter for aspiration compared to other needles of the same gauge.
The design also reduces the risk of bleeding and helps improve recovery time.

Our range of diameters, from 16G to 21G, the largest on the market, offers ideal options for working with patients with low response in natural cycles, allowing the follicular aspiration to be carried out without anesthetic with the smallest diameters.

MAIN FEATURES

**TIP WITH ECHOGENIC MARKING**
Guarantees high visibility for the correct approach during follicle penetration and retrieval

**“THIN WALL” DESIGN**
Provides a greater internal diameter
Reduces stress to the oocyte during aspiration and allows work with needles with smaller external diameter, reducing trauma to the patient

**TRIPLE CUT BLADE**
Ensures fast and effective follicle penetration while reducing the risk of bleeding and tissue trauma

**HANDLE WITH POSITIONING MARKING**
Provides positioning control throughout the retrieval process and helps define the position of the needle tip

**SILICON BUNG WITH SYRINGE CONNECTION**
Allows for ease of flushing
Latex Free

*A variety of aspiration line lengths are available*
**PUMP ASPIRATION SINGLE LUMEN**

Designed and manufactured in compliance with the highest quality standards

- Thin Wall
- Triple Cut
- Echogenic Marking
- From 16G to 21G

---

**PRODUCT REFERENCES**

**PUMP ASPIRATION SINGLE LUMEN**

<table>
<thead>
<tr>
<th>Order number</th>
<th>Gauge</th>
<th>Needle length (cm)</th>
<th>Aspiration line (cm)</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>356354 Type2-v1</td>
<td>16</td>
<td>35</td>
<td>100</td>
<td>10/box</td>
</tr>
<tr>
<td>357354 Type2-v2</td>
<td>17</td>
<td>35</td>
<td>100</td>
<td>10/box</td>
</tr>
<tr>
<td>358354 Type2-v3</td>
<td>18</td>
<td>35</td>
<td>100</td>
<td>10/box</td>
</tr>
<tr>
<td>359354 Type2-v4</td>
<td>19</td>
<td>35</td>
<td>100</td>
<td>10/box</td>
</tr>
<tr>
<td>350304 Type2-v5</td>
<td>20</td>
<td>30</td>
<td>100</td>
<td>10/box</td>
</tr>
<tr>
<td>350354 Type2-v5</td>
<td>20</td>
<td>35</td>
<td>100</td>
<td>10/box</td>
</tr>
<tr>
<td>351304 Type2-v6</td>
<td>21</td>
<td>30</td>
<td>100</td>
<td>10/box</td>
</tr>
</tbody>
</table>

---

**QUALITY CONTROL**

- MEA (Mouse Embryo Assay):
  One cell assay ≥ 80% after 96 hours
- Endotoxin: < 20EU/device
- SAL10⁻⁶
- Cytotoxicity Test
- Intracutaneous Reactivity Test
- Sensitization Test
INTRAUTERINE INSEMINATION CATHETER
INTRAUTERINE INSEMINATION CATHETER (IUI)

Improve your success rates in Artificial Insemination with the smooth and rounded tip. Stylet cannula adds rigidity to the IUI catheter for difficult cases.

MAIN FEATURES

MALLEABLE CATHETER WITH MEMORY
For making optimum curve

SMOOTH AND ROUNDED TIP
Reduce trauma during insertion

TIP WITH DOUBLE LATERAL OPENING
For better dispersion of the sperm

HOLLOW DESIGNED STYLET CANNULA
Enable direct injection of sperm without its removal

PRODUCT REFERENCES

<table>
<thead>
<tr>
<th>Order number</th>
<th>Catheter (Fr)</th>
<th>Catheter length (cm)</th>
<th>Total volume minus hub</th>
<th>unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>121180</td>
<td>6</td>
<td>18</td>
<td>0.10mL</td>
<td>50/box</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.03mL (with Stylet cannula)</td>
<td></td>
</tr>
</tbody>
</table>

QUALITY CONTROL

- HSSA(Human Sperm Survival Assay)
  - ≥ 70% motility at 24-hours
- Endotoxin: < 20EU/device
- SAL 10⁻⁶
- Cytotoxicity Test
- Intracutaneous Reactivity Test
- Sensitization Test

COMPOSITION

- Polyvinylchloride
- Stainless Steel SUS304
EMBRYO CULTURE
MEDIUM
Hypure™ Oil

Hypure™ Oil is the new standard providing you optimal high purity paraffin oil to cover culture medium for in vitro fertilization and ICSI procedures to prevent evaporation and maintain stable osmolality and pH.

Main Features

2 Types Available: Light and Heavy
Specific Gravity: Light 0.838g/mL  Heavy 0.862g/mL

High Purity
No RNA detection, so the quality of the oil is stable
Proven by readily carbonizable substance test performed in each lot
Makes it possible to be stored at 8-30°C

Light Shielding and Airtight Glass Bottle
Prevents deterioration of the quality
Maintains low peroxide value
Nitrogen filled in bottle

Ready to Use
Washed twice with ultrapure water

Order number | Description       | Content | Shelf Life | Storage          |
-------------|-------------------|---------|------------|------------------|
93621        | Hypure™ Oil Heavy | 100ml   | 12months   | 8-30°C (Dark storage) |
93622        | Hypure™ Oil Heavy | 50ml    |            |                  |
93521        | Hypure™ Oil Light | 100ml   |            |                  |
93522        | Hypure™ Oil Light | 50ml    |            |                  |

Quality Control

-POV ≤ 0.1 meq/kg
-Readily Carbonizable Substances
-Endotoxin: < 0.25 EU/mL
-MEA: ≥ 80%
-Sterility Test
PBS(-)

Buffered solution with similar pH and osmolality ranges meeting the physiological requirements of gametes and embryos.

**MAIN FEATURES**

Without Calcium and Magnesium

<table>
<thead>
<tr>
<th>Order number</th>
<th>Description</th>
<th>Content</th>
<th>Shelf Life</th>
<th>Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>93352</td>
<td>PBS(-)</td>
<td>500ml</td>
<td>6 months</td>
<td>15-30°C</td>
</tr>
</tbody>
</table>

**QUALITY CONTROL**

- pH: 7.2-7.6
- Osmolality: 270-295mOsm/kg
- Endotoxin: <0.25EU/mL
- MEA: ≥80%
- Sterility Test

**COMPOSITION**

- Di-sodium Hydrogen Phosphate Anhydrous
- Potassium Chloride
- Potassium Phosphate
- Sodium Chloride
Kitazato is a development-oriented manufacturer of products for Assisted Reproductive Technologies.

CORPORATE IDEAL
As a development-oriented manufacturer of life science products, Kitazato Corporation aims to contribute to the health and happiness of people around the world and bring together the passion and wisdom of all our employees in pursuance of this end.

CORPORATE VISION: “CREATING NEW WORLD-CLASS VALUES”
Corporate Mission: We strive to see things from our customers’ perspective. We think with them, learn with them, and create new world-class values.

CORPORATE OBJECTIVE: “SUPPORTING THE HEALTH AND HAPPINESS OF PEOPLE”
Our goal is to contribute to the development of medicine and biotechnology, and we will make every effort to realize the hopes of people around the world for healthy living and a happy life.