

Corning® CoolCell® Containers



Corning CoolCell alcohol-free cell freezing containers ensure a standardized controlled-rate of freezing of $-1^{\circ}\text{C}/\text{minute}$ cell freezing in a -80°C freezer—without alcohol or any fluids. CoolCell cryogenic containers are proven for use with a variety of cell types including stem cells, primary cells, PBMC, cell lines, insect cells, yeast, and others. The proprietary Corning CoolCell technology utilizes a thermo-conductive alloy core and highly-insulative outer material to control the rate of heat removal and provide reproducible cell cryopreservation. CoolCell units are easy to use and deliver results comparable to expensive programmable freezers at a fraction of the cost.

Features

- ▶ Ease of use
- ▶ Alcohol and fluid-free freezing
- ▶ Lower cost of use than alcohol-based devices
- ▶ Available in purple, green, orange, and pink.

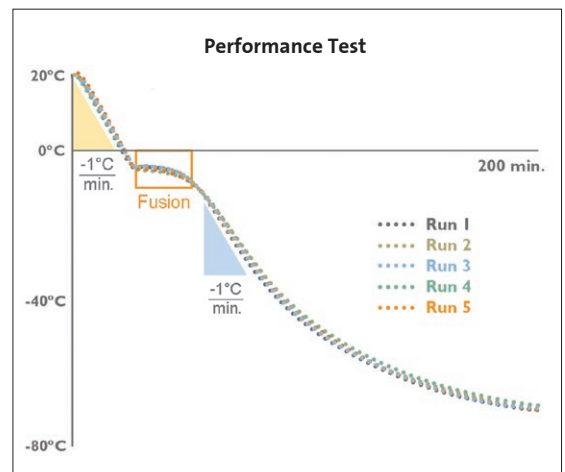


Better than IPA



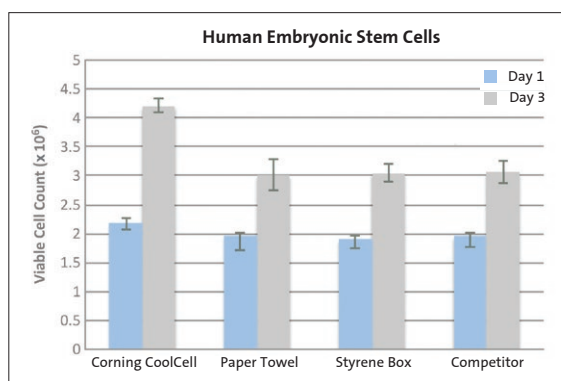
| Corning CoolCell Container | Isopropanol (IPA) Container |
|--|--|
| No alcohol <ul style="list-style-type: none"> • No fluids • No pre-cooling • Saves 12L/unit of IPA per year | Requires isopropanol <ul style="list-style-type: none"> • Replace alcohol after every 5 uses • Track number of uses • Pre-cool alcohol in refrigerator |
| No variability <ul style="list-style-type: none"> • All vials have uniform freeze rate • Radially symmetric design ensures vial consistency | Inconsistent freeze rate <ul style="list-style-type: none"> • Alcohol degradation induces variability • Two circles of wells; two freeze rates |
| No on-going cost <ul style="list-style-type: none"> • No alcohol purchase or disposal | Approximately \$350/year <ul style="list-style-type: none"> • Change alcohol weekly • Hazardous waste disposal |
| No stuck lids <ul style="list-style-type: none"> • Ergonomic lid comes off easily when frozen • Not cold to the touch when removing from the -80°C freezer | Difficult to handle <ul style="list-style-type: none"> • Screw cap is difficult to remove when frozen • Frozen unit is slippery and cold to the touch |
| Quick re-use time <ul style="list-style-type: none"> • Ready to use again after five minutes | Wait between runs <ul style="list-style-type: none"> • Takes >1 hour for the alcohol to warm-up |

Corning CoolCell Reproducibility

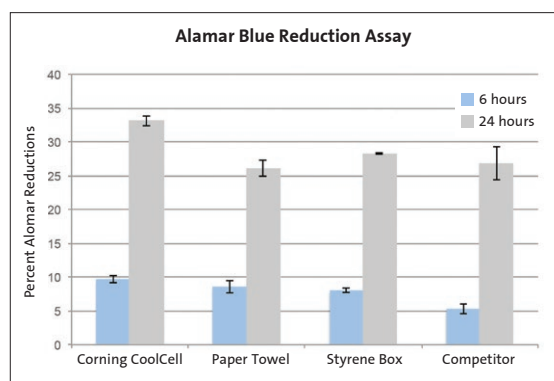


A temperature probe was placed into a 2.0 mL cryogenic vial containing 1.0 mL of water, and the tube was inserted into a room temperature Corning CoolCell. The CoolCell was placed into a -80°C freezer, and the temperature rate and profile was recorded over a 3-hour period. The test was repeated 5 consecutive times. Corning CoolCell generated identical fusion time and cooling profiles over five consecutive freeze cycles.

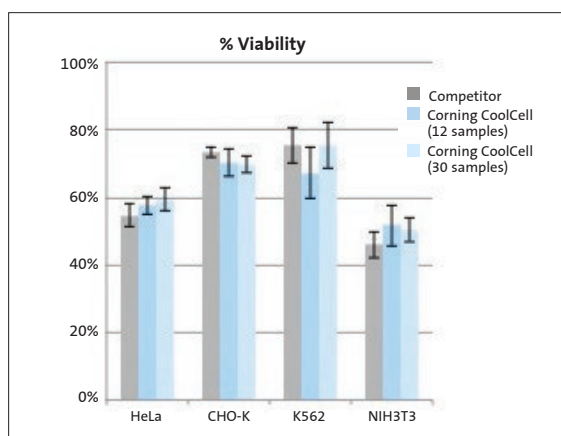
Corning® CoolCell® Performance vs. IPA Container



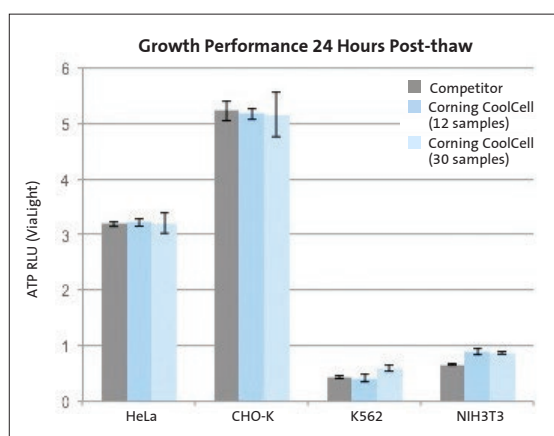
Human embryonic stem cells, RC-10, were frozen using the technique indicated, thawed after 2 weeks in LN₂, and counted immediately (Day 1) or after 3 days of growth (Day 3).



Alamar blue reduction assay for proliferation assessment showed cells frozen in the Corning CoolCell container grew quicker, leading to more total cells.

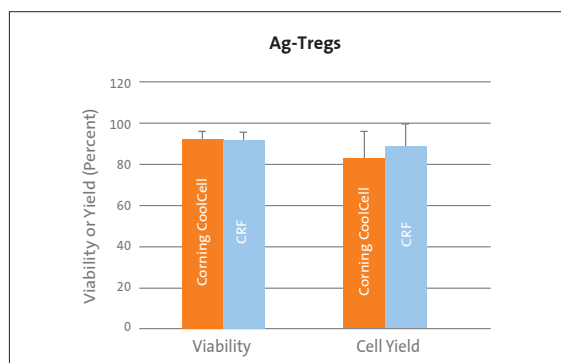


Corning CoolCell 12-well, CoolCell FTS30 30-well, or competitor freezing containers were used to freeze all four cell lines. Identical transfection efficiencies and viabilities were observed after thawing.

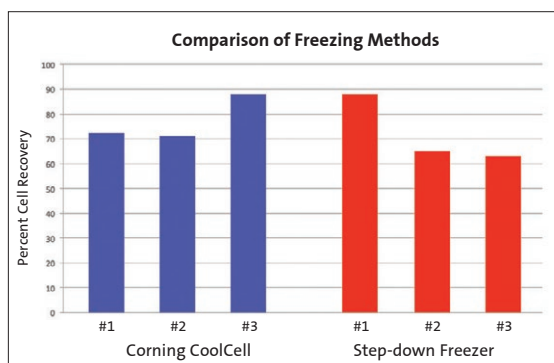


Identical growth of cells was observed 24 hours post-thaw.

Corning CoolCell Performance vs. Programmable Freezer

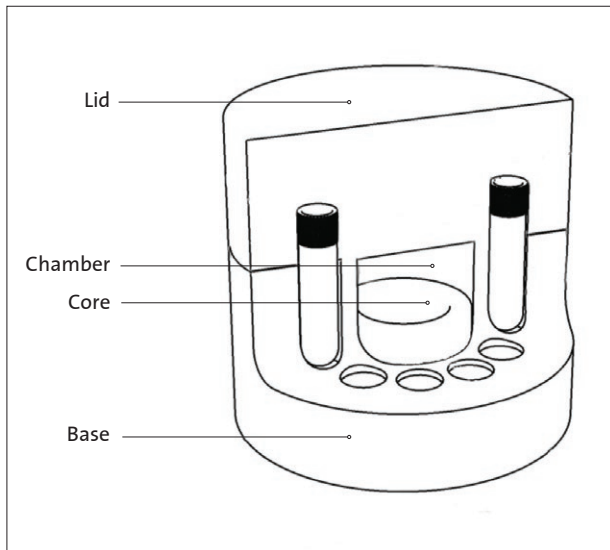


Effects of freezing on antigen-specific Treg (Ag-Treg) cell therapy products; Ag-Tregs (n = 6) were frozen at concentration of 1 to 10 x 10⁶ cells/mL using the Corning CoolCell freezing device or controlled-rate freezer (CRF) with a freezing rate of -1°C/min. Viability and absolute viable cell count of thawed Ag-Treg cell therapy products were evaluated by flow cytometry. (Data generated by TxCell SA)

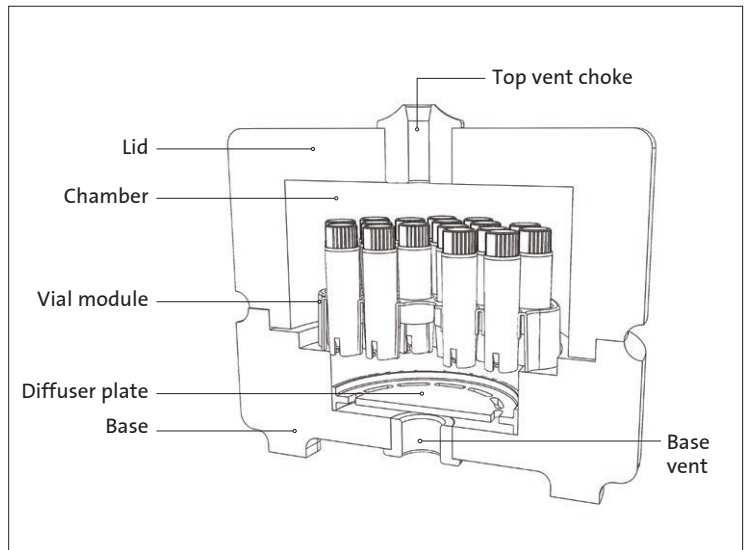


Graph comparing percent of cell recovery after freezing with the Corning CoolCell freezing device (blue) versus freezing using a programmable step-down freezer (red) in 3 different samples at high cell concentration. There was no significant difference between the two freezing methods. (Data generated by UCSF Diabetes Center)

How Corning® CoolCell® LX Works



Corning CoolCell LX uses a combination of uniform-density cross-linked polyethylene foam, a solid state core, and radial vial symmetry to create freezing profiles that are consistent and reproducible. The low heat content also ensures that CoolCell LX containers will rapidly return to room temperature when removed from the freezer.



Corning CoolCell FTS30 uses a solid state core and controlled micro-convection technology to evenly draw in -80°C freezer air through a bottom base vent, uniformly disperse the cold air around each vial in the central chamber and then release the thermal load from the vials through a top vent choke. The inner vial module holds 30 cryogenic vials and can be removed in one step. Each vial achieves a uniform and reproducible $-1^{\circ}\text{C}/\text{minute}$. Freezing profile and thermal profiles are highly reproducible. Due to the low thermal mass of the uniform-density cross-linked polyethylene foam container, freezing can be conducted without a rise in local freezer temperature, thereby protecting nearby samples.



Ordering Information

Corning® CoolCell® Containers

| Cat. No. | Description | External Dimension (Diameter x Height) | Well Diameter |
|----------|---|--|---------------|
| 432000 | Corning CoolCell, purple | 11.7 x 10.9 cm | 12.7 mm |
| 432001 | Corning CoolCell LX, purple | 11.7 x 9.9 cm | 12.7 mm |
| 432002 | Corning CoolCell LX, green | 11.7 x 9.9 cm | 12.7 mm |
| 432003 | Corning CoolCell LX, orange | 11.7 x 9.9 cm | 12.7 mm |
| 432004 | Corning CoolCell LX, pink | 11.7 x 9.9 cm | 12.7 mm |
| 432138 | Corning CoolCell LX 4-pack (all 4 colors) | 11.7 x 9.9 cm | 12.7 mm |
| 432006 | Corning CoolCell FTS30, purple | 16.5 x 11.5 cm | 12.3 mm |
| 432008 | Corning CoolCell FTS30, green | 16.5 x 11.5 cm | 12.3 mm |
| 432007 | Corning CoolCell FTS30, orange | 16.5 x 11.5 cm | 12.3 mm |
| 432009 | Corning CoolCell FTS30, pink | 16.5 x 11.5 cm | 12.3 mm |
| 432005 | Corning CoolCell 5 mL LX, purple | 9.5 x 14.5 cm | 15.2 mm |
| 432010 | Corning CoolCell SV2, purple | 13.9 x 10.5 cm | 14.7 mm |
| 432011 | Corning CoolCell SV10, purple | 12.1 x 9.8 cm | 23.6 mm |



To ensure cell freezing rate consistency and uniform results when using Corning CoolCell containers, insert a CoolCell Filler Vial into the empty wells when freezing less than a full load. It is suitable for repeated use and compatible with CoolCell LX, CoolCell FTS30, and CoolCell 5 mL LX containers.

| Cat. No. | Description | For Use With |
|----------|--|-------------------------------------|
| 432076 | Corning Corning CoolCell filler vial, 2 mL, 6/pk | Corning CoolCell LX, CoolCell FTS30 |
| 432077 | Corning Corning CoolCell filler vial, 5 mL, 6/pk | Corning CoolCell 5 mL LX |
| 432078 | Removable cryogenic vial module for CoolCell FTS30 | Corning CoolCell FTS30 |



Corning Cryogenic Vial Grippers

Cryogenic vial grippers feature a unique design to grasp internal or external-thread cryogenic vials. Grippers enable easy sorting and moving of vials while maintaining sterility and protecting fingers from frozen vials, dry ice, and liquid nitrogen.

| Cat. No. | Description |
|----------|---|
| 432136 | Cryogenic vial grippers, multi-color (5/cs) |

For more specific information on claims, visit the Certificates page at www.corning.com/lifesciences.

Warranty/Disclaimer: Unless otherwise specified, all products are for research use only. Not intended for use in diagnostic or therapeutic procedures. Corning Life Sciences makes no claims regarding the performance of these products for clinical or diagnostic applications.

For additional product or technical information, visit www.corning.com/lifesciences or call 800.492.1110. Outside the United States, call +1.978.442.2200 or contact your local Corning sales office.

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