

CoolCell[®] LX Alcohol-free Cryopreservation Container

Instruction Manual

Catalog Number ACS-6000

Controlled-rate cell freezing container for 1 or 2 mL cryovials

Introduction

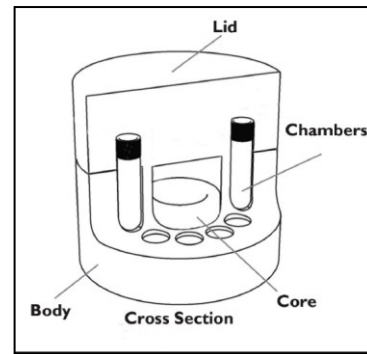
The CoolCell[®] LX container, in combination with a -80°C freezer or dry ice locker, will provide a freezing rate of -1°C per minute, which is ideal for cryopreservation of most cultured cell lines. The CoolCell LX container design uses a combination of highly insulative closed-cell foam, radial symmetry, and a solid-state alloy core to regulate heat loss rather than using a large thermal mass, such as alcohol-based freezing containers. As a result, freezing profiles are extremely consistent from one run to the next. Because of this low thermal mass, the CoolCell LX container will not cause a rise in local freezer temperature and will protect nearby samples already stored in the freezer. Low thermal mass also means the CoolCell LX container will rapidly return to room temperature for another freezing cycle (see fast recycle instructions above).

Quick start

1. The 12 chambers and cryovials should be dry to avoid the tubes sticking upon freezing.
2. Make sure the core (black ring) is at room temperature and seated in the bottom of the central cavity.
3. Place sample vials containing 1 mL of cell suspension in each well. Each well should contain a filled vial. If freezing batch is fewer than 12 vials, fill each empty well with a cryovial that contains an equivalent volume of freezing media.

Note: Cell suspensions can be inserted into a room temperature CoolCell LX container and successfully preserved. For optimal results, the CoolCell LX container should be at the same temperature as your cell suspensions.

4. Check that the tubes slide in and out freely.
5. Fully seat the lid on the CoolCell LX container
6. Place the CoolCell LX container upright in a -80°C freezer or dry ice locker. Ensure that there is at least one inch of free space clearance around the CoolCell LX module.
7. Freeze for four hours before transferring samples to archive storage.



Transferring frozen samples to archive storage

1. Prepare an insulated pan or container with a one inch (2.5 cm) layer of pulverized or pellets dry ice.
2. Remove the CoolCell LX container from the freezer and gently remove the lid, using a gentle twisting and rocking motion.
3. Vial tops will be exposed once lid is removed and vials should be quickly extracted and placed onto the dry ice.

Special Notes:

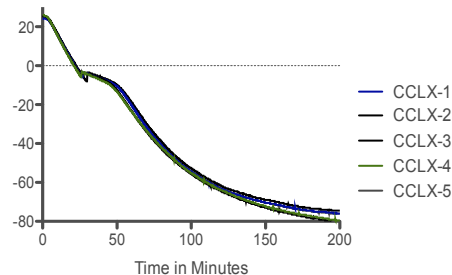
Always use dry ice to transfer cryovials containing cells to permanent storage to avoid temperature rise and cell damage. Cryovial contents can rise from -80°C to over -50°C in less than one minute if exposed to room temperature air. It is strongly recommended that all frozen cell cultures be checked for viability before the stock culture is terminated.

Recycling CoolCell LX to room temperature

CoolCell LX is ready to freeze again as soon as the foam body and core (black ring) are at room temperature. To rapidly recycle CoolCell LX to room temperature, remove the center solid core ring. CoolCell LX body and lid will return to room temperature in 10 to 15 minutes. Check that all chambers are dry. Dry the core ring before reinserting into the central chamber.

The CoolCell LX container freezing performance

A temperature probe was placed into a 2 mL cryovial containing 1 mL of cryopreservative and the tube was inserted into a CoolCell LX sitting at room temperature. CoolCell LX was then placed directly into a -80°C freezer and the temperature rate and profile were observed over a 3 hour period. This experiment was repeated five consecutive times and temperature profiles were recorded.



Conclusion: CoolCell LX showed identical cooling profiles and phase transition over five consecutive freeze cycles.

Troubleshooting

Problem	Solution
Vials do not freely fit in the chambers	CoolCell LX is designed to fit standard screw-top 1 mL and 2 mL cryovials up to 13 mm in diameter and up to 55 mm in height. Check that flag style labels, if used, will not bind and hinder insertion or removal.
Vials are stuck in CoolCell after freezing	It is likely moisture was in the vial chambers or on the sample vial prior to freezing. Remove the core (black ring) and tap the CoolCell LX to dislodge vials.
The lid does not fully seat	Ensure that sample tubes are fully seated in chamber. The maximum height of the tube is 55 mm.

Care and cleaning

The CoolCell LX container is constructed of closed-cell, cross-linked polyethylene foam and a solid thermoconductive core. It is compatible with prolonged cryogenic temperature exposure. The foam may be cleaned by water and mild soap. Rinse and dry thoroughly. The CoolCell LX container is resistant to alcohols and 10% bleach solutions. Do not autoclave. Maximum temperature exposure: 60°C. Avoid prolonged exposure to UV light sources.

ATCC Warranty

The viability of ATCC® products is warranted for 30 days from the date of shipment, and is valid only if the product is stored and cultured according to the information included on this product information sheet. ATCC lists the media formulation that has been found to be effective for this strain. While other, unspecified media may also produce satisfactory results, a change in media or the absence of an additive from the ATCC recommended media may affect recovery, growth and/or function of this strain. If an alternative medium formulation is used, the ATCC warranty for viability is no longer valid.

ATCC Disclaimer

This product is intended for laboratory research purposes only. It is not intended for use in humans. While ATCC uses reasonable efforts to include accurate and up to date information on this product sheet, ATCC makes no warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. ATCC does not warrant that such information has been confirmed to be accurate. This product is sent with the condition that you are responsible for its safe storage, handling, and use. ATCC is not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to insure authenticity and reliability of strains on deposit, ATCC is not liable for damages arising from the misidentification or misrepresentation of cultures. Please see the enclosed Material Transfer Agreement (MTA) for further details regarding the use of this product. The MTA is also available on our Web site at www.atcc.org