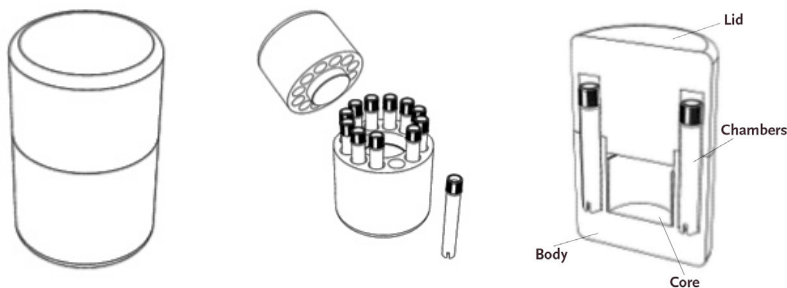


CoolCell[®] 5ml LX

Instructions for Use

Controlled-rate cell freezing container



Quick Start

- The 12 chambers and 5ml cryovials should be dry to avoid vial sticking upon freezing.
- Make sure the core (black ring) is at room temperature and seated in the bottom of the central cavity.
- Place sample vials containing 3 to 5 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 BioCision CoolCell Filler Vial (5ml, part number BCS-3106) or other vial that contains equivalent volume of freezing media.

Note: Cell suspensions can be inserted into a room temperature CoolCell and successfully preserved. For optimal results, CoolCell 5ml LX should be at the same temperature as your cell suspensions.

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

Transferring frozen samples to archive storage

- Prepare an insulated pan or container with a one inch (2.5cm) layer of pulverized or pellet dry ice.
- Remove CoolCell 5ml LX from the freezer and gently remove the lid using a gentle twist.
- Vial tops will be exposed once lid is removed and vials should be quickly extracted and placed onto the dry ice.

Special Notes:

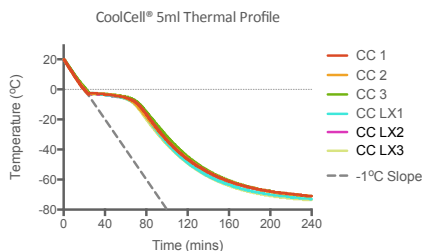
- Always use dry ice to transfer cryovials containing cells to permanent storage to avoid temperature rise and cell damage. Cryovial contents can rise from -80°C to over -50°C in less than one minute if exposed to room temperature air.
- It is strongly recommended that all frozen cell cultures be checked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

Recycling the CoolCell 5ml LX to room temperature

CoolCell 5ml LX is ready to freeze again as soon as the foam body and core (black ring) are at room temperature. To rapidly recycle CoolCell 5ml LX to room temperature, remove the center solid core ring. CoolCell 5ml 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 re-inserting into the central chamber.

About CoolCell 5ml LX

CoolCell 5ml LX, in combination with a -80°C freezer or dry ice locker, will provide the freezing rate of -1°C per minute that is ideal for cryopreservation of most cultured cell lines. CoolCell 5ml LX design uses a combination of insulation foam, radial symmetry, and a heat transfer core to regulate heat loss rather than using a large thermal mass (alcohol-based freezing container). As a result, freezing profiles are extremely consistent from one run to the next. Also, because of this low thermal mass, CoolCell 5ml LX will not cause a rise in local freezer temperature and will protect nearby samples already stored in the freezer. Low thermal mass also means CoolCell 5ml LX will rapidly return to room temperature for another freezing cycle (see fast recycle instructions above).



CoolCell 5ml LX freezing performance

CoolCell 5ml LX will freeze 12 tubes each containing 4 ml of cell suspension at -1°C per minute when placed in a -80°C environment (mechanical freezer or dry ice locker). A vial load that is greater or less than 4ml will slightly decrease or increase, respectively, the freezing rate of the vial contents, as shown in the thermal profile graph (left).

Troubleshooting

Problem	Solution
Vials do not freely fit in the chambers	CoolCell 5ml LX is designed to fit standard screw-top 4ml and 5ml cryovials up to 14mm in diameter and up to 96mm in height. Check that flag style labels, if used, will not bind and hinder insertion or removal.
Vials are stuck in CoolCell 5ml LX 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 5ml 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 96mm.

Care and cleaning

CoolCell 5ml LX is constructed of closed cell cross-linked polyethylene foam and a solid thermo-conductive core. CoolCell 5ml LX is compatible with prolonged cryogenic temperature exposure. The foam may be cleaned by water and mild soap. Rinse and dry thoroughly. CoolCell 5ml LX is resistant to alcohols and 10% bleach solutions. Do not autoclave. Maximum temperature exposure: 60°C. Avoid prolonged exposure to UV light sources.

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