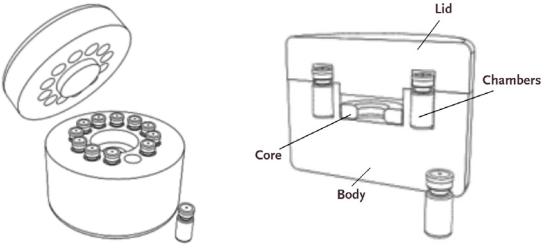
CoolCell® SV2

Instructions for Use
BCS-172

Controlled-rate cell freezing container



Quick Start

- The 12 chambers and 2ml serum vials should be dry to avoid tube 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 1ml of cell suspension in each well. For reproducible freezing profiles, each well should contain a filled vial; "blank" vials containing 1 ml of freezing medium should be placed in empty chambers if freezing less than 12 vials of cell suspension.
- Check that the tubes slide in and out freely.
- Fully seat the lid on CoolCell SV2 container.
- Place the CoolCell SV2 container into a -80°C freezer or dry ice locker. Ensure that there is at least one inch of free space clearance around the CoolCell SV2 module.
- Freeze for 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 SV2 container from the freezer and gently remove the lid using a twisting and rocking motion.
- 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 frozen vials containing cells to permanent storage to avoid temperature rise and cell damage. Vial 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.

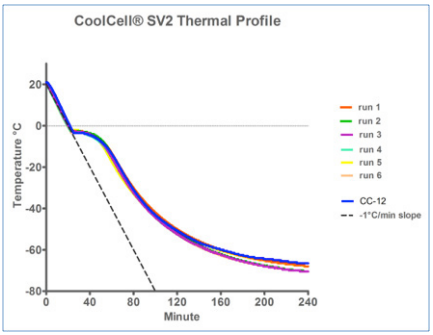
Recycling CoolCell SV2 to room temperature

The CoolCell SV2 container is ready to freeze again as soon as the core (black ring) is at room temperature. To rapidly recycle CoolCell SV2 container to room temperature, remove the center solid core ring by inverting and tapping on a surface. CoolCell SV2 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 SV2

The CoolCell SV2 contianer, 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 cryo-preservation of most cultured cell lines. CoolCell SV2 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, the CoolCell SV2 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 SV2 container will rapidly return to room temperature for another freezing cycle (see fast recycle instructions above).



CoolCell SV2 freezing performance

The CoolCell SV2 container will freeze 12 serum vials each containing 1ml of cell suspension at -1°C per minute when placed in a -80°C environment (mechanical freezer or dry ice locker). The graph (left) displays a typical freezing profile obtained using these conditions.

Troubleshooting

Problem	Solution
Vials do not freely fit in the chambers	CoolCell SV2 is designed to fit standard serum vial shaped vessels up to 14.9mm in diameter and up to 37 mm in height. Check that flag style labels, if used, will not bind and hinder insertion or removal.
Vials are stuck in CoolCell SV2 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 SV2 to dislodge vials.
The lid does not fully seat	Ensure that sample vials are properly seated. The maximum height of the vial is 37mm.

Care and cleaning

The CoolCell SV2 container is constructed of closed cell crosslinked polyethylene foam and a solid thermoconductive core. The CoolCell SV2 container is compatible with prolonged cryogenic temperature exposure. The foam may be cleaned by water and mild soap. Rinse and dry thoroughly. CoolCell SV2 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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