Azenta Life Sciences

Sample Cooling and Heating

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Sample Cooling and Heating Standardization

Prepare.

Ice-free sample cooling and freezing

- Consistent and reproducible
- Ideal for working in a hood

CoolBox™ Thermoconductive Tube Rack and Ice-Free Cooling Workstation systems

Protect.

Controlled-rate cell freezing

- No alcohol
- High post-thaw recovery and viability
- Proven for stem cells, primary cells, PBMC, cell lines and more

CoolCell® Alcohol Free Cell Freezing Containers

Preserve.

Archival storage integrity

- Hinged lid helps box and lid stay together
- LN_2 drain holes and water proof fiberboard

TruCool™ Hinged CryoBoxes

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CoolCell® Alcohol-Free Cell Freezing Containers

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CoolCell Alcohol-Free Cell Freezing Containers

Alcohol-free cell freezing containers ensure standardized controlled-rate -1°C/minute cell freezing in a -80°C freezer - without alcohol or any fluids. Proven for use with a variety of cell types including stem cells, primary cells, PBMC cell lines, insect cells, yeast and others. The Alcohol-Free Cell Freezing technology utilizes a thermo-conductive alloy core and highly-insulative outer material to control the rate of heat removal and provide reproducible cell cryopreservation. Alcohol-Free Cell Freezing units are easy to use and deliver comparable results to expensive programmable freezers.

Alcohol-free cell freezing containers are proven to work with many cell types including:

Stem Cells

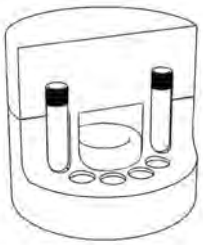
- Human Embryonic Stem
- Preadipocytes
- Breast Cancer Stem
- Colon Cancer Stem
- Glioblastoma Stem
- Mouse Embryonic Stem
- Human Endothelial
- Progenitor

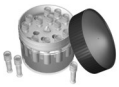
Cell Lines

- CHO
- LnCap
- HTB77
- A549
- HeLa

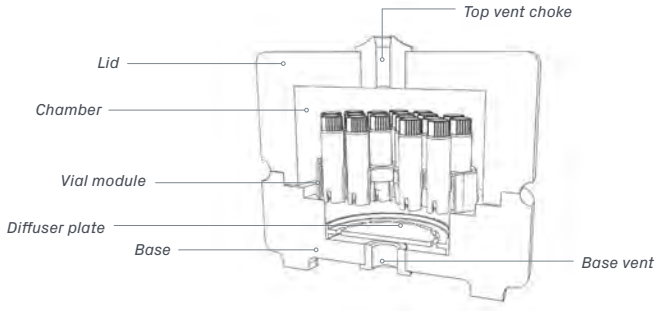
Primary Cells

- Neonatal Keratinocytes
- Human WBCs
- Mouse
- WBCs
- Human CD34+
- Muscle
- Human Tendon
- Fibroblasts
- Melanoma Tumor
- Human Cardiac
- Ventricular
- Human Cardiac Atrial





Alcohol-free cell freezing containers	Isopropanol (IPA) Container
No alcohol • No fluids • No pre-cooling • Saves 12L/unit of IPA per year	**Requires isopropanol** • Replace alcohol every 5 uses • Track number of uses • Pre-cool alcohol in refrigerator
No variability • All vials have uniform freeze rate • Radially symmetric design ensures vial consistency	**Inconsistent freeze rate** • Alcohol degradation induces variability • Two circles of wells; two freeze rates
No on-going cost • No alcohol purchase or disposal	**Approximately $350/year** • Change alcohol weekly • Dispose of hazardous waste
No stuck lids • Ergonomic lid comes off easily when frozen • Not cold to the touch when removing from the -80°C freezer	**Difficult to handle and open** • Screw cap difficult to remove when frozen • Frozen unit is slippery and cold to touch
Quick re-use time • Ready to use again after five minutes	**Wait between runs** • Takes >1 hr for alcohol to warm-up



Cell Freezing Containers, in combination with a -80°C freezer, will provide the freezing rate of -1°C/minute that is ideal for cryopreservation of most cells and cell lines. Using a combination of uniform-density cross-linked polyethylene foam, a solid state core, and radial vial symmetry, freezing profiles are consistent and reproducible. It is important to fully load Cell Freezing Containers prior to freezing. Foam is non-absorbent and will impose negligible change in the freezer environment; thereby protecting nearby frozen samples. The low heat content also ensures that Cell Freezing Containers will rapidly return to room temperature when removed from the freezer.

Cell Freezing Containers for 30 x 1mL or 2mL Cryo Tubes utilize 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°C/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.

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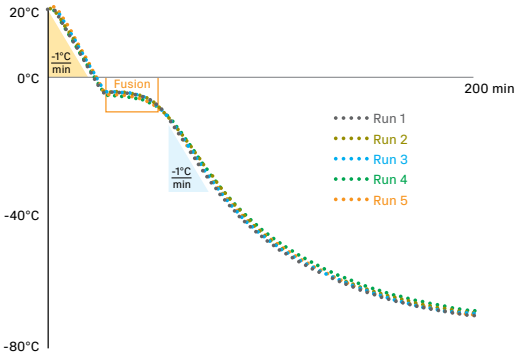
Alcohol-Free Cell Freezing Container Reproducibility



Performance test: 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 Alcohol-Free Cell Freezing Container. The container 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. **Conclusion:** The Alcohol-Free Cell Freezing Container generated identical fusion time and cooling profiles over five consecutive freeze cycles.

Alcohol-Free Cell Freezing Container Protocols

Cryopreservation and Thawing of Cells

Wayne M. Yokoyama, Maria L. Thompson, Rolf O. Ehrhardt
University of California School of Medicine, San Francisco, CA BioCision LLC, Larkspur, California
Curr. Protoc. Immunology. 2012 Nov; 99 Appendix 3G

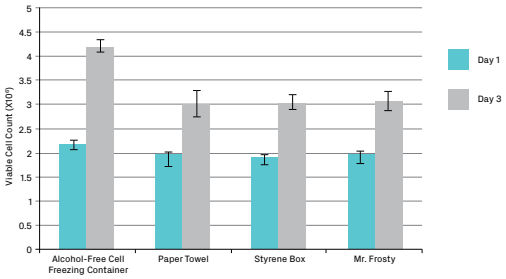
Standardized Cryopreservation of Pluripotent Stem Cells

Rick I. Cohen, Maria L. Thompson, Brian Schryver, Rolf O. Ehrhardt
Rutgers University, Piscataway, New Jersey
BioCision LLC, San Rafael, California
Curr. Protoc. Stem Cell Biol. 28:1C.14.1-1C.14.10

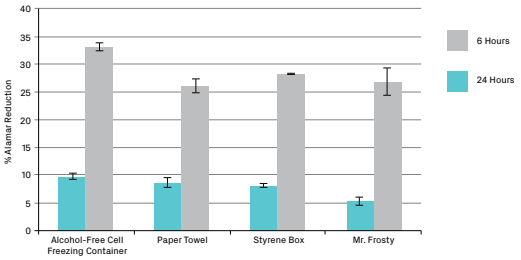
Standardized Cryopreservation of Human Primary Cells

Thomas V. Ramos, Aby J. Mathew, Maria L. Thompson, Rolf O. Ehrhardt
HemaCare Corporation, Van Nuys, California, BioLife Solutions, Bothell, Washington, BioCision, Larkspur, California
Curr. Protoc. Cell Biology. 2014 Sept; 64 Appendix 3I.

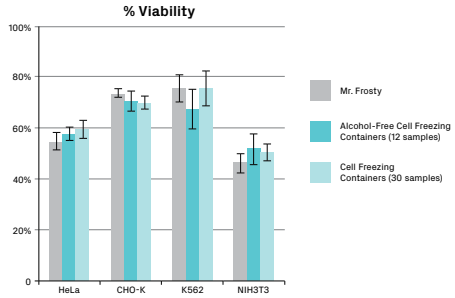
Alcohol-Free Cell Freezing Container Performance vs. IPA Container



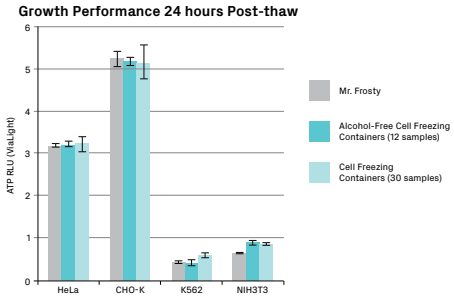
Human embryonic stem cells, RC-10 were frozen using the technique indicated, thawed after 2 weeks in LN_2, and counted immediately (Day 1) or after 3 days of growth (Day 3).



Alamar blue reduction assay for proliferation assessment showed cells frozen in an Alcohol-Free Cell Freezing Container grew more quickly, leading to more total cells.

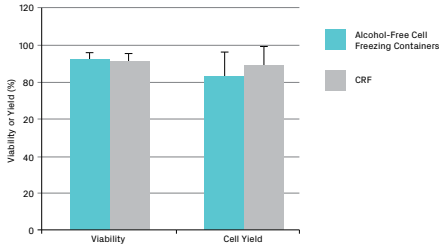


HeLA, CHO-K, K562, NIH3T3. 12-well Alcohol-Free 30-well Cell Freezing Containers, Cell Freezing Containers or "Mr. Frosty" freezing containers were used to freeze all four cell lines. Identical transfection efficiencies and viabilities **were observed after thawing.**

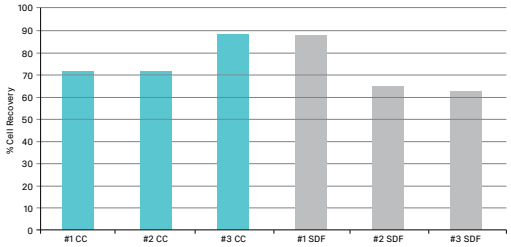


Identical growth of cells was observed 24 hours post-thaw.

Alcohol-Free Cell Freezing Container Performance vs. Programmable Freezer



Ag-Tregs. 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 Alcohol-Free Cell freezing Container 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*



Comparison of freezing methods. Graph comparing % of cell recovery after freezing with the Alcohol-Free Cell Freezing Container (blue) versus freezing using a programmable step-down freezer (gray) in 3 different samples at high cell concentration. There was no significant difference between the two freezing methods. - *Data performed by UCSF Diabetes Center*

For 1.0 mL or 2.0 mL Cryogenic Vials

Cell Freezing Containers for 12 x 1mL 96-format Sample Tubes

For 12 standard 1mL storage tubes. 0.5mL to 1mL fill per vial. Optimized for freezing 1mL 96-format sample tubes. Radially symmetric for uniform freezing. Numbered wells for easy identification. Beveled lid for secure gripping and easy opening.

Ordering Information

BCS-407P	**Cell Freezing Container,** for 12 x 1ml 96-format sample tubes, **purple**
BCS-407O	**Cell Freezing Container,** for 12 x 1ml 96-format sample tubes, **orange**

Cell Freezing Containers for 12 x 1mL or 2mL Cryo Tubes

For 12 standard 1.0 mL to 2.0 mL cryogenic vials, 1.0 mL fill per vial. Radially symmetric for uniform vial freezing. Numbered wells for easy sample identification. Beveled lid for secure gripping and easy opening. Exposed vial tops when lid is open for quick, organized removal of frozen samples.

Ordering Information

BCS-405	**Cell Freezing Container,** for 12 x 1ml or 2ml cryo tubes, **purple**
BCS-405G	**Cell Freezing Container,** for 12 x 1ml or 2ml cryo tubes, **green**
BCS-405O	**Cell Freezing Container,** for 12 x 1ml or 2ml cryo tubes, **orange**
BCS-405PK	**Cell Freezing Container,** for 12 x 1ml or 2ml cryo tubes, **pink**
BCS-405MC	**Cell Freezing Container,** for 12 x 1ml or 2ml cryo tubes, multipack with **4 colors - purple, green, orange and pink**

For 3.5 mL to 5.0 mL Cryogenic Vials

Cell Freezing Containers for 12 x 3.5mL to 5mL Cryo Tubes

For 12 standard 3.5 mL to 5.0 mL fill cryogenic vials, 3.5 to 5.0 mL fill per vial. Radially symmetric for uniform vial freezing. Numbered wells for easy sample identification. Beveled lid for secure gripping and easy opening. Exposed vial tops when lid is open for quick, organized removal of frozen samples.

Ordering Information

BCS-406	**Cell Freezing Container,** for 12 x 3.5ml to 5ml cryo tubes, **purple**

Cell Freezing Containers for 30 x 1mL or 2mL Cryo Tubes

For 30 standard 1.0 mL to 2.0 mL cryogenic vials, 1.0 mL fill per vial. Controlled micro-convection for uniform freezing of 30 vials. Removable vial tray for one-step transfer of samples into and out of freezing chamber.

Ordering Information

BCS-170	**Cell Freezing Container,** for 30 x 1ml or 2ml cryo tubes, **purple**
BCS-170G	**Cell Freezing Container,** for 30 x 1ml or 2ml cryo tubes, **green**
BCS-170O	**Cell Freezing Container,** for 30 x 1ml or 2ml cryo tubes, **orange**
BCS-170PK	**Cell Freezing Container,** for 30 x 1ml or 2ml cryo tubes, **pink**

For Injectable Cell Therapy Ampules

Cell Freezing Containers for 12 x 2mL Injectable Cell Therapy Ampules and Cell Freezing Containers for 6 x 10mL Injectable Cell Therapy Ampules

For 12 standard 2.0 mL injectable ampules, 1.0 mL fill per ampule (Cell Freezing Containers for 12 x 2mL Injectable Cell Therapy Ampules). For 6 standard 10.0 mL injectable ampules, 5.0 mL fill per ampule (Cell Freezing Containers for 6 x 10mL Injectable Cell Therapy Ampules). Radially symmetric for uniform freezing of injectable ampules. Easy open lid. Exposed vial tops when lid is open for quick, organized removal of frozen samples.

Ordering Information

BCS-172	**Cell Freezing Container,** for 12 x 2ml injectable cell therapy ampules, **purple**
BCS-262	**Cell Freezing Container,** for 6 x 10ml injectable cell therapy ampules, **purple**

Cell Cryopreservation Systems

Cell Freezing Containers for 12 x 2mL Injectable Cell Therapy Ampules Stem Cell Cryopreservation System

Ordering Information

BCS-172CS	**Stem Cell Cryopreservation System,** containing 1 x Cell Freezing Container, for 12 x 2ml injectable cell therapy ampules, purple and 1 x Thermoconductive Tube Rack, holds 12 x 2ml injectable cell therapy ampules, cylindrical wells, **gray**

Cell Freezing Containers for 6 x 10mL Injectable Cell Therapy Ampules Stem Cell Cryopreservation System

Ordering Information

BCS-262CS	**Stem Cell Cryopreservation System,** containing 1 x Cell Freezing Container, for 6 x 10ml injectable cell therapy ampules, purple and 1 x Thermoconductive Tube Rack, holds 12 x 10ml injectable cell therapy ampules, cylindrical wells, **gray**

Note: For optimal freezing it is important to fully load each Cell Freezing Container prior to freezing. Cell Freezing Container Filler Vials are recommended for filling any empty wells.

Cell Freezing Container Filler Vials

To ensure cell freezing rate consistency and uniform results when using Azenta containers, insert a Cell Freezing Container Filler Vial into empty wells when freezing less than a full load. Suitable for repeated use and compatible with Cell Freezing Containers for 12 x 1mL or 2mL Cryo Tubes, Cell Freezing Containers for 30 x 1mL or 2mL Cryo Tubes and Cell Freezing Containers for 12 x 3.5mL to 5mL Cryo Tubes containers. 6 per pack.

Ordering Information

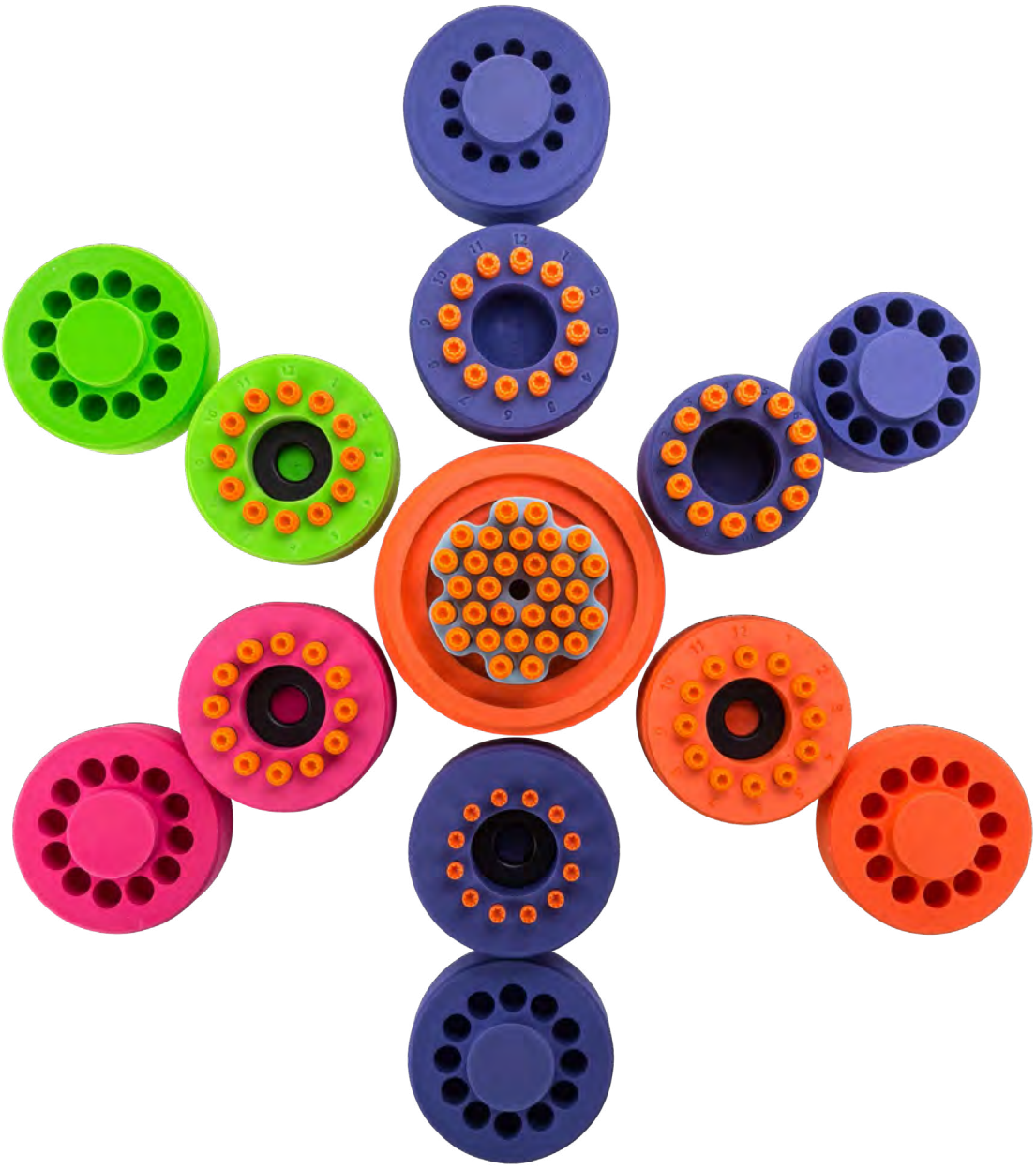
BCS-3105	**Cell Freezing Container Filler Vials,** 6 x 2ml
BCS-3106	**Cell Freezing Container Filler Vials,** 6 x 5ml
BCS-3107	**Cell Freezing Container Filler Vials,** 6 x 1mL

Cell Freezing Container Vial Module for 30 x 1ml or 2ml Cryo Tubes

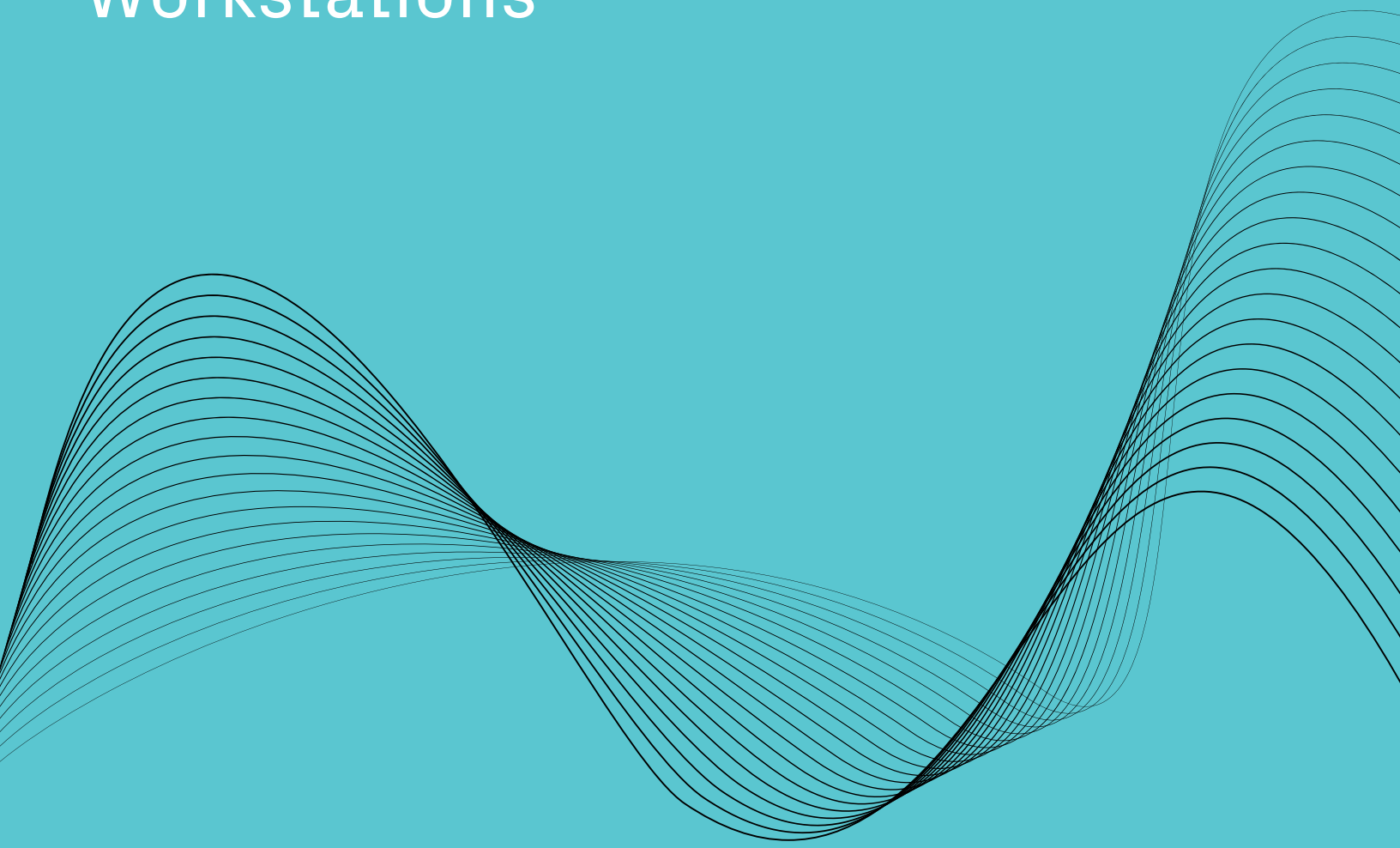
Cell Freezing Container Vial Module for 30 x 1ml or 2ml Cryo Tubes is a holder for 30 1.0 mL or 2.0 mL cryogenic vials that allows one-step insertion and removal of all 30 vials at once. Fits into a standard 5.0 x 5.0 x 2.0 inch cryostorage box. Compatible with dry ice and liquid nitrogen.

Ordering Information

BCS-210	**Removable Cryo Tube Module** for use with the Cell Freezing Container for 30 x 1mL or 2ml Cryo Tubes



CoolBox™ Ice-Free Cooling Workstations



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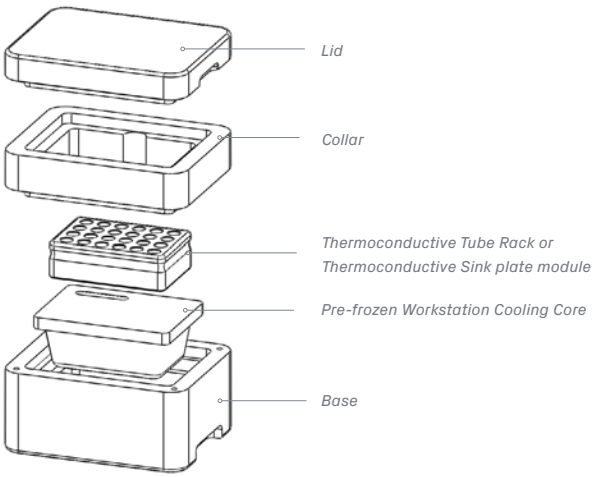
CoolBox Ice-Free Cooling Workstations

Ice-Free Cooling Workstations are bench top cooling workstations that provide sample cooling or freezing without ice, electricity or batteries. Ice-Free Cooling Workstations are versatile and accommodate a variety of sample formats and temperatures. The modular design enables the use of Thermoconductive Tube Rack and Thermoconductive Sink sample modules to hold microfuge tubes, cryogenic vials, PCR tubes or plates, assay plates and more.



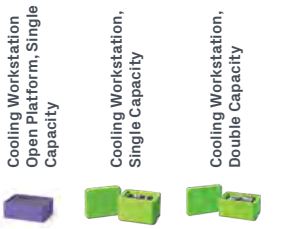
How It Works

- Freeze the Cooling Core in -20°C freezer
- Place frozen core in base
- Place Thermoconductive Tube Rack or Thermoconductive Sink module on core
- Module will equilibrate and maintain temperature via thermo-conductivity

How to Configure an Ice-Free Cooling Workstation System

	1. Identify Tube or Plate	2. Choose Thermoconductive Tube Rack or Thermoconductive Sink Module	3. Choose Ice-Free Cooling Workstation capacity and color
Example 1	up to 24 microcentrifuge tubes	 Thermoconductive Tube Rack for 24 Microcentrifuge Tubes	 Cooling Workstation, Single Capacity
Example 2	up to 48 microcentrifuge tubes	 2 x Thermoconductive Tube Racks for 24 Microcentrifuge Tubes	 Cooling Workstation, Double Capacity
Example 3	24 microcentrifuge tubes and one PCR plate, 12 PCR strips, or 0.2 mL PCR tubes	 Thermoconductive Tube Rack for 24 Microcentrifuge Tubes + Thermoconductive Tube Rack for 96-Well PCR Plates	 Cooling Workstation, Double Capacity

Choose Your Thermoconductive Tube Rack Module



Open	4 hr	10 hr	10 hr
Closed	--	16 hr	16 hr

For Use With	Wells	Well Shape	Dimensions (L x W x H)	Well Dia.	Well Depth	Description	Item No.	Capacity		
Microfuge tube modules: Thermoconductive Tube Racks for Microcentrifuge Tubes										
1.5 mL or 2.0 mL tubes	6	Cylindrical	6.0 x 4.3 x 3.8 cm	11.1 mm	32.7 mm	Thermoconductive Tube Rack for 6 Microcentrifuge Tubes	BCS-163	1	up to 3	up to 8
1.5 mL or 2.0 mL tubes	15	Cylindrical	10.2 x 6.4 x 3.8 cm	11.1 mm	32.7 mm	Thermoconductive Tube Rack for 15 Microcentrifuge Tubes	BCS-125	1	1	up to 4
1.5 mL conical tubes	15	Conical	10.2 x 6.4 x 3.8 cm	11.1 mm	35.3 mm	Thermoconductive Tube Rack for 15 Microcentrifuge Tubes, Conical Wells	BCS-127	1	1	up to 4
1.5 mL 0r 2.0 mL tubes	24	Cylindrical	12.8 x 8.5 x 3.8 cm	11.1 mm	32.7 mm	Thermoconductive Tube Rack for 24 Microcentrifuge Tubes*	BCS-535	1	1	up to 2
5.0 mL centrifuge tubes	12	Conical	12.7 x 8.6 x 5.0 cm	16.5 mm	48.7 mm	Thermoconductive Tube Rack for 12 x 5mL Microcentrifuge Tubes*	BCS-539	1	1	up to 2
1.5 mL or 2.0 mL tubes	30	Cylindrical	12.0 x 10.2 x 3.8 cm	11.1 mm	32.7 mm	Thermoconductive Tube Rack for 30 Microcentrifuge Tubes	BCS-108	1	--	up to 2
1.5 mL conical tubes	30	Conical	12.0 x 10.2 x 3.8 cm	11.1 mm	35.3 mm	Thermoconductive Tube Rack for 30 Microcentrifuge Tubes, Conical Wells	BCS-128	1	--	up to 2
500 uL conical tubes	30	Conical	12.0 x 10.2 x 3.8 cm	11.1 mm	35.3 mm	Thermoconductive Tube Rack for 30 Microcentrifuge Tubes, 500µl	BCS-137	1	--	up to 2
Cryogenic vial and FACS tube modules: Thermoconductive Tube Racks for Cryo or FACS Tubes										
cryogenic vials or FACS tubes	15	Cylindrical	10.2 x 6.4 x 3.8 cm	12.7 mm	32.7 mm	Thermoconductive Tube Rack for 15 Cryo or FACS Tubes	BCS-126	1	1	up to 4
cryogenic vials or FACS tubes	24	Cylindrical	12.8 x 8.5 x 3.8 cm	12.7 mm	32.7 mm	Thermoconductive Tube Rack for 24 Cryo or FACS Tubes*	BCS-534	1	1	up to 2
cryogenic vials or FACS tubes	30	Cylindrical	12.0 x 10.2 x 3.8 cm	12.7 mm	32.7 mm	Thermoconductive Tube Rack for 30 Cryo or FACS Tubes⌀	BCS-138	1	--	up to 2
cryogenic vials or FACS tubes	45	Cylindrical	17.3 x 9.7 x 3.8 cm	12.7 mm	32.7 mm	Thermoconductive Tube Rack for 45 Cryo or FACS Tubes	BCS-105	--	--	1
PCR plate, strip well or tube modules: Thermoconductive Tube Racks for PCR Plates										
One 96-well PCR plate, strip wells, 0.2mL tubes	96	Tapered	12.7 x 8.6 x 2.5 cm	-	13.2 mm	Thermoconductive Tube for 96-Well PCR Plates*	BCS-529	1	1	up to 2
6 strip wells and 12 x 1.5 or 2.0 mL microfuge tubes	48(PCR) 12(M)	Tapered(PCR) Cylindrical(M)	12.7 x 8.6 x 3.8 cm	- 11.1 mm	13.2 mm 32.7 mm	Thermoconductive Tube Rack for Microcentrifuge Tubes Plus Strip Wells*	BCS-523	1	1	up to 2
One 384-well PCR plate	384	Tapered	12.7 x 8.6 x 1.9 cm	-	7.6 mm	Thermoconductive Tube Rack for 384-Well PCR Plates*	BCS-538	1	1	up to 2
2D coded storage tube modules: Thermoconductive Tube Racks for 96-Well Coded Tubes										
0.5 mL 2D storage tubes	96	Cylindrical	13.1 x 8.9 x 3.6 cm	8.4 mm	24.6 mm	Thermoconductive Tube Rack for 96 x 0.5mL Barcoded Tubes	BCS-231	1	1	up to 2
1.4 mL 2D storage tubes	96	Cylindrical	13.2 x 8.9 x 3.6 cm	8.3 mm	32.7 mm	Thermoconductive Tube Rack for 96 x 1mL Barcoded Tubes	BCS-149	1	1	up to 2
Cell therapy injectable ampule modules: Thermoconductive Tube Racks for Injectable Cell Therapy Ampules										
2.0 mL injectable cell therapy ampules	12	Cylindrical	12.7 x 8.6 x 3.8 cm	16.0 mm	24.0 mm	Thermoconductive Tube Rack for 12 x 2mL Injectable Cell Therapy Ampules	BCS-266	1	1	up to 2
10.0 mL injectable cell therapy ampules	12	Cylindrical	12.7 x 8.6 x 3.8 cm	23.6 mm	27.9 mm	Thermoconductive Tube Rack for 12 x 10mL Injectable Cell Therapy Ampules	BCS-265	1	1	up to 2

** SBS-compatible ⌀ "gripping" wells for one-hand vial opening/closing*

For Use With	Wells	Well Shape	Dimensions (L x W x H)	Well Dia.	Well Depth	Description	Item No.	Capacity		
Tall tube modules: Thermoconductive Tube Racks for 15 mL, 50mL and 250 mL Centrifuge Tubes										
15 mL centrifuge tubes	12	Cylindrical	13.7 x 9.5 x 11.8 cm	17.5 mm	105.4 mm	Thermoconductive Tube Rack for 12 x 15mL Centrifuge Tubes, with insulative exterior†	BCS-232	1	1Δ	up to 2Δ
15 mL centrifuge tubes	9	Cylindrical	8.9 x 8.9 x 10.7 cm	17.1 mm	106.7 mm	Thermoconductive Tube Rack for 9 x 15mL Centrifuge Tubes	BCS-153	1	1Δ	up to 2Δ
50 mL centrifuge tubes	4	Cylindrical	8.9 x 8.9 x 10.7 cm	29.5 mm	101.6 mm	Thermoconductive Tube Rack for 4 x 50mL Centrifuge Tubes	BCS-154	1	1Δ	up to 2Δ
250 mL centrifuge tube	1	Conical	8.9 x 8.9 x 14.0 cm	60.4 mm	133.3 mm	Thermoconductive Tube Rack for 1 x 250mL Centrifuge Tube	BCS-532	1	1**	up to 2**
250 mL centrifuge tube	1	Cylindrical	8.9 x 8.9 x 7.2 cm	73.6 mm	66. mm	n/a	BCS-533	1	1	up to 2
Blood collection tube modules: Thermoconductive Tube Racks for Blood Tubes										
13 mm or 16 mm blood tubes	12	Cylindrical	13.7 x 9.5 x 9.6 cm	16.6 mm	83.3 mm	Thermoconductive Tube Rack for 12 x 13mm or 16mm Blood Tubes, with insulative exterior†	BCS-235	1	1	up to 2Δ
13x75 mm blood tubes	9	Cylindrical	8.9 x 8.9 x 6.1 cm	13.0 mm	61.0 mm	Thermoconductive Tube Rack for 9 13x75mm Blood Tubes	BCS-157	1	1Δ	up to 2Δ
13x100 mm blood tubes or 5 mL cryogenic vials	9	Cylindrical	8.9 x 8.9 x 8.4 cm	13.0 mm	83.8 mm	Thermoconductive Tube Rack for 9 13x100mm Blood Tubes	BCS-155	1	1Δ	up to 2Δ
16x100 mm blood tubes	9	Cylindrical	8.9 x 8.9 x 8.4 cm	16.0 mm	83.8 mm	Thermoconductive Tube Rack for 9 16x100mm Blood Tubes	BCS-156	1	1Δ	up to 2Δ

† Thermo-conductive base and insulative exterior Δ *Requires extension collar accessory for closed lid cooling* ** *Lid closure not possible even with the addition of extension collar*

Choose Your CoolBox Ice-Free Cooling Workstation System

	Cooling Workstation Open Platform, Single Capacity	Cooling Workstation, Single Capacity & Cooling Workstation, Double Capacity
Holds Tubes	Yes	Yes
Holds Plates	Yes	Yes
0.5° - 4°C cooling with lid open	4 hours	10 hours
0.5° - 4°C cooling with lid closed	n/a	16 hours
<0°C freezing with lid open	n/a	5 hours
<0°C freezing with lid closed	n/a	8 hours

Cooling Workstation Open Platform, Single Capacity

An open-platform ice-free cooler that accommodates most Thermoconductive Tube Racks and Thermoconductive Sink modules. Low profile and small footprint make it ideal for use in the hood, keeping samples cold (0.5° to 4.0°C) up to four hours. 1°C to 8°C temperature indicator provides visual assurance of temperature performance. To extend the cooling duration, keep an additional Cooling Workstation Cooling Core in the freezer and rotate the Cores as needed.

Ordering Information

BCS-504	**Cooling Workstation System,** single capacity open platform, cooling core included, **purple**, 1 system
BCS-513	**Cooling Workstation,** single capacity, open platform holder, **purple**, 1 holder
BCS-511	**Cooling Workstation Cooling Core,** 0.5°C to 4°C, **blue**

Cooling Workstation, Single Capacity or Double Capacity System

Keep sample tubes or plates cold for over 16 hours with the lid on, and over 10 hours with the lid off. Use optional Cooling Workstation Freezing Core to maintain frozen samples for over 8 hours. Dry ice may be used in place of the cores to create a compact snap freezing workstation.

Cooling Workstation, Single Capacity

Includes: Cooling Workstation, Single Capacity base, collar, lid and (1) Cooling Workstation Cooling Core for 0.5° to 4°C cooling.

Ordering Information

BCS-502	**Cooling Workstation, single capacity,** cooling core included, **purple**
BCS-502G	**Cooling Workstation, single capacity,** cooling core included, **green**
BCS-502O	**Cooling Workstation, single capacity,** cooling core included, **orange**
BCS-502PK	**Cooling Workstation, single capacity,** cooling core included, **pink**
BCS-502-F	**Cooling Workstation, single capacity,** freezing core included, **purple**

** Internal height of open space when core is in the base.*

Cooling Workstation, Double Capacity

Includes: Cooling Workstation, Double Capacity base, collar, lid and (2) Cooling Workstation Cooling Core for 0.5° to 4°C cooling.

Ordering Information

BCS-503	**Cooling Workstation, double capacity,** cooling core included, **purple**
BCS-503G	**Cooling Workstation, double capacity,** cooling core included, **green**
BCS-503O	**Cooling Workstation, double capacity,** cooling core included, **orange**
BCS-503PK	**Cooling Workstation, double capacity,** cooling core included, **pink**
BCS-503-F	**Cooling Workstation, double capacity,** freezing core included, **purple**

** Internal height of open space when core is in the base.*

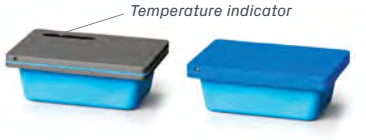
Optional Accessories

Cooling Workstation Single Capacity and Cooling Workstation Double Capacity Extension Collar

For use with Cooling Workstation Single Capacity and Cooling Workstation Double Capacity systems to accommodate tall tube modules. The collar is magnetized and easily adheres to the unit base.

Ordering Information

BCS-502-C	**Cooling Workstation Extension Collar,** for Cooling Workstation, **purple**
BCS-502-CG	**Cooling Workstation Extension Collar,** for Cooling Workstation, **green**
BCS-502-CO	**Cooling Workstation Extension Collar,** for Cooling Workstation, **orange**
BCS-502-CPK	**Cooling Workstation Extension Collar,** for Cooling Workstation, **pink**
BCS-503-C	**Cooling Workstation Extension Collar,** for Cooling Workstation Large, **purple**
BCS-503-CG	**Cooling Workstation Extension Collar,** for Cooling Workstation Large, **green**
BCS-503-CO	**Cooling Workstation Extension Collar,** for Cooling Workstation Large, **orange**
BCS-503-CPK	**Cooling Workstation Extension Collar,** for Cooling Workstation Large, **pink**



Cooling Workstation Cores

Keep additional cooling or freezing cores in the freezer for flexibility and extended duration. Cooling Workstation Cooling Core features a 1 to 8°C temperature indicator. Both cooling and freezing cores feature a thermo-conductive surface for uniform temperature distribution.

Ordering Information

BCS-511	**Cooling Workstation Cooling Core,** 0.5°C to 4°C, **blue**
BCS-512	**Cooling Workstation Freezing Core,** below 0°C, **blue**

Popular Pre-assembled Configurations

Cooling Workstation Open Platform, Single Capacity PCR Cooling Systems, pre-assembled

Ordering Information

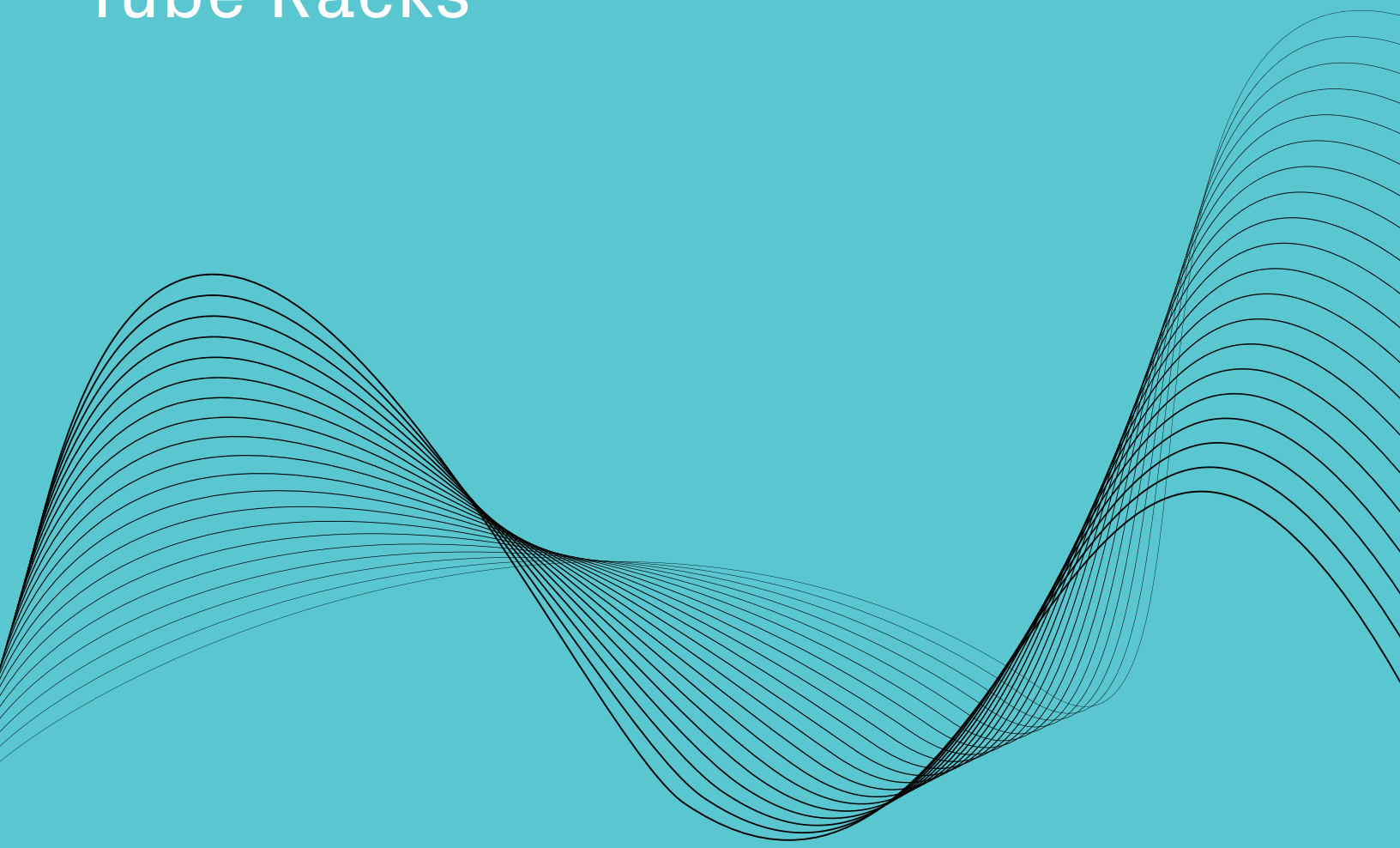
BCS-556	**Cooling Workstation System, pre-assembled open-platform, for use with PCR plates,** includes 1 x BCS-504 (Cooling Workstation System) and 1 x BCS-529 (Thermoconductive Tube Rack), **purple**
BCS-557	**Cooling Workstation System, pre-assembled open-platform, for use with PCR strip wells,** includes 1 x BCS-504 (Cooling Workstation System) and 1 x BCS-523 (Thermoconductive Tube Rack), **purple**

Cooling Workstation Single Capacity and Cooling Workstation Double Capacity Systems, pre-assembled

Ordering Information

BCS-576	**Cooling Workstation System, pre-assembled for use with 24 microtubes,** includes 1 x BCS-502 (Cooling Workstation) and 1 x BCS-535 (Thermoconductive Tube Rack), **purple**
BCS-575	**Cooling Workstation System, pre-assembled for use with 24 cryo tubes,** includes 1 x BCS-502 (Cooling Workstation) and 1 x BCS-534 (Thermoconductive Tube Rack), **purple**
BCS-570	**Cooling Workstation System, pre-assembled for use with PCR plates,** includes 1 x BCS-502 (Cooling Workstation) and 1 x BCS-529 (Thermoconductive Tube Rack), **purple**
BCS-572	**Cooling Workstation System, pre-assembled for use with PCR strip wells,** includes 1 x BCS-502 (Cooling Workstation) and 1 x BCS-523 (Thermoconductive Tube Rack), **purple**
BCS-573	**Cooling Workstation System, pre-assembled for use with PCR plates,** includes 1 x BCS-503 (Cooling Workstation), 1 x BCS-529 and 1 x BCS-535 (Thermoconductive Tube Rack), **purple**

Thermoconductive Tube Racks



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Thermoconductive Tube Racks

Thermoconductive tube modules eliminate variability which originates from tubes placed directly into ice, dry ice, alcohol baths, water baths and other temperature sources. Place the Thermoconductive Tube Rack module directly onto a temperature source between -196°C to >100°C and it will rapidly adapt to that temperature. Thermoconductive Tube Rack modules ensure +/- 0.1°C temperature uniformity across all tubes when cooling, snap freezing, heating or thawing. Suggested applications include cooling reagents such as restriction enzymes, dNTPs and antibodies, alcohol-free dry ice snap freezing of tissue, virus and bacteria samples and bench top cryogenic tube sorting in liquid nitrogen. All Thermoconductive Tube Rack modules may be autoclaved, high heat gamma irradiated or decontaminated with bleach, alcohol or other disinfectants or lab detergents. Certain Thermoconductive Tube Rack modules are SBS-compatible.

Problem: Samples in Ice

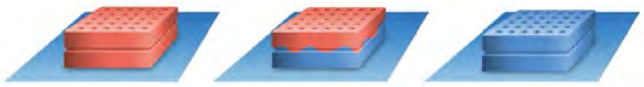
- Non-uniform ice contact results in variable sample temperature
- Disorganized samples, wet labels
- Shifting, sinking tubes; contamination risk
- Non-reproducible method

Solution: Samples in Thermoconductive Tube Rack Module

- All samples <4°C and uniform in temperature (+/- 0.1°C)
- Samples organized, secure and dry
- All tubes upright and indexed
- Reproducible method

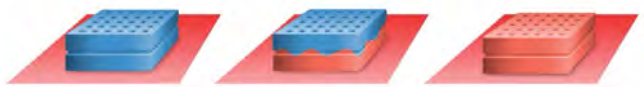
How It Works

Cooling

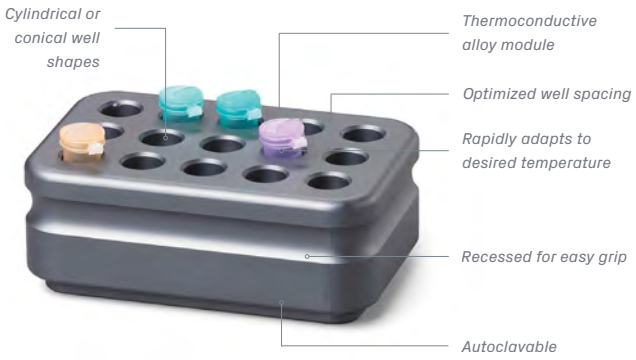


Thermoconductive Tube Rack on Ice: Heat from the relatively warmer Thermoconductive Tube Rack module is transferred to cooling source (wet or dry ice, cartridge, LN_2) until equilibrium is reached.

Heating

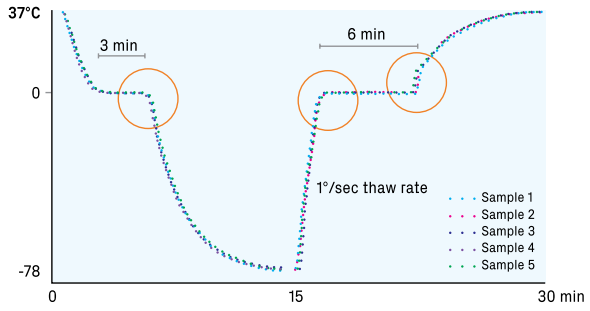


Thermoconductive Tube Rack in Water Bath: Heat is transferred from water bath toward relatively cooler Thermoconductive Tube Rack until equilibrium is reached.



Thermoconductive Tube Racks and Sinks are precision-engineered sample modules manufactured from a novel thermo-conductive alloy material. Thermoconductivity is the transfer of heat energy from a higher temperature region to a lower temperature region. Tube Rack modules evenly distribute the temperature across all wells providing very uniform and consistent temperature to all samples (+/0.1°C).

Thermoconductive Tube Rack Reproducibility



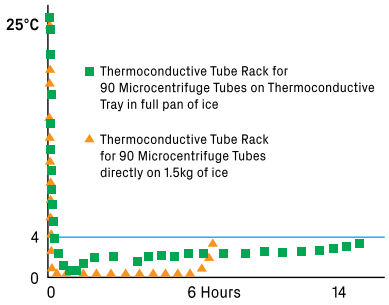
Performance test: A temperature probe was placed into a 2.0 mL cryogenic vial containing 1.0 mL of water. The tube was inserted into a Thermoconductive Tube Rack for 45 Cryo or FACS Tubes module. The module was placed onto a Thermoconductive Tray platform in a 37°C water bath and allowed to equilibrate. The Tube Rack for 45 Cryo or FACS Tubes module was then removed and placed onto dry ice and equilibrated to -78°C (0 - 15 minutes) and then returned to the water bath to re-equilibrate to 37°C (15 - 30 minutes). This experiment was repeated five consecutive times and temperature profiles were recorded.

Conclusion: The Thermoconductive Tube Rack for 45 Cryo or FACS Tubes module showed identical cooling profiles and phase transition (orange circles) over five consecutive freeze-thaw cycles.

Thermoconductive Tube Rack Versatility and Performance

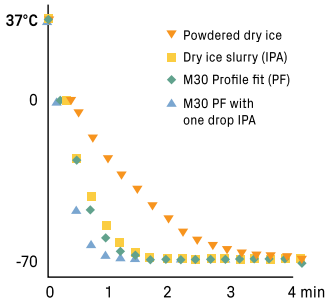
On Ice

- Adapts from ambient (25°C) to <4°C in 60-90 seconds*
- Samples and labels stay dry, organized
- Hours of ice cooling without direct ice contact
- Reproducible method



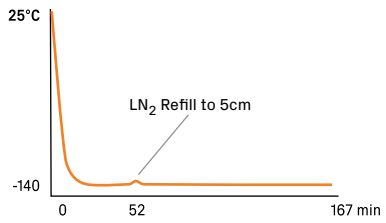
On Dry Ice

- Adapts from ambient (25°C) to -78°C in approximately 5-7 minutes*
- Eliminates ethanol from snap freezing
- Samples are upright and organized as they freeze
- Equal or better freezing rate as compared to direct immersion into dry ice or alcohol slurry
- Reproducible method



In Liquid Nitrogen (LN_2)

- Adapts from ambient (25°C) to approximately -150°C in approximately 12-14 minutes*
- Vapor barrier protects from ambient air
- Samples are upright and organized as they freeze
- No direct contact between samples and LN_2
- Reproducible method



With Heat Sources

- Use with water baths, hot plates, incubators and other heat sources to keep samples warm

** Average cooling rate from room temperature*

Thermoconductive Tube Rack Modules

Thermoconductive Tube Racks for Microcentrifuge Tubes

Ordering Information

BCS-163	**Thermoconductive Tube Rack, holds 6 x 1.5 or 2ml microcentrifuge tubes,** cylindrical wells, **gray**
BCS-165	**Thermoconductive Tube Rack, holds 6 x 1.5 or 2ml microcentrifuge tubes,** cylindrical wells, **orange**
BCS-164	**Thermoconductive Tube Rack, holds 6 x 1.5 or 2ml microcentrifuge tubes,** cylindrical wells, **green**
BCS-125	**Thermoconductive Tube Rack, holds 15 x 1.5 or 2ml microcentrifuge tubes,** cylindrical wells, **gray**
BCS-125G	**Thermoconductive Tube Rack, holds 15 x 1.5 or 2ml microcentrifuge tubes,** cylindrical wells, **green**
BCS-125O	**Thermoconductive Tube Rack, holds 15 x 1.5 or 2ml microcentrifuge tubes,** cylindrical wells, **orange**
BCS-127	**Thermoconductive Tube Rack, holds 15 x 1.5 conical tubes,** conical wells, **gray**
BCS-535	**Thermoconductive Tube Rack,** hol**ds 24 x 1.5 or 2ml microcentrifuge tubes,** cylindrical wells,SBS compatible, **gray***
BCS-539	**Thermoconductive Tube Rack, holds 12 x 5ml microcentrifuge tubes,** conical wells, SBS compatible, **gray***
BCS-108	**Thermoconductive Tube Rack, holds 30 x 1.5 or 2ml microcentrifuge tubes,** cylindrical wells, **gray**
BCS-108G	**Thermoconductive Tube Rack, holds 30 x 1.5 or 2ml microcentrifuge tubes,** cylindrical wells, **green**
BCS-108O	**Thermoconductive Tube Rack, holds 30 x 1.5 or 2ml microcentrifuge tubes,** cylindrical wells, **orange**
BCS-128	**Thermoconductive Tube Rack, holds 30 x 1.5 conical tubes,** conical wells, **gray**
BCS-137	**Thermoconductive Tube Rack, holds 30 x 500ul microcentrifuge tubes,** conical wells, **gray**
BCS-102	**Thermoconductive Tube Rack, holds 90 x 1.5 or 2ml microcentrifuge tubes,** cylindrical wells, **gray**
BCS-116	**Thermoconductive Tube Rack, holds 96 x 1.5 or 2ml microcentrifuge tubes,** cylindrical wells, SBS compatible, row and column indexing, **gray****

** SBS-compatible ** Thermoconductive Tube Rack for 96 Microcentrifuge Tubes has A-H and 1-12 row and column indexing*

Thermoconductive Tube Racks for Cryo or FACS Tubes

Ordering Information

BCS-126	**Thermoconductive Tube Rack, holds 15 cryo tubes or FACS tube modules,** cylindrical wells, **gray**
BCS-534	**Thermoconductive Tube Rack, holds 24 cryo tubes or FACS tube modules,** cylindrical "gripping" wells for one-hand opening/closing vials, SBS compatible, **gray***†
BCS-138	**Thermoconductive Tube Rack, holds 30 cryo tubes or FACS tube modules,** cylindrical "gripping" wells for one-hand opening/closing vials, **gray**†
BCS-105	**Thermoconductive Tube Rack, holds 45 cryo tubes or FACS tube modules,** cylindrical wells, **gray**

** SBS-compatible † "gripping" wells for one-hand vial opening/closing*

Thermoconductive Tube Racks for PCR Plate, Strip Well or Tubes

Ordering Information

BCS-529	**Thermoconductive Tube Rack, holds one 96-well PCR plate, 12 x strip wells or 96 tubes,** tapered wells, SBS compatible, **gray***
BCS-523	**Thermoconductive Tube Rack, holds 6 strips wells and 12 x 1.5 or 2ml microcentrifuge tubes,** 48 tapered wells for strips and 12 cylindrical wells, SBS compatible, **gray***
BCS-538	**Thermoconductive Tube Rack, holds one 384-well PCR plate,** tapered wells, SBS compatible, **gray***

** SBS-compatible*

Thermoconductive Tube Racks for 96-Well 2D Coded Storage Tubes

Ordering Information

BCS-231	**Thermoconductive Tube Rack, holds 96 x 0.5ml 2D storage tubes,** cylindrical wells, **gray**
BCS-149	**Thermoconductive Tube Rack, holds 96 x 1ml 2D storage tubes,** cylindrical wells, **gray**

Thermoconductive Tube Racks for Cell Therapy Injectable Ampules

Ordering Information

BCS-266	**Thermoconductive Tube Rack, holds 12 x 10ml injectable cell therapy ampules,** cylindrical wells, **gray**
BCS-265	**Thermoconductive Tube Rack, holds 12 x 2ml injectable cell therapy ampules,** cylindrical wells, **gray**

Tall Tube Modules

Thermoconductive Tube Racks for 15mL, 50mL and 250mL Centrifuge Tubes

Ordering Information

BCS-232	**Thermoconductive Tube Rack, holds 12 x 15ml centrifuge tubes,** cylindrical wells, with thermoconductive base and insulative exterior, **purple***
BCS-153	**Thermoconductive Tube Rack, holds 9 x 15ml centrifuge tubes,** cylindrical wells, **gray**
BCS-154	**Thermoconductive Tube Rack, holds 4 x 50ml cetrifuge tubes,** cylindrical wells, **gray**
BCS-532	**Thermoconductive Tube Rack, holds one 250ml centrifuge tube,** conical well, **gray**
BCS-533	**Thermoconductive Tube Rack, holds one 250ml centrifuge tube,** cylindrical well, **gray**

** Thermo-conductive base and insulative exterior*

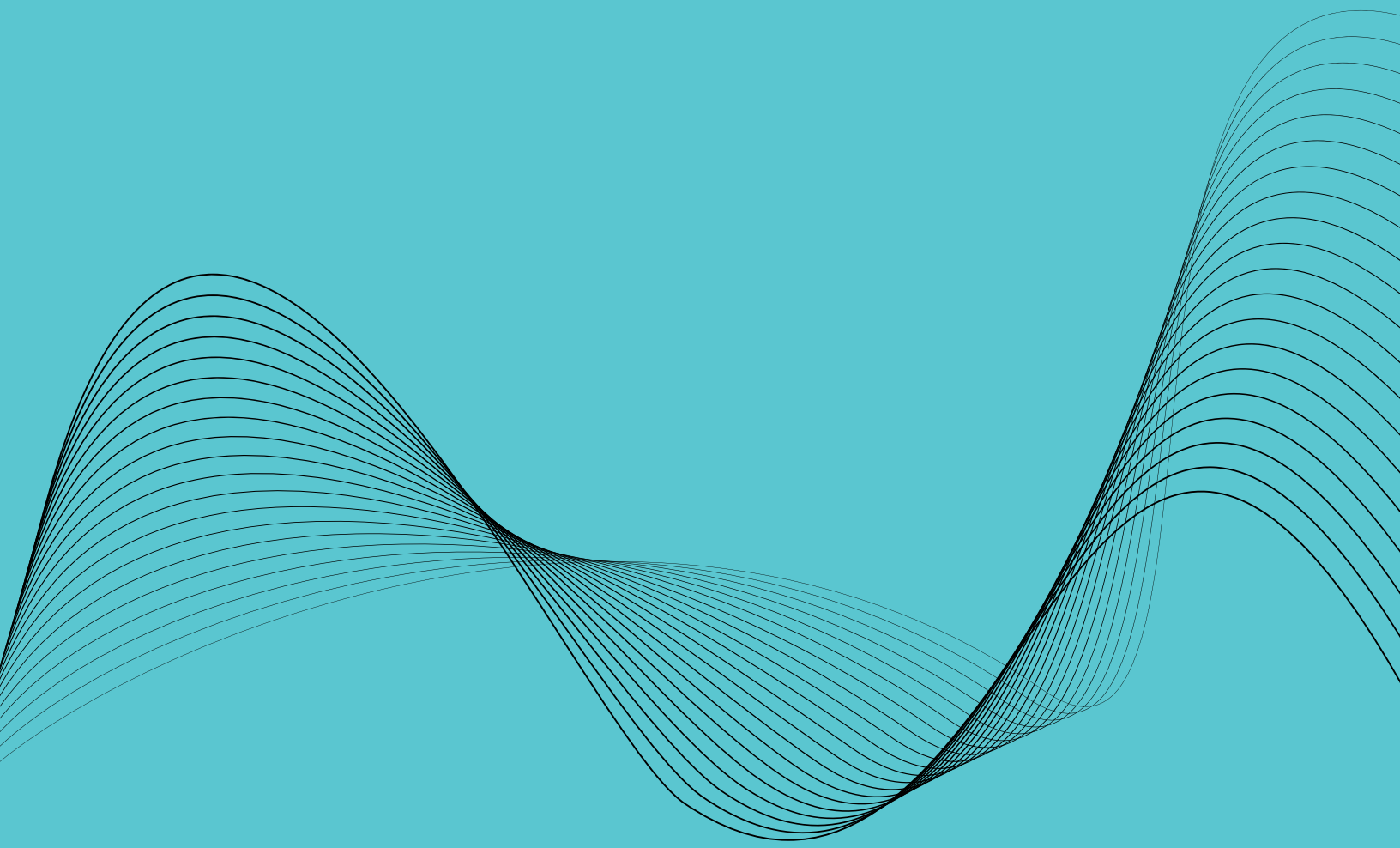
Thermoconductive Tube Rack for Blood Collection Tubes

Ordering Information

BCS-235	**Thermoconductive Tube Rack, holds 12 x13mm or 16mm blood tubes,** cylindrical wells, with thermoconductive base and insulative exterior, **purple**
BCS-157	**Thermoconductive Tube Rack, holds 9 13x75mm blood tubes,** cylindrical wells, **gray**
BCS-155	**Thermoconductive Tube Rack, holds 9 13x100mm blood tubes,** cylindrical wells, **gray**
BCS-156	**Thermoconductive Tube Rack, holds 9 16x100mm blood tubes,** cylindrical wells, **gray**

** Thermo-conductive base and insulative exterior*

Thermoconductive Sinks



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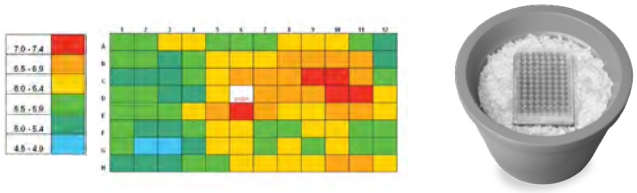
Thermoconductive Sinks

Thermoconductive plate and reservoir modules provide uniform temperature to all wells, regardless of position. When placed onto a temperature source such as ice, dry ice, liquid nitrogen or water baths, the Thermoconductive Sink module will rapidly adapt to that temperature - from -196°C to >+100°C. Sink modules ensure temperature sample uniformity when cooling, snap freezing, heating or thawing samples. All Thermoconductive Sink modules may be autoclaved, high heat gamma irradiated or decontaminated with bleach, alcohol or other disinfectants or lab detergents. All modules are compatible with all temperature sources.

Problem: Non-Uniform Plate Cooling with Crushed Ice

Final equilibrium well temperature for a 96-well flat bottom plate in direct contact with crushed ice.



Solution: Uniform Plate Cooling with Thermoconductive Sink for use with Flat Bottom Plates Module

Final equilibrium well temperature for a 96-well flat bottom plate in direct contact with crushed ice.

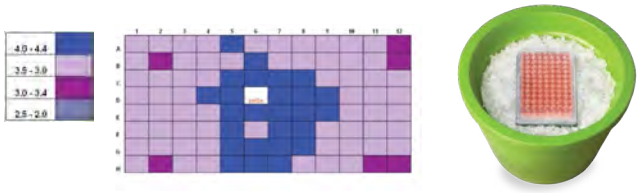
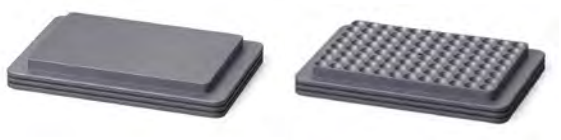


Plate and Reservoir Modules

Thermoconductive Sink, SBS-Compatible Plate Modules



Thermoconductive Sink for use with 55mL Reagent Reservoirs

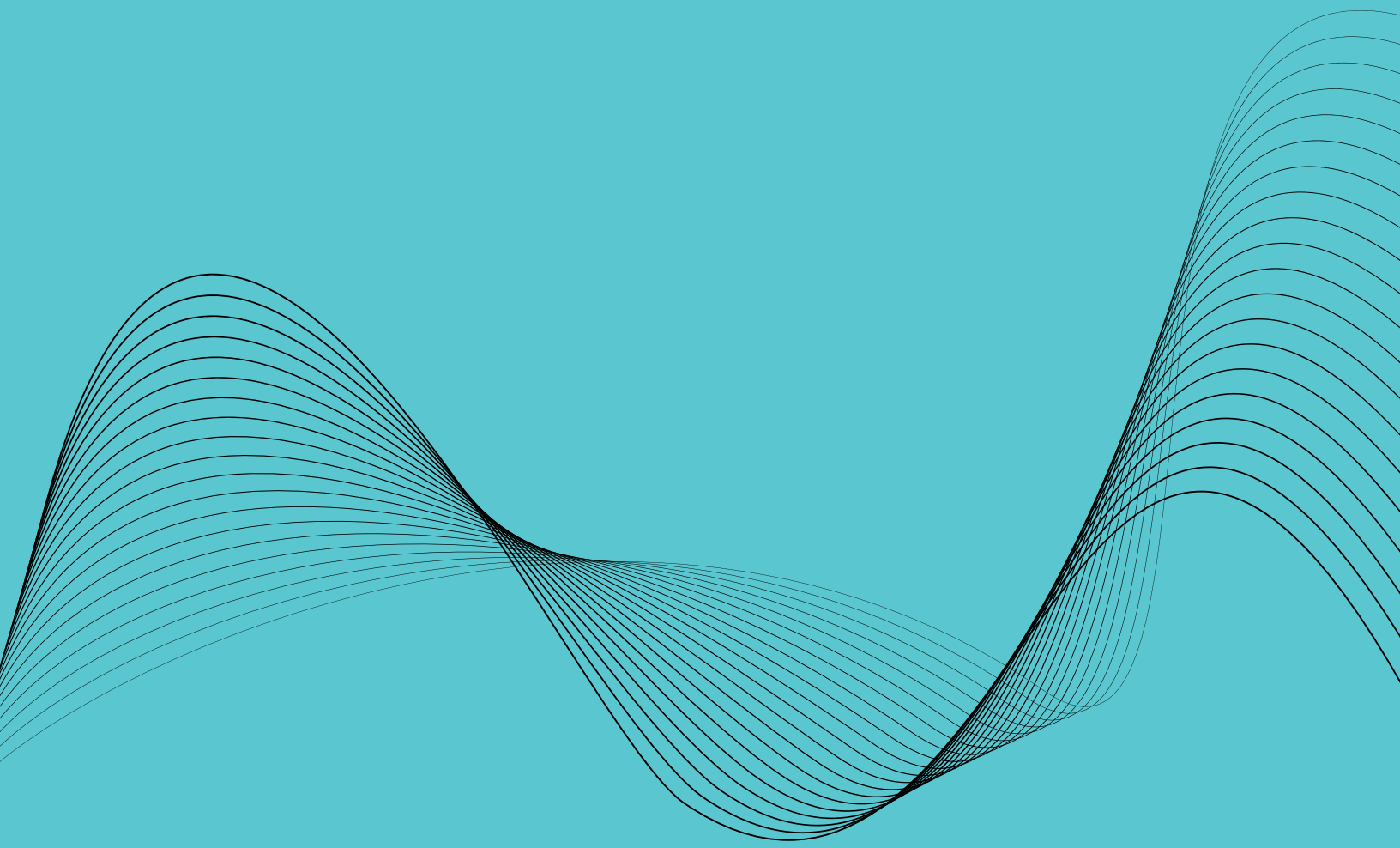
Ordering Information

BCS-536	**Thermoconductive Sink, for use with 6-, 12-, 24-, 48-, 96-, 384-well flat bottom plates,** SBS compatible, **gray**
BCS-537	**Thermoconductive Sink, for use with one 96-well U-bottom plate,** SBS compatible, **gray**

Ordering Information

BCS-184	**Thermoconductive Sink, for use with 55ml reagent reservoirs, gray**

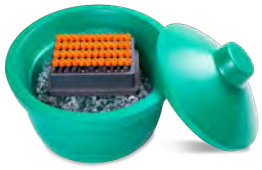
Accessories



Accessories

Ice Pans

Non-toxic, recyclable ethyl-vinyl acetate (EVA) foam containers for use with ice, dry ice, liquid nitrogen, alcohol slurries. Will not sweat, leak or skid on bench.



Ordering Information

	**Ice Pan without Lid, Square 1L**
BCS-211PL	**Ice Pan, without Lid,** square, 1L, **purple**
BCS-211GR	**Ice Pan, without Lid,** square, 1L, **lime green**
BCS-211OR	**Ice Pan, without Lid,** square, 1L, **orange**
BCS-211PK	**Ice Pan, without Lid,** square, 1L, **pink**
BCS-211B	**Ice Pan, without Lid,** square, 1L, **blue**
BCS-211	**Ice Pan, without Lid,** square, 1L, **green**
BCS-212	**Ice Pan, without Lid,** square, 1L, **red**
	**Ice Pan without Lid, Rectangle 4L**
BCS-113PL	**Ice Pan, without Lid,** rectangle, 4L, **purple**
BCS-113GR	**Ice Pan, without Lid,** rectangle, 4L, **lime green**
BCS-113OR	**Ice Pan, without Lid,** rectangle, 4L, **orange**
BCS-113PK	**Ice Pan, without Lid,** rectangle, 4L, **pink**
BCS-113B	**Ice Pan, without Lid,** rectangle, 4L, **blue**
BCS-113	**Ice Pan, without Lid,** rectangle, 4L, **green**
BCS-114	**Ice Pan, without Lid,** rectangle, 4L, **red**
	**Ice Pan with Lid, Rectangle 4L**
BCS-117PL	**Ice Pan, with Lid,** rectangle, 4L, **purple**
BCS-117GR	**Ice Pan, with Lid,** rectangle, 4L, **lime green**
BCS-117OR	**Ice Pan, with Lid,** rectangle, 4L, **orange**
BCS-117PK	**Ice Pan, with Lid,** rectangle, 4L, **pink**
BCS-117B	**Ice Pan, with Lid,** rectangle, 4L, **blue**

	**Ice Pan without Lid, Rectangle 9L**
BCS-111PL	**Ice Pan, without Lid,** rectangle, 9L, **purple**
BCS-111GR	**Ice Pan, without Lid,** rectangle, 9L, **lime green**
BCS-111OR	**Ice Pan, without Lid,** rectangle, 9L, **orange**
BCS-111PK	**Ice Pan, without Lid,** rectangle, 9L, **pink**
BCS-111B	**Ice Pan, without Lid,** rectangle, 9L, **blue**
BCS-111	**Ice Pan, without Lid,** rectangle, 9L, **green**
BCS-112	**Ice Pan, without Lid,** rectangle, 9L, **red**
	**Ice Pan with Lid, Rectangle 9L**
BCS-118PL	**Ice Pan, with Lid,** rectangle, 9L, **purple**
BCS-118GR	**Ice Pan, with Lid,** rectangle, 9L, **lime green**
BCS-118B	**Ice Pan, with Lid,** rectangle, 9L, **blue**
	**Ice Pan with Lid, Round 2.5L**
BCS-115-25PL	**Ice Bucket, with Lid,** round, 2.5L, **purple**
BCS-115-25GR	**Ice Bucket, with Lid, round,** 2.5L, **lime green**
BCS-115-25OR	**Ice Bucket, with Lid,** round, 2.5L, **orange**
BCS-115-25PK	**Ice Bucket, with Lid,** round, 2.5L, **pink**
BCS-115-25B	**Ice Bucket, with Lid,** round, 2.5L, **blue**
BCS-115-25G	**Ice Bucket, with Lid,** round, 2.5L, **green**
BCS-115-25R	**Ice Bucket, with Lid,** round, 2.5L, **red**
	**Ice Pan with Lid, Round 4L**
BCS-115PL	**Ice Bucket, with Lid,** round, 4L, **purple**
BCS-115GR	**Ice Bucket, with Lid,** round, 4L, **lime green**
BCS-115OR	**Ice Bucket, with Lid,** round, 4L, **orange**
BCS-115PK	**Ice Bucket, with Lid,** round, 4L, **pink**
BCS-115B	**Ice Bucket, with Lid,** round, 4L, **blue**
BCS-115	**Ice Bucket, with Lid,** round, 4L, **green**
BCS-115R	**Ice Bucket, with Lid,** round, 4L, **red**

Hinged CryoBoxes

Patented hinged lid offers convenience and archival integrity, ensuring markings and vials remain in sync. Lid stays attached to base minimizing risk of separation and lid contamination. Lid is easy to open when frozen. Available in 9x9, 10x10, and vapor phase LN_2 compatible formats. Plastic 81-place grid has adjustable slats to accommodate multiple vial types. 2-inch box holds 1.0 mL or 2.0 mL cryogenic vials and microcentrifuge tubes. 3.5-inch box holds 3.0 mL to 5.0 mL cryogenic vials.

Hinged cryoboxes can be customized to suit various requirements. Options include new colors, logos, designs, grid sizes and additional components.

Ordering Information

Hinged CryoBox 2 Inch, 81-Place	
BCS-206	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, **white**, 5 per case
BCS-206B	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, **blue**, 5 per case
BCS-206G	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, **green**, 5 per case
BCS-206O	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, **orange**, 5 per case
BCS-206P	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, **purple**, 5 per case
BCS-206PK	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, **pink**, 5 per case
BCS-206MC	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, multipack, no **white**, 5 per case
BCS-207	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, **white**, 50 per case
BCS-207B	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, **blue**, 50 per case
BCS-207G	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, **green**, 50 per case
BCS-207O	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, **orange**, 50 per case
BCS-207P	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, **purple**, 50 per case
BCS-207PK	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, **pink**, 50 per case

Hinged CryoBox 2 Inch, 100-Place	
BCS-209G	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 100-place, **green**, 5 per case
BCS-209P	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 100-place, **purple**, 5 per case
BCS-220G	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 100-place, **green**, 50 per case
BCS-220P	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 100-place, **purple**, 50 per case
Hinged CryoBox 3.5in, 81-Place	
BCS-215G	**Cryobox, 3.5-inch cryobox, hinged,** adjustable plastic grid, 81-place, **green**, 6 per case
BCS-215P	**Cryobox, 3.5-inch cryobox, hinged,** adjustable plastic grid, 81-place, **purple**, 6 per case
BCS-219G	Cryobox, 3.5-inch cryobox, hinged, adjustable plastic grid, 81-place, **green**, 30 per case
BCS-219P	**Cryobox, 3.5-inch cryobox, hinged,** adjustable plastic grid, 81-place, **purple**, 30 per case
Hinged CryoBox 2 Inch, 81-Place, With Drain Holes	
BCS-217G	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, LN2 drain holes, **green**, 5 per case
BCS-217P	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, LN2 drain holes, **purple**, 5 per case
BCS-221G	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, LN2 drain holes, **green**, 50 per case
BCS-221P	**Cryobox, 2-inch cryobox, hinged,** adjustable plastic grid, 81-place, LN2 drain holes, **purple**, 50 per case

Thermoconductive Tube Module Temperature Strips

Adhesive temperature display shows the temperature of a surface with 1°C resolution. Ideal for placement on Thermoconductive Tube Rack, Sink and Tray modules.

Ordering Information

BCS-143	**Thermoconductive Tube Module Temperature Strips,** 1°-8°C, 3pk.

Thermoconductive Tube Module Sleeves

Ordering Information

BCS-205	**Thermoconductive Tube Module Sleeves,** 4pk

Cryo Tube Grippers

Cryo Tube Grippers feature a unique design to grasp internal- or external-thread cryogenic vials. Easily sort or move vials while preventing contamination and protecting fingers from frozen vials, dry ice and liquid nitrogen. 5 per pack.

Ordering Information

BCS-213MC	**Cryo Tube Grippers, multi-color,** 5 per case

Cryo Tube Locking Racks

Cryo Tube Locking Racks feature a locking mechanism that allow one-hand opening for self-standing cryogenic vials. Accommodates both round bottom and self-standing vial formats. Racks have A - J and 1 - 5 row and column indexing for easy organization. Autoclavable. 5 per pack.

Ordering Information

BCS-222	**Cryo Tube Locking Racks,** multi-pack, 5 per case

1D-coded Cryo Tubes

Leak-proof, auto-cap cryogenic tubes are ideal for cell culture and biobanking. The screw cap features a co-molded thermally-fused gasket which prevents leaking, slipping and risk of contamination. The gasket is 95kPa certified to provide a leak-proof seal. The star socket on cap top is compatible with auto-decapping equipment. Each vial is individually barcoded with a unique identifier that can be read with common barcode readers. Recommended for storage down to vapor phase liquid nitrogen but not suitable for use directly in LN_2. 500 per case.

Internal Threads

External Threads

Ordering Information

1.0ml - 5ml 1D-coded Cryo Tube, Internal Thread	
BCS-2510	**1ml 1D-coded Cryo Tube, Internal Thread, self-standing,** 500 tubes per case
BCS-2511	**2ml 1D-coded Cryo Tube, Internal Thread, self-standing,** 500 tubes per case
BCS-2512	**2ml 1D-coded Cryo Tube, Internal Thread, round-bottom,** 500 tubes per case
BCS-2513	**4ml 1D-coded Cryo Tube, Internal Thread, round-bottom,** 500 tubes per case
BCS-2514	**4ml 1D-coded Cryo Tube, Internal Thread, self-standing,** 500 tubes per case
BCS-2515	**5ml 1D-coded Cryo Tube, Internal Thread, round-bottom,** 500 tubes per case
BCS-2516	**5ml 1D-coded Cryo Tube, Internal Thread, self-standing,** 500 tubes per case

1.0ml - 5ml 1D-coded Cryo Tube, External Thread	
BCS-2517	**1ml 1D-coded Cryo Tube, Internal Thread, self-standing,** 500 tubes per case
BCS-2501	**2ml 1D-coded Cryo Tube, External Thread, round-bottom,** 500 tubes per case
BCS-2502	**2ml 1D-coded Cryo Tube, External Thread, self-standing,** 500 tubes per case
BCS-2503	**3ml 1D-coded Cryo Tube, External Thread, self-standing,** 500 tubes per case
BCS-2504	**4ml 1D-coded Cryo Tube, External Thread, self-standing,** 500 tubes per case
BCS-2505	**5ml 1D-coded Cryo Tube, External Thread, self-standing,** 500 tubes per case

Cryo Tubes Cap Inserts

Inserts for auto caps. 1,000 per pack.

Caps designed to color code tubes. Ideal for labeling different specimen tubes and cataloging sample inventory.

Ordering Information

BCS-2436	**Cryo Tube Cap Insert, violet,** 1000 inserts per case
BCS-2432	**Cryo Tube Cap Insert, pink,** 1000 inserts per case
BCS-2431	**Cryo Tube Cap Insert, green,** 1000 inserts per case
BCS-2434	**Cryo Tube Cap Insert, yellow,** 1000 inserts per case
BCS-2435	**Cryo Tube Cap Insert, white,** 1000 inserts per case
BCS-2433	**Cryo Tube Cap Insert, red,** 1000 inserts per case
BCS-2438	**Cryo Tube Cap Insert, gray,** 1000 inserts per case
BCS-2430	**Cryo Tube Cap Insert, blue,** 1000 inserts per case
BCS-2437	**Cryo Tube Cap Insert, orange,** 1000 inserts per case

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