

2 - 5 CoolCell®

9 CoolBox™

12 CoolSink®

13 ThermalTray™

6 - 8 CoolBox™ XT

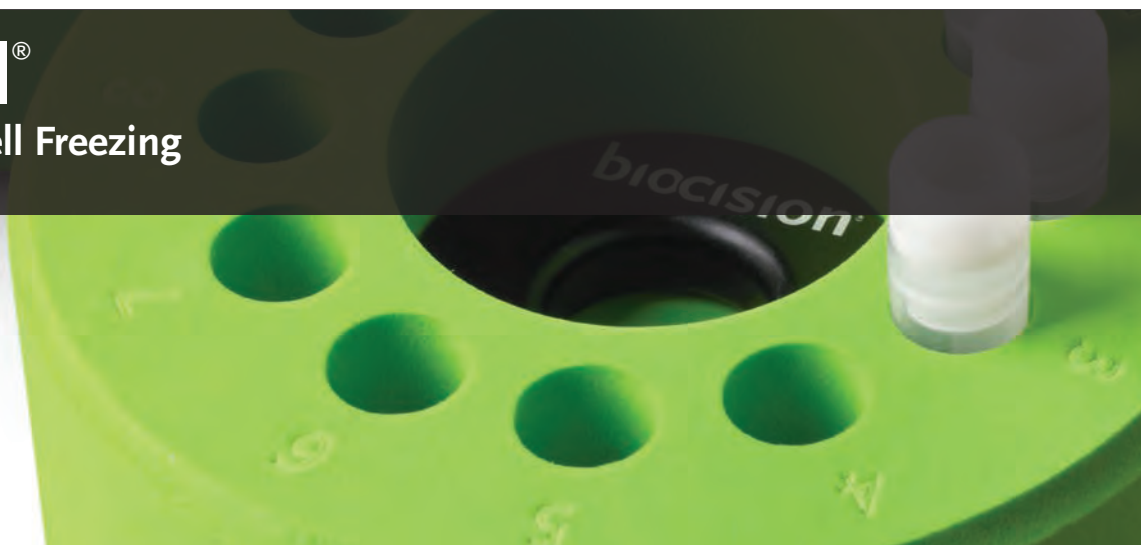
10 - 11 CoolRack®

13 CoolSink® H

14 - 15 Accessories

# CoolCell<sup>®</sup>

## Alcohol-Free Cell Freezing



**CoolCell alcohol-free cell freezing containers** ensure standardized controlled-rate  $-1^{\circ}\text{C}/\text{minute}$  cell freezing in a  $-80^{\circ}\text{C}$  freezer - without alcohol or any fluids. Proven for use with a variety of cell types including stem cells, primary cells and cell lines. The patent-pending CoolCell technology utilizes a thermo-conductive alloy and highly-insulative outer materials to control the rate of heat removal and make cell cryopreservation reproducible. CoolCell units are easy to use; simply fill with cryogenic vials and place in a  $-80^{\circ}\text{C}$  freezer.

### Why Alcohol-Free?

- Consistent  $-1^{\circ}\text{C}/\text{minute}$  freezing rate
- No variability from freeze to freeze, more consistent, faster results
- Higher cell viability
- No maintenance, no waste
- No hidden cost
- Easy to use
- Minimal impact on freezer and frozen contents

### CoolCell Container

#### No alcohol

- No fluids
- No pre-cooling required

#### No variability

- All vials have uniform freeze rate
- Radially symmetric design ensures consistency

#### No on-going cost

- No alcohol purchase or disposal

#### No stuck lids

- Lid comes off easily when frozen
- Not cold to the touch when removing from the  $-80^{\circ}\text{C}$  freezer

#### Quick re-use time

- Ready to use again after five minutes

#### Low impact on freezer

- $1/3$  the heat impact on freezer compared to alcohol-filled units



### Alcohol-Filled Container

#### Requires 250ml alcohol

- Replace alcohol every 5 uses
- Keep track of number of uses
- Pre-cool alcohol in refrigerator

#### Inconsistent freeze rate

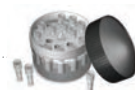
- Alcohol degradation induces variability
- Two circles of wells – different freeze rates for each

#### Approximately \$350/year

- Change alcohol weekly
- Disposal of hazardous waste

#### Difficult to handle

- Screw cap very difficult to remove when frozen
- Frozen unit is slippery and cold to touch



### Testimonials

"We run a registry in which large amounts of Peripheral Blood Mononuclear Cells are processed for long-term cryopreservation. After testing the CoolCell, we found slightly better cell viability ( $>90\%$ ) than with our current cell freezing containers, and there is no isopropanol waste generated. Overall, the CoolCell has set a new bar in cryopreservation."

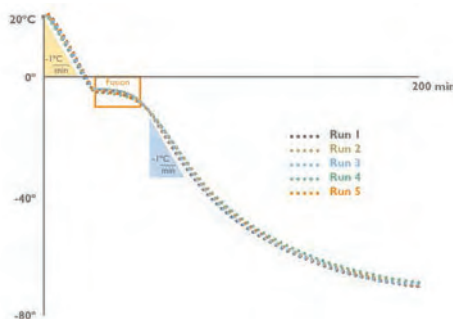
- Rohit G., Stanford University



#### Cryopreservation and Thawing of Cells

Yokoyama WM, Thompson ML, and Ehrhardt RO  
Current Protocols in Immunology, Nov 2012

### CoolCell Consistency



Five consecutive freeze cycles show highly reproducible freezing profiles.

## Stem Cells

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

**Fig 1.** HESC - RC10. After 2 weeks in LN2, 3 vials from each method were thawed and cells counted immediately (Day 1) and after 3 days growth (Day 3). CoolCell method showed 33% increase in cells after 3 days growth.

**Fig 2.** Alamar Blue reduction assay for proliferation analysis of RC10 cells. Cells frozen in CoolCell grew more quickly leading to higher proliferation rates and more cells.

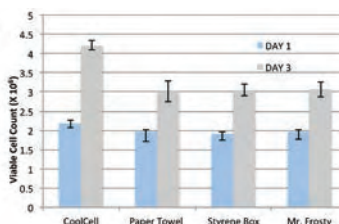


Fig 1

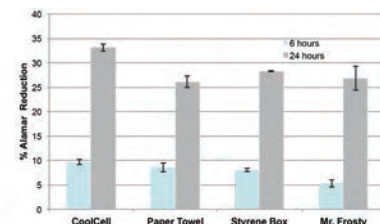


Fig 2

## Primary Cells

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

**Fig 3.** PBMC. After LN2 storage, vials frozen in CoolCell and "Mr. Frosty" isopropanol containers were compared. Cells were thawed and viability counts were obtained using trypan blue stain method. Results were similar, although CoolCell required no alcohol and no maintenance.

**Fig 4.** HUVEC suspensions frozen in CoolCell or Mr. Frosty Isopropanol container (5 each) container were rapidly thawed and resuspended in growth media and live cell counts were obtained by trypan blue exclusion method. CoolCell significantly outperformed "Mr. Frosty."

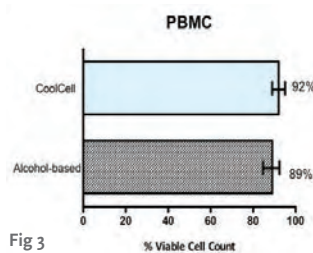


Fig 3

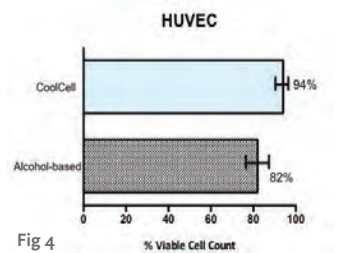


Fig 4

## Cell Lines

CHO  
LnCap  
HTB77  
A549  
HeLa

**Fig 5.** HeLa, CHO-K, K562, NIH3T3. CoolCell 12-well, CoolCell FTS30 30-well and "Mr. Frosty" freezing containers were used to freeze all four cell lines. Identical transfection efficiencies and viabilities were observed after thawing.

**Fig 6.** Identical growth of cells was observed 24 hours post-thaw.

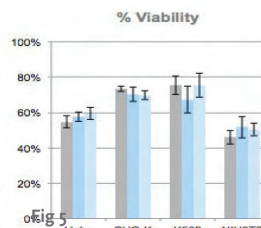


Fig 5

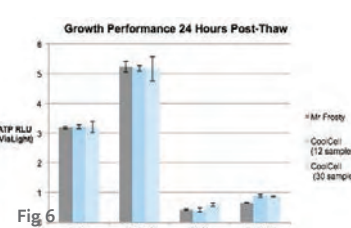
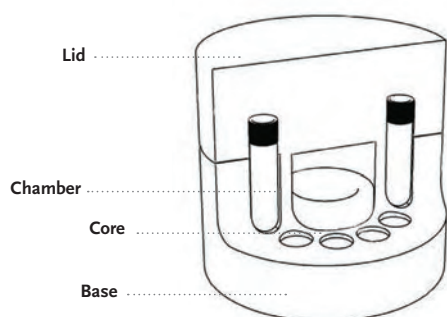


Fig 6

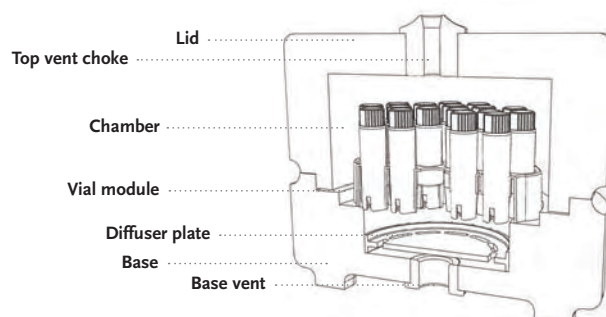
## How It Works



CoolCell LX in combination with a -80°C freezer, will provide the freezing rate of -1°C/minute that is ideal for cryopreservation of most cultured cell lines. The container uses a combination of uniform-density crosslinked polyethylene insulation foam, and a metal alloy core ring, and radial vial symmetry. As a result, freezing profiles are consistent from one run to the next.

It is important to fully load CoolCell prior to freezing.

The CoolCell LX foam retains very little heat which ensures that the container will impose negligible change in the freezer environment and protect nearby frozen samples. The low heat content also ensures that CoolCell LX will rapidly return to room temperature for another freezing cycle.



CoolCell FTS30 utilizes a novel metal alloy 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 using a diffuser plate 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. The vial-to-vial and cycle-to-cycle thermal profiles are highly reproducible when the same vial load and freezer temperature is applied.

Due to the low thermal mass of the uniform-density crosslinked polyethylene insulation foam container, freezing can be conducted without a rise in local freezer temperature, thereby protecting nearby samples.

The low thermal mass also ensures that CoolCell FTS30 will rapidly return to room temperature for another freezing cycle.

CoolCell LX Cell Freezing Container



**CoolCell LX**  
For 12 x 1 mL or 2 mL cryogenic vials, 1 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.

Item No.	Description	Dimensions
BCS-405	● CoolCell LX, purple	Diam 11.7 x H 10.9 cm.
BCS-405G	● CoolCell LX, green	
BCS-405O	● CoolCell LX, orange	
BCS-405PK	● CoolCell LX, pink	

CoolCell FTS30 High-Capacity Cell Freezing Container



**CoolCell FTS30**  
For 30 x 1 mL or 2 mL cryogenic vials, 1 mL fill volume per vial. Controlled micro-convection for uniform freezing of 30 vials. Removable cryogenic vials tray for one-step transfer of samples into and out of freezing chamber.

Item No.	Description	Dimension
BCS-170	● CoolCell FTS30, purple	Diam 16.5 x H 11.5 cm.
BCS-170G	● CoolCell FTS30, green	
BCS-170O	● CoolCell FTS30, orange	
BCS-170PK	● CoolCell FTS30, pink	

CoolCell 5ml LX Cell Freezing Container



**CoolCell 5mL LX**  
For 12 x 3.5 to 5 mL cryogenic vials, 3.5 to 5 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.

Item No.	Description	Dimensions
BCS-406	● CoolCell 5mL LX, purple	Diam 9.5 x H 14.5 cm.

CoolCell SV Cell Freezing Containers for Injectable Vials



**CoolCell SV2**  
12 x 2 mL serum vials, 1mL fill per vial. Radially-symmetric for uniform freezing of injectable serum vials. Easy open lid. Exposed vial tops when lid is open for quick, organized removal of frozen samples.

Item No.	Description	Dimensions
BCS-172	● CoolCell SV2, purple	Diam 11.7 x H 10.9 cm.

**CoolCell SV10**  
6 x 10 mL serum vials, 5 mL fill per vial. Radially-symmetric for uniform freezing of injectable serum vials. Easy open lid. Exposed vial tops when lid is open for quick, organized removal of frozen samples.

Item No.	Description	Dimensions
BCS-262	● CoolCell SV10, purple	Diam 11.7 x H 10.9 cm.

CoolCell Cell Freezing Container



**CoolCell**  
For 12 x 1 mL or 2 mL cryogenic vials, 1 mL fill per vial. Economical, controlled-rate cell freezing container. Radially-symmetric for uniform vial freezing. Easy open lid.

Item No.	Description	Dimensions
BCS-136	● CoolCell, purple	Diam 11.7 x H 10.9 cm.
BCS-136G	● CoolCell, green	
BCS-136O	● CoolCell, orange	
BCS-136P	● CoolCell, pink	

Note: It is important to fully load each CoolCell unit prior to freezing. CoolCell Filler vials (page 5) are recommended for filling any empty wells.



CoolCell Protecting Agents

Add your serum, media or buffers to these single-use cell biology grade DMSO or glycerol cryoprotectants. Eliminates wasting large bottles of DMSO and difficult pipetting of viscous glycerol. Dual graduations - percentage and mL - on the back for measuring. Prepare from 5% (50 mL) to 20% (12.5 mL) of cryopreservation solution.

Item No.	Description
BCS-3010	CoolCell Protecting Agent, DMSO
BCS-3011	CoolCell Protecting Agent, Glycerol



CoolCell Filler Vial

To ensure cell freezing rate consistency and uniform results, insert a CoolCell Filler Vial into empty wells when freezing less than a full load. Filled with glycerol and suitable for repeated use. Compatible with CoolCell LX, CoolCell, CoolCell FTS30 and CoolCell 5ml LX.

Item No.	Description
BCS-3105	CoolCell Filler Vial, 2ml
BCS-3106	CoolCell Filler Vial, 5ml



TruCool® Cryogenic Vials

Available with internal or external threads for a secure, leak-proof seal. Thermally-fused gasket layer on each cap replaces traditional O-ring. Each tube is individually barcoded for accurate identification and anonymity.

Internal Threads	External Threads	Description
Item No.	Item No.	
BCS-2410	BCS-2400	1 mL, Self-Standing
BCS-2411	BCS-2402	2 mL, Self-Standing
BCS-2412	BCS-2401	2 mL, Round Bottom
—	BCS-2403	3 mL, Self-Standing
BCS-2413	—	4 mL, Round Bottom
BCS-2414	BCS-2404	4 mL, Self-Standing
BCS-2415	—	5 mL, Round Bottom
BCS-2416	BCS-2405	5 mL, Self-Standing



Item No.	Description
BCS-2425	Cap inserts, white
BCS-2420	Cap inserts, blue
BCS-2421	Cap inserts, green
BCS-2423	Cap inserts, red
BCS-2424	Cap inserts, yellow
BCS-2422	Cap inserts, pink
BCS-2426	Cap inserts, assorted



CryoCeps™ Cryogenic Vial Grippers

Cryogenic vial grippers feature a unique design to grasp internal- or external-thread cryogenic vials. Easily sort or move vials while protecting fingers from dry ice and liquid nitrogen. 2 per pack.

Item No.	Description
BCS-213	CryoCeps, green



TruCool® Hinged CryoBoxes

Patented hinged lid offers convenience and archival integrity, ensuring marking and vials remain in sync. Lid stays attached to base minimizing risk of lid contamination, and is easy to open when frozen. Plastic 81-place grid has adjustable slats. Holds 81 1 mL or 2 mL cryogenic vials and microfuge tubes. Available in packs of 5 or 50. Dimensions: L 13.3 x W 13.3 x H 5.1 cm (5.25 x 5.25 x 2 in).

5 per pack	50 per pack	Description
BCS-206	BCS-207	Hinged CryoBox, white
BCS-206B	BCS-207B	Hinged CryoBox, blue
BCS-206G	BCS-207G	Hinged CryoBox, green
BCS-206O	BCS-207O	Hinged CryoBox, orange
BCS-206P	BCS-207P	Hinged CryoBox, purple
BCS-206PK	BCS-207PK	Hinged CryoBox, pink
BCS-206MC	—	Hinged CryoBox, multi-color (no white)







# CoolBox<sup>TM</sup> XT

## All Day Ice-Free Cooling and Freezing

**CoolBox XT workstations** are ice-free bench top cooling workstations that provide all-day sample cooling *without ice, electricity or batteries*. CoolBox XT is versatile and can accommodate a variety of samples and temperatures. The modular design enables the use of several different general purpose or automation-friendly (AF) CoolRack® and CoolSink® sample modules. The XT Cooling Core provides over 16 hours of 0.5°C to 4°C cooling, and the optional XT Freezing Core keeps samples frozen for over 8 hours (-20°C to 0°C). CoolBox XT may also be used with dry ice to create a compact, portable, snap-freezing workstation for bacteria, virus, proteins and more.

### Problem: wet samples

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

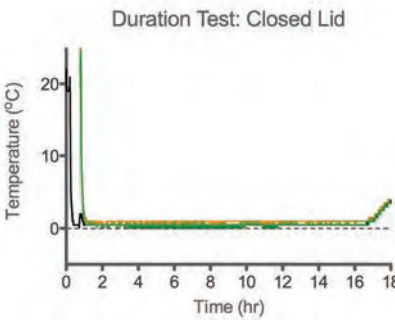
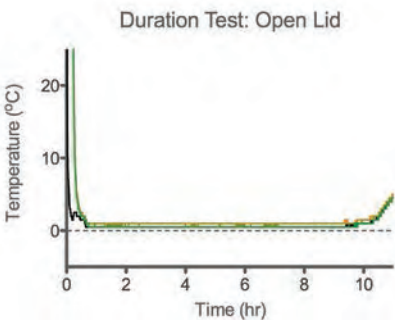


### Solution: ice-free cooling

- No wet ice contamination
- Uniform well-to-well sample cooling
- Samples are organized, secure and dry
- All tubes are upright and indexed
- Reproducible method



### CoolBox XT Performance



Samples stay cold for over 10 hours with lid open and over 16 hours with lid closed.

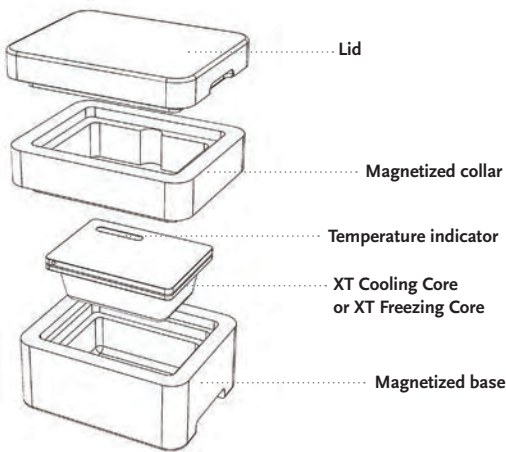
Temperature Range	Cooling Source	Open Lid	Closed Lid
0.5°C to 4°C	XT Cooling Core	Over 10 hours	Over 16 hours
-20°C to 0°C	XT Freezing Core	Over 5 hours	Over 8 hours
-78°C	200ml Dry Ice*	Over 4 hours	Over 5 hours

*\*Note: the thermo-conductive design of the CoolRack and CoolSink sample modules ensures uniform well-to-well temperature regardless of the consistency of the dry ice.*

### How It Works

CoolBox XT is a portable workstation designed for maintaining sample temperatures below 4°C anywhere, without the use of wet ice or electricity. The patent-pending dual-phase conductive XT Cooling Core or XT Freezing Core provides the cooling source when a thermo-conductive CoolRack or CoolSink tube and plate module is placed on top. The core and sample module in combination ensure uniform well-to-well temperature throughout the cooling period, regardless of sample position.

Alternatively, use dry ice in the base and place a CoolRack or CoolSink sample module on top to provide an ultra-cold temperature (-78°C) workstation for snap-freezing samples in tubes or plates.



## “Design Your Own” CoolBox XT or CoolBox 2XT Workstation

### Step 1: Choose CoolBox XT

Choose either CoolBox XT or CoolBox 2XT



#### CoolBox XT Single Capacity Workstation

BCS-502	● CoolBox XT, purple	Includes: Base, collar, lid and one XT Cooling Core.
BCS-502G	● CoolBox XT, green	
BCS-502O	● CoolBox XT, orange	
BCS-502PK	● CoolBox XT, pink	



#### CoolBox 2XT Double Capacity Workstation

BCS-503	● CoolBox 2XT, purple	Includes: Double-capacity base, collar, lid and two XT Cooling Cores.
BCS-503G	● CoolBox 2XT, green	
BCS-503O	● CoolBox 2XT, orange	
BCS-503PK	● CoolBox 2XT, pink	

### Step 2: Choose Sample Module(s)

Choose the thermo-conductive sample module(s)

**CoolBox XT** - Single capacity workstation holds one of the following modules

#### Tube Modules

Item No.	Description	For Use With
BCS-163	CoolRack M6	6 x 1.5 or 2 mL microfuge tubes
BCS-125	CoolRack M15	15 x 1.5 or 2 mL microfuge tubes
BCS-127	CoolRack M15-PF	15 x 1.5 mL conical microfuge tubes
BCS-126	CoolRack CF15	15 x 1.0 or 2.0 mL cryogenic vials
BCS-120	CoolRack PCR96	96-well PCR plate, strip wells, tubes
BCS-139	CoolRack PCR384	384-well plate
BCS-231	CoolRack 96x0.5ml	96 x 0.5ml 2D barcode tubes
BCS-149	CoolRack 96x1ml	96 x 1ml 2D barcode tubes

#### Plate Modules

Item No.	Description	For Use With
BCS-101	CoolSink 48	6-, 12-, 24-, 48-well flat plate
BCS-106	CoolSink 96F	flat-bottom plate
BCS-107	CoolSink 96U	96-well u-bottom plate

#### Modules for Tall Tubes\*

Item No.	Description	For Use With
BCS-157	CoolRack VS13	9 x 13x75 mm blood tubes
BCS-155	CoolRack V13	9 x 13x100 mm blood tubes
BCS-156	CoolRack V16	9 x 16x100 mm blood tubes
BCS-153	CoolRack 15ml	9 x 15 mL centrifuge tubes
BCS-154	CoolRack 50ml	4 x 50 mL centrifuge tubes

\*Order one extension collar to extend the height of CoolBox XT and 2XT

#### Automation-Friendly Tube and Plate Modules

Item No.	Description	For Use With
BCS-529	CoolRack XT PCR96	96-well PCR plate, strip wells, tubes
BCS-538	CoolRack XT PCR384	384-well plate
BCS-523	CoolRack XT M-PCR	12 x 1.5 or 2.0 mL microfuge tubes and 6 strip wells
BCS-535	CoolRack XT M24	24 x 1.5 mL microfuge tubes
BCS-534	CoolRack XT CFT24*	24 x 1.0 or 2.0 mL cryogenic vials
BCS-536	CoolSink XT 96F	96 well flat bottom plate
BCS-537	CoolSink XT 96U	96 well u-bottom plate

\*CoolRack CFT24 has “gripping” wells for one-hand vial opening and closing

**CoolBox 2XT** - Double capacity workstation holds two modules. Any combination of the ones listed to the left and the following:

#### Tube Modules

Item No.	Description	For Use With
BCS-137	CoolRack M30-PF 500ul	30 x 0.5 mL conical tubes
BCS-108	CoolRack M30	30 x 1.5 mL or 2.0 microfuge tubes
BCS-128	CoolRack M30-PF	30 x 1.5 mL conical microfuge tubes
BCS-140	CoolRack MassSpec	30 x 300ul and 700ul mass spec vials
BCS-138	CoolRack CFT30*	30 x 1.0 or 2.0 mL cryogenic vials
BCS-129	CoolRack CF30	30 x 1.0 or 2.0 mL cryogenic vials
BCS-105	CoolRack CF45**	45 x 1.0 or 2.0 mL cryogenic vials

\*CoolRack CFT30 has “gripping” wells for one-hand vial opening and closing

\*\*Due to the length of CoolRack CF45, it can only be used in combination with CoolRack M6

#### Reservoir Modules

Item No.	Description	For Use With
BCS-180	CoolSink BX50	50 mL Biotix BioX resin reservoir
BCS-183	CoolSink BX100	100 mL Biotix BioX resin reservoir
BCS-184	CoolSink LX55**	55 mL reagent reservoir

\*\*Due to the length of CoolSink LX55, it can only be used in combination with CoolRack M6

### Step 3: Choose Accessories

Magnetized extension collar to extend the height of CoolBox XT and CoolBox 2XT. For use with taller tubes such as 3 to 5 mL cryogenic vials, 15 mL and 50 mL centrifuge tubes, blood collection tubes.



#### XT Extension Collar

BCS-502C	● Extension Collar, purple
BCS-502C-G	● Extension Collar, green
BCS-502C-O	● Extension Collar, orange
BCS-502C-PK	● Extension Collar, pink



#### 2XT Extension Collar

BCS-503C	● Extension Collar, purple
BCS-503C-G	● Extension Collar, green
BCS-503C-O	● Extension Collar, orange
BCS-503C-PK	● Extension Collar, pink

XT Cooling Core and XT Freezing Core. XT Cooling Core includes 1 - 8°C LCD temperature indicator. CoolBox XT holds one, CoolBox 2XT holds two.



#### XT Cooling Core

BCS-511	XT Cooling Core
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#### XT Freezing Core

BCS-512	XT Freezing Core
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## Complete CoolBox XT and CoolBox 2XT Application-Specific Workstations

### General Purpose



#### Single Capacity - CoolBox XT, Purple

Item No.	Description	Application	For Use With	Contents
BCS-550	MicroTube 15 Workstation	Enzyme storage, snap-freezing, DNA-precipitation	15 microfuge tubes (1.5 or 2.0 mL)	CoolBox XT System, CoolRack M15, one pack of 500 TruCool 1.5 mL microfuge tubes.
BCS- 551	CryoTube 15 Workstation	Tissue culture, snap-freezing or other applications done in cryogenic vials	15 cryogenic vials (1.0 or 2.0 mL)	CoolBox XT System, CoolRack CF15, one pack of 50 TruCool 2 mL internal-thread cryogenic vials.
BCS- 552	PCR96 Workstation	PCR plate preparation	One 96-well PCR plate, 12 strip wells or 96 tubes (200ul)	CoolBox XT System, CoolRack PCR96, one pack of 500 TruCool 1.5 mL microfuge tubes.



#### Double Capacity - CoolBox 2XT, Purple

Item No.	Description	Application	For Use With	Contents
BCS-553	PCR96 Workstation	PCR sample preparation	One PCR plate/strip wells/tubes and 15 microtubes (1.5 or 2.0 mL)	CoolBox 2XT System, CoolRack PCR96, CoolRack M15, one pack of 500 TruCool 1.5 mL microfuge tubes.
BCS- 554	Cell Staining Workstation	Tissue culture applications	One flat-bottom tissue culture plate and 15 microtubes (1.5 or 2.0 mL)	CoolBox 2XT System, CoolRack M15, CoolSink 96F, one pack of 500 TruCool 1.5 mL microfuge tubes.
BCS- 555	Assay Workstation	Protein, DNA, or other microplate-based assays	One u-bottom microplate and 15 microtubes (1.5 or 2.0 mL)	CoolBox 2XT System, CoolRack M15, CoolSink 96U, one pack of 500 TruCool 1.5 mL microfuge tubes.

### Automation-Friendly



#### Single Capacity - CoolBox XT, Green

Item No.	Description	Application	For Use With	Contents
BCS-570	PCR 96 Workstation	PCR plate preparation	One PCR plate, 12 strip wells or 96 tubes (200ul)	CoolBox XT System, automation-compatible CoolRack XT PCR96, one pack of 500 TruCool 1.5 mL microfuge tubes.
BCS- 571	PCR 384 Workstation	PCR plate preparation	One 384-well plate	CoolBox XT System, automation-compatible CoolRack XT PCR384, one pack of 500 TruCool 1.5 mL microfuge tubes.
BCS- 572	PCR Strip Workstation	PCR sample preparation	6 strip wells and 12 microtubes (1.5 to 2.0 mL)	CoolBox XT System, automation-compatible CoolRack XT M-PCR, one pack of 500 TruCool 1.5 mL microfuge tubes.
BCS-578	Protein Assay Workstation	Bradford protein, other colorimetric or fluorescent microplate assays	One 96-well u-bottom microplate	CoolBox XT System, automation-compatible CoolSink XT 96U, one pack of 500 TruCool 1.5 mL microfuge tubes.
BCS-574	Cell Freezing Workstation	Cell preparation and cryopreservation	24 cryogenic vials (1.0 to 2.0 mL) and two CoolCell freezing containers	CoolBox XT System, automation-compatible CoolRack XT CFT24, two CoolCell LX alcohol-free cell freezing containers, CryoCeps, one pack of 50 TruCool 2 mL internal-thread cryogenic vials.
BCS-575	CryoTube 24 Workstation	Tissue culture, snap-freezing and other applications	24 cryogenic vials (1.0 to 2.0 mL)*	CoolBox XT System, automation-compatible CoolRack XT CFT24, one pack of 50 TruCool 2 mL internal-thread cryogenics
BCS-576	MicroTube 24 Workstation	Enzyme storage, snap-freezing and other applications	24 microtubes (1.5 or 2.0 mL)	CoolBox XT System, automation-compatible CoolRack XT M24, one pack of 500 TruCool 1.5 mL microfuge tubes.



#### Double Capacity - CoolBox 2XT, Green

Item No.	Description	Application	For Use With	Contents
BCS-577	MicroTube and CryoTube Workstation	Enzyme storage, snap-freezing and other applications	24 microtubes (1.5 or 2 mL) and 24 cryogenic vials (1.0 or 2.0 mL)*	CoolBox 2XT System, automation-compatible CoolRack XT M24, automation-compatible CoolRack XT CFT24, CryoCeps, one pack of 500 TruCool microfuge tubes, one pack of 50 TruCool 2 mL internal-thread cryogenic vials.
BCS- 579	Cell Staining Workstation	Tissue culture applications	One flat-bottom tissue culture plate and 24 microtubes (1.5 or 2.0 mL)	CoolBox 2XT System, automation-compatible CoolRack XT M24, automation-compatible CoolSink XT 96F, one pack of 500 TruCool 1.5 mL microfuge tubes.
BCS- 580	Assay Workstation	Protein, DNA, or other microplate-based assays	One u-bottom microplate and 24 microtubes (1.5 or 2.0 mL)	CoolBox 2XT System, automation-compatible CoolRack XT M24, automation-compatible CoolSink XT 96U, one pack of 500 TruCool 1.5 mL microfuge tubes.
BCS- 573	PCR Sample Preparation Workstation	PCR sample preparation	One PCR plates/strip wells/tubes and 24 microtubes (1.5 or 2.0 mL)	CoolBox 2XT System, automation-compatible CoolRack XT M24, automation-compatible CoolRack PCR96, one pack of 500 TruCool 1.5 mL microfuge tubes.

\* Has locking wells for one-hand open/close



# CoolBox™ 30 and CoolBox™ MP

## Ice-Free Cooling and Freezing

**CoolBox 30 and CoolBox MP** cooling and freezing systems provide hours of bench top cooling (0.5 to 4°C) or freezing (-18 to -10°C) through the use of re-usable cartridges. CoolBox 30 accommodates a variety of CoolRack tube modules for microfuge tubes and cryogenics. CoolBox MP System accommodates a variety of CoolSink and CoolRack plate modules for PCR, tissue culture and assay plates. Ideal for cooling samples in areas where ice is a contamination concern. CoolBox ensures uniform temperature to every sample, regardless of well position.

### CoolBox 30 and CoolBox MP



#### CoolBox 30

BCS-130	● CoolBox 30, purple
BCS-130G	● CoolBox 30, green
BCS-130O	● CoolBox 30, orange
BCS-130PK	● CoolBox 30, pink

Includes: CoolBox 30 base and lid, blue cooling cartridge, red stage for wet or dry ice, insulator pad. Accommodates all 30-well CoolRack tube modules (order module separately).



#### CoolBox MP

BCS-144	● CoolBox MP, purple
BCS-144G	● CoolBox MP, green
BCS-144O	● CoolBox MP, orange
BCS-144PK	● CoolBox MP, pink

Includes: CoolBox MP base and lid, one blue cooling cartridge. Accommodates all CoolSink and CoolRack plate modules (order module separately).

### Complete CoolBox 30 and CoolBox MP Systems with Sample Modules



#### Tube Cooling Systems

Item No.	Description	For Use With
BCS-133	M30 CoolBox System	For 30 x 1.5 mL or 2 mL microfuge tubes
BCS-135	CF30 CoolBox System	For 30 x 1 mL or 2 mL microfuge tubes
BCS-166	CFT30 CoolBox System	For 30 x 1 mL or 2 mL cryogenic vials*
BCS-134	M30-PF CoolBox System	For 30 x 1.5 mL conical microfuge tubes

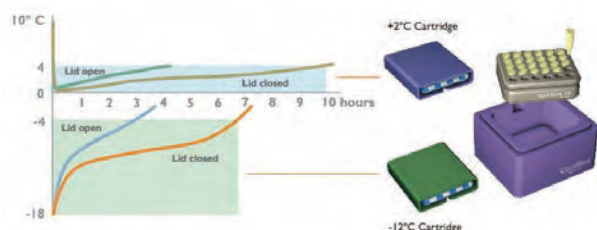
\*CoolRack CFT30 has "gripping" wells for one-hand vial opening and closing



#### Plate Cooling Systems

Item No.	Description	For Use With
BCS-145	PCR96 CoolBox System	96-well PCR plates or strip wells
BCS-146	PCR384 CoolBox System	384-well PCR plate
BCS-147	96F CoolBox System	96-well flat-bottom plate
BCS-148	96U CoolBox System	96-well u-bottom plate
BCS-151	1mlx96 CoolBox System	96 x 1.4 mL 2D barcode tubes

### CoolBox 30 Performance



Cooling and freezing duration of CoolBox 30 System with CoolRack M30 sample module.

### CoolBox Accessories

#### CoolBox 30

Item No.	Description
BCS-132	Cooling cartridge, blue, 3 per pack
BCS-131	Freezing cartridge, green, 3 per pack

#### CoolBox MP

Item No.	Description
BCS-152	Cooling cartridge, blue, 1 per pack



# CoolRack®

## Tube Modules



**CoolRack** thermo-conductive metal alloy tube modules eliminate inconsistencies which occur due to inserting tubes directly into ice, dry ice, alcohol baths, water baths and other common laboratory temperature sources. Place the CoolRack module directly onto a temperature source and it will rapidly adapt to that temperature from  $-196^{\circ}\text{C}$  to  $>+100^{\circ}\text{C}$ . CoolRack modules ensure  $\pm 0.1^{\circ}\text{C}$  temperature uniformity of all tubes when cooling, (snap)freezing or heating/thawing. Use for a variety of applications including cooling reagents such as restriction enzymes, dNTPs, antibodies and others, alcohol-free dry ice snap-freezing of tissue, virus and bacteria samples, bench top cryogenic tube sorting in liquid nitrogen, and many others. All CoolRack modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

### Problem: wet samples

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



### Solution: CoolRack

- All samples  $<4^{\circ}\text{C}$  and uniform in temperature ( $\pm 0.1^{\circ}\text{C}$ )
- Samples are organized, secure and dry
- All tubes are upright and indexed
- Reproducible method



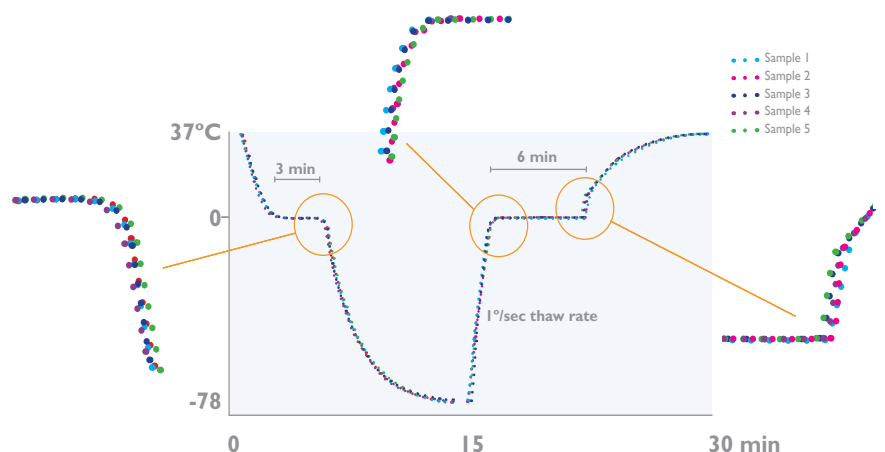
### CoolRack Reproducibility

**Performance test:** A temperature probe was placed into a 2ml cryogenic vial containing 1 mL of water. The tube was inserted into a CoolRack CF45 thermo-conductive module. The module was placed onto a ThermalTray platform in a  $37^{\circ}\text{C}$  water bath and allowed to equilibrate. CoolRack CF45 was then removed and placed onto dry ice and equilibrated to  $-78^{\circ}\text{C}$  (0 - 15 minutes). CoolRack CF45 was then returned to the waterbath to re-equilibrate to  $37^{\circ}\text{C}$  (15 - 30 minutes). This experiment was repeated five consecutive times and temperature profiles were recorded.

**Conclusion:** CoolRack CF45 showed identical cooling profiles and phase transition over five consecutive freeze-thaw cycles.

"...After using the CoolRack and ThermalTray, my soggy sample days are officially over! They keep my samples chilled for hours and keep everything organized, safe and secure. Highly recommended!"

- Steffan V., Genentech



Five consecutive freeze/thaw cycles using CoolRack CF45 shows highly reproducible thermal profiles.

### CoolRack Versatility



**On Ice**  
CoolRack equilibrates to  $<4^{\circ}\text{C}$  within 90 seconds\*



**On Dry Ice**  
CoolRack equilibrates to  $-78^{\circ}\text{C}$  in 7 minutes\*



**In Liquid Nitrogen**  
CoolRack equilibrates to approx.  $-140^{\circ}\text{C}$  in 15 minutes\*



**In Water Bath**  
CoolRack on ThermalTray HP for heating or thawing

\* Average cooling rate from room temperature

## General Purpose Modules



### CoolRack M

Microcentrifuge tube modules, For 1.5 mL and 2.0 mL tubes

BCS-163	CoolRack M6	6 wells, L 6 x W 4.3 x H 3.8 cm.
BCS-125	CoolRack M15	15 wells, L 10.2 x W 6.4 x H 3.8 cm.
BCS-108	CoolRack M30	30 wells, L 12 x W 10.2 x H 3.8 cm.
BCS-102	CoolRack M90	90 wells, L 26.8 x W 11.2 L x H 3.8 cm.
BCS-116	CoolRack M96ID*	96 wells, L 25.4 x W 15.2 x H 3.8 cm.

\*CoolRack M96ID has A-H and 1-12 row and column indexing

See also CoolRack XT (right)

## Automation-Friendly Modules



### CoolRack XT

SBS-compatible dimensions for use on robotic instruments

BCS-529	CoolRack XT PCR96	96-well plate or 12 strip wells, L 12.8 x W 8.5 x H 2.5 cm.
BCS-538	CoolRack XT PCR384	384-well plate, L 12.8 x W 8.5 x H 1.8 cm.
BCS-523	CoolRack XT M-PCR	12 x 1.5 or 2.0 mL microfuge tubes and 6 strip wells, L 12.8 x W 8.5 x H 3.8 cm.
BCS-535	CoolRack XT M24	24 1.5 mL microfuge tubes, L 12.8 x W 8.5 x H 3.8 cm.
BCS-534	CoolRack XT CFT24	24 cryogenic vials, L 12.8 x W 8.5 x H 3.8 cm.

## Tall Tube Modules



### CoolRack M-PF

Tapered wells for conical 500ul and 1.5 mL microfuge tubes

BCS-137	CoolRack M30-PF (500 ul)	30 wells, L 12 x W 10.2 x H 3.8 cm.
BCS-127	CoolRack M15-PF (1.5 mL)	15 wells, L 10.2 x W 6.4 x H 3.8 cm.
BCS-128	CoolRack M30-PF (1.5 mL)	30 wells, L 12 x W 10.2 x H 3.8 cm.



### CoolRack 15ml and 50ml

Centrifuge tube modules

BCS-153	CoolRack 15ml	9 wells, L 8.9 x W 8.9 x H 10.7 cm.
BCS-154	CoolRack 50ml	4 wells, L 8.9 x W 8.9 x H 10.7 cm.



### CoolRack CF

Cryogenic vials and FACS tube modules

BCS-126	CoolRack CF15	15 wells, L 10.2 x W 6.4 x H 3.8 cm.
BCS-129	CoolRack CF30	30 wells, L 12 x W 10.2 x H 3.8 cm.
BCS-138	CoolRack CFT30*	30 wells, L 12 x W 10.2 x H 3.8 cm.
BCS-105	CoolRack CF45	45 wells, L 17.3 x W 9.7 x H 3.8 cm.

\* CoolRack CFT30 has "gripping" wells for one-hand vial opening/closing

See also CoolRack XT (right)



### CoolRack V

Blood tube modules

BCS-157	CoolRack VS13	9 x 13x75 mm blood tubes, L 8.9 x W 8.9 x H 6.1 cm.
BCS-155	CoolRack V13	9 x 13x100 mm blood tubes, L 8.9 x W 8.9 x H 8.4 cm.
BCS-156	CoolRack V16	9 x 16x100 mm blood tubes, L 8.9 x W 8.9 x H 8.4 cm.

## CoolRack Accessories

See page 14 for detailed information



### Ice Pans and Buckets

For use with ice, dry ice or liquid nitrogen



### CoolRack PCR

Strip and plate modules

BCS-120	CoolRack PCR96	96 wells, L 13.1 x W 8.9 x H 2.5 cm.
BCS-139	CoolRack PCR384	384 wells, L 13.1 x W 8.9 x H 1.8 cm.

See also CoolRack XT (right)



### Other CoolRack Modules

BCS-140	CoolRack MS, for 300ul and 700ul mass spec vials	30 wells, L 12 x W 10.2 x H 3.8 cm.
BCS-149	CoolRack 96x1ml, for 1.4 mL 2D tubes	96 wells, L 13.2 x W 8.9 x H 4.3 cm.
BCS-231	CoolRack 96x0.5ml, for 0.5 mL 2D tubes	96 wells, L 13.1 x W 8.9 x H 3.6 cm.



### CoolRack Sleeves

For comfortable grip and color-coding



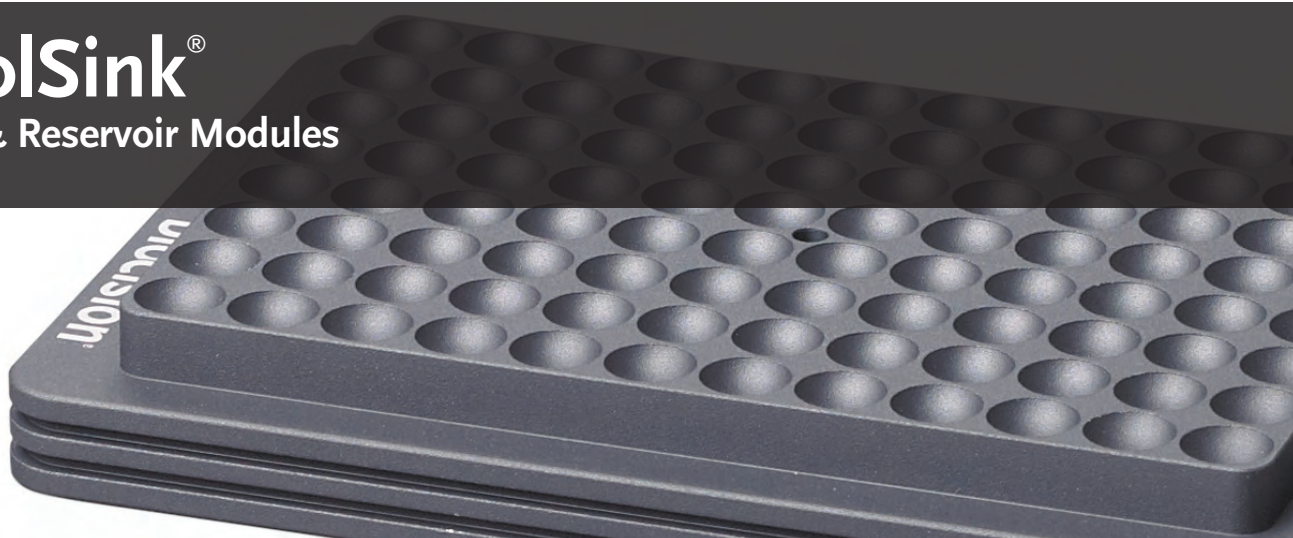
### CoolProbe™

Traceable temperature monitor



# CoolSink®

## Plate & Reservoir Modules

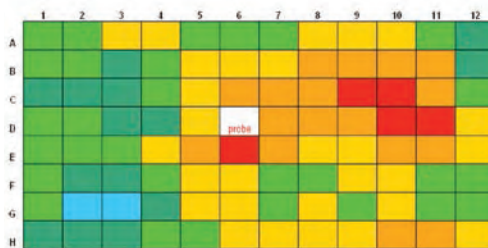
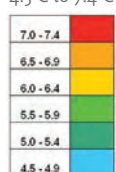


**CoolSink** patented thermo-conductive metal alloy plate module provides uniform temperature to all wells, regardless of position. Place the CoolSink module directly onto a temperature source such as ice, dry ice, liquid nitrogen or waterbaths, and it will rapidly adapt to that temperature - from -196°C to >+100°C. CoolSink modules ensure temperature sample uniformity when cooling, (snap)freezing or heating/thawing samples. All CoolSink modules can be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.

### Problem: plate directly on crushed ice



4.5°C to 7.4°C

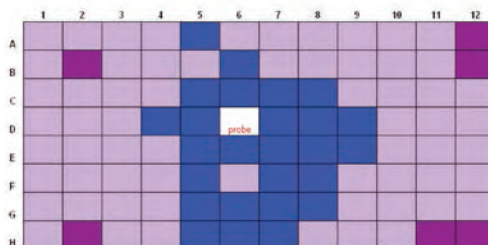
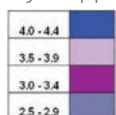


Final well temperature for 96-well flat bottom plates. Colors represent 0.5°C temperature intervals of the corresponding plate wells. **(Top)** Plate directly on crushed ice does not reach 4°C in any of the wells and well-to-well temperature is uneven. **(Bottom)** Plate placed on CoolSink 96F module and then placed on ice shows more uniform well-to-well temperature and all wells at or below 4°C. (Blue center plate wells are due to curvature of the underside of the plate.) The white cell represents the well that was fitted with a thermocouple probe.

### Solution: plate on CoolSink 96F module



2.5°C to 4.4°C



#### General Purpose Plate Modules

For tissue culture and assay plates

BCS-101	CoolSink 48	6-, 12-, 24-, 48-well tissue culture plate
BCS-106	CoolSink 96F	96-well flat-bottom plate
BCS-107	CoolSink 96U	96-well u-bottom plate

All modules: L 13.1 x W 8.9 x H 1.8 cm.



#### Automation-Friendly Plate Modules

SBS-compatible for use on robotic instruments

BCS-536	CoolSink XT 96F	96-well flat-bottom plate
BCS-537	CoolSink XT 96U	96-well u-bottom plate

All modules: L 12.8 x W 8.5 x H 1.7 cm



#### Reservoir Modules

For reagent reservoirs

BCS-180	CoolSink BX50, 50 mL BioX-Resin™ reservoirs
BCS-183	CoolSink BX100, 100 mL BioX-Resin™ reservoirs
BCS-184	CoolSink LX55, 55ml reagent reservoirs

BCS-180 and BCS-183: L 8.9 x W 3.2 x H 2.8 cm.

BCS-184: L 14.6 x W 6.4 x H 3.5 cm.

\*BioX-Resin™ is a trademark of and available through Biotix, Inc.



# CoolSink<sup>®</sup> H

## Tissue and Slide Preparation Platforms

**CoolSink H** thermo-conductive histology platforms standardize your tissue or specimen collection and preparation. Modules rapidly adapt to the source temperature when placed on ice, dry ice, liquid nitrogen, water bath or other temperature sources. Samples stay at uniform temperature while resting securely on a solid, stable platform. Ideal for animal and human sample preparation, biopsies, immunohistochemistry (IHC) and tissue or cell freezing. With handles removed, all thermo-conductive modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents.



### CoolSink HCD

Thermo-conductive platform for Corning® culture dishes

BCS-311	CoolSink HCD	L 15.9 x W 15.9 x H 0.9 cm.	For 35, 60, 100, or 150mm Corning® culture dishes
BCS-310	CoolSink HCD2	L 11.4 x W 11.4 x H 0.9 cm.	For 35, 60, 100, or 150mm Corning® culture dishes
BCS-316	CoolSink HCD3	L 11.4 x W 11.4 x H 0.9 cm.	For 100mm Corning® culture dishes with lid



### CoolSink HST and HS

Thermo-conductive platforms for slide preparation and sorting

BCS-314	CoolSink HST	L 21.6 x W 8.9 x H 3.4 cm.	Vertical slide sorter
BCS-315	CoolSink HS	L 32.3 x W 14.0 x H 1.3 cm.	Flat slide sorter with staining trough



### CoolSink H and HL

Thermo-conductive platform for histological preparations

BCS-312	CoolSink H	L 20.3 x W 10.2 x H 1 cm.*
BCS-313	CoolSink HL	L 27.9 x W 20.3 x H 1 cm.**

BCS-302 CoolMat H, surface protector for CoolSink H  
4 per pack

BCS-303 CoolMat HL, surface protector for CoolSink HL  
4 per pack

\*Height 3.5 cm including handle \*\*Height 5 cm including handle



### HistoMailer™

Histology embedded biopsy cassette shipping container

BCS-300	HistoMailer, 10 per pack	L 10.8 x W 10.8 x H 1.9 cm.
BCS-301	HistoMailer, 100 per pack	L 10.8 x W 10.8 x H 1.9 cm.

# ThermalTray<sup>™</sup>

**ThermalTray** thermo-conductive platforms support CoolRack and CoolSink sample modules in liquid temperature sources such as melting ice, water baths and liquid nitrogen. Made of the same highly conductive alloy as CoolRack and CoolSink modules, ThermalTray conducts the source temperature to the CoolRack or CoolSink and ultimately to your sample. The stable, sturdy design makes them ideal for processing temperature-sensitive samples. All modules may be autoclaved, high heat sterilized or decontaminated with bleach, alcohol or other disinfectants or lab detergents. All modules may be used in all temperature sources.



### ThermalTray

Thermo-conductive platforms

BCS-104	ThermalTray HP, high-profile for water bath	W 14 x L 28 x H 8.6 cm.
BCS-123	ThermalTray LP, medium-profile for ice	W 14 x L 28 x H 5.1 cm.
BCS-252	ThermalTray SLP, low-profile for liquid nitrogen	W 14 x L 28 x H 3.2 cm.

### CoolMat™

Surface protector for all ThermalTray platforms

BCS-141	CoolMat, 4 per pack	W 13.76 x L 28 cm.
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# Accessories



## Ice Buckets and Pans

Non-toxic Ethyl vinyl acetate foam containers for use with ice, dry ice or liquid nitrogen. Will not sweat, leak or skid on bench

### Mini 1L Ice Pan

External Dimensions: L 15.9 x W 15.9 x H 9.5 cm

BCS-211PL	● Square, purple
BCS-211GR	● Square, lime green
BCS-211OR	● Square, orange
BCS-211PK	● Square, pink
BCS-211	● Square, green
BCS-211B	● Square, blue
BCS-212	● Square, red

### Midi 4L Ice Pan

External Dimensions: L 31.1 x W 22.2 x H 11.4 cm

BCS-113PL	● Rectangular, purple
BCS-113GR	● Rectangular, lime green
BCS-113OR	● Rectangular, orange
BCS-113PK	● Rectangular, pink
BCS-113	● Rectangular, green
BCS-113B	● Rectangular, blue
BCS-114	● Rectangular, red

### Maxi 9L Ice Pan

External Dimensions: L 40.6 x W 31.8 x H 11.4 cm

BCS-111PL	● Rectangular, purple
BCS-111GR	● Rectangular, lime green
BCS-111OR	● Rectangular, orange
BCS-111PK	● Rectangular, pink
BCS-111	● Rectangular, green
BCS-111B	● Rectangular, blue
BCS-112	● Rectangular, red

### Round 2.5L Ice Bucket with Lid

Top diameter: 24.1cm, Height: 12.1 cm

BCS-115-25PL	● Round, purple
BCS-115-25GR	● Round, lime green
BCS-115-25OR	● Round, orange
BCS-115-25PK	● Round, pink
BCS-115-25G	● Round, green
BCS-115-25B	● Round, blue
BCS-115-25R	● Round, red

### Round 4L Ice Bucket with Lid

Top diameter: 26 cm, Height: 18.4

BCS-115PL	● Round, purple
BCS-115GR	● Round, lime green
BCS-115OR	● Round, orange
BCS-115PK	● Round, pink
BCS-115	● Round, green
BCS-115B	● Round, blue
BCS-115R	● Round, red

## TruCool® Cryogenic Vials

Internal or external threads for a secure, leak-proof seal. Thermally-fused gasket layer on each cap replaces traditional O-ring. Each tube is individually barcoded for accurate identification and anonymity. Sterile. 500 per case.

Item No.	Item No.	Description
Internal Threads	External Threads	
BCS-2410	BCS-2400	1 mL, Self-Standing
BCS-2411	BCS-2402	2 mL, Self-Standing
BCS-2412	BCS-2401	2 mL, Round Bottom
—	BCS-2403	3 mL, Self-Standing
BCS-2413	—	4 mL, Round Bottom
BCS-2414	BCS-2404	4 mL, Self-Standing
BCS-2415	—	5 mL, Round Bottom
BCS-2416	BCS-2405	5mL, Self-Standing



Cap Inserts, 600 per pack

Item No.	Description
BCS-2425	● Cap inserts, white
BCS-2420	● Cap inserts, blue
BCS-2421	● Cap inserts, green
BCS-2423	● Cap inserts, red
BCS-2424	● Cap inserts, yellow
BCS-2422	● Cap inserts, pink
BCS-2426	● Cap inserts, assorted

## CryoCeps™ Cryogenic Vial Grippers

Cryogenic vial grippers feature a unique design to grasp internal- or external-thread cryogenic vials. Easily sort or move vials while protecting fingers from dry ice and liquid nitrogen. 2 per pack.

Item No.	Description
BCS-213	● CryoCeps, green





### TruCool® Hinged CryoBoxes

Patented hinged lid offers convenience and archival integrity, ensuring marking and vials remain in sync. Lid stays attached to base minimizing risk of lid contamination, and is easy to open when frozen. Plastic 81-place grid has adjustable slats. Holds 81 1 mL or 2 mL cryogenic vials and microfuge tubes. Available in packs of 5 or 50. Dimensions: L 13.3 x W 13.3 x H 5.1 cm (5.25 x 5.25 x 2 in).

5 per pack	50 per pack	Description
BCS-206	BCS-207	● Hinged CryoBox, white
BCS-206B	BCS-207B	● Hinged CryoBox, blue
BCS-206G	BCS-207G	● Hinged CryoBox, green
BCS-206O	BCS-207O	● Hinged CryoBox, orange
BCS-206P	BCS-207P	● Hinged CryoBox, purple
BCS-206PK	BCS-207PK	● Hinged CryoBox, pink
BCS-206MC	—	● Hinged CryoBox, multi-colored (no white)



### TruCool® Microcentrifuge Tubes

Patented “pull back” cap opens easily and minimizes risk of contamination, thumb and fingers never pass over open top. Certified sterile, RNase, DNase and pyrogen free. Autoclavable and boil proof. Max RCF = 20,000 x g. Volumetric markings and writing panels on lid and side. Top punctures easily. 500 per bag.

0.5ml	1.5ml	2ml	Description
BCS-2440	BCS-2460	BCS-2480	● clear
BCS-2441	BCS-2461	BCS-2481	● purple
BCS-2442	BCS-2462	BCS-2482	● green
BCS-2443	BCS-2463	BCS-2483	● orange
BCS-2444	BCS-2464	BCS-2484	● blue
BCS-2445	BCS-2465	BCS-2485	● pink
BCS-2446	BCS-2466	BCS-2486	● yellow
BCS-2447	BCS-2467	BCS-2487	● amber
BCS-2448	BCS-2468	BCS-2488	● black
BCS-2450	BCS-2470	BCS-2490	● clear, siliconized



### CryoLabels

With lab marker for labeling. Specifically designed to handle cryogenic vial temperatures and adhere to a variety of tubes, vials and plates.

Item No.	Description
BCS-168	50 labels + 3 pens in each pack



### CoolProbe™ Temperature Monitor

Measure sample temperature with traceable temperature monitors. CoolProbe M fits snugly in CoolRack M modules. CoolProbe CF fits CoolRack CF modules. CoolProbe U is for use with other sample tubes and plates. LCD digital display with minimum, maximum and current temperature display. Min/Max memory, high/low alarm. Certified NIST traceable.

Item No.	Description	Temperature Range: -50°C to 70°C / -58°F to 158°F
BCS-201	CoolProbe M	Resolution: 1°C
BCS-202	CoolProbe CF	Accuracy: +/- 1°C
BCS-200	CoolProbe U	Sampling rate: Fast (10 seconds) or Normal (60 seconds)



### CoolRack® Sleeves

Colorful elastic sleeves for color-coding CoolRack modules and for a more comfortable grip. Fits all 15-well and 30-well CoolRack modules, and tall tube modules.

Item No.	Description
BCS-205	4 per pack - purple, orange, green, and pink

Standardize your samples.

## CELL Cryopreservation

Standardize your cell cryopreservation with CoolCell<sup>®</sup> alcohol-free controlled-rate cell freezing containers and accessories. Highly reproducible results and no maintenance. Ideal for stem cells, primary cells, PBMC, cell lines, insect cells, yeast and more.



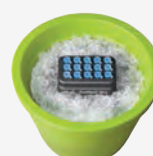
CoolCell freezing containers and accessories

## Bench Top SAMPLE Cooling & Freezing

It's time to re-think your ice bucket. CoolRack<sup>®</sup> and CoolSink<sup>®</sup> thermo-conductive modules make the ice bucket organized and a reproducible cooling source. Ice-free CoolBox<sup>™</sup> workstations eliminate ice completely.



Good?



Better



Best

## DRY ICE (or Liquid Nitrogen) Snap-Freezing

Achieve consistent and reproducible snap-freezing results in dry ice or liquid nitrogen. CoolRack thermo-conductive tube modules rapidly adapt to the source temperature, eliminate alcohol from the dry ice freezing process and freeze samples upright and uniformly.



Current method



BioCision method

**MANY  
MORE  
Applications**

PCR Virus INCUBATING  
Freezing  
Restriction BACTERIA FREEZING  
Enzyme Cooling Proteomics THAWING  
FACS