

CORNING

Sample Cooling and Heating Systems

冷卻冷凍系統

樣品加熱系統



CoolCell



CoolBox



CoolBack



CoolSink



ThermalTray



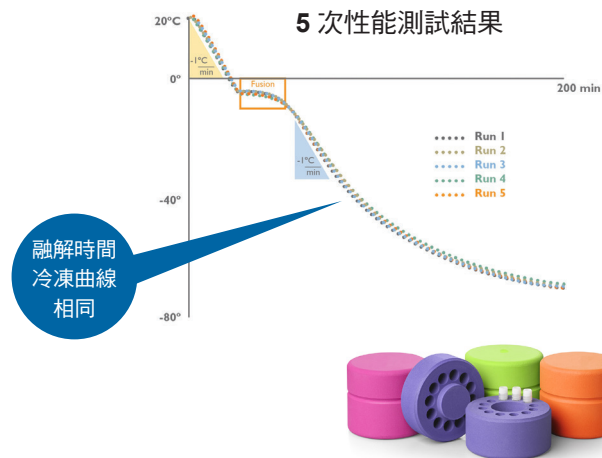
騰達行



0800-211-819

CoolCell 細胞凍存盒

- 專利技術：專利鋁合金，微對流散熱技術，導冷熱快，散熱慢
- 不需預冷，不需填充 isopropanol，提高細胞存活率
- 穩定降溫：於 -80°C 冰箱中可 1°C / min 降溫
- 最快只需 4 小時即可將細胞冷凍小管移置液態氮中
- 專利冷凍盒，不會凍傷雙手



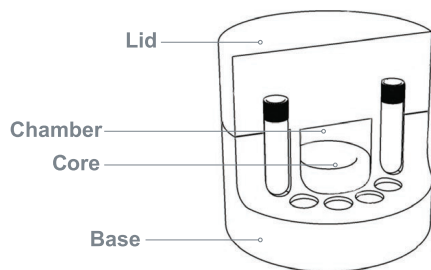
CoolCell LX Cell Freezing Containers

Cat. No.	Description	Color	Dimensions
432001	CoolCell LX, Cell Freezing Container, for 12 x 1ml or 2ml cryogenic vials	Blue	Diam 11.7 x H 10.9 cm
432002	CoolCell LX, Cell Freezing Container, for 12 x 1ml or 2ml cryogenic vials	Green	Diam 11.7 x H 10.9 cm
432003	CoolCell LX, Cell Freezing Container, for 12 x 1ml or 2ml cryogenic vials	Orange	Diam 11.7 x H 10.9 cm
432004	CoolCell LX, Cell Freezing Container, for 12 x 1ml or 2ml cryogenic vials	Pink	Diam 11.7 x H 10.9 cm
432005	CoolCell 5ml LX, Cell Freezing Container, for 12 x 3.5ml to 5ml cryogenic vials	Blue	Diam 9.5 x H 14.5 cm

CoolCell FTS30 High-Capacity Cell Freezing Containers

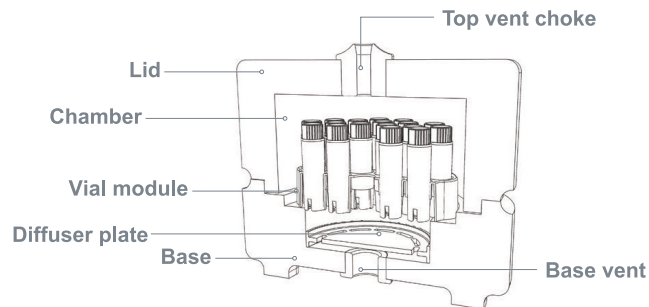
Cat. No.	Description	Color	Dimensions
432006	CoolCell FTS30, Cell Freezing container, for 30 x 1ml or 2ml cryogenic vials	Blue	Diam 16.5 x H 11.5 cm
432007	CoolCell FTS30, Cell Freezing container, for 30 x 1ml or 2ml cryogenic vials	Orange	Diam 16.5 x H 11.5 cm
432008	CoolCell FTS30, Cell Freezing container, for 30 x 1ml or 2ml cryogenic vials	Green	Diam 16.5 x H 11.5 cm
432009	CoolCell FTS30, Cell Freezing container, for 30 x 1ml or 2ml cryogenic vials	Pink	Diam 16.5 x H 11.5 cm

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 cells and cell lines. Using a combination of uniform-density crosslinked polyethylene foam, a solid state core, and radial vial symmetry, freezing profiles are consistent and reproducible. It is important to fully load CoolCell 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 CoolCell LX containers will rapidly return to room temperature when removed from freezer.

徑向對稱核心導熱合金金屬和外層密度均勻的交聯性聚乙烯絕熱泡棉構成，保證樣品於 -80°C 冰箱中可 1°C /min 降溫。



CoolCell® FTS30 utilizes a solid state core and controlled microconvection 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

採用新型合金金屬和微對流技術原理，由底部孔吸入 -80°C 冰箱的冷空氣，再均勻地擴散至內腔裡的每一個凍管周圍，熱空氣則由頂端排氣孔排出。

CoolCell 與傳統細胞漸凍盒使用差異



CoolCell Container		Isopropanol (IPA) Container	
無異丙醇 • 無液體 • 不需預冷 • 每年可省下 12 升 / 單位的異丙醇	勝	需要異丙醇 • 需監測使用次數 • 每使用 5 次要更換新的異丙醇 • 需先預冷	
無變異性 • 所有凍管皆維持一致的降溫速率 • 徑向對稱設計可確保其再現性	勝	漸凍速率不一致 • 異丙醇揮發導致的變異 • 兩層壁以至於有兩個凍結率	
無持續成本 • 無異丙醇購買或處置廢液問題	勝	額外費用 • 需更換和補充新的異丙醇 • 處理危險廢液的問題	
無卡榫的蓋子 • 冷凍後，人體工學蓋子很容易脫落 • 從 -80°C 冷凍櫃中取出時，觸碰外盒手感不冷	勝	難以操作和打開 • 冷凍後，難以打開螺旋蓋 • 從 -80°C 冷凍櫃中取出時，表面光滑且觸碰外盒手感冰涼	
重複使用的時間迅速 • 5 分鐘後可再次使用	勝	重複使用的時間較長 • 需 > 1 小時才能再次使用	

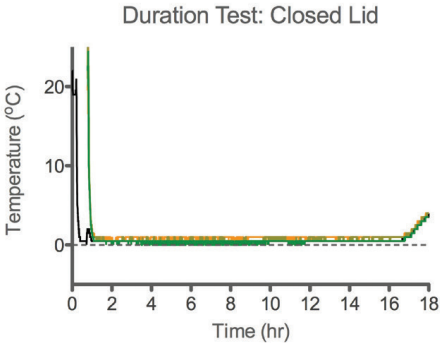
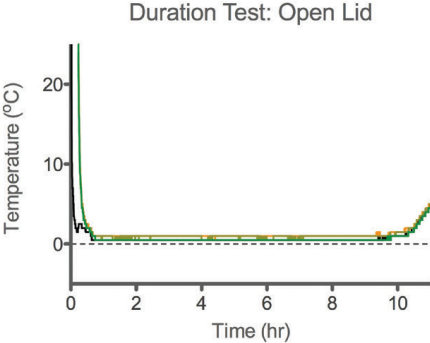
CoolBox 冷卻冷凍保存盒

- 輕便・易攜帶・不會打破
- 多種溫控模式，長時間保溫

開蓋保冷
10 小時

密封保冷
16 小時

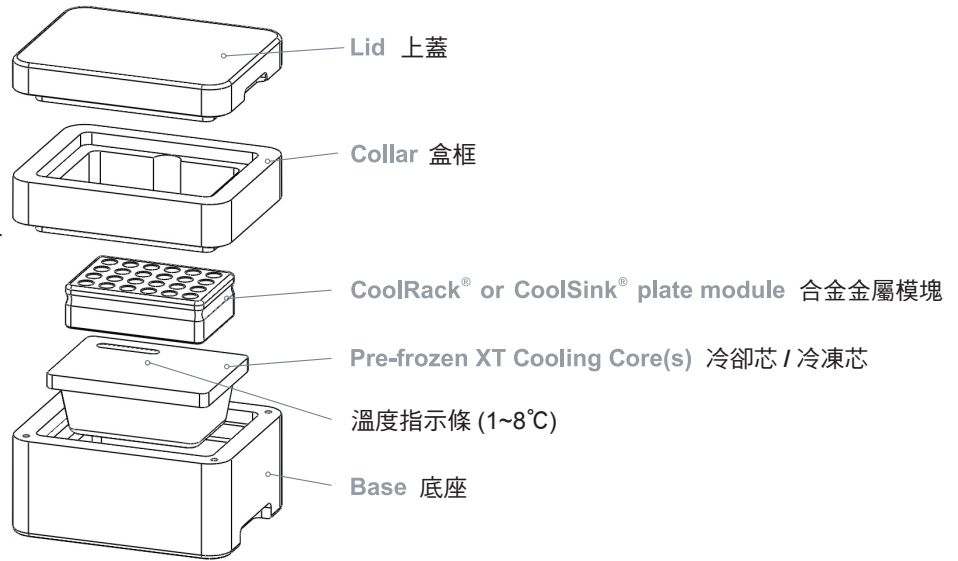
溫度範圍	冷卻來源	開蓋	密閉
0.5 to 4℃	XT Cooling Core	> 10 hr	> 16 hr
-20 to 0℃	XT Freezing Core	> 5 hr	> 8 hr
-78℃	200ml Dry Ice	> 4 hr	> 5 hr



Cooling Core 可讓樣本維持在 0.5 ~ 4℃ ；
開蓋情況下，可保冷 10 小時；密閉情況下，則可保冷長達 16 小時。

How It Works

- Freeze the XT Cooling Core in -20°C freezer
- Place frozen core in base
- Rest CoolRack or CoolSink module on core
- Module will equilibrate and maintain temperature via thermo-conductivity



CoolRack / CoolSink / ThermalTray

合金金屬管架 / 底座 / 平台

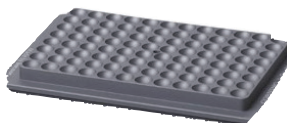
- 專利技術：專利鋁合金・微對流散熱技術，導冷熱快，散熱慢
- 使用範圍廣：乾冰、液態氮、水浴槽皆能使用 (適用 $-196^{\circ}\text{C} \sim >100^{\circ}\text{C}$)
- 精準控溫：每個樣品槽溫差能控制在 $\pm 0.1^{\circ}\text{C}$
- 環境整潔：樣品擺放整齊、不再找不到樣品，不直接接觸冰塊、不再濕答答
- 提高再現性：升降溫速度一致，提高實驗再現性
- 可使用高溫高壓滅菌或漂白水、酒精、消毒劑等進行消毒
- 提供三種模式選擇：CoolRack (for Tube)、CoolSink (for Plate)、ThermalTray (工作檯)

三種模式可選擇

CoolRack (for tube)



CoolSink (for plate)



ThermalTray (工作檯)



使用範圍廣



碎冰 On Ice

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



乾冰 On Dry Ice

CoolRack equilibrates to -78°C in 7 minutes*



液態氮 In Liquid Nitrogen

CoolRack equilibrates to approx. -140°C in 15 minutes*



水浴槽 In Water Bath

CoolRack on ThermalTray HP for heating or thawing

* Average cooling rate from room temperature

孔內溫度分布差異小，有效控溫，降低樣品污染

Non-uniform Plate Cooling with Crushed Ice

Final equilibrium well temperature for a 96-well flat bottom plate in direct contact with crushed ice. Colors represent 0.5°C temperature intervals of the corresponding plate wells from 4.5°C to 7.4°C .

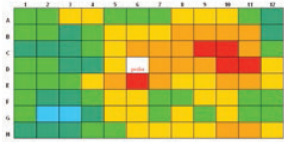


Plate directly on crushed ice, the plate does not reach 4°C in any of the wells and well-to-well temperature is uneven.

7.0-7.4	
6.5-6.9	
6.4-6.4	
5.5-5.9	
5.0-5.4	
4.5-4.9	
4.0-4.4	
3.5-3.9	
3.0-3.4	
2.5-2.9	

Uniform Plate Cooling with Corning CoolSink XT 96F Module

Corning CoolSink XT 96F on ice. Colors represent 0.5°C temperature intervals of the corresponding plate wells ranging from 2.5°C to 4.4°C . The white cell represents the well that was fitted with the thermocouple probe.

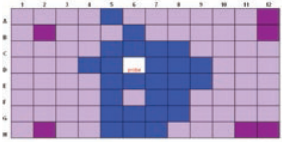


Plate placed on Corning CoolSink module and then placed on ice shows more uniform well-to-well temperature and all wells at or below 4°C . (Blue center plate wells are slightly warmer due to curvature of the underside of the plate).

Published in Biotechniques, November 2010.

CoolBox + CoolRack 最佳組合

降低樣品污染
維持環境及實驗品質



Best

CoolBox with CoolRack



Better

Ice bucket with CoolRack



Good

Ice bucket with ice

CoolRack 合金金屬管架



CoolRack M (圓柱平底)

Microcentrifuge tube modules, For 1.5 mL and 2.0 mL tubes				CoolRack 可放入數量	
貨號	品名	Color	Dimensions (L x W x H)	CoolBox XT	CoolBox 2XT
432034	CoolRack M6 (6 wells ,Cylindrical)		L: 6.0 x W: 4.3 x H: 3.8 cm	4 個	9 個
432035					
432036					
432037	CoolRack M15 (15 wells ,Cylindrical)		L: 10.2 x W: 6.4 x H: 3.8 cm	1 個	4 個
432038					
432039					
432040	CoolRack M24 (24 wells ,Cylindrical)		L: 12.8 x W: 8.5 x H: 3.8 cm	1 個	2 個
432041	CoolRack M30 (30 wells ,Cylindrical)		L: 12 x W: 10.2 x H: 3.8 cm	-	2 個
432042					
432043					
432044	CoolRack M90 (90 wells ,Cylindrical)		L: 26.8 x W: 11.2 x H: 3.8 cm	-	-
432045	CoolRack M96ID (96 wells ,Cylindrical)		L: 25.4 x W: 15.2 x H: 3.8 cm	-	-



CoolRack M-PF (錐底)

Microcentrifuge tube modules, For conical 500ul and 1.5 mL tubes				CoolRack 可放入數量	
貨號	品名	Color	Dimensions (L x W x H)	CoolBox XT	CoolBox 2XT
432046	CoolRack CF30-PF 500ul (30 wells, Conical)		L: 12 x W: 10.2 x H: 3.8 cm	-	2 個
432047	CoolRack CF15-PF 1.5ml (15 wells, Conical)		L: 10.2 x W: 6.4 x H: 3.8 cm	1 個	4 個
432048	CoolRack CF30-PF 1.5ml (30 wells, Conical)		L: 12 x W: 10.2 x H: 3.8 cm	-	2 個



CoolRack CF (圓柱平底)

Cryovial and FACS tube modules				CoolRack 可放入數量	
貨號	品名	Color	Dimensions (L x W x H)	CoolBox XT	CoolBox 2XT
432049	CoolRack CF15 (15 wells ,Cylindrical)		L: 10.2 x W: 6.4 x H: 3.8 cm	1 個	4 個
432050	CoolRack XT CFT24 (24 wells ,Cylindrical) *has "gripping" wells for one-hand vial opening/closing		L: 12.8 x W: 8.5 x H: 3.8 cm	1 個	2 個
432052	CoolRack CFT30 (30 wells ,Cylindrical) *has "gripping" wells for one-hand vial opening/closing		L: 12 x W: 10.2 x H: 3.8 cm	-	2 個
432051	CoolRack CF45 (45 wells ,Cylindrical)		L: 17.3 x W: 9.7 x H: 3.8 cm	-	1 個



CoolRack XT (錐底)

Plate, strip well or tube modules				CoolRack 可放入數量	
貨號	品名	Color	Dimensions (L x W x H)	CoolBox XT	CoolBox 2XT
432040	CoolRack XT M24 (24 wells ,Conical)		L: 12.8 x W: 8.5 x H: 3.8 cm	1 個	2 個
432053	CoolRack XT PCR96 (12 strip wells ,Tapered)		L: 12.8 x W: 8.5 x H: 2.5 cm		
432055	CoolRack XT PCR384 (384-well plate ,Conical)		L: 12.8 x W: 8.5 x H: 1.8 cm		
432054	CoolRack XT M-PCR (12 well ,Cylindrical + 6 strip wells ,Tapered)		L: 12.8 x W: 8.5 x H: 3.8 cm		
432060	CoolRack XT 5ml (5.0ml centrifuge tube ,Conical)		L: 12.7 x W: 8.6 x H: 5.0 cm		



CoolRack 96 (圓柱平底)

2D barcode storage tube modules				CoolRack 可放入數量	
貨號	品名	Color	Dimensions (L x W x H)	CoolBox XT	CoolBox 2XT
432056	CoolRack 96x0.5ml 500 ul (96 wells ,Cylindrical)		L: 13.1 x W: 8.9 x H: 3.6 cm	1 個	2 個
432057	CoolRack 96x1ml 1.4ml (96 wells ,Cylindrical)		L: 13.2 x W: 8.9 x H: 4.3 cm		



CoolRack SV (圓柱平底)

Cell therapy injectable ampule modules				CoolRack 可放入數量	
貨號	品名	Color	Dimensions (L x W x H)	CoolBox XT	CoolBox 2XT
432058	CoolRack SV2 (12 wells ,Cylindrical)		L: 12.7 x W: 8.6 x H: 3.8 cm	1 個	2 個
432059	CoolRack SV10 (12 wells ,Cylindrical)		L: 12.7 x W: 8.6 x H: 3.8 cm		



CoolRack Tall tube

Tall tube modules				CoolRack 可放入數量	
貨號	品名	Color	Dimensions (L x W x H)	CoolBox XT	CoolBox 2XT
432068	CoolRack L *Thermo-conductive base and insulative exterior		L: 13.7 x W: 9.5 x H: 11.8 cm	1 個	2 個
432061	CoolRack 15ml centrifuge tube (9 well ,Cylindrical)		L: 8.9 x W: 8.9 x H: 10.7 cm		
432062	CoolRack 50ml centrifuge tube (4 well ,Cylindrical)		L: 8.9 x W: 8.9 x H: 10.7 cm		
432063	CoolRack 250ml-PF centrifuge tube (1 well ,Conical)		L: 8.9 x W: 8.9 x H: 14 cm		
432064	CoolRack 250ml centrifuge tube (1 well ,Cylindrical)		L: 8.9 x W: 8.9 x H: 7.2 cm		



CoolRack V (圓柱平底)

Blood collection tube modules				CoolRack 可放入數量	
貨號	品名	Color	Dimensions (L x W x H)	CoolBox XT	CoolBox 2XT
432069	CoolRack LV 13 or 16mm blood tubes (12 well ,Cylindrical) *Thermo-conductive base and insulative exterior		L: 13.7 x W: 9.5 x H: 9.6 cm	1 個	2 個
432065	CoolRack VS13 13x75mm blood tubes (9 well ,Cylindrical)		L: 8.9 x W: 8.9 x H: 6.1 cm		
432067	CoolRack V13 13x100mm blood tubes (9 well ,Cylindrical)		L: 8.9 x W: 8.9 x H: 8.4 cm		
432066	CoolRack V16 16x100mm blood tubes or 5ml cryogenic vials (9 well ,Cylindrical)		L: 8.9 x W: 8.9 x H: 8.4 cm		

CoolSink 合金金屬底座



CoolSink XT

Automation-Friendly plate modules				CoolSink 可放入數量	
貨號	品名	Color	Dimensions (L x W x H)	CoolBox XT	CoolBox 2XT
432070	CoolSink XT 96F (6/12/24/48/96/384 well Flat-bottom plate)		L: 12.8 x W: 8.5 x H: 1.7 cm	1 個	2 個
432071	CoolSink XT 96U (96 well U-bottom plate)		L: 12.8 x W: 8.5 x H: 1.7 cm		



CoolSink LX55

For 55mL reagent reservoirs				CoolSink 可放入數量	
貨號	品名	Color	Dimensions (L x W x H)	CoolBox XT	CoolBox 2XT
432072	CoolSink LX55 (55ml reagent reservoirs)		L: 14.6 x W: 6.4 x H: 3.5 cm	1 個	1 個

ThermalTray 合金金屬平台



Thermo-conductive platforms

				ThermalTray 可放入數量	
貨號	品名	Color	Dimensions (L x W x H)	CoolBox XT	CoolBox 2XT
432073	ThermalTray SLP (low-profile for liquid nitrogen)		L: 28 x W: 14 x H: 3.2 cm	-	-
432074	ThermalTray LP (medium-profile for ice)		L: 28 x W: 14 x H: 5.1 cm		
432075	ThermalTray HP (high-profile for water bath)		L: 28 x W: 14 x H: 8.6 cm		

相關配件



凍管專用夾

Cryogenic vial grippers feature a unique design to grasp internal- or external-thread cryogenic vials. Easily sort or move vials while maintaining sterility and protecting fingers from frozen vials, dry ice and liquid nitrogen. 5 per pack.

貨號	品名	Color
432136	CryoCeps Cryogenic Vial Gripper	Multi-color

多規格冰桶



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.

		Dimensions (L x W x H)	Green	Blue	Red	Orange	Lime Green	Pink	Purple
	Mini 1L Ice Pan	15.9 x 15.9 x 9.5 cm	432115	432116	432117	432118	432119	432120	432121
	Midi 4L Ice Pan	31.1 x 22.2 x 11.4 cm	432103	432104	432105	432106	432107	432108	432109
	Midi 4L Ice Pan with Lid	35.0 x 22.5 x 11.4 cm		432110		432111	432112	432113	432114
	Maxi 9L Ice Pan	40.6 x 31.8 x 11.4 cm	432093	432094	432095	432096	432097	432098	432099
	Maxi 9L Ice Pan with Lid	44.5 x 32.5 x 11.4 cm		432100			432101		432102
	Round 2.5L Ice Bucket with Lid	Top diameter: 24.1 cm, Height : 12.1 cm	432130	432129	432131	432132	432133	432134	432135
	Round 4L Ice Bucket with Lid	Top diameter: 26.0 cm, Height : 18.4 cm	432122	432123	432124	432125	432126	432127	432128

Step 1 Choose CoolBox XT

#432021  #432023 
 #432022  #432024 



内：14.0 x 9.4 x 9.9 cm

外：20.0 x 16.0 x 15.0 cm

内含 1 個 4°C Cooling Core

Step 2 Choose CoolRack

CoolRack M6

(6.0 x 4.3 x 3.8 cm)



#432034(平底)



#432035(平底)



#432036(平底)

CoolRack M15 / CF15

(10.2 x 6.4 x 3.8 cm)



#432037(平底)



#432038(平底)



#432039(平底)



#432049(平底)

CoolRack M24 / CF24

(12.8 x 8.5 x 3.8 cm)



#432040



#432050

CoolRack PCR

(12.7 x 8.6 x 2.5 cm/12.7 x 8.6 x 3.8 cm)



#432053(96 well)



#432054(平底 +PCR strips)

CoolRack 15ml / 50ml

(8.9 x 8.9 x 10.7 cm)



#432061
(9 x 15 ml)



432062
(4 x 50 ml)

(Requires extension collar accessory)

Step 3

Choose Accessories

XT Extension Collar

内 : 14.0 x 9.4 x 7.0 cm

外 : 20.0 x 16.0 x 7.0 cm



#432083



#432084



#432085



#432086

XT Cores

内 : 14.0 x 9.4 x 7.0 cm

外 : 20.0 x 16.0 x 7.0 cm

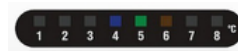


#432081(Cooling Core)
0.5 to 4°C



#432082(Freezing Core)
below 0°C

Temperature Indicator



#432091(1~8°C)

Step 1 Choose CoolBox 2XT

#432025  #432027 
 #432026  #432028 



内：21.0 x 14.3 x 13.4 cm

外：26.5 x 20.0 x 15.0 cm

内含 2 個 4°C Cooling Core

Step 2 Choose CoolRack

CoolRack M30 / CF30

(12.0 x 10.2 x 3.8 cm)



#432041(平底)



#432042(平底)



#432043(平底)



#432052(平底)

CoolRack CF45

(17.3 x 9.7 x 3.8 cm)



#432051(平底)

Example 1

M48 = 2 x M24 / CF24



#432040

+



#432050

Example 2

PCR96 + M-PCR



#432053

+



#432054

Step 3

Choose Accessories

CoolRack 15ml / 50ml

(8.9 x 8.9 x 10.7 cm)



#432061
(9 x 15 ml)



432062
(4 x 50 ml)

(Requires extension collar accessory)

2XT Extension Collar

内 : 21.0 x 14.3 x 7.0 cm

外 : 26.5 x 20.0 x 7.0 cm



#432087



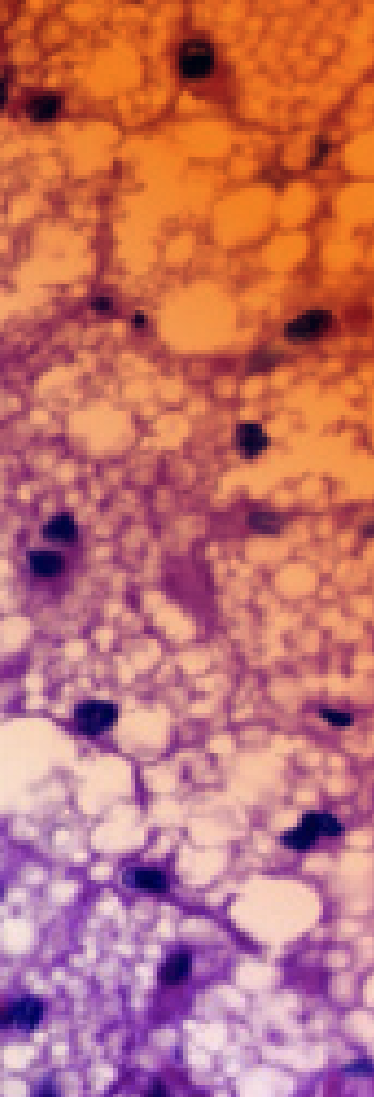
#432088



#432089



#432090



CORNING

