



# CAPP<sup>®</sup>

Guide to  
**PROTEIN  
EXPRESSION**

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**Protein expression and harvesting has brought about some exciting discoveries in life sciences.**

**With the vast amount of information now available for us to extract from the proteome, these techniques unlock a wealth of knowledge that can benefit the future of humanity and the natural world.**

CAPP supplies the innovative tools that give scientists an edge in this protein expression gold rush. By empowering scientists to do their best work, CAPP products improve humanity's understanding and encourage careful use of the vast ocean of proteins that are available to study.

In this brief guide, we will outline how CAPP products can be leveraged in protein expression and harvesting workflows by demonstrating their applicability to a simulated protein expression workflow\*.

All state-of-the-art laboratory products featured in this guide are the result of CAPP's 20+ years of experience in manufacturing world-class laboratory instruments.

To learn more about the different protein expression and harvesting solutions from CAPP, you can visit our website ([www.capp.dk](http://www.capp.dk)) and select the product of interest from the navigation menu.

*\*For detailed protein expression protocols please refer to published scientific literature.*



# Media Preparation

Good media preparation is the underlying foundation for successful protein expression.

In this section, we outline how the 23-litre CAPP Rondo Hotplate Stirrer gives you the edge in your media preparations.



## Rehydrate the LB broth by adding an appropriate amount of solvent, according to the manufacturer's instructions.

By using manufacturer-recommended solvents, you lower the chances of poorly prepared media, which may impact negatively on cell growth and result in lower protein yields.

### Helpful tips:

- Only use high-purity solvents without physical and/or chemical impurities
- Always use clean containers for your media preparation
- Ensure all glassware and plasticware is fully rinsed and detergent-free



# Results-oriented Innovation with CAPP

## Using the CAPP Rondo Hotplate Stirrer, thoroughly dissolve the media suspension.

The CAPP Rondo Hotplate Stirrer provides even heating for quick dissolution of the media suspension. With a fully adjustable timer and variable speed settings, the CAPP Rondo Hotplate Stirrer can be pre-programmed to run continuously with minimal operator supervision.

# CAPP *Rondo*

## HOTPLATE STIRRER

### Features:

Speed Range	200-2.200 RPM in steps of 10 RPM
Temperature Range	From ambient to 550°C
Load Capacity	20L
Motor Type	Brushless DC motor
Top Plate Material	Nano-crystalline glass ceramic
Top Plate Dimensions	180x180mm
Time Setting	1-999 minutes or infinite
Programmable Modes	Up to 99 individual protocols
Pulse Mode	Programmable, from 30 to 99 secs
Dimensions (WxDxH)	220x330x115mm
Weight	4.5kg
Protection Class	IP 21



**Once the LB broth is fully rehydrated, sterilize it by autoclaving at 121°C for 15 minutes.**

After autoclaving, pour the sterile media into sterile containers in a laminar-flow cabinet. Sterilization helps to lower the chances of contaminating the culture with potentially unwanted microorganisms.

**Helpful tips:**

- Use a clean pair of gloves to handle the newly sterilized media and change gloves regularly
- Always ensure that the laminar-flow cabinet is serviced regularly by qualified personnel
- Remember to use appropriate tools for handling the hot media containers/flasks to protect your fingers from burning



# Overnight culture preparation

Optimize your overnight culture prep with CAPP's superior quality instruments and consumables.





## Transfer the desired volume of the LB broth into sterile 50mL BluCAPP Centrifuge Tubes.

BluCAPP Centrifuge Tubes are preferable to glass flasks because of their ease of handling and excellent compatibility with shakers and vortex mixers. With easy-to-read graduations and  $\frac{3}{4}$ -turn closures, CAPP's BluCAPP Centrifuge Tubes help scientists to speed up their protein expression workflow.



*Blu***CAPP**

CENTRIFUGE TUBES

### Features:

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The polypropylene-constructed tubes are autoclavable and tested to endure up to 17,000 RCF

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Ridged leak-proof caps provide an optimal grip which, when combined with a  $\frac{3}{4}$ -turn closure, allows single-handed operation and significantly increases speed

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**Using an autoclavable CAPP Solo Single Channel Pipette (20-200  $\mu$ L) with pre-sterilized CAPP ExpellPlus Low Retention Tips, transfer an adequate amount of antibiotic into a BluCAPP Centrifuge Tube to suppress the growth of unwanted microorganisms.**

CAPPSolo Single Channel Pipettes provide dependable pipetting accuracy and precision, allowing you to transfer the exact volume of antibiotic every time.

**CAPP Solo**

## SINGLE CHANNEL PIPETTES

### Features:

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Exchangeable colour inserts allow easy pipette identification, either by user or volume capacity

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Fine-tuned design ensures high accuracy and long-term calibration retention

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Light pipette chassis reduces any risk of repetitive strain injuries

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Counter-mechanism prevents accidental rotation while pipetting

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Withstands the toughest laboratory conditions including chemical exposure, drops and autoclaving

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Tip cone allows universal tip compatibility

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**With the CAPPSolo Single Channel Pipette and Expellplus Low Retention Tips, inoculate the antibiotic-treated media in 50mL BluCAPP Centrifuge Tubes.**

This is done by transferring *E. coli* cells expressing the chosen protein from a stock culture. The comfortable, lightweight body of CAPPSolo Single Channel Pipettes makes it easy to keep your hands perfectly steady as you transfer the inoculum to BluCAPP Centrifuge Tubes.



**With CAPP  
you culture with  
confidence**



## Mix the culture with the CAPP Rondo Platform Shaker and incubate overnight at 37°C for the cells to grow and express the protein of interest.

This excellent shaker has multiple attachments, making it universally compatible with many types of culture containers. The CAPP Platform Shaker includes an auto-restore feature that enables the previous programme to continue, even in the event of a power outage.

# CAPP *Rondo*

## PLATFORM SHAKER

### Features:

Shaking Movement	Orbital (Ø20mm) / Linear
Max. Loading Capacity	7.5kg
Speed Range	50-300 RPM
Motor Type	Brushless DC motor
Time Settings	0 to 99 hours and 59 minutes
Dimensions (WxDxH)	408x350x99mm
Platform Size	330x330mm
Protection Class	IP 21
Programmable Features	Up to 6 individual protocols, each with additional 9 sub-programmes
Programmable Looping	YES
RS 232 Interface	Optional



# Overexpression

Prepare for successful overexpression  
the CAPP way.



**The following day, inoculate the main culture with the overnight culture and antibiotic using an autoclavable CAPP pipette with 1mL sterilized tips.**

CAPP autoclavable pipettes are easy to sterilize in an autoclave. These, when combined with 1mL CAPP sterilized tips manufactured in a cleanroom facility, will minimize the chances of contaminating the culture.

CAPP Pipette Tips are constructed from premium-grade polypropylene and have industry-leading visual clarity.

**EXPELLPLUS**  
LOW RETENTION TIPS



**Universal tip compatibility**

Compatible with a large number of pipette brands that are available on the market.

**High quality filter**

Made of HDPE without cellulose additives, these filters are inert and feature a pore size that is 3 to 4 times smaller than several other filter brands. Researchers working with protein expression samples can have peace of mind knowing that they have a reliable filter to prevent cross contamination.

**Certified DNA, RNA & Pyrogen-free**

The ExpellPlus filter tips are tested to conform to strict bio-load specifications. Batch certificates are available on request.

**Low retention polymer**

The ExpellPlus low retention polymer virtually eliminates any liquid retention on the tip, ensuring greater repeatability of liquid transfers and less wastage of expensive reagents.

Using the CAPP Rondo Platform Shaker, agitate the newly cultured medium at the desired temperature in a climate-controlled environment such as an incubator or hood.

The CAPP Rondo Platform shaker is designed to make small-scale protein expression workflows much easier.



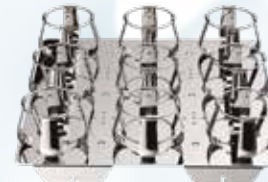
**CAPP** *Rondo*  
PLATFORM SHAKER



CRP-U



CRP-CS-250



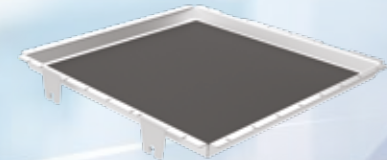
CRP-CS9-250



CRP-C9-250



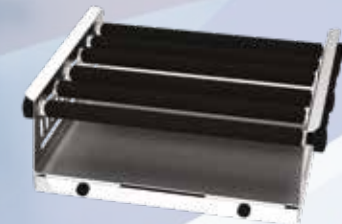
CRP-C9-500



CRP-D



CRP-CS9-500



CRP-F

## After completing overexpression, transfer the culture into 1.5mL CAPP Cryo Tubes in preparation for SDS-PAGE.

CAPP Expell 1.5mL Cryo Tubes are available in an exclusive, secure design that minimizes any risk of accidental opening or sample loss.

**Lip seal cap design** ensures that the tubes are **leak-proof**

**QuickSeal™ design** facilitates **single-handed operation**. Tighten or open it with only half a turn!

**SuperStraight™ design** fits into both 9x9 and 10x10 cryoboxes. No surface transition between the tube and the cap for **minimal risk of contamination** during storage

**Coloured cap inserts**  
Available in 5 colours. Made of polypropylene for **easy tube recognition**

**External thread SuperStraight™ design** gives up to **23% extra storage capacity** when used with the 10x10 cryoboxes

**High quality graduation marks** and writing area for **easy sample identification**

**Star-foot bottom** for more **stability and better operation** when stored in selected cryoboxes



**EX**Pell  
*Cryo Tubes*



# Cell harvesting and lysing

Harvest more cells with CAPP instruments  
and consumables.



Using the CAPP Rondo Microcentrifuge, spin down the CAPP Cryo Tubes into separate pellet from the supernatant.

The elegantly-designed CAPP Rondo Microcentrifuge features a powerful, ultra-quiet motor that makes quick work of spinning down tubes with induced cells. With its small footprint, the CAPP Rondo Microcentrifuge is perfect for space-limited settings.



# CAPP Rondo

## MICROCENTRIFUGE

### Features:

#### CR-68

Motor Type	DC motor
Rotor Capacity	8 x 1.5/2.0mL & 2-place PCR strip rotor
Speed	2000-6000 RPM 2000 x g (MAX RCF)
Time	No
Dimensions (WxDxH)	162 x 157 x 116 mm
Weight	1.1kg

#### CR-68X

Motor Type	Brushless DC motor
Rotor Capacity	8 x 1.5/2.0mL & 2-place PCR strip rotor
Speed	2000-6000 RPM 2000 x g (MAX RCF)
Speed Accuracy	± 25 RPM
Time	0 to 25 mins & infinite
Dimensions (WxDxH)	162 x 157 x 116 mm
Weight	1.1kg

**After centrifuging the samples, carefully remove the supernatant from the Cryo Tube using a CAPPSolo Single Channel Pipette and CAPP Tips.**

CAPPSolo Single Channel Pipettes feature an easy-to-hold design that gives users perfect control of their pipetting experience, preventing disturbance of the pellet.

**CAPP Solo**

SINGLE CHANNEL PIPETTES

**Features:**

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Made in Germany

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Fully autoclavable

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Robust, yet extremely lightweight

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Ergonomically comfortable with curved finger rest and soft handle

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Exchangeable coloured drop inserts for easy identification

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Low cost, quality design with the proven legacy of CAPP metallic shafts!

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Extremely reliable tip fit/eject

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## Add an appropriate volume of fresh media to the CAPP Cryo Tube to resuspend the cell pellet.

Using your CAPP Solo Single Channel Pipette and a fresh tip, gently mix the sample by slowly pipetting up and down three times.

For even more efficient processing, there are colour-coded cap inserts for the CAPP Expell Cryo Tubes that make it easier to categorize samples at various stages of the processing workflow. Coming in red, blue, green, white, and yellow these cap inserts facilitate easy sample sorting and also add a touch of colour to your workbench.

# EXPELL *Cryo Tubes*

### Features:

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One of the only external-thread tubes on the market that is suitable for storage in 10x10 boxes, providing up to 23% extra storage capacity

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Sturdy star-foot bottom enables opening and closing of the tube without taking it out of the box

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Suitable for storage in 9x9 and 10x10 boxes

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Available in 5 sizes: 0.5mL, 1mL, 2mL, 4mL and 5mL

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Lip seal cap ensures it is 100% leak-proof without using O-rings

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QuickSeal design for single-handed operation, enabling you to tighten or open the tube with only half a turn

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Exchangeable colour-coded caps for easy identification in 5 colours

---



## Transfer the resuspended induced cells to 50mL CAPP sterilized Centrifuge Tubes and store them at -80°C.

For ease of storage, we recommend packing your CAPP Centrifuge Tubes in CAPP Cryoboxes as they make organizing your samples quick and tidy. Although universally compatible with many other brands of cryo tubes, when used with CAPP's Cryo Tubes they provide further unique, space-saving advantages due to our unique design features.

### Features:

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Unique cryoboxes line with 9x9 and 10x10 dividers

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Made of a high-quality durable polypropylene which is suitable for storing at -90°C and autoclaving at +121°C for 20 minutes

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Star-foot lock at the bottom of each well enables single-handed opening of the tube without taking it out of the box

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5 sizes of EXPell Cryoboxes: height: 32, 40, 50, 80 and 90mm perfectly fits all sizes of EXPell Cryotubes

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Numerical coding on both the lid and the bottom of the box for easy identification and recording

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Universally compatible

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EXPell  
*Cryoboxes*  
PLASTIC CRYOBOXES



If you are looking for an environmentally friendly option for your cryo storage, CAPP's Cardboard Cryoboxes are a great alternative, due to being fully recyclable after use.

CAPP Expell Cardboard Cryoboxes are the ultimate solution for environmentally friendly cryogenic storage. These highly flexible storage units provide exceptional value to both small life science labs and extensive research centers that are heavily invested in cryogenic storage of samples and reagents.

**Features:**

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Constructed from high-quality cardboard with a water-repellent finish for extra durability

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Thermostable, recyclable cardboard

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Removable grid allows more flexibility for your storage needs

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Supplied in 9x9 and 10x10 grid configuration options

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Write-on surface makes identifying your samples a lot easier

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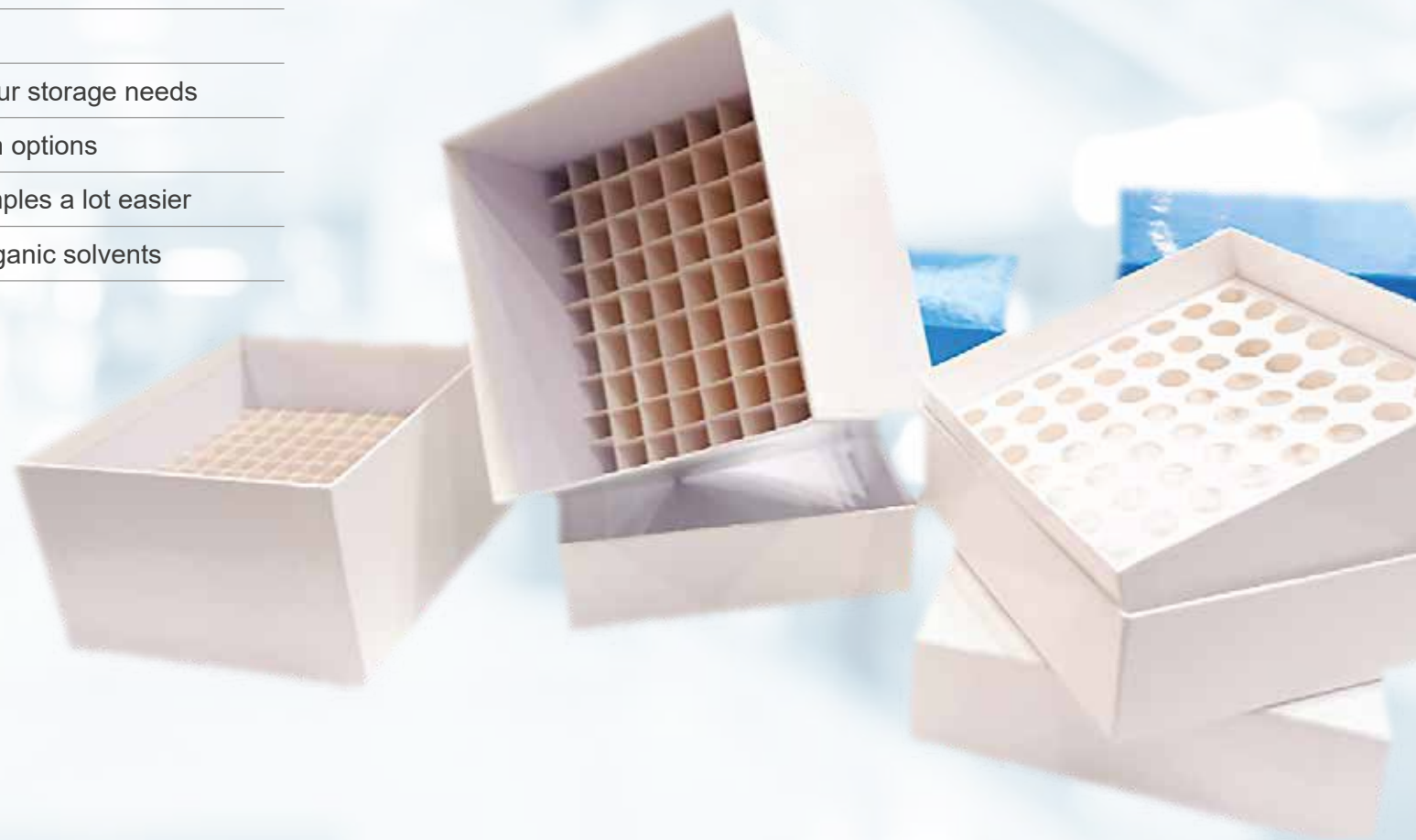
Chemically-resistant to alcohols and mild organic solvents

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# EXPELL

# *Cryoboxes*

## CARDBOARD CRYOBOXES



# Centrifugation and Purification

Optimize your protein harvesting for  
success by choosing the best tools from  
CAPP's toolbox.



**With the aid of the ceramic-coated CAPP Magnetic Hotplate Stirrer, prepare lysis buffer(s).**

This programmable hotplate stirrer has intuitive controls that make it easy to adjust key parameters such as speed and time. With the last-run memory feature, it is easy to continue with the last-used programme; therefore minimizing any need to fiddle with settings every time.

With a 10L capacity, the CAPP Magnetic Hotplate Stirrer handles a massive load for device of its size.

**CAPP** *Rondo*

MAGNETIC HOTPLATE STIRRER

**Features:**

Max. Load Capacity	10L
Speed Setting	200 - 2.200 RPM, in steps of 10 RPM
Temp. Range	from Ambient to 320°C
Time Setting	1-999 mins and continuous
Digital Display	Yes. Shows Speed/Time/Actual/Set Temp. alternately
Safe Temp. Circuit	Yes
Plate Diameter	140 mm
Weight	1.4kg
Dimensions (WxDxH)	248x156x104mm
Protection Class	IP 21
Accessories included	CRS-21H-P and CRS-21H-S
Pulse Mode	<i>Run-Pause-Run</i> . Interval of 30 seconds





## Using the advanced CAPP Pipette Controller and a CAPP sterilized Serological Pipette, transfer the appropriate amount of lysis buffer into a conical tube with induced cells.

At just 167g, the CAPP Pipette Controller is a lightweight, ergonomically pleasing device that enables rapid, fatigue-free, high-accuracy liquid transfer ( $\pm 2\%$ ).

### Features:

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Powerful motor can fill a 50mL pipette in less than 10 seconds

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Gravity delivery and blow-out dispensing mode selection

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Fully adjustable speed-setting

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Exchangeable 0.2  $\mu\text{m}$  PTFE disc filter prevents overflow

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Vapour outlet for venting out liquids or fumes

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Rechargeable Lithium battery up to 12 hours of continuous use

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Fully autoclavable nose cone

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UV-resistant housing

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Complies with CE and RoHS

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# CAPP *Controller*

PIPETTE CONTROLLER

# CAPP *Harmony*

## SEROLOGICAL PIPETTES

When the CAPP Pipette Controller is used together with cotton-plugged, pyrogen-free CAPP sterilized Serological Pipettes, scientists can minimize any risk of sample contamination.

Designed for accurate, rapid fluid dispensing, these transparent, medical-grade polystyrene pipettes are sterile, pyrogen-free and cotton-plugged for many liquid handling applications.

### Features:

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Sharp, highly legible permanent graduations prevent ambiguity and guarantee precise reading and dispensing to +1-2%

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Each pipette comes with an effective filter barrier to prevent any overflow of liquid into the pipette

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Reverse graduations show the volume removed or remaining on all pipettes larger than 1mL

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The colour-coded mouthpiece fits all major pipettes

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## After lysis, separate the soluble and insoluble fractions by centrifugation using CAPP Rondo Microcentrifuge Tubes.

With the aid of the 200 microliter CAPP Solo single-channel micropipette, separate the supernatant and pellet into separate 1.5mL CAPP Microcentrifuge Tubes for storage, pending further processing and purification.

CAPP's 1.5mL Microcentrifuge Tubes are available in standard (Expell) and low-retention (ExpellPlus) versions.

# EX Pell and EX Pell *Secure* MICROCENTRIFUGE TUBES



# Conclusion

While the simulated protein expression workflow in this guide may differ from real world scenarios, it demonstrates that successful protein expression and harvesting benefit from a clear understanding of the scientific principles underlying the procedures, as well as good technical skill for execution.

With CAPP products, every scientist can get excellent results from their protein expression workflows, regardless of their skill level. Every product highlighted in this short guide is designed to make science easy, fun, and reliable by offering intuitive operation, outstanding quality, and long-lasting performance.



**With CAPP products,  
every scientist can get  
excellent results from their  
protein expression workflows,  
regardless of their skill level**



# Ordering Information

**CAPP Rondo**

HOTPLATE STIRRER



Cat. No.	Description
CRS-22H	CAPPRondo Hotplate Stirrer 2.200 RPM, 550°C ceramic, 20L capacity, 220V
CRS-22H-110	CAPPRondo Hotplate Stirrer 2.200 RPM, 550°C ceramic, 20L capacity, 110V
CRS-22H-P	P1000 temperature probe for CAPPRondo Hotplate Stirrer
CRS-22H-S	Stand for P1000 temperature probe CAPPRondo Hotplate Stirrer

**CAPP Solo**

SINGLE CHANNEL PIPETTES



**CAPP Solo Fixed Volume**

Cat. No.	Description
S5-1F	CAPPSolo pipette, fixed vol. 5µL
S10-1F	CAPPSolo pipette, fixed vol. 10µL
S20-1F	CAPPSolo pipette, fixed vol. 20µL
S25-1F	CAPPSolo pipette, fixed vol. 25µL
S50-1F	CAPPSolo pipette, fixed vol. 50µL
S100-1F	CAPPSolo pipette, fixed vol. 100µL
S200-1F	CAPPSolo pipette, fixed vol. 200µL
S250-1F	CAPPSolo pipette, fixed vol. 250µL
S500-1F	CAPPSolo pipette, fixed vol. 500µL
S1000-1F	CAPPSolo pipette, fixed vol. 1000µL
S2000-1F	CAPPSolo pipette, fixed vol. 2mL
S2500-1F	CAPPSolo pipette, fixed vol. 2,5mL
S5000-1F	CAPPSolo pipette, fixed vol. 5mL
S10000-1F	CAPPSolo pipette, fixed vol. 10mL

**CAPP Solo Variable Volume**

Cat. No.	Description
S2-1	CAPPSolo pipette, variable vol. 0.1 – 2.5µL
S10-1	CAPPSolo pipette, variable vol. 0.5 – 10µL
S20-1	CAPPSolo pipette, variable vol. 2 – 20µL, but XL tip fit
S50-1	CAPPSolo pipette, variable vol. 5 – 50µL
S100-1	CAPPSolo pipette, variable vol. 10 – 100µL
S200-1	CAPPSolo pipette, variable vol. 20 – 200µL
S1000-1	CAPPSolo pipette, variable vol. 100 – 1000µL
S5000-1	CAPPSolo pipette, variable vol. 0.5 – 5mL
S10000-1	CAPPSolo pipette variable vol. 1 – 10mL

**CAPP Solo StarterKit**

Cat. No.	Description
SK-03-S01	3 pipettes S10-1 /S100-1 /S1000-1, C-05 stand, 3 racks of tips and 1 timer
SK-03-S02	3 pipettes S20-1 /S200-1 /S1000-1, C-05 stand, 3 racks of tips and 1 timer



# BluCAPP

## CENTRIFUGE TUBES



Cat. No.	Description
5100014C	BluCAPP Centrifuge Tubes, 15mL, bulk, 20x25 pcs.
5100015C	BluCAPP Centrifuge Tubes, 15mL, pre-sterile, 20x25 pcs.
5100019C	BluCAPP Centrifuge Tubes, 15mL, cardboard rack, pre-sterile, 20x25 pcs.
5100049C	BluCAPP Centrifuge Tubes, 50mL, bulk, 20x25 pcs.
5100050C	BluCAPP Centrifuge Tubes, 50mL, pre-sterile, 20x25 pcs.
5100059C	BluCAPP Centrifuge Tubes, 50mL, cardboard rack, pre-sterile, 20x25 pcs.
5100060C	BluCAPP Centrifuge Tubes, 50mL, pre-sterile, self-standing, 20x25 pcs.

# EXPELLPLUS

## LOW RETENTION FILTER TIPS



Cat. No.	Description
5030030C	ExpellPlus 10µL, pre-sterile w/ filter, hinged racks, 5x10x96 pcs.
5030060C	ExpellPlus 10µL XL, pre-sterile w/ filter, hinged racks, 5x10x96 pcs.
5030061C	ExpellPlus 10/20µL XL, extra narrow, pre-sterile w/ filter, hinged racks, 5x10x96 pcs.
5030062C	ExpellPlus 20µL, pre-sterile w/ filter, hinged racks, 5x10x96 pcs.
5030066C	ExpellPlus 100µL, pre-sterile w/ filter, hinged racks, 5x10x96 pcs.
5030090C	ExpellPlus 200µL, pre-sterile w/ filter, hinged racks, 5x10x96 pcs.
5030115C	ExpellPlus 300µL, pre-sterile w/ filter, hinged racks, 5x10x96 pcs.
5030150C	ExpellPlus 1000µL, pre-sterile w/ filter, hinged racks, 4x8x96 pcs.

# CAPP Rondo

## PLATFORM SHAKER



Cat. No.	Description
CRP-3X	CAPPRondo Platform Shaker ø 20mm, with linear and orbital motion, 7.5kg capacity
CRP-U	Universal Platform with Adjustable Bars (Flask capacity 9 x 250mL, 6 x 500mL)
CRP-D	Disk Attachment Base Plate with Slip-resistant tray
CRP-C9-250	Base Plate with 9 Plastic Clamps: 9 x 250mL
CRP-C9-500	Base Plate with 9 Plastic Clamps: 9 x 500mL
CRP-F	Funnel Attachment
CRP-CS9-250	Base Plate with 9 Stainless Steel Clamps: 9 x 250mL
CRP-CS9-500	Base Plate with 9 Stainless Steel Clamps: 9 x 500mL
CRP-CS-100	Stainless Steel Clamp for 100mL Flask
CRP-CS-150	Stainless Steel Clamp for 150mL Flask
CRP-CS-250	Stainless Steel Clamp for 250mL Flask
CRP-CS-500	Stainless Steel Clamp for 500mL Flask
CRP-CS-1000	Stainless Steel Clamp for 1000mL Flask

Note: CAPP offers a wide portfolio of high-quality tips, i.e. Bulk Filter Tips.

See all options under: <https://www.capp.dk/categories/pipette-tips>

# CAPP Rondo

## MICROCENTRIFUGE



Cat. No.	Description
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CR-68	CAPPRondo Microcentrifuge 6.000 RPM/2.000g
CR-68X	CAPPRondo Microcentrifuge w/ adjustable speed and timer function, max. 6.000 RPM/2.000g

# CAPP Rondo

## MAGNETIC HOTPLATE STIRRER



Cat. No.	Description
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CRS-22H	CAPPRondo Hotplate Stirrer 2.200 RPM, 550°C ceramic, 20L capacity, 220V
CRS-22H-110	CAPPRondo Hotplate Stirrer 2.200 RPM, 550°C ceramic, 20L capacity, 110V
CRS-22H-P	P1000 temperature probe for CAPPRondo Hotplate Stirrer
CRS-22H-S	Stand for P1000 temperature probe CAPPRondo Hotplate Stirrer

# EXpell Cryoboxes

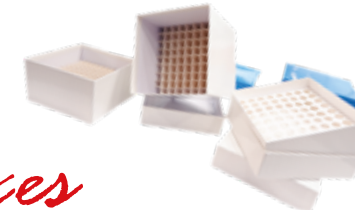


## PLASTIC CRYOBXES

Cat. No.	Description
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5040510C	Expell Plastic Cryobox , 10x10 cell grid for 0.5mL cryovials, case of 36 pcs.
5041010C	Expell Plastic Cryobox, 10x10 cell grid for 1,0mL cryovials, case of 36 pcs.
5042010C	Expell Plastic Cryobox, 10x10 cell grid for 2,0mL cryovials, case of 36 pcs.
5044010C	Expell Plastic Cryobox, 10x10 cell grid for 4,0mL cryovials, case of 36 pcs.
5045010C	Expell Plastic Cryobox, 10x10 cell grid for 5,0mL cryovials, case of 36 pcs.
5042022C	Expell Plastic Cryobox, 9x9 cell grid for 1,0 - 2,0mL cryovials, 130x130x50 mm, case with 36 pcs.
5044020C	Expell Plastic Cryobox, 9x9 cell grid for 4,0mL cryovials, 130x130x80 mm, case with 36 pcs.
5045020C	Expell Plastic Cryobox, 9x9 cell grid for 5,0mL cryovials, 130x130x90 mm, case with 36 pcs.

# EXpell Cryoboxes



## CARDBOARD CRYOBXES

Cat. No.	Description
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5042030C	Cardboard Cryobox B9, 133x133x50 mm, 9x9 cell grid, case with 36 pcs.
5042020C	Cardboard Cryobox B10, 133x133x50 mm including 10x10 cell grid, case with 36 pcs.

# CAPP Controller

## PIPETTE CONTROLLER



Cat. No.	Description
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T100-B	CAPPTempo Blue
T100-G	CAPPTempo Green
T100-R	CAPPTempo Red
T100-V	CAPPTempo Violet
T100-CS	CAPPTempo Charging Stand



**CAPP** *Harmony*

SEROLOGICAL PIPETTES




Cat. No.	Description	Package	Colour
SP-1-C	CAPPHarmony Serological pipette 1mL	individually wrapped, 500 pcs.	Yellow
SPB-1-C	CAPPHarmony Serological pipette 1mL	bulk, 25 pcs./bag, 40 bags/case, (1000 pcs.)	Yellow
SP-2-C	CAPPHarmony Serological pipette 2mL	individually wrapped, 500 pcs.	Green
SPB-2-C	CAPPHarmony Serological pipette 2mL	bulk, 25 pcs./bag, 40 bags/case, (1000 pcs.)	Green
SP-5-C	CAPPHarmony Serological pipette 5mL	individually wrapped, 200 pcs.	Blue
SPB-5-C	CAPPHarmony Serological pipette 5mL	bulk, 25 pcs./bag, 20 bags/case (500 pcs.)	Blue
SP-10-C	CAPPHarmony Serological pipette 10mL	individually wrapped, 200 pcs.	Orange
SPB-10-C	CAPPHarmony Serological pipette 10mL	bulk, 25 pcs./bag, 20 bags/case (500 pcs.)	Orange
SP-25-C	CAPPHarmony Serological pipette 25mL	individually wrapped, 150 pcs.	Red
SPB-25-C	CAPPHarmony Serological pipette 25mL	bulk, 25 pcs./bag, 8 bags/case (200 pcs.)	Red
SP-50-C	CAPPHarmony Serological pipette 50mL	individually wrapped, 100 pcs.	Purple
SPB-50-C	CAPPHarmony Serological pipette 50mL	bulk, 25 pcs./bag, 4 bags/case (100 pcs.)	Purple
SP-100-C	CAPPHarmony Serological pipette 100mL	individually wrapped , 50 pcs.	Pink

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MICROCENTRIFUGE TUBES

Cat. No.	Description
5100500C	Expell Microcentrifuge tubes 0.5mL, bulk, 10x1000 pcs.
5001500C	ExpellPlus Microcentrifuge tubes 1.5mL, bulk, low retention, 20x500 pcs.
5101500C	ExpellSecure Microcentrifuge tubes 1.5mL, bag, 20x500 pcs.
5101501C	Expell Microcentrifuge tubes 1.5mL, bag, 20x500 pcs.
5101590C	ExpellSecure Microcentrifuge tubes 1.5mL, bulk, assorted colours, 20x500 pcs. (magenta, blue, yellow, green, orange)
5101550C	ExpellSecure Microcentrifuge tubes 1.5mL, bulk, black, 20x500 pcs.
5102000C	ExpellSecure Microcentrifuge tubes 2.0mL, bag, 16x500 pcs.
5102001C	Expell Microcentrifuge tubes 2.0mL, bag, 10x500 pcs.



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