CRYOGENIC CONSUMABLES

Engineered for the Cold

coleparmer.com

Cole-Parmer®

About Cole-Parmer

Founded in 1955

Cole-Parmer, is a global manufacturer of lab equipment and supplies for research and process. Our products have been used extensively in life sciences, clinical, academic, biotech, and research laboratories since 1955.

Strong Track Record

We deliver high-quality products, and we are committed to empowering your research and development processes with solutions that drive efficiency, accuracy, and success.

Scientific Experts

Our team of technical support representatives are highly trained product experts with scientific backgrounds and industry experience. They are here to help you select products, troubleshoot existing problems, and solve regulatory compliance issues.

CELL CULTURE CRYOPRESERVATION AND FREEZING

Putting Cells into Cryopreservation

If you work with cells, you know that one of the biggest challenges is keeping good viable stocks of your cells. One of the best ways to do that is through cryopreservation, which is the process of freezing cells so that they can be thawed and used later. But if you're going to freeze cells, you need to do it right–and that means using the right lab equipment.

Fear not, we're here with tips and tricks to keep your cells happy, healthy, and frozen.

If you need help finding the right cell culture consumables, don't hesitate to contact us. We're here to help you and your cells grow!

Keep Cells Clean

Say goodbye to cell culture contamination nightmares and hello to happy cells.

Save Time and Money

Don't settle for anything less than the best. Choose the labware that will help you achieve your goals.

Stay Consistent

Eliminate erratic cell behavior with quality labware. Trust us to deliver reliable results every time.

Why is Cryopreservation So Important?

Cryopreservation allows you to store cells for long periods without worrying about them dying. If you're working on a long-term project, want to store protein-expressing clones, or just need to keep cells around for future experiments, cryopreservation is the way to go.

But as with any technique, cryopreservation has its challenges. One of the biggest challenges is that freezing can cause damage to cells, which can result in decreased viability and altered cell function when they're thawed. This is why it's important to use the right labware and techniques.

What Labware Do I Need for Cryopreservation?

Cryovials are a must. They are small plastic or glass tubes designed to hold cells for freezing. You'll also need a cryoprotectant; a solution to help protect cells from damage during the freezing process. Common cryoprotectants include glycerol. However, other lab equipment and essentials can make cryopreservation easier and more effective.

Insulated Containers

Lab coolers are insulated containers that can hold cryovials and are designed to maintain the low temperatures necessary for sample storage, usually in the range of -80 to -196 °C. They come in a variety of sizes and styles, from small benchtop boxes that can hold just a few vials to larger tanks that can hold hundreds.

Pens and Markers

Permanent markers are used to label cryovials with important information such as cell type, passage number, and freezing date. It may seem like a small thing, but labeling your vials can make a big difference when it comes to locating them in the cold stores.

Cryogenic Apparel

Cryogenic apparel is designed to protect your skin and the cells you are working with during cryopreservation. Our cryogenic apparel consists of materials that can withstand low temperatures and protect against cryoprotectants.

Cryogenic Vials and Caps

Used for the storage of cryopreserved samples, cryogenic vials are made of materials that can withstand the low temperatures required for sample storage. They are usually made of polypropylene, which has a low-temperature resistance and is compatible with most cryoprotectants. Cryogenic vials come in different sizes, from small volumes of a few hundred microliters to larger volumes of several milliliters.

Labels

Labels are crucial in cryopreservation, especially when it comes to identifying samples. Cryogenic vials and containers should be identified with permanent markers or labels that are resistant to low temperatures and can withstand cryogenic storage conditions.

Each label should contain essential information such as the date of collection, the type of sample, the passage number, and the identity of the researcher who collected the sample. A clear and legible label can prevent sample mix-ups and ensure accurate identification.

Cryogenics

Cole-Parmer® Cardboard Cryogenic Storage Boxes and Dividers*

- Moisture-repellent coating protects boxes from effects of liquid nitrogen or condensation
- Snug-fitting lid prevents accidental separation if dropped
- Wide range of boxes and dividers to accommodate tubes from 0.5 to 50 mL

Description	Item Number
Cardboard Freezer Box with 64-Place Divider for 0.2 mL PCR Tubes; 3 × 3 × 1”	04395-39
Cardboard Freezer Box with 196-Place Divider for 0.2 mL PCR Tubes; 5 1/4 × 5 1/4 × 1”	04395-41
Cardboard Freezer Box with 25-Place Divider for 0.5, 1.5, and 2 mL Tubes; 3 × 3 × 2”	06755-71
Cardboard Freezer Box with 81-Place Divider for 0.5, 1.5, and 2 mL Tubes; 5 1/4 × 5 1/4 × 2”	06755-72
Cardboard Freezer Box with 100-Place Divider for 0.5, 1.5, and 2 mL Tubes; 5 1/4 × 5 1/4 × 2”	06755-73
Cardboard Freezer Box without Divider; 5 1/4 × 5 1/4 × 2”	06755-76
Cardboard Freezer Box without Divider; 5 1/4 × 5 1/4 × 3”	06755-77
Cardboard Freezer Box without Divider; 5 3/4 × 5 3/4 × 4 7/8”	06755-75
Cardboard Freezer Box With 49-Place Divider for 1.5 and 2.0 mL Tubes; 4 7/8 × 4 7/8 × 1 5/16”; Pack of 12	06755-82
Cardboard Freezer Box With 81-Place Divider for 0.5, 1.5, and 2 mL Tubes; 4 7/8 × 4 7/8 × 1 5/16”; Pack of 12	06755-84
Cardboard Freezer Box With 36-Place Divider for 15 mL Tubes; 5 3/8 × 5 3/8 × 2 3/4”; Pack of 12	06755-79

*See the full selection at coleparmer.com.

Cole-Parmer® Cryogenic Storage Dewars with Racks*

- Safely store samples up to 200 days without liquid nitrogen refill
- Ultra-low evaporation loss enhances cryogen protection
- 5-year vacuum warranty

Description	Item Number
Cryogenic Storage Dewar, 30 L, with 6 × 4 Layer Racks	44260-56
Cryogenic Storage Dewar, 35 L, with 6 × 5 Layer Racks	44260-57
Cryogenic Storage Dewar, 47 L, with 6 Round Canister Racks	44260-58

*See the full selection at coleparmer.com.

Cole-Parmer® Dewar and Traceable® Temperature Data Logger Bundles*

- Improve sample protection—maintain specific temperature ranges for extended time periods
- Maintain sample integrity—includes Traceable® Wi-Fi data logger with 2-year NIST-traceable calibration certificate
- Stainless steel racks allow storage of a variety of samples

Description	Item Number
PolarSafe® 35 L Storage Dewar, TraceableLIVE® Bundle	44260-74
PolarSafe® 95 L Storage Dewar, TraceableLIVE® Bundle	44260-71

*See the full selection at coleparmer.com.

Cole-Parmer® Transportable Dewar Flasks

- Ideal for cooling and transporting small samples
- Rugged outer casing made of galvanized steel plate with a baked enamel finish
- Dewar flask made of borosilicate glass 3.3 ISO 3585
- Meets DIN EN ISO 16496

Description	Item Number
Transportable Dewar Flask, 1 L	03772-10
Transportable Dewar Flask, 2 L	03772-20
Transportable Dewar Flask, 4 L	03772-40

ThermoSafe® Large-Capacity Dry Ice Storage Chests

- Ideal for demanding cryogenic and laboratory testing, as well as dry ice storage and transport of temperature-sensitive specimens
- Lightweight construction with specially formulated insulation for lowest sublimation rates
- Rounded interior corners for easy cleanup

Description	Item Number
Dry Ice Storage Chest; 1.6 cu ft, 85 lb Capacity	03721-02
Dry Ice Storage Chest; 2.7 cu ft, 150 lb Capacity	03721-00
Dry Ice Storage Chest; 3.75 cu ft, 200 lb Capacity	03720-00

FREQUENTLY ASKED QUESTIONS

Q: How do I prepare cells for cryopreservation?

A: Cells need to be prepared carefully before cryopreservation to improve survival. Ideally, cells should be in the logarithmic growth phase, usually subconfluent, and healthy. Detach the cells using an appropriate enzyme (typically trypsin) or mechanical method, resuspend them in a cryoprotective medium like dimethyl sulfoxide (DMSO), and then freeze them at a controlled rate. The cells should be completely free of serum to prevent the formation of ice crystals.

Q: Can I freeze cells immediately after seeding?

A: We would not recommend freezing cells immediately after seeding. Cells need time to adhere, spread, and establish a healthy monolayer before freezing. Waiting for a few passages or population doublings is advisable before considering freezing again. It's important to try and freeze cells at the same stage each time to improve experimental reproducibility.

Q: Is it possible to freeze primary cells?

A: This will likely depend on the type of primary cell. While some primary cells can be cryopreserved, it can be more challenging compared to immortalized cell lines. Like any cell, it's important to consider the cell type, passage number, use of cryoprotectants, controlled cooling rates, and rapid thawing. Primary cells might show slower growth and altered behavior initially after thawing, but they can adapt over passages. If possible, consider testing the cryopreservation process by freezing cells at different densities, passage numbers and using different cryoprotectants.

Q: How long will my cells be cryopreserved?

A: The length of time that cells can be cryopreserved depends on several factors, including the type of cell, the method of cryopreservation, and the conditions under which the cells are stored.

Generally, most cell types can be cryopreserved for long periods of time, often several years or even decades, if they are stored properly.

However, not all cells are equally amenable to cryopreservation, and some may lose viability or function after thawing. Additionally, the longer cells are cryopreserved, the greater the chance of damage to the cells, which can affect their viability and function.

Primary cells are particularly difficult to cryopreserve. But as with all cells, we recommend you test the viability and function of cells after cryopreservation and thawing, and periodically monitor the cells during long-term storage to ensure their quality is maintained.

Q: Should I freeze my cells quickly or slowly?

A: A slower rate of freezing is generally preferred for most types of cells, because it reduces the likelihood of damage from ice crystal formation. Slow freezing with a cryoprotective agent allows the agent to penetrate the cells and prevent ice crystal formation while rapid freezing can cause damage and reduce viability.

WolfLabs

Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct.
If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

www.wolflabs.co.uk

Tel : 01759 301142

Fax : 01759 301143

sales@wolflabs.co.uk

Please contact us if this literature doesn't answer all your questions.