

# Freezing Studies

## Data-backed decisions for cryopreservation solutions

Design studies with Charter Medical's engineers based on your cryopreservation needs. The following types of studies give you actionable data to help you better understand the freeze/thaw steps when producing your clinical or commercialized therapy:

### Controlled-rate freezing

- Examine single-use material behaviors during temperature fluctuations in the freeze/thaw process
- Explore various manufacturing conditions, from room temperature down to -80°C or -196°C

### Long-term freezing

- Explore the impact of specific freezing times and conditions on your therapy
- Understand the durability and effectiveness of Charter Medical's single-use solutions for maintaining quality and viability of your therapy for extended durations

### Therapy containment/protection

- Leverage drop testing and explore alternative approaches to identify ideal methods for safeguarding single-use bags and components
- Ensure your therapy remains protected when handled before, during, and after cryopreservation steps

### Transportation

- Engage in real and simulated transportation studies
- Perform testing that follows ASTM standards to precisely gauge the effects of different shipping variables



Start your freezing studies today.  
Contact us at [www.chartermedical.com/contact-us](http://www.chartermedical.com/contact-us)

# Cryopreservation

## Single-use products for mission-critical materials

Cryopreserved materials are held with high regard, and with good reason – contained within are patient therapies, viral vectors, or influential samples used for release testing. Protecting these critical materials during freeze/thaw cycles to prevent content loss or compromised cell health begins with choosing a primary single-use container.



### Single-use Solutions Portfolio

We design and develop single-use solutions to help biopharma manufacturers overcome their most difficult process challenges.

#### **Cell Freeze® Cryogenic Containers**

Designed for the storage, preservation, and transfer of hematopoietic progenitor cells (HPCs)



Cell Freeze®  
Cryogenic  
Containers

#### **CryoProtect™ Bio-Containers**

Designed for storage, intermediate steps, final fill, and transport in bioprocessing applications



CryoProtect™  
Bio-Containers

#### **Freeze-Pak™ Bio-Containers**

Ideal for use in applications for final product frozen storage, bioprocessing, and cell banking



Freeze-Pak™ STS

#### **Freeze-Pak™ Bio-Containers with FP-FLEX™**

Ideal for cryogenic storage to streamline operations with cold-chain tubing and containers



Freeze-Pak™  
Bio-Containers  
with FP-FLEX™  
Tubing

#### **Freeze-Pak™ STS**

Ideal for low- and ultra-low temperature frozen storage and transport applications



CryoProtect™  
Bio-Containers



### Customized Single-use Solutions

Charter Medical can customize almost any current solution we offer or provide alternative designs to deliver flexible, scalable process solutions.

Collaborate with our single-use development experts to custom-build and integrate solutions into your biopharma processes to achieve more efficient workflows.

Contact us today at  
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