CryoStor® CS2,CS5 and CS10 Freeze Media

Best-in-class optimized biopreservation media for cells and tissues

- Pre-Formulated
- Serum-Free
- Protein-Free
- USP/Highest Quality Components
- cGMP Manufactured
- FDA Master File
- Sterility, Endotoxin, and Cell-Based Release Testing

CryoStor®, a series of cell-specific, optimized freeze media, is designed to prepare and preserve cells in ultra low temperature environments (-70°C to -196°C). CryoStor®, pre-formulated with DMSO, provides a safe, protective environment for cells and tissues during the freezing, storage, and thawing process. Through modulating the molecular-biological response to the cryopreservation process, CryoStor® provides for enhanced cell viability and functionality while eliminating the need for serum, proteins, or high levels of cytotoxic agents.

Glossary of label symbols:

REF Part Number

LOT Lot Number

STERILE A Aseptic Processing Technique

EXP. Date

Temperature

MFG. By

MFG. Date

Ordering Information

Product Name	Size	Part #
CryoStor® CS2	100mL bottle	202102
CryoStor® CS5	100mL bottle	205102
CryoStor® CS5	100mL bag	205202
CryoStor® CS5	10mL vial	205373
CryoStor® CS10	100mL bottle	210102
CryoStor® CS10	100mL bottle	210502*
CryoStor® CS10	100mL bag	210202
CryoStor® CS10	10mL vial	210373
CryoStor® CS10	16mL vial	210374
CryoStor® CS10	1000mL bag	210210

**New bottle type - contact BioLife Solutions for details*

To Order

Call: 1.866.424.6543 | Fax: 425.402.1433
Sales: SalesOne@BioLifeSolutions.com
Web: BioLifeSolutions.com
Technical Support: info@BioLifeSolutions.com

Biolife Solutions®

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CryoStor® CS2,CS5 and CS10 Freeze Media
Usage and Cryopreservation Protocol

1. **Place cells to be cryopreserved into suspension (mechanical or enzymatic dissociation).**
2. **Centrifuge cells to obtain cell pellet.**
3. **Remove supernatant - Note: Remove as much culture media as possible, to reduce dilution of CryoStor solution.**
4. **ISOLATION: Add cold (2°-8°C) CryoStor.**
   a. Cell concentrations: 0.5-10 × 106 cells/mL for routine cell culture protocols (higher [cell] possible).
   b. DMSO is pre-mixed in CryoStor - no additives are necessary.
5. **PRE-FREEZE: Incubate cell suspension at 2°-8°C for approximately 10 minutes.**
6. **NUCLEATION:** Freeze samples at -80°C (many protocols utlilize -70°C and -80°C interchangeably).
   a. Use a controlled rate freeze (-1°C/min) or similar protocol for most mammalian cell systems.
   b. The freezing device or isopropanol container should be pre-cooled to 2°-8°C.
   c. Ice nucleation within the sample (seeding) should be initiated at approximately -5°C using either a liquid nitrogen burst program setting on a controlled rate freezer or mechanical agitation (flick or tap) of the cryovial/sample container after approximately 15-20 min. at -80°C.
   d. Freeze time (-80°C) using isopropanol containers is recommended to be approximately 4 hours, or not more than overnight.
7. **STORAGE: Place samples into storage.**
   a. Store samples at liquid nitrogen temperatures (below -130°C).
   b. Sample storage at -80°C is only recommended for short-term storage (weeks to months).
8. **THAWING: Thaw samples quickly in a 37°C water bath, or equivalent mechanical thawing device.**
   a. Sample thawing should be conducted with gentle swirling of sample until all visible ice has melted. Approximate thaw time for a 1 ml sample in a cryovial is approximately 2-3 minutes.
   b. DO NOT allow sample to warm above chilled temperatures (0-10°C). Cryovials should be cool to the touch when removed from bath. Passive thaw is not recommended.
9. **Dilute cell/CryoStor mixture immediately with culture media, or equivalent isotonic media.**
   a. Dilution procedure can be performed in a single step.
   b. The dilution media should be between 20°C and 37°C.
   c. A dilution ratio of 1:10 (sample to media) or greater is recommended.
10. **Plate cells in appropriate configuration.**
11. **Place cells into culture conditions or utilize immediately.**
12. **Viability assessment 24 hours post-thaw*.**
    Note: To obtain an accurate measure of cell viability following cryopreservation, assessment should be performed 24 hours post-thaw and compared to non-frozen controls.

    **Sample assessment immediately post-thaw with membrane integrity indicators, such as Trypan Blue, for comparative analysis of sample cell yield and viability often results in inaccurate measurement of cell survival.*

Live/Dead fluorescent assays or metabolic assays (MTT or alamarBlue®) are recommended for more accurate assessment of viable recovery.

CryoStor products ship at ambient temperature. Upon receipt, store at 2°-8°C, protected from light, until ready to use.

Further protocol support is available at info@BioLifeSolutions.com.

Materials are manufactured under cGMP

Test methods and criteria are provided on all lot specific Certificates of Analysis and Release.

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