# PRIME-XV™ CRYOGENIC PRESERVATION SOLUTION

**Catalog No. 31004-10 mL**

## INTENDED USE

PRIME-XV™ Cryogenic Preservation Solution is recommended for the cryopreservation of most human primary cells, including stem/ progenitor cells, tissue samples, and other extremely cryopreservation-sensitive cell types. PRIME-XV™ Cryogenic Preservation Solution is a defined, protein-free solution.

## PRODUCT DESCRIPTION

PRIME-XV™ Cryogenic Preservation Solution is a ready-to-use cryopreservation solution containing 10% dimethyl sulfoxide (DMSO). Designed to prepare and preserve cells in ultra low temperature environments (-80°C to -196°C), PRIME-XV™ Cryogenic Preservation Solution supports enhanced post-thaw cell viability and functionality by providing a safe, protective environment for cells and tissues during the freezing, storage, and thawing process. PRIME-XV™ Cryogenic Preservation Solution is manufactured under cGMP with USP grade/ Highest Quality Components.

## SHIPPING

This product is shipped at ambient temperature. Upon receipt, store it immediately at 2-8ºC and protect it from light.

## STORAGE INSTRUCTIONS AND STABILITY

PRIME-XV™ Cryogenic Preservation Solution should be stored at 2-8ºC and protected from light until ready for use. It is stable at 2-8ºC until the expiration date on the label.

## PRECAUTIONS AND WARNINGS

This product is for research use only. It is not for use in diagnostic procedures. The safety and efficacy of this product in diagnostic or other clinical uses has not been established. This reagent should not be used beyond the expiration date. PRIME-XV™ Cryogenic Preservation Solution contains DMSO. Please refer to the Material Safety Data Sheet for information regarding hazards and safe handling practices.

## RELATED PRODUCTS

| Description | Catalog # | Size |
|---|---|---|
| PRIME-XV™ MSC EXPANSION SFM | 31000 | 250mL |
| PRIME-XV™ MatrIS F | 31001 | 200µg |
| PRIME-XV™ Human Fibronectin | 31002 | 1mg |
| PRIME-XV™ Hypothermic Preservation Solution | 31003 | 10mL |

## DIRECTIONS FOR USE

The following protocol is optimized for cryopreservation of human mesenchymal stem cells with PRIME-XV™ Cryogenic Preservation Solution.

1. Prepare cell suspension using cell specific protocol (mechanical or enzymatic dissociation) and centrifuge cells appropriately to obtain a cell pellet.

2. Remove supernatant. Note: Remove as much supernatant as possible, to reduce dilution of PRIME-XV™ Cryogenic Preservation Solution.

3. **Isolation:** Add cold (2-8°C) PRIME-XV™ Cryogenic Preservation Solution to a cell concentration range of 0.5–10 × $10^6$ cells/mL for standard cell culture protocols. A higher cell concentration is possible with testing.

4. **Pre-freeze:** Incubate cell suspension at 2-8°C for ~10 minutes.

5. **Nucleation:** Lower sample temperature to -80°C
   A). Use a controlled rate freezer (-1°C /minute) or similar procedure 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 the controlled rate freezer or mechanical agitation (flick or tap) of the cryovial/sample container after ~15-20 minutes at -80°C.

   D). Freeze time (-80°C) using isopropanol containers is recommended to be 3-4 hours.

6. **Storage:** Place samples into storage.
   A). Storage samples liquid nitrogen temperature (below -130°C).

   B). Sample storage at -80°C is only recommended for short-term storage up to weeks to months.

7. Thawing: Thaw samples quickly in a 37°C water bath. Sample should be thawed with gentle swirling of the sample until all visible ice has melted. Thaw time for a 1mL sample in a cryovial is ~3 minutes.

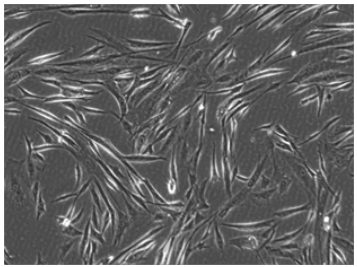
Note: DO NOT allow sample to warm above chilled temperatures (0-10°C). Cryovials should be cool to the touch when removed from the water bath.

8. Dilute cell /PRIME-XV™ Cryogenic Preservation Solution mixture immediately with appropriate culture medium. This can be performed in a single step. The dilution medium should be between 20-37°C. A dilution ratio of 1:10 (sample to culture media) or greater is recommended.

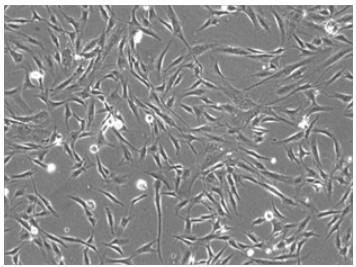
9. Plate cells in appropriate configuration.

10. Place cells into culture conditions or utilize immediately.

## DATA



Before Cryopreservation



After Cryopreservation

B.

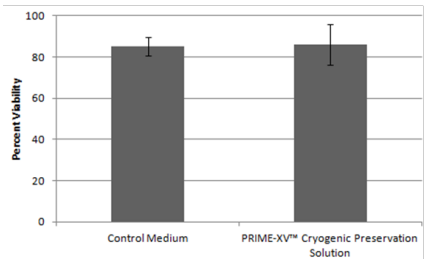



**Figure 1.** Human bone marrow-derived MSCs had high plating efficiency (A) and viability (B) after cryopreservation in PRIME-XV™ Cryogenic Preservation Solution. Control solution represents growth medium + 10% DMSO.

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