

# MSC Cryopreservation Solution

## 5% DMSO

### Product Description:

A cryopreservation medium specifically optimized for MSC storage, featuring **USP-grade** components (5% DMSO). Manufactured under cGMP conditions with a chemically defined formulation, this ready-to-use solution eliminates the need for programmed cooling, ensures >90% post-thaw viability, and supports long-term storage at -80°C or in liquid nitrogen.



### Application:

Specifically optimized for cryopreserving mesenchymal stem cells (MSCs) derived from multiple tissue sources.

### Product information:

F108-20: 20ml

F108-100: 100ml

**Shelf Life:** 3 years

### Storage Conditions:

2-8°C, light protection recommended.

### Features:

- Specialized for MSC cryopreservation
- Chemically defined, **USP-grade composition**
- ≥90% post-thaw cell recovery .
- Ready-to-use format with minimal handling steps
- Suitable for long-term storage at -80°C or in liquid nitrogen.
- No programmed cooling required when transferring from -80°C to liquid nitrogen.

*\*Viability data obtained via trypan blue exclusion (typical range: 90-98% recovery).*

Cryopreserved Cell Line	Store condition/time	Post-Thaw Viability
MSCs (Human Adipose-Derived)	-80 °C, >18 months	>90% (93%)
MSCs (Immortalized hAD-MSC)	-80 °C, >18 months	>90% (96%)
MSCs (Human Umbilical Cord)	-80 °C, >18 months	>90% (98%)
MSCs (Human Amniotic)	-80 °C, >18 months	>90% (97%)

*\*Note: Post-thaw viability: >90% (typical range: 90-98%) as measured by trypan blue exclusion."*

# Instruction for use

## I. Cell Cryopreservation:

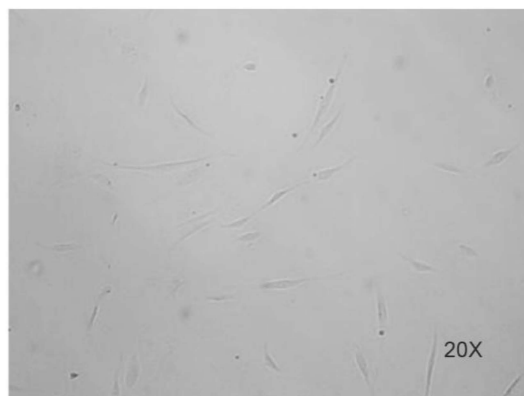
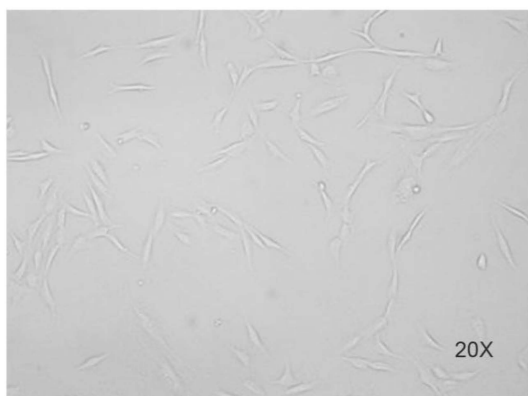
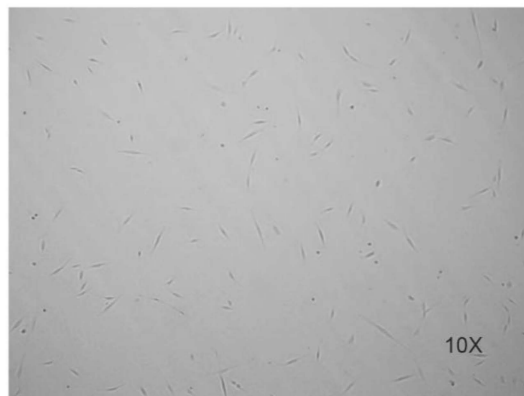
1. Harvest cells in logarithmic growth phase. Wash once with 1X PBS or appropriate cell wash buffer.
2. Centrifuge to remove supernatant and perform cell counting.
3. Slowly add cryopreservation medium to achieve  $1 \times 10^6$ – $5 \times 10^6$  cells/ml. Gently resuspend cells and transfer to cryovials.
4. Place cryovials in a suitable freezing container (e.g., isopropanol-containing cryobox recommended). Incubate at 4°C for 15 minutes. *\*→ Critical: Ensures DMSO penetration into cells. Do not skip this step.*
5. Transfer to -80°C freezer for long-term storage.

*\*→ For liquid nitrogen transfer, store at -80° C for ≥24 hours first.\**

## II. Cell Thawing:

1. Preheat 10 ml complete MSC medium at 37°C water bath for 15–20 minutes.
2. Retrieve cryovial from -80°C/liquid nitrogen. Thaw in 37°C water bath with gentle agitation until fully melted (no ice crystals), ~2 minutes.
3. Transfer cells to preheated complete medium. Centrifuge at 1,000–1,200 rpm for 5 minutes.
4. Discard supernatant. Resuspend in fresh preheated complete medium.
5. Proceed with standard MSC culture protocols.

*\*Post-Thaw Cell Adhesion Examples (Reference):*



**Image A:** Adipose-Derived MSCs.  
Cryopreserved in medium for 18 months (-80°C)  
48 hours post-thaw.  
Seeding density:  $5 \times 10^3$  cells/cm<sup>2</sup>

**Image B:** Bone Marrow-Derived MSCs  
Cryopreserved in medium for 6 months (-80°C)  
24 hours post-thaw.  
Seeding density:  $3 \times 10^3$  cells/cm<sup>2</sup>