hMSC Cryopreservation Medium

Product Manual

Catalog#SN-06-1310 50 mL

Product Introduction

hMSC Cryopreservation Medium is a serum-free product designed for the cryopreservation of mesenchymal stem cells (MSCs). This product is a specialized formulation developed for MSC cryopreservation, which effectively reduces cellular damage during the freezing process and improves post-thaw cell viability. It supports the long-term maintenance of the multi-lineage differentiation potential of MSCs. Additionally, the medium exhibits high batch-to-batch consistency and is suitable for research-grade cell preservation.

Product Information

Table 1. hMSC Cryopreservation Medium Product Description

Product	Amount	Cat.No.	Storage
hMSC Cryopreservation Medium	50 mL	SN-06-1310	2−8 °C

Storage Conditions

1. Storage Temperature: 4 °C.
2. Shelf Life: 12 months.

Cryopreservation of MSC

1. Label the required number of cryovials according to the intended working volume (reference quantity: 1–5 × 10^6 cells/mL/tube).
2. Select cells in the logarithmic growth phase and collect them into centrifuge tubes using standard methods.
3. Centrifuge the sample to obtain a pellet (reference conditions: 200 × g for 5 min).
4. Aspirate the supernatant and slowly add an appropriate volume of hMSC Cryopreservation Medium to the centrifuge tube. Mix gently to ensure uniform dispersion.
5. Aliquot the prepared mixture into pre-labeled cryovials.
6. Gradient cooling procedure:
   - 6.1. Place the cryovials into a pre-cooled cooling container (e.g., Nalgene Mr. Frosty, 5100001) at 4 °C. Then, place the container into a -80 °C freezer. After 24 hours, transfer the vials to a liquid nitrogen environment (temperature not exceeding -135 °C) for storage.
   - 6.2. Alternatively, use a programmed cooling device (e.g., Thermo CryoMed) to cool the cryovials at a rate of -1 °C/min to -100 °C (refer to the device user manual). The vials may then be transferred to a liquid nitrogen environment (temperature not exceeding -135 °C) for storage.

Thawing of MSC

1. Remove the cryovials from the liquid nitrogen environment and transport them on dry ice to the cell culture room.
2. Immediately place the cryovial in a 37 °C water bath, gently shaking and gently agitate to ensure rapid thawing.
3. Once the contents are mostly thawed, with only small ice fragments remaining, remove the cryovial, disinfect it, and transfer it into a biosafety cabinet.
4. Immediately transfer the contents into a 15 mL centrifuge tube. Slowly add approximately 9 mL of pre-warmed cell culture medium, gently shaking to mix. Rinse the cryovial with approximately 1 mL of pre-warmed medium and combine the rinse with the contents in the same centrifuge tube.
5. Centrifuge for cell harvesting under standard conditions (reference centrifuge conditions: 200 × g for 5 min), and aspirate the supernatant.
6. Add an appropriate volume (1–2 mL) of complete medium and gently resuspend the pellet.
7. Transfer the prepared suspension into the appropriate culture vessel at the intended working density, adding pre-warmed fresh complete medium as required.
8. Gently mix the suspension using a cross-shaking method, then incubate in a incubator with 37 °C, 5% CO_2, and saturated humidity.