LEADGENE
LEADGENE BIOMEDICAL, INC.

Product Information & Manual

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LEADBANKER™ Cryopreservation Medium (DMSO)

Cat no. LDG0002RM

Product Description

LEADBANKER™ Cryopreservation Medium (DMSO) is a ready-to-use, serum-free, and protein-free cryopreservation medium designed to support high post-thaw cell viability and recovery. Its defined formulation helps reduce variability commonly associated with serum- or protein-containing cryopreservation media and supports consistent cryopreservation conditions for cell samples.

Storage and Stability

LEADBANKER™ Cryopreservation Medium (DMSO) is shipped with polar packs. Upon receipt, store immediately at 2-8°C.

Quality Control

1. Sterility	Sterile
2. Mycoplasma	Not detected
3. Endotoxin	<5 EU/mL
4. pH	7.2-8.0, at room temperature

Cryopreservation Procedure

1. **Cell preparation:**
   Harvest cells during the logarithmic (exponential) growth phase to promote high viability and post-thaw recovery.
2. **Cell collection**:
   Count the cells and centrifuge the cell suspension to remove the spent culture medium. Handle the cell pellet gently to maintain cell integrity.
3. **Resuspension:**
   Resuspend the cell pellet in pre-chilled (2–8°C) LEADBANKER™ Cryopreservation Medium (DMSO) to a final density of 0.5×10^6 to 5×10^6 cells/mL. Cell density may be adjusted according to the specific cell line.
   Note: Using pre-chilled cryopreservation medium helps minimize the cytotoxic effects of cryoprotectants.
4. **Aliquot:**
   Promptly aliquot the cell suspension into labeled cryovials. Complete this step as quickly as possible to reduce the duration of cell exposure to cryoprotectants at room temperature.
5. **Controlled freezing:**
   Place the vials in a controlled-rate freezing container to achieve a cooling rate of approximately -1°C/min. Store the container at -80°C overnight.
6. **Long-term storage:**
   Transfer the vials to liquid nitrogen storage (-196°C) for long-term storage.

Thawing Procedure

1. **Thaw rapidly:**
   Remove the cryovial from liquid nitrogen and immediately thaw it in a 37°C water bath with gentle agitation. Thawing should be completed within 1–2 minutes.
2. **Dilute gently:**
   Slowly transfer the thawed cell suspension into a centrifuge tube containing five volumes of pre-warmed complete culture medium (e.g., add 1 mL of thawed cell suspension to 10 mL of medium), gently mixing to minimize osmotic shock.

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www.leadgenebio.com
TEL: +886-6-253-6677 • Email: info@leadgene.com.tw • No.9, Ln. 147, Zhengbei 1st Rd., Yongkang Dist., Tainan City 710, Taiwan

3. **Centrifuge:**

   Centrifuge the diluted suspension at 300–400 × g for 3–5 minutes to pellet the cells and remove residual cryopreservation medium.

4. **Resuspend and seed:**

   Carefully aspirate the supernatant. Gently resuspend the cell pellet in fresh complete medium and seed the cells into appropriate culture vessels. Incubate at 37°C with 5% CO_2.

5. **Medium replacement (recommended):**

   Replace the culture medium with fresh complete medium 12–24 hours post-seeding.

   Note: This step helps remove residual cryoprotectants and cell debris, supporting post-thaw cell recovery and growth.

Performance Testing

Cell line / Cell Type	Post-thaw Viability	Post-thaw Recovery
CHO-K1	>90%	>90%
Jurkat	>85%	>90%
THP-1	>85%	>90%
Raji	>85%	>90%
K562	>85%	>90%
UC-MSC	>90%	>90%
Myeloma	>75%	>90%

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