Serum-free Cryopreservation Media （Gold Edition） Instruction

【Product Identification】

Serum-free Cryopreservation Media （Gold Edition）

【Catalog Number】

MCL-002

【Packaging Specifications】

100mL/bottle

【Intended Use】

It is for the cryopreservation of human cells only. It does not possess cell selection, induction, or differentiation capabilities. Post-thaw cells are intended for in vitro diagnostic use only, not for human reinfusion.

【Principle of Cryopreservation】

Cryopreservation is an effective method for preserving cells. Storing cells at -196°C in liquid nitrogen can induce them into a state of suspended animation, thereby maintaining their cellular characteristics. Direct cryopreservation of cells without cryoprotective agents leads to the formation of ice crystals within and outside the cells due to the freezing of water in their microenvironment, which results in cell death.

The company’s cell cryopreservation medium is a serum-free formulation. It incorporates cell sedimentation stabilizers to prevent physical compression and aggregation of cells during the freezing process, which could otherwise compromise cryopreservation efficacy. Furthermore, the medium contains a cocktail of cryoprotective agents, including cell membrane protectants, penetrating intracellular cryoprotectants, and non-penetrating extracellular cryoprotectants. These agents interact with water molecules through hydration, thereby inhibiting the crystallization process of water. This interaction increases the viscosity of the solution, consequently reducing ice crystal formation. Even during rapid cooling protocols, this comprehensive suite of cryoprotectants provides robust protection to cells, shielding them from osmotic stress and physical damage caused by ice crystals.

【Storage Conditions & Shelf Life】

Storage: Protect from light at 2-8°C.

Shelf Life: 2 years.

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【Sample Requirements】

This product requires the cell sample to be in sterile culture and the logarithmic growth phase of eukaryotic cells (with a cell viability of over 90%).

【Protocol】

Count eukaryotic cells in the logarithmic growth phase. Add the Serum-free Cryopreservation Media and adjust the cell density to 1×10^7 cells/mL based on the cell type. Store 1 mL of the cell suspension in each cryopreservation tube. Place the cryopreservation tubes into a -80°C freezer for 12 hours, then transfer them to a liquid nitrogen tank for long-term storage.

【Reference Interval OR Cut-off Value】

Cell Type	Recommended freezing density	Viability range after thawing
PBMC	1*10^7/ml	70-80%
MSC	2*10^6/ml	90-99%
Immune Cell	1*10^7/ml	80-90%
Tumor Cell	5*10^6/ml	90-99%

【Result Interpretation】

Cells intended for cryopreservation should be in good condition and be eukaryotic cells in the logarithmic growth phase. Failure to meet these criteria can result in reduced viability upon cell revival.

【Limitations】

Several factors can lead to errors in cell counting. Users can perform multiple counts and calculate the average.

【Product Performance Specifications】

1. Appearance: The label needs to be clear and easily identifiable. There should be no leakage of the liquid.

2. Clarity: The liquid should be clear and free from any visible particles or impurities.

3. pH：7.0±0.5

4. Osmolality：<1200m0smol/kg

5. Bacterial Endotoxins：≤0.5EU/mL

6. Sterility Testing: No microbial growth detected.

7. Mycoplasma Testing: Negative for mycoplasma contamination.

8. Post-thaw Cell Viability：> 80%

【Precautions】

1. After opening, store at 2~8°C.

2. The entire operation process should be carried out under sterile conditions to avoid microbial contamination.

3. If contact with the skin occurs during use, wash immediately with water. If discomfort persists, seek medical attention promptly.

4. Do not use it if the packaging shows cracks or damage.

5. Expired products must not be used.

【Labeling Explanation】

【References】

[1] 司徒镇强，吴军正.细胞培养.世界图书出版公司.2007.

[2] 刘耳,王金兵,吴燕. 细胞冻存保护剂二甲基亚砜的细胞毒作用[J]. 中国畜禽传染病. 1994(04)

[3] 阮薇琴. 细胞的冻存与复苏[J]. 病毒学报. 1987(03)

【Manufacturer Information】

Manufacturer: Morecell Biomedical Technology Development Co., Ltd. Shenzhen

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