Mouse Mesenchymal Stem Cells (Compact-Bones)

<table>
<thead>
<tr>
<th>Strain:</th>
<th>C57/B6 (3months)</th>
<th>Catalog Number:</th>
<th>PCMMSC01</th>
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<tbody>
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<td>Cell Number:</td>
<td>~1x10^6</td>
<td>Shipping &amp; Storage:</td>
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Introduction:

Mesenchymal stem cells (MSC) are a population of well characterized adult stem cells. Under proper induction, they can differentiate into many cell types including fat, cartilage, bone, tendons, and muscle\(^1,2\). Due to their differentiation capacities, there is a growing interest in the potential use of these cells for regenerative medicine.

The mouse MSCs (compact bones) from PrimCells, LLC are derived from tibia and femur bones of young C57/B6 mice (3~4 months), which are highly more proliferative than traditional bone marrow derived cells. These cells are cryopreserved at very early passages (1-2) and can maintain their pluripotency under suggested conditions for at least 8 passages. They maintain the multipotency and can, upon proper induction, differentiate into cells of multiple lineages.

Thawing of Frozen Cells

1. Upon receipt of the frozen cells, it is extremely important to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.

2. To thaw the cells, put the vial in 37°C water bath with gentle agitation for ~1min. Keep the cap out of water to minimize the risk of contamination.

3. Pipette the cells into a 15ml conical tube with ~5ml fresh culture medium.

4. Centrifuge at 1000rpm (~220g) for 5min under room temp.

5. Remove the supernatant and resuspend the cells in fresh culture medium

6. Transfer the cells into tissue culture flasks and move them to 37°C incubator (5% CO\(_2\)) for continuous culture.

Safety Precaution: it is highly recommends that protective gloves and clothing should be used when handling frozen vials. It is important to note that occasionally some vials may explode due to the leak of liquid nitrogen during the freezing procedure.

Standard Culture Procedure

1. Cells should be maintained in the complete culture medium until reaching ~80-90% confluence.

2. Remove the medium, wash once with sterile PBS (5ml/T75 flask).

3. Add ~2.5ml of 0.05% Trypsin-EDTA to the flask and incubate for 5min at 37°C.

4. Neutralize the enzyme activity by adding complete culture medium
5. Centrifuge 1000rpm (~220g) for 5min and resuspend the cells in desired volume of medium.

6. Transfer the cells to a new tissue culture treated flask for subculture. Note: It is recommended that cells are passaged at the ratio of 1:3-5.

7. Culture medium should be refreshed every other day.

**Complete Growth Medium**

DMEM/F-12 (Life Technologies #10565-018): 445ml  
Anti-Anti (Life Technologies, #15240-096): 5ml  
FBS (MSC qualified): 50ml  
Total Volume: 500ml

**Technical Support**

For additional information regarding the product and technical questions, please contact Supports@PrimCells.com. You are guaranteed to receive a response within 24hrs from one of our scientists.

**References**


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