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1. Description

Components	100 mL MACS Cell Storage Solution
Sterility	Sterile filtered.
Storage	Store protected from light at 2–8 °C. Do not freeze. The expiration date is indicated on the label.

1.1 Background information

The storage of fresh single-cell suspensions may be required if cells cannot be used directly for downstream applications or if they have to be shipped to different locations. If cells are to be used within a few days, they need to be stored properly to prevent apoptosis and cell death, and to preserve the composition of the cell suspension as well as the cell function. MACS Cell Storage Solution is an animal component-free and serum-free media formulation specifically developed to preserve the viability, composition, and functionality of fresh primary single-cell suspensions stored for up to 72 hours at 2–8 °C. It has been tested and validated on a variety of primary cell suspensions, such as human lysed blood, peripheral blood mononuclear cells (PBMCs), isolated human T cells, and monocytes.

1.2 Applications

- Storage of fresh single-cell suspensions
- Shipping of fresh single-cell suspensions

1.3 Reagent and instrument requirements

- (Optional) PB buffer: Prepare a solution containing phosphate-buffered saline (PBS), pH 7.2, and 0.5% bovine serum albumin (BSA) by diluting MACS BSA Stock Solution (# 130-091-376) 1:20 with PBS. Keep buffer cold (2–8 °C).
- (Optional) MACS Tissue Storage Solution (# 130-100-008) for short-term storage of fresh solid tissues.
- (Optional) MACS Freezing Solution (# 130-129-552) for long-term storage (cryopreservation) of primary cells and solid tissues.

2. Protocol

2.1 Preparation

- ▲ MACS Cell Storage Solution is formulated without antibiotic or antifungal components. If required, supplement with these ingredients at standard cell culture concentrations prior to use.
- ▲ All procedures should be carried out using sterile techniques in a biosafety cabinet.
- ▲ Always use cold (2–8 °C) MACS Cell Storage Solution.

2.2 Instructions for use

- ▲ For short-term storage of solid tissues, it is recommended to store the tissue using MACS Tissue Storage Solution instead of storing the cell suspension generated after tissue dissociation.
- ▲ For long-term storage it is recommended to cryopreserve cells and tissues using MACS Freezing Solution.

1. Prepare cell suspension.
 - ▲ **Note:** Ensure that cells are in single-cell suspension.
2. Determine cell number.
3. Centrifuge cell suspension at 300×g for 10 minutes. Aspirate supernatant completely.
4. Resuspend cell pellet in an appropriate volume of MACS Cell Storage Solution.
 - ▲ **Note:** If working with isolated leukocytes, it is recommended to store them at a concentration of 10⁶ cells per mL.
 - ▲ **Note:** If working with PBMCs, it is recommended to store them at a concentration of 5×10⁶ cells per mL.
5. Immediately place the resuspended cells at 2–8 °C in an appropriate tube for storage or shipping. Cells can be stored under these conditions for up to 72 hours.
6. To recover the cells after storage, centrifuge the cell suspension at 300×g for 10 minutes. Aspirate supernatant completely.
7. (Optional) Resuspend the cells in PB buffer and centrifuge the cell suspension at 300×g for 10 minutes. Aspirate supernatant completely.
8. Resuspend cells in appropriate buffer for downstream application.

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