

Sample Preparation Guideline for 10x Chromium Single Cell 3' Reagent Kits v3

PBMC Preparation for Single Cell Sequencing

This protocol is intended to provide BGI customers a guideline to prepare peripheral blood mononuclear cells for Single Cell Sequencing.

PBMC sample preparation

There are different methods for peripheral blood mononuclear cells (PBMC) isolation, customers could use their preferred method. Once PBMC has been isolated from blood samples, follow the below steps to prepare the frozen PBMC.

1. After the PBMC are isolated, prepare enough cryopreservation solution, we recommend 10% to 15% DMSO in FBS (85% - 90%). Usually, the volume ratio of cell to cryopreservation solution is 1:9. Mix cryopreservation solution well and put on ice.
2. Slowly resuspend cell pellets in cryopreservation solution at the cell density of 1x10⁶ cells/mL.
3. Transfer 1 - 1.5mL cell suspension to a 2mL cryotube.
4. Put the cryotube in a gradient freezing container with isopropyl alcohol at room temperature, move the container to -80°C and keep freezing overnight.
5. After 24 hours, the cryotubes can be shipped to us with dry ice.

* PBMCs can form clumps when they are kept in PBS so this protocol omits the PBS wash step normally applied in frozen cell pellet preparation. PBMC clumps are not easily to be dissociated into single cells and therefore decrease the effective concentration of single cells in the input suspension.

Learn more

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