iBiochips

Protocol for 1CellPlate®-Glass Bottom

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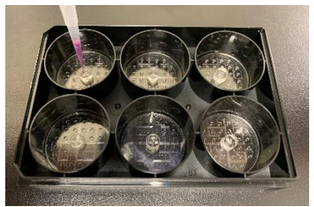
Cell Preparation

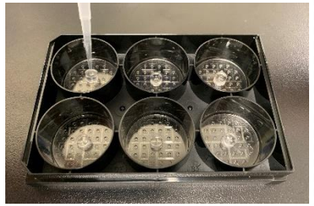
Prepare cell suspension with a concentration of 250-500 cells/mL into a PBS buffer or cell culture medium. Fully suspend the cells and pipette up 65 µL of cell suspension containing 16-32 cells.

Single-Cell Isolation



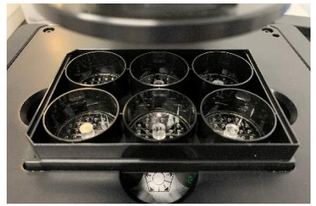
Load 65 µL of suspension into the 1CellPlate-Glass Bottom. Vertically insert the pipette tip into the Inlet Adaptor. Press the pipette plunger down to its first stop. Hold it for about 10 seconds. DO NOT release.

Removal of Inlet Adaptor



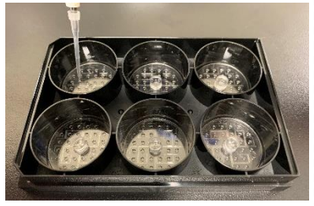
After the solution flows out, keep holding the pipette to prevent backflow. Then tilt the tip to detach the Inlet Adaptor from the 1CellPlate-Glass Bottom. Discard the pipette tip and Inlet Adaptor.

Single-Cell Imaging



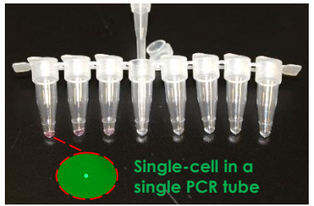
Check all the wells containing single cells with a yield of ~60. The #1.5H coverslip glass bottom (~0.17 mm thickness) is compatible with DIC, TIRF, FRET, confocal microscopy, and widefield fluorescence.

Single-Cell Retrieval



Alternatively, retrieve the target single cell by setting a pipette to 2 µL and pipetting each well up and down 3-5 times. After the target cell is fully suspended, rapidly retrieve the suspension from the device.

Single-Cell Transfer



Transfer the 2 µL of single-cell suspension into another container for your downstream analyses, e.g. an 8-well PCR tube strip for single-cell lysis, PCR, and sequencing.

Applications

- Single-Cell Isolation
- Single-Cell Multiomics
- Single-Cell PCR & Sequencing
- Single-Cell Imaging with DIC, TIRF, FRET, confocal microscopy, and widefield fluorescence

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