StemFIT 3D®-Plastic
Protocol & Specification (V2026.05)

Model.

H389600P-Single

H389600P-6 well

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StemFIT 3D®-Plastic Protocol

Model. H389600P-Single, H389600P-6 well

Air Bubble Removal Examples

01

Prepare StemFIT 3D-Plastic and fill it completely with 70% ethanol.

02

Pipette repeatedly toward the microwell bottom to remove air bubbles for smooth cell entry. Verify bubble removal under a microscope.

03

Slowly aspirate ethanol from the inlet. Leave a small amount of ethanol to prevent the bottom from drying out, as exposing the microwells to air may cause re-bubbling.

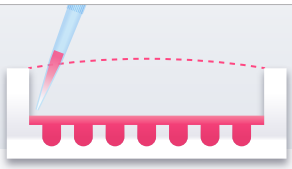
04

Fill with medium through the inlet and pipette toward the microwells to dilute the remaining ethanol.

05

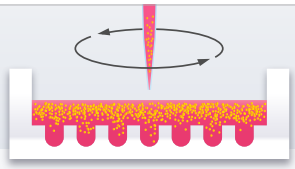
Prepare a single-cell suspension containing 10% Anti-adherence rinsing solution. Add the solution only once throughout the entire protocol. ** Add 100 µl of solution to 1 ml of medium.

06



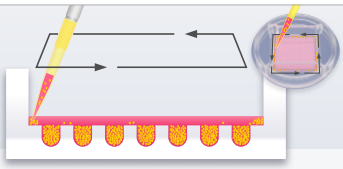
Slowly aspirate the diluted medium from the inlet. Leave a small amount of medium to keep microwells from being exposed to air.

07



For uniform cell distribution, dispense the prepared cell suspension into the center in a single continuous motion. Allow the cells to settle completely at the microwell bottom for about 20 minutes.

08

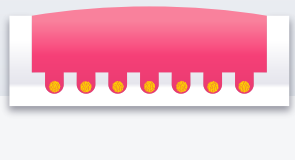


Carefully aspirate and remove the medium through the inlet. After removing the medium, aspirate and remove the cells remaining on the chamber corners using a pipette tip.

09

Fill completely with fresh medium through the inlet. Add slowly to prevent cells from escaping the microwells.

10

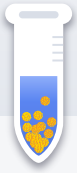


Spheroids will form within 5 to 24 hours depending on the cell type. Change the medium through the inlet for subsequent culture.

11

Once spheroids are sufficiently formed, detach them from the microwells by pipetting. ** If fixation is required for subsequent analysis, fix the structures before detachment.

12



Harvest the spheroids into an E-tube or conical tube.

Technical support: microfit@microfit.kr

StemFIT 3D®-Plastic Reagent application guide

[Anti-adherence rinsing solution, #07010]

Model. H389600P-Single, H389600P-6 well

1. Function

Does not affect the intrinsic biochemical characteristics of cells, but regulates the microwell surface environment to induce uniform cell attachment. It promotes cell aggregation and spheroid formation for various cell types, including fibroblasts.

2. Usage

Add only once during the cell seeding stage, at a ratio of 10% relative to the volume of the prepared cell suspension. Because the remaining amount inside the wells is sufficient to maintain the effect, no additional solution is required during subsequent medium changes.
** E.g., add 100 µL of reagent per 1 mL of cell suspension (Based on 1 well of StemFIT 3D®)

3. Guidelines

Cell concentration and conditions can be flexibly adjusted depending on experimental purposes, such as organoid culture, and specific cell types.

4. Availability

Provides more stable spheroid formation when used with the StemFIT 3D® plastic lineup, and is available for purchase at the Microfit online shop.

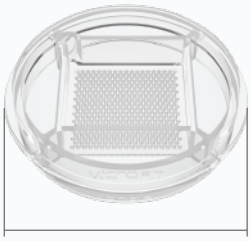
Seeding conditions

Models	C100600 H1613200	**** H389600P-Single** **** H389600P-6 well** H853400 H389600L/H	H449800 H2951000	C163000 C253000
Amount of Cells	≥ 6.0 x 10^5	≥ 1.2 x 10^6	≥ 2.4 x 10^6	2.5 x 10^5 / well
Volume of Seeding Medium	500 µl	1 ml	2 ml	20 µl / well
Anti-adherence rinsing solution (Cat. 07010)	50 µl	100 µl	200 µl	2 µl / well

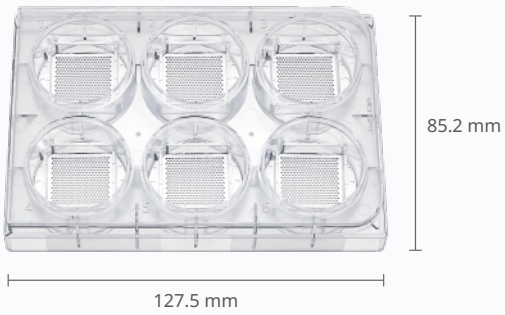
Anti-adherence rinsing solution is recommended for use with the StemFIT 3D®-Plastic(PS) lineup;
for the Silicone lineup, cell aggregation is possible without reagents or coating. (May vary depending on cell types and characteristics)

For organoids, the cell number may vary from the values suggested in this protocol.

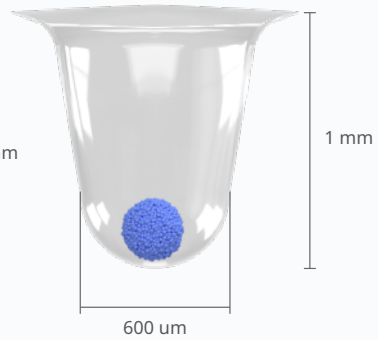
Specification



H389600P-Single



H389600P-6 well



Microwell

Specification comparison chart

Model	**H389600P-Single**	**H389600P-6 well**
Material	Polystyrene	Polystyrene
Features	Large-scale, Affordable, Easy pipetting, Hydrophobic	Large-scale, Affordable, Easy pipetting, Easy handling, Hydrophobic
No. of wells	389 ea	2,334 ea
Well diameter	600 μm	600 μm
Amount of cells	≥ 1.2 x 10^6	≥ 1.2 x 10^6
Volume of cell seeding medium	1 ml	1 ml
Volume of cell culture medium	3 ml	3 ~ 8 ml
Packing	20 ea/cs, 40ea/cs	3 ea/cs

For organoids, the cell number may vary from the values suggested in this protocol.