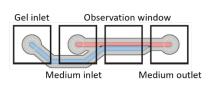


# 1. Objective

This protocol describes the procedure for medium changes of cultures grown in the OrganoPlate® 2-lane and 3-lane.



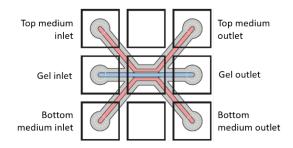


Figure 1: Schematic representation of a tissue chip from OrganoPlate® 2-lane (left) and 3-lane (right)

# 2. Background

Most cultures in the OrganoPlate® require medium refreshment every 2-3 days. Old medium can be aspirated using a multichannel aspirator system. After the wells of medium inlets and outlets are emptied, fresh medium can be added using a multichannel repeating pipette. The procedures described in this protocol allow for medium changes in OrganoPlate® 2-lane and 3-lane and can also be used for other assays, such as fixation.

### 3. Materials

- OrganoPlate® 2-lane or 3-lane with cells
- Cell specific medium
- Multichannel aspirator system
- Aspirator tips
- Multichannel repeating pipette (e.g. Sartorius, 16015143)
- Pipette tips (e.g. Sartorius, 791201, 50-1200 μL tips)
- Multi-channel medium reservoir (e.g. VWR, 89094-680)

### 4. Procedure

### **Aspiration**

### The procedure below applies to both OrganoPlate® 2-lane and 3-lane

- 1. Remove the lid from the OrganoPlate®
- 2. Aspirate medium from medium inlets and outlets using a multichannel aspirator



- a. Place the tips in the corner of the well and allow them to touch the bottom of the plate
- b. Placing the tips immediately on top of the holes of the microfluidics should be avoided as this may disturb the culture or cause the formation and trapping of air bubbles

### **Medium addition**

### OrganoPlate® 2-lane

- 1. Take up medium from a medium reservoir using a multichannel repeating pipette
- 2. Dispense medium in all medium inlets and medium outlets (i.e. all wells in columns 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24)
  - a. Dispense the medium against the wall of a well to prevent air bubble formation
  - b. Dispense first in inlets from column 2, rows A, C, E, G, I, K, M, O (pipette tips of an 8-tip multichannel pipette will align with these wells naturally)
  - c. Move the pipette down and dispense in remaining inlets from column 2 (rows B, D, F, H, J, L N, P)
  - d. Repeat for the medium outlets of this set of chips (column 4)
  - e. Repeat procedure for remaining medium inlets (columns 6, 10, 14, 18, 22) and medium outlets (columns (8, 12, 16, 20, 24)
  - f. See figure 2



Figure 2: Medium addition in OrganoPlate® 2-lane. Medium inlets and outlets are indicated in red.

### OrganoPlate® 3-lane

- 1. Take up medium using a multichannel repeating pipette from a medium reservoir
- 2. Dispense medium in all medium inlets and medium outlets according to the pipetting scheme shown in figure 3 on the next page.

## 5. Proceed with culture

- 1. Place the OrganoPlate® back (on the OrganoFlow®) in a humidified incubator
  - a. The use of OrganoFlow® depends on the type of culture
- 2. Proceed with culture

# OrganoPlate® medium change





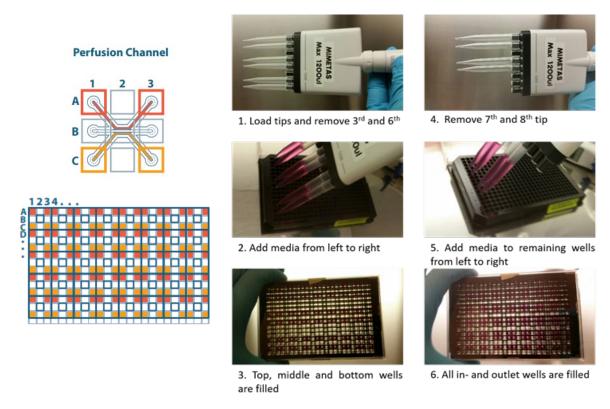


Figure 3: Medium addition to OrganoPlate® 3-lane. Medium inlets and outlets are indicated in red and yellow.

# 6. Plate layouts

# OrganoPlate® 2-lane

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Α	0	0	_	-0	0	0		-0	0	0		0	0	0		-0	0	0		0	0	0		-0
В	0	0	_	-0	0	0		-0	0	0		-0	0	0	-		0	0		0	0	0		0
c	0	0		-0	0	0		-0	0	0		-0	0	0		0	0	0		-0	0	0		-0
D	0	0		-0	0	0		-0	0	0		-0	0	0		0	0	0		-0	0	0		-0
E	0	0		-0	0	0		-0	0	0		-0	0	0		0	0	0		-0	0	0		-0
F	0,	0		-0	0	0		-0	0	0		-0	0	0		0	0	0		-0	0	0		-0
G	0	0		0	0	0		-0	0	0		-0	0	0		0	0	0		-0	0	0		-0
н	0	0	_	-0	0	0		-0	0	0		-0	0	0		-0	0	0		0	0	0		-0
1	0	0	_	-0	0	0		-0	0	0		-0	0	0		0	0	0		0	0	0		-0
J	0	0		-0	0	0		-0	0	0		-0	0	0		0	0	0		0	0	0		-0
K	0	0		-0	0	0		-0	0	0		-0	0	0		0	0	0		0	0	0		0
L	0	0	_	-0	0,	0		-0	0	0		-0	0	0		0	0	0		0	0	0		0
М	0	0	_	-0	0	0		-0	0	0		-0	0,	0		-0	0	0		-0	0	0		-0
N	0	0	_	-0	0	0		-0	0	0		-0	0	0		0	0	0		-0	0	0		0
0	0,	0	_	-0	0	0		-0	0	0		-0	0	0		0	0	0		-0	0	0		-0
Р	0	0		-0	0,	0		-0	0	0		-0	0.	0		0	0	0		-0	0	0		0

# OrganoPlate® 3-lane

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
А	0		9	9		9	•		9	•		9	0		9	•		9	0		9	•		9
В	0		0	0		1	0		0	0		0	0		0	0		0	0		0	0		0
С	6		0	0		0	6		0	0		0	6		0	6		0	6		0	0		9
D	0		9	9		9	•		9	9		9	9		9	9		9	9		9	0		9
E	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0
F	6		0	6		0	6		0	0		0	6		0	6		0	0		9	0		8
G	0		9	0		9	Q		9	9		9	0		9	•		9	0		9	•		ø
н	0	=	0	0			0	=	0	0	$\vdash$	0	0	=	0	0	=	0	0	1	0	0	1	0
ı	6		0	6		0	6		9	6		0	6		0	6		0	6		0	6		9
J	0		9	0		9	0		9	•		9	•		9	•		,	•		9	0		ø
K	0		0	0		0	0		-			0	0		0			-	0		0	0		0
L	6		0	6		0	6		0	6		0	6		0	6		0	6		0	0		9
м	•		9	9		9	•		9	9		9	•		9	•		9	•		9	0		9
N	0			0			0		-			0	0		0			-	0		0	0		0
o	6		0	6		0	6		0	6		0	6		0	6		0	6		0	6		0
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# **MIMETAS** product list

Cat. No.	Product Name
MI-AR-CC-01	OrganoReady® Caco-2
9605-400-B	OrganoPlate® 2-lane
4004-400-B	OrganoPlate® 3-lane 40
6405-400-B	OrganoPlate® 3-lane 64
6401-400-B	OrganoPlate® Graft
MI-OFPR-S	OrganoFlow® S
MI-OFPR-L	OrganoFlow® L
MI-OT-1	OrganoTEER®

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