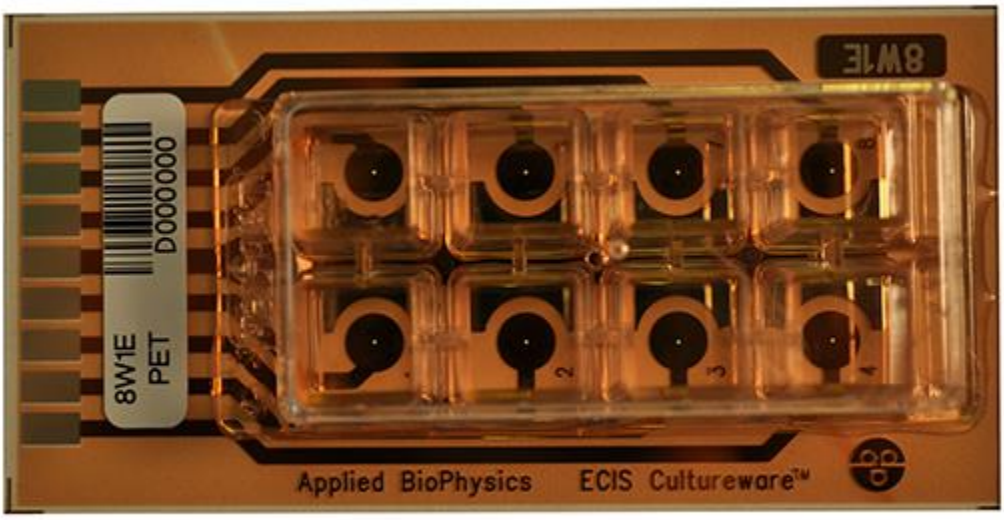
8 Well Arrays

8W1E PET or PC



Each of the 8 wells contains a single circular 250µm diameter active electrode. Each well has a substrate area of 0.8 cm^2 and a maximum volume of 600µL. On average, with a confluent cell layer, approximately 50 to 100 cells will be measured by the electrode, but even a single cell can be observed.

Applications include:

• *Barrier function*

• *Signal transduction assays*

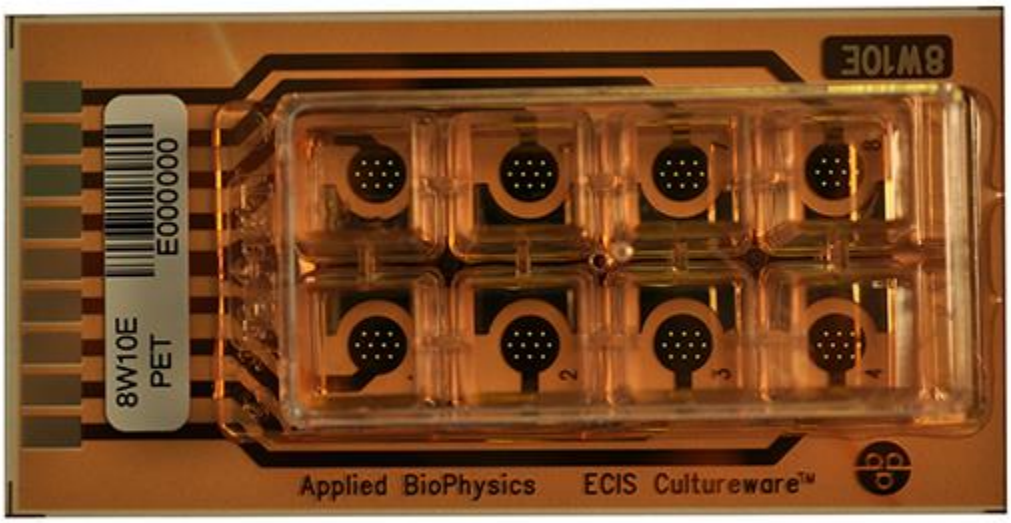
• *Cell Invasion*

• *In situ Cell Electroporation and Monitoring*

• *Cell migration / Wound Healing*

• *Correlated microscopy and ECIS experiments*

8W10E PET or PC



Each of the 8 wells contains ten circular 250 µm diameter active electrodes connected in parallel on a common gold pad. Each well has a substrate area of 0.8 cm^2 and a maximum volume of 600 µL. On average, with a confluent cell layer, approximately 500 to 1000 cells will be measured by the electrodes.

Applications include:

• *Cell Attachment and Spreading*

• *Cell proliferation*

• *Cell Differentiation*

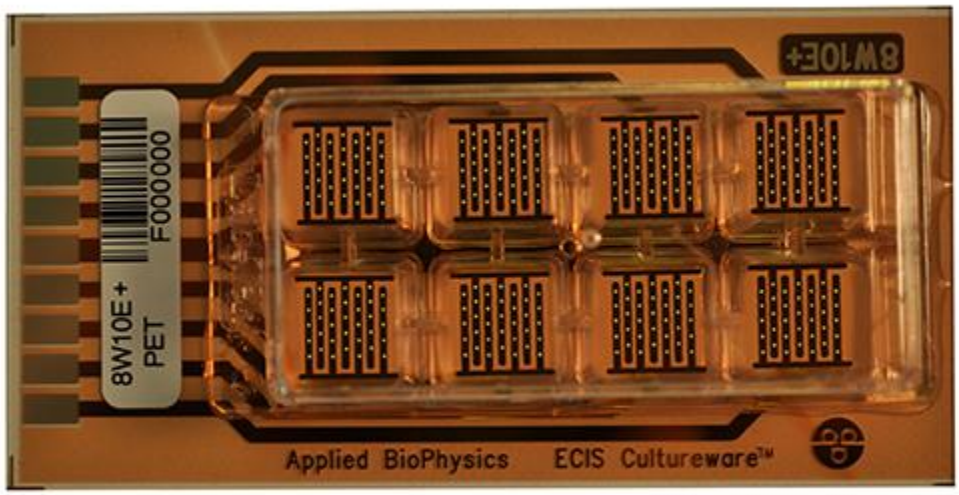
• *Barrier function*

• *Signal transduction assays*

• *Cell Invasion*

• *Cytotoxicity*

8W10E+ PET or PC



Each of the 8 wells has two sets of 20 circular 250 µm diameter active electrodes located on inter-digitated fingers to provide measurements of cells upon a total of 40 electrodes. Each well has a substrate area of 0.8 cm^2 and a maximum volume of 600 µL. On average, with a confluent layer, approximately 2000 to 4000 cells will be measured by the electrodes.

The 10E+ arrays are designed to monitor larger numbers of cells, sampling over the entire bottom of the well. Because of the relatively high number of cells, impedance fluctuations due to micromotion are smoothed out and do not obscure subtle changes in impedance due to the experimental conditions.

Applications include:

• *Cell Attachment and Spreading*

• *Cell proliferation*

• *Cell Differentiation*

• *Cell-ECM Protein Interactions*

• *Barrier function*

• *Signal transduction assays*

• *Cell Invasion*

• *Cytotoxicity*

m8W10idf PET

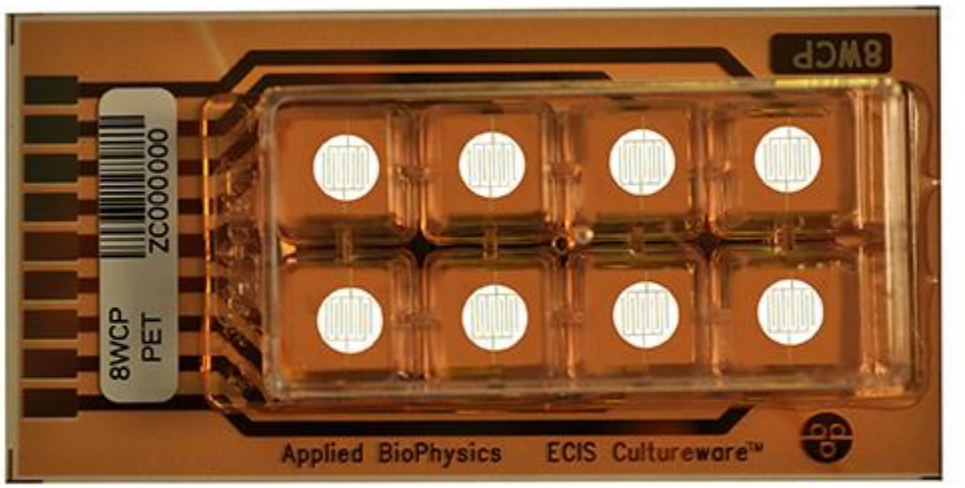
Our “mini” version of the 96W10idf array has 6 mm diameter wells for a substrate area of only 0.28cm^2 and a maximum well capacity of 200 microliters. The smaller well size means that less reagents and cells are required for experimental runs. The total electrode area is 2.09mm^2 which measures a maximum of 2000-4000 cells.

Like other 10idf arrays, the mini array is designed to monitor a large number of cells, reducing impedance fluctuations due to random cell movements (micromotion), and samples cells over the entire well bottom. This affordable array is a good option for researchers using expensive cells or reagents. The m8W10idf mini-array is supported by software version 1.2.70 or higher and is sold in quantities of 12.

Applications include:

- *Cell-ECM protein interactions*
- *Signal transduction assays*
- *Detection of invasion of endothelial cell layers by metastatic cells*
- *Barrier function*
- *Cell proliferation*
- *Cytotoxicity*

8WCP PET



Each of the 8 wells has a total electrode area of 3.985mm^2 located on inter-digitated fingers to provide measurements of cells. Each well has a substrate area of 0.8 cm^2 and a maximum volume of 600 µL. On average, with a confluent layer, approximately 4000 to 8000 cells will be measured by the electrodes.

The 8WCP arrays are designed to monitor larger numbers of cells, sampling over the entire bottom of the well. Because of the relatively high number of cells, impedance fluctuations due to micromotion are smoothed out and do not obscure subtle changes in impedance due to the experimental conditions.

Applications include:

• *Cell Attachment and Spreading*

• *Cell proliferation*

• *Cytotoxicity*

Specialty Arrays

8W2x1E PET or PC

This array is also called the Medusa array. Each well in this array has two independent single 250 µm diameter active electrodes. The Medusa array is useful for duplicating readings in the same well or to wound/electroporate one electrode while leaving the other as a control within the same well.

When connected to the array holder only the upper four wells are measured. To use the other four wells, the array is turned around and the contact pads at the other end are connected.

Applications include:

• *Barrier function*

• *Signal transduction assays*

• *Cell Invasion*

• *In situ Cell Electroporation and Monitoring*

• *Cell migration / Wound Healing*

• *Correlated microscopy and ECIS experiments*

8W1CXE PET or PC

This array is used to monitor the movement of cells in response to chemical gradients and is the array used in chemotaxis measurements first described by Hadjout, N. et al. (2001) **Biotechniques 31** (5) 1130. The measuring electrode in this array is a thin gold line between two registry marks.*

Each well has a substrate area of 0.8 cm^2 and a maximum volume of 600 µL. On average, with a confluent layer, approximately 50 to 100 cells will be monitored by the electrode.

**The gold line has the same total area as a 250 µm single circular electrode.*

Applications include:

• *Cell Chemotaxis*

8W2LE PET or PC

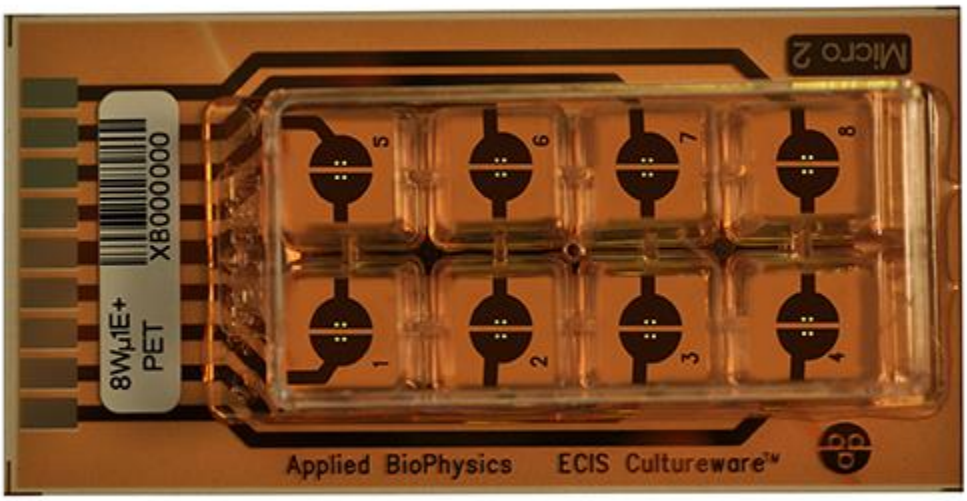
Each of the 8 wells contains a single linear electrode with dimensions of 667µm x 150µm and a measurement value equal to that of our standard 250µm circular electrodes. Each well has a substrate area of 0.8 cm^2 and a maximum volume of 600µL. On average, with a confluent cell layer, approximately 200 to 400 cells will be measured by the electrode, but even a single cell can be observed.

Applications include:

• *Cell migration / Wound Healing*

• *Correlated microscopy and ECIS experiments*

8Wµ1E+ PET or PC



Each of the 8 wells contains four 250µm circular electrodes which will measure from 200-400 cells. The placement of the electrodes at the center of the well allows for the use of cloning cylinders to be placed around the electrodes creating microwells. The area outside of the cloning cylinder can then be flooded to reduce evaporation from within the micro-wells.

Applications include:

• *Barrier function*

• *Signal transduction assays*

• *Cell Invasion*

• *In situ Cell Electroporation and Monitoring*

• *Cell migration / Wound Healing*

• *Correlated microscopy and ECIS experiments*

2W4x10E PC

Each of the 2 circular 25 mm diameter wells contain four independent sets of ten 250 µm diameter active electrodes measuring from 2000-4000 cells. In addition, the 2W4x10E array is useful for duplicating readings in the same well or to wound/electroporate one electrode while leaving the other as a control within the same well.

Applications include:

• *Cell Attachment and Spreading*

• *Cell proliferation*

• *Cell Differentiation*

• *Barrier function*

• *Signal transduction assays*

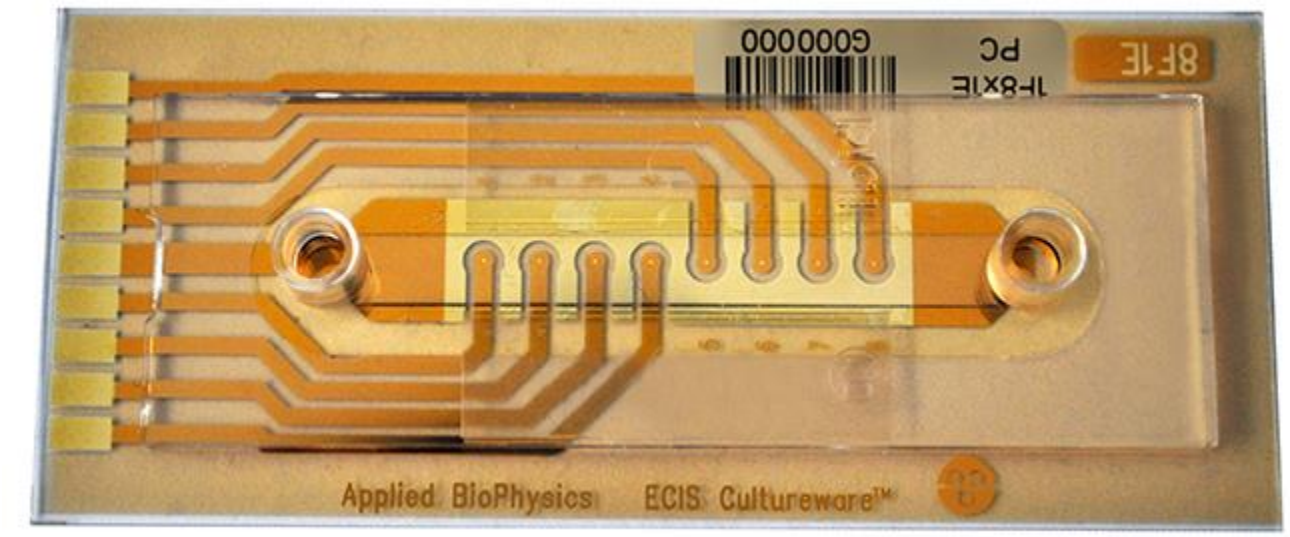
• *Cell Invasion*

• *Cytotoxicity*

• *Correlated microscopy and ECIS experiments*

Flow Arrays

1F8x1E PC



This is a specialized Flow array having 8 active 250 µm diameter electrodes (each measuring from 50-100 cells) located in the central region at the base of a flow channel measuring 50mm in length 5mm in width and available in 0.36 mm in height with a total channel volume of 90 µL.

Our flow arrays are designed for ECIS measurements of cells under perfused conditions or to mimic the shear stress endothelial cells experience in vivo or under flow mimicking the shear stress endothelial cells experience in vivo.

Applications include:

• *Barrier function*

• *Signal transduction assays*

• *Cell Invasion*

• *In situ Cell Electroporation and Monitoring*

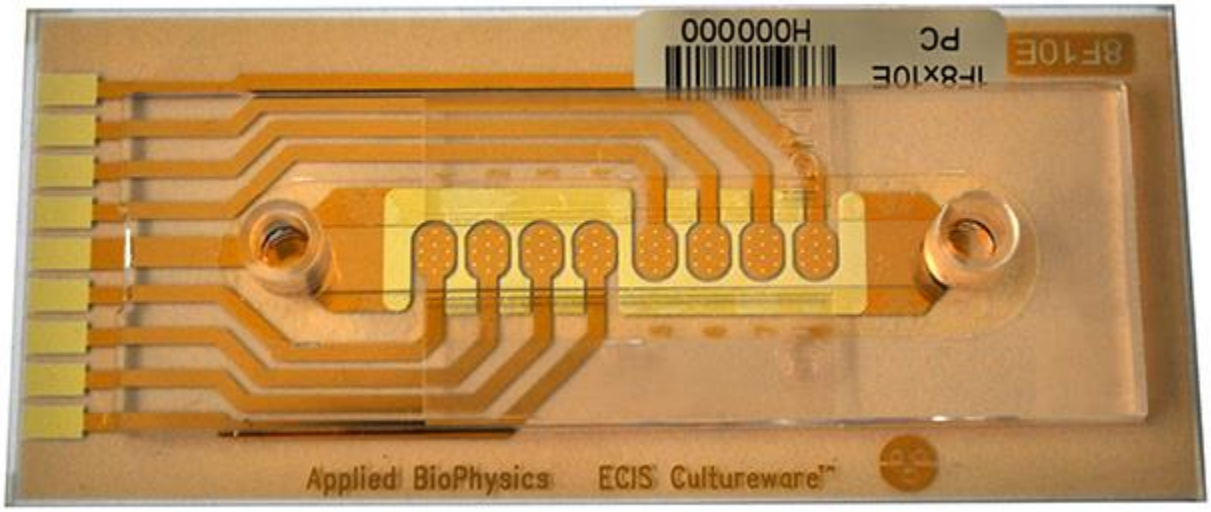
• *Cell migration / Wound Healing*

• *Cell proliferation*

• *Cell Differentiation*

• *Cytotoxicity*

1F8x10E PC



This is a specialized Flow array having 8 sets of 10 active 250 µm diameter electrodes (each measuring from 500-1000 cells) located in the central region at the base of a flow channel measuring 50mm in length 5mm in width and available in 0.36 mm in height with a total channel volume of 90 µL.

Our flow arrays are designed for ECIS measurements of cells under perfused conditions or to mimic the shear stress endothelial cells experience in vivo or under flow mimicking the shear stress endothelial cells experience in vivo.

Applications include:

• *Barrier function*

• *Signal transduction assays*

• *Cell Invasion*

• *In situ Cell Electroporation and Monitoring*

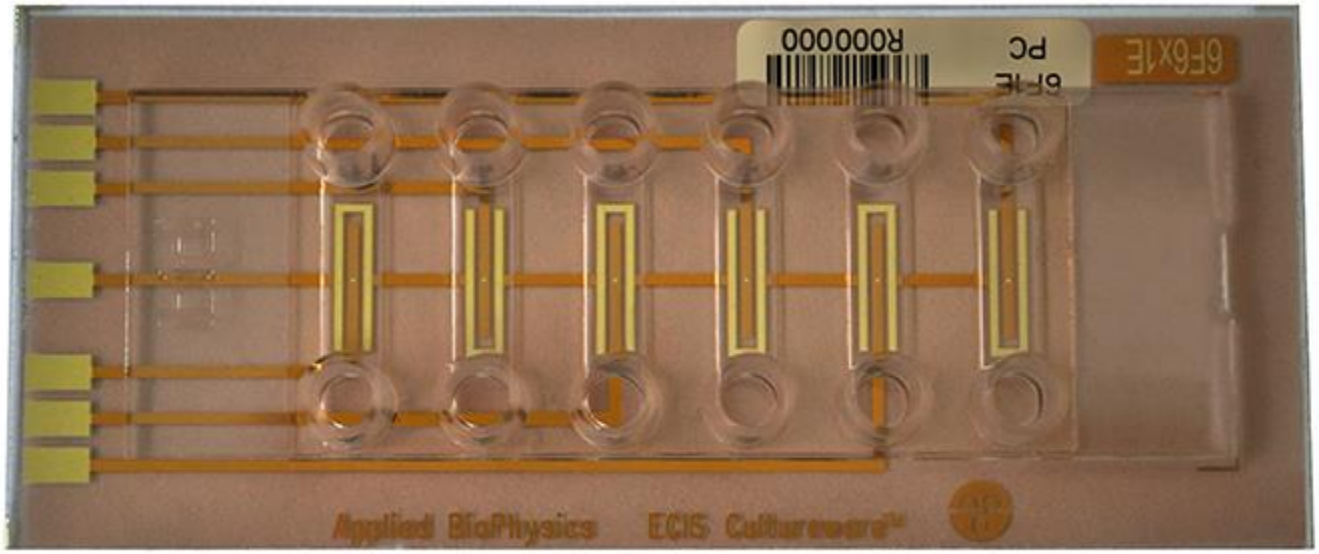
• *Cell migration / Wound Healing*

• *Cell proliferation*

• *Cell Differentiation*

• *Cytotoxicity*

6F1E PC



This flow array allows 6 independent flow assays to be run simultaneously. The channels are 0.66mm in height and 5mm wide with 1 active 250um diameter electrode (measuring from 50-100 cells) per channel.

Each channel has a 45µL volume with 60µL reservoirs.

Applications include:

• *Barrier function*

• *Signal transduction assays*

• *Cell Invasion*

• *In situ Cell Electroporation and Monitoring*

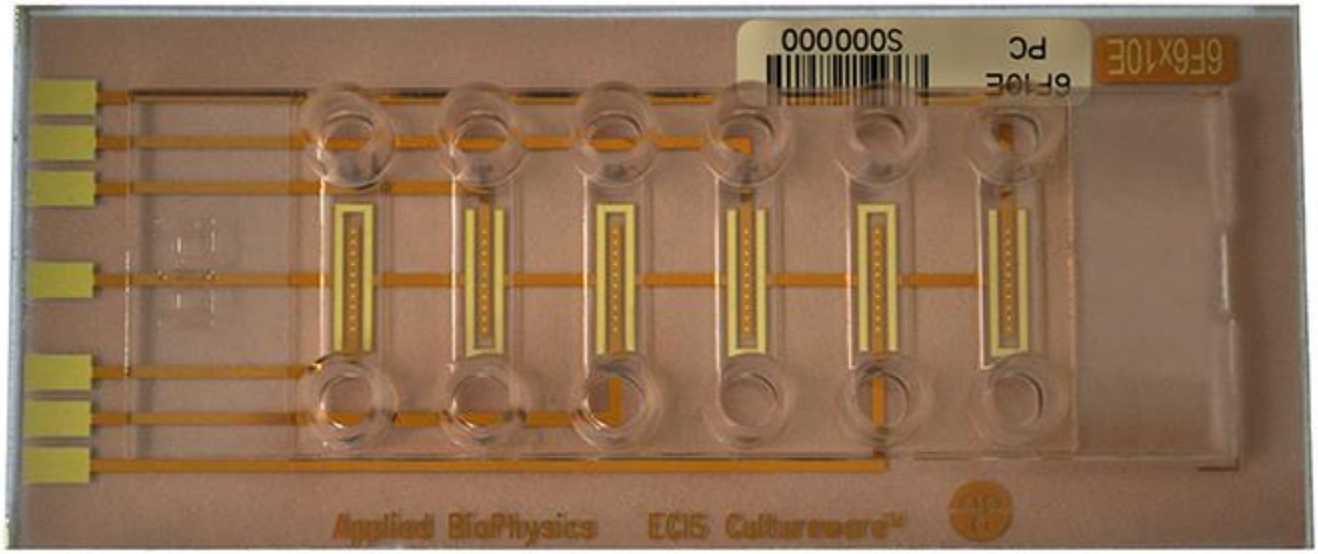
• *Cell migration / Wound Healing*

• *Cell proliferation*

• *Cell Differentiation*

• *Cytotoxicity*

6F10E PC



This flow array allows 6 independent flow assays to be run simultaneously. The channels are 0.66mm in height and 5mm wide with 10 active 250um diameter electrodes (each measuring from 500-1000 cells) per channel.

Each channel has a 45µL volume with 60µL reservoirs.

Applications include:

• *Barrier function*

• *Signal transduction assays*

• *Cell Invasion*

• *In situ Cell Electroporation and Monitoring*

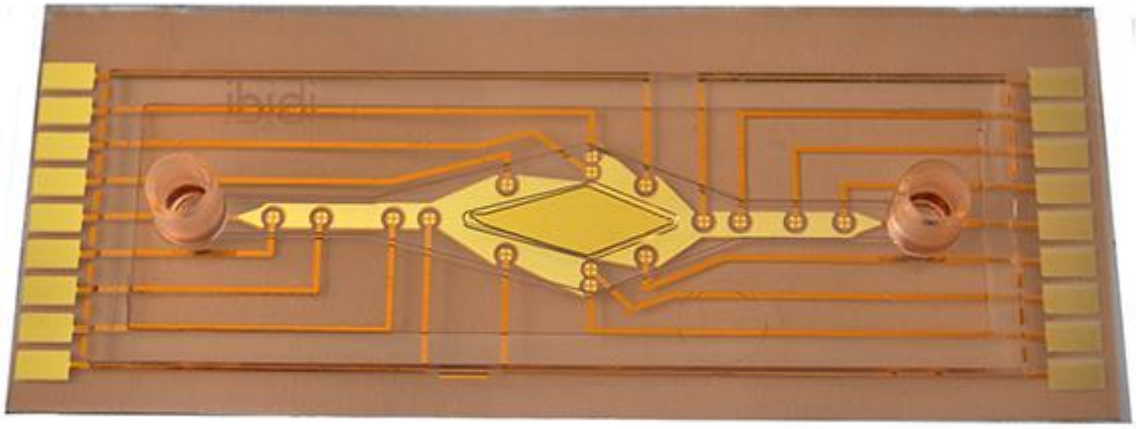
• *Cell migration / Wound Healing*

• *Cell proliferation*

• *Cell Differentiation*

• *Cytotoxicity*

1F2Y8x10E PC



This flow array is intended for bifurcation studies and blood vessel simulation. It splits into 30 degree Y channels in one direction and 45 degree Y channel in the other direction.

This array is double ended with 8 measurement channels available at each end. Eight measurement points, each with 4 circular active electrodes (with an area of 0.49mm^2 measuring from 500-1000 cells) (the area is the same as a 10E electrode), are located along the channel and through the Y portion of the channel. One end of the array is used to monitor the 30 degree Y channel and the other end is used to monitor the 45 degree Y channel. The electrodes are located close in the corners of the flow direction transition points. Each channel has a 165µL volume with 60µL reservoirs. The flow is always laminar, i.e., turbulent flows are not possible. For simulation of turbulence flow we recommend oscillating the flow. Defined shear stress and shear rate levels.

Recommended for the following applications under shear stress conditions:

• *Simulation of the bifurcation of blood vessels for arteriosclerosis research*

• *Rolling and adhesion of leukocytes on endothelial cells cultured under flow*

• *Cell-cell interaction studies and cell-drug interaction screenings under flow conditions*