



# AXION PLATES

## INDUSTRY-LEADING 768 ELECTRODES AT THE THROUGHPUT YOU NEED

Your research requires insightful, high-quality data from microelectrode array (MEA) experiments. Axion BioSystems' MEA plates meet that need with breakthrough MEA technology providing the highest electrode count per well. More electrodes means more recording sites and access to enhanced network-level signaling to make the most out of every assay.

MEA plates also bring flexibility to your cellular analysis. Due to the non-invasive nature of MEA recordings, cultured cells in any plate can be re-analyzed at any time for additional data on the same cell population. Axion's MEA plates are perfectly suited for time courses or chronic exposure studies. Additionally, each electrode on the plate is capable of recording or stimulation.

### AXION MEA PLATES

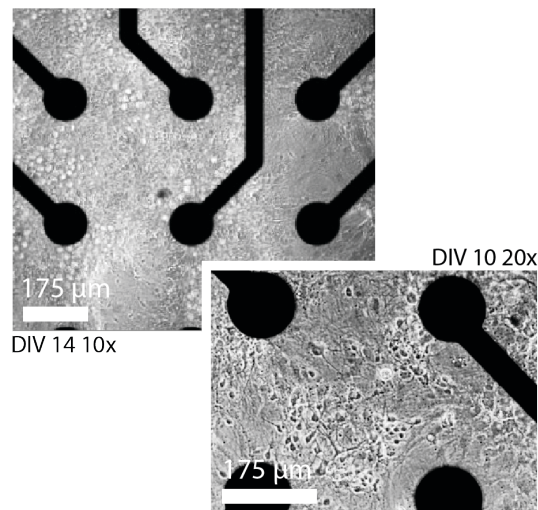
- Up to 768 low-noise electrodes
- 6-, 12-, 24-, 48-, or 96-well formats
- Recording or stimulation capability for each electrode
- Integrated, independent ground electrodes
- Conical shaped wells
- Evaporation-reducing lids
- Built-in humidity chambers



## CYTOVIEW MEA

### Cell visualization and assay multiplexing

The premium Maestro plates, CytoView MEA plates combine unparalleled access to cellular electrical network information with a thin, transparent plate bottom for culture visualization and assay multiplexing. Similar to Axion's other MEA plates, CytoView MEA plates contain the same industry-leading electrode count per well, low-noise signal, and retain the ability to be read over days, weeks, or months. The innovative, transparent plate bottom offers additional assay flexibility including cell visualization and assay multiplexing. Bright field imaging enables confirmation of cell spotting accuracy, and correlation of cell culture health and connectivity with MEA results. CytoView MEA plates are available in 96-, 48-, 24-, and 6- well formats, with black or white walls (24-well version has white walls) enabling multiplexing with fluorescence- or luminescence-based assays to probe complementary endpoints to your MEA study.

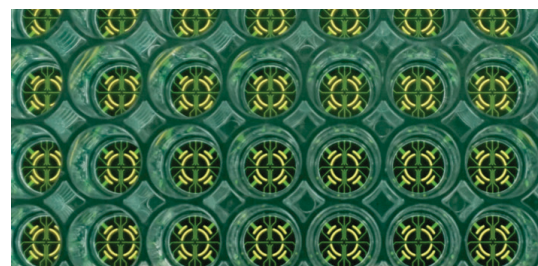


**Bright field images of primary rodent cortical neurons at DIV14 (10x magnification) and DIV10 (20x) in a CytoView MEA 48 – Black plate (M768-tMEA-48B).**

## BIOCIRCUIT MEA

### High-quality MEA results for every assay

BioCircuit MEA plates deliver high-quality results together with industry-leading throughput at the lowest cost per well. BioCircuit MEA plates have low-noise recording electrodes, dedicated stimulation electrodes (24- and 48-well versions only), and on-plate spotting guides to simplify plate preparation. BioCircuit MEA plates are available in 96-, 48-, and 24-well formats.

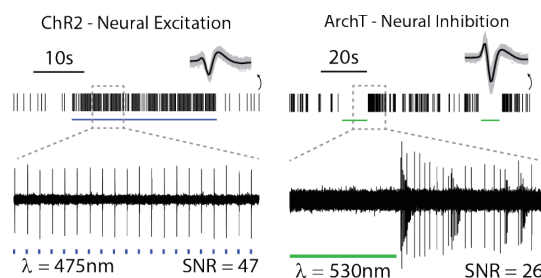


**BioCircuit MEA 96 plate (M768-BIO-96).**

## LUMOS MEA

### Multiwavelength optical stimulation

Lumos MEA plates combine high-quality MEA results with highly optimized optical performance. The custom Lumos lid and specially formulated plate walls have been optimized to maximize light delivery to your cell culture and minimize well-to-well crosstalk. The transparent bottom allows for cell visualization and assay multiplexing with fluorescence, luminescence, and other reporter-based assays. Lumos MEA plates are available in 96-, 48-, and 24-well formats, for use with Axion's Lumos multiwell light delivery systems which allow independent and simultaneous activation of four different LEDs per well.



**When expressed in neurons, ChR2 can be used to activate neurons *in vitro* in response to blue light, whereas ArchT suppresses neural activity upon incident green light.**

## CLASSIC MEA

### Axion's pioneering multiwell MEA plates

The Classic MEA plates deliver high-quality results together with industry-leading throughput for every MEA assay. With 768 low-noise recording electrodes shared equally across the wells of the plate, the Classic MEA plate is available in 96- and 48-well formats (i.e. 8 and 16 electrodes per well, respectively).



Classic MEA 48 plate (M768-KAP-48).

## ADVANCED FEATURES ACCUSPOT

### Superior cell droplet placement

Axion recommends plating cells in a small droplet centered over the electrode array (cell spotting), to conserve cells and ensure robust electrical activity near the recording electrodes. To make MEA plate preparation quicker and easier than ever before, Axion developed AccuSpot features, which are on-plate spotting guides in the bottom of each well. Provided the droplet is released from the pipette between the AccuSpot features, the droplet is attracted over the recording electrodes, ensuring a perfectly centered droplet in every well. This enables more precise cell plating with less effort. AccuSpot features are included on BioCircuit MEA 96, BioCircuit MEA 24, E-Stim+ Classic MEA 48, and AccuSpot Classic MEA 48 plates.

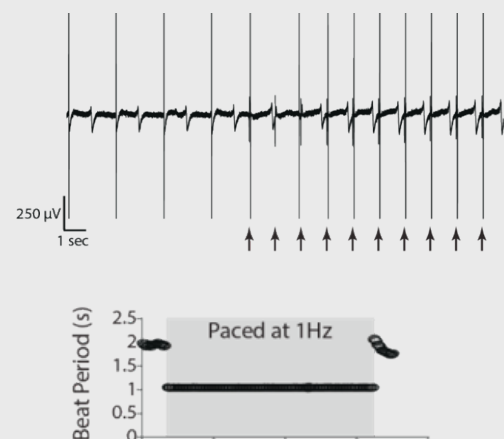


Base of the BioCircuit MEA 24 plate (M384-BIO-24) with the wells removed. On-plate spotting guides center the droplet over the recording electrode array, increasing plate preparation speed and accuracy.

## DEDICATED STIMULATION ELECTRODE

### Improved electrical stimulation capacity

Cardiomyocytes cultured on Axion MEA plates create an accessible platform for studying heart beats in a dish. Cardiomyocyte assays rely on evaluation of parameters, such as repolarization timing, that are tightly coupled to beat rate. Controlling beat rate allows the user to increase physiological relevance and reduce well-to-well variability. CytoView MEA 24, BioCircuit MEA 24, BioCircuit MEA 48, Lumos MEA 24, and E-Stim+ Classic MEA 48 plates include a large dedicated stimulation electrode in each well for superior stimulation capacity and reliable capture. Seamless integration with AxIS Navigator software makes stimulation simple yet customizable, while optimized artifact elimination and automated detection of electrophysiological features make analysis easy, efficient, and reproducible.



Pacing stimuli set beat rate at 1Hz (top, arrows) in an E-Stim+ Classic MEA 48 plate (M768-KAP-48S). Beat period quickly adapts to set pacing rate (bottom).










## SELECT THE PLATE FOR YOUR ASSAY

MEA Plate Technology	Action Potential (LEAP)	Contractility	Propagation	Field Potential	Electrical Stimulation	Optical Stimulation
<b>CYTOVIEW MEA</b> For cell visualization	●	●	●	●	●	
<b>BIOCIRCUIT MEA</b> Lowest cost per well	●		●	●	●	
<b>LUMOS MEA</b> For optical stimulation	●	●	●	●	●	●
<b>CLASSIC MEA</b> Axion's pioneering MEA plates	●		●	●	●	

## CYTOVIEW MEA

The CytoView MEA plates combine robust data collection with a transparent well bottom for cell visualization and assay multiplexing




Plate	Cat No.	Wells	Electrodes /well	Electrode layout*	Bottom	Walls	Maestro Edge	Maestro Pro	Maestro 1
<b>CytoView MEA 6</b>	(a) M384-tMEA-6B (b) M384-tMEA-6W	6	64 PEDOT		Transparent	(a) Black (b) White	●	●	●
<b>CytoView MEA 12</b>	(a) M768-GL1-30Pt200 (b) M768-GL1-30Au200	12	64 (a) Platinum (b) Gold		Transparent	Clear		●	●
<b>CytoView MEA 24</b>	M384-tMEA-24W	24	16 PEDOT		Transparent	White	●	●	
<b>CytoView MEA 48</b>	(a) M768-tMEA-48B (b) M768-tMEA-48W	48	16 PEDOT		Transparent	(a) Black (b) White		●	●
<b>CytoView MEA 96</b>	(a) M768-tMEA-96B (b) M768-tMEA-96W	96	8 PEDOT		Transparent	(a) Black (b) White		●	●

\* Schematic of well illustrating recoding electrodes (blue), grounds (orange), and where present, a large dedicated stimulation (blue), and on-plate spotting guides (gray).






## BIOCIRCUIT MEA

The BioCircuit MEA plates deliver high-quality results together with industry-leading throughput at the lowest cost per well

Plate	Cat No.	Wells	Electrodes /well	Electrode layout*	Bottom	Walls	Maestro Edge	Maestro Pro	Maestro 1
<b>BioCircuit MEA 24</b>	M384-BIO-24	24	16 Gold		Opaque	Clear	●	●	
<b>BioCircuit MEA 48</b>	M768-BIO-48	48	16 Gold		Opaque	Clear		●	●
<b>BioCircuit MEA 96</b>	M768-BIO-96	96	8 Gold		Opaque	Clear		●	●





## LUMOS MEA

The Lumos MEA plates combine the robustness and assay flexibility of a CytoView MEA plate with white walls and a custom optical lid for optimal light delivery in each well

Plate	Cat No.	Wells	Electrodes /well	Electrode layout*	Bottom	Walls	Maestro Edge	Maestro Pro	Maestro 1
<b>Lumos MEA 24</b>	M384-tMEA-24OPT	24	16 PEDOT		Transparent	White	●	●	
<b>Lumos MEA 48</b>	M768-tMEA-48OPT	48	16 PEDOT		Transparent	White		●	●
<b>Lumos MEA 96</b>	M768-tMEA-96OPT	96	8 PEDOT		Transparent	White		●	

## CLASSIC MEA

Axion's pioneering Classic MEA plates deliver high-quality results together with industry-leading throughput

Plate	Cat No.	Wells	Electrodes /well	Electrode layout*	Bottom	Walls	Maestro Edge	Maestro Pro	Maestro 1
<b>Classic MEA 48</b>	M768-KAP-48	48	16 Gold		Opaque	Clear		●	●
<b>AccuSpot Classic MEA 48</b>	M768-KAP-48A	48	16 Gold		Opaque	Clear		●	●
<b>E-Stim+ Classic MEA 48</b>	M768-KAP-48S	48	16 Gold		Opaque	Clear		●	●
<b>Classic MEA 96</b>	M768-KAP-96	96	8 Gold		Opaque	Clear		●	●

