

BIOCIRCUIT MEA PLATES

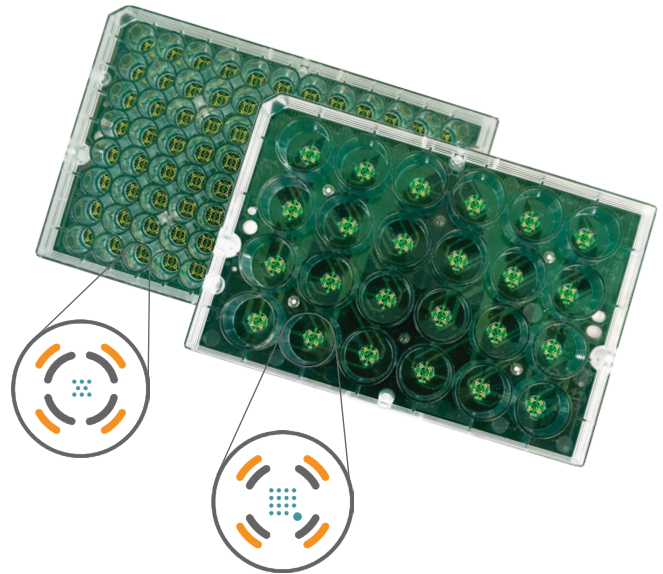
HIGH-QUALITY RESULTS WITH INDUSTRY-LEADING THROUGHPUT

Multiwell MEA plates

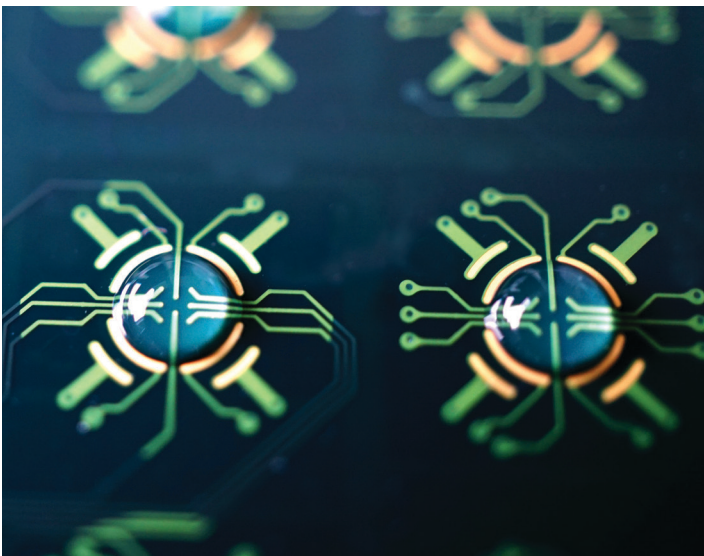
BioCircuit microelectrode array (MEA) plates provide high-quality results together with industry-leading throughput at the lowest cost per well. Available in 24-well (16 electrodes/well) and 96-well (8 electrodes/well) formats, BioCircuit MEA plates deliver low-noise signals and bring flexibility to your cellular analysis. Due to the non-invasive nature of MEA recordings, you can monitor cellular activity for days, weeks, or months.

Superior cell droplet placement

Plating cells in a small droplet centered over the electrode array will conserve cells and ensure robust electrical activity near the electrodes. BioCircuit MEA plates have on-plate spotting guides in the bottom of each well that confine the cell droplet over the recording electrodes. This enables more precise cell plating with less effort. Simply position the pipette between the AccuSpot features and release the droplet to ensure a perfectly centered, rounded droplet in every well.



BioCircuit MEA 24 (M384-BIO-24) and BioCircuit MEA 96 (M768-BIO-96) plates. Inset: Schematic of one well from BioCircuit MEA 96 and BioCircuit MEA 24 illustrating recording electrodes (blue), on-plate spotting guides (gray), and grounds (orange).



Base of the BioCircuit MEA 96 plate with the wells removed. On-plate spotting guides (patent pending) center the droplet over the recording electrode array, increasing plate preparation speed and accuracy.

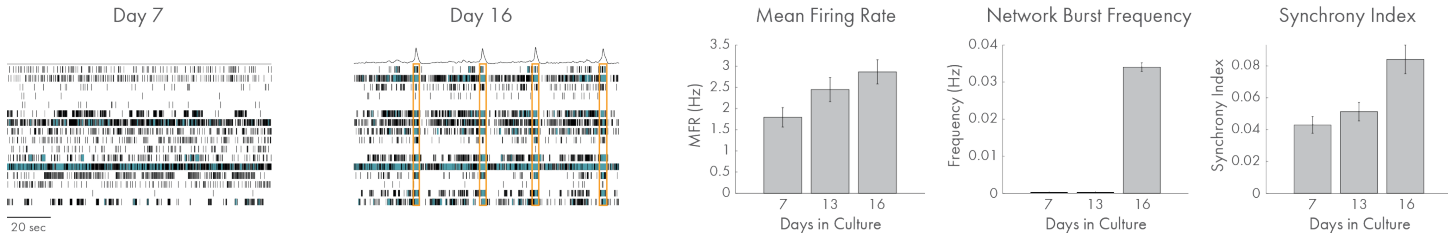
THE BIOCIRCUIT ADVANTAGE

- Industry-leading electrode count for detailed information from every well
- Accurate cell spotting every time
- Integrated, independent ground electrodes
- Conical shaped walls
- Evaporation-reducing lids
- Built-in humidity chambers
- Recording and stimulation capability for each electrode

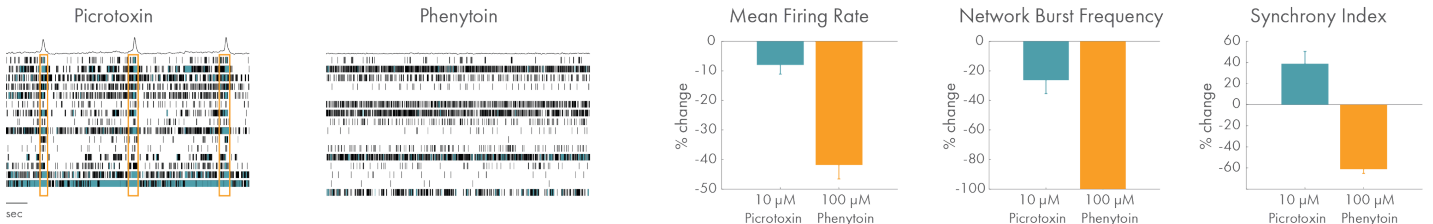


HIGH QUALITY MEA DATA

All excitable cell types perform well on the BioCircuit MEA plates, showing excellent coverage across all wells and the high signal-to-noise ratio Axion customers expect. Track the development of electrical activity in stem cell-derived neurons or cardiomyocytes, study disease models, or examine the effects of compound treatment on excitable cells – the possibilities are endless with BioCircuit MEA plates.



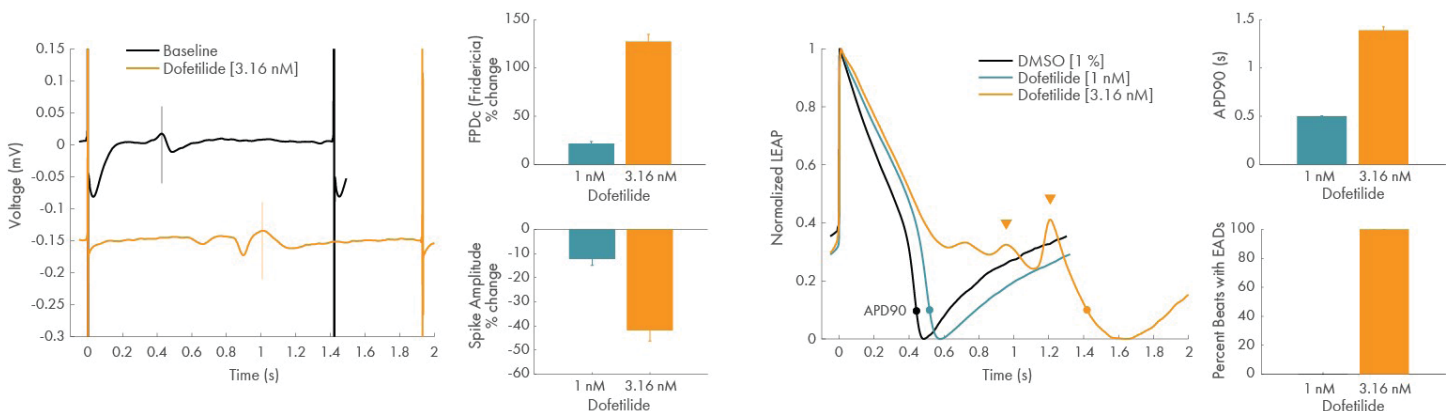
Raster plots showing development of activity from DIV7 through DIV16 in hiPSC-derived neurons plated on a BioCircuit MEA 24. From DIV7 to DIV16, neurons became more active and more synchronous, developing network bursts of activity by DIV16 (orange boxes).



On DIV16, neurons were dosed with Picrotoxin and Phenytoin (n=8 wells per compound). Picrotoxin reduced network burst frequency and increased synchrony, while Phenytoin reduced activity and disrupted network bursting.

ENHANCE YOUR ASSAY WITH LEAP

To complement high-quality field potential signals recorded using BioCircuit MEA plates, Axion's patent-pending Local Extracellular Action Potential (LEAP) assay allows you to record extracellular action potential waveforms from cardiomyocytes. LEAP signals enable quantification of action potential morphology and characterization of complex repolarization irregularities such as early afterdepolarizations (EADs).



MEA field potential signals recorded from iPSC-derived cardiomyocytes on DIV13 before and after dosing with Dofetilide (n=5 wells per concentration) reveal increased Field Potential Duration (FPD) and decreased depolarization spike amplitude in a dose-dependent manner. LEAP signals confirm that Dofetilide prolonged repolarization (increased APD) and induced EADs at higher concentrations.

