Synexus

with Pixel HD technology

A new dimension in functional biology.

High-Throughput. High-Definition.



Combining label-free MEA, HDMEA, and electrical imaging for the ultimate multimodal live-cell platform.

The platform built for high-definition biology

For years, researchers have had to choose between scale and detail. Synexus changes the equation as the **only** system to combine high-throughput MEA, high-density MEA, and high-content electrical imaging in one integrated platform. Featuring the next-generation in CMOS technology, Pixel HD, Synexus captures dynamic cellular function with the resolution, throughput, and multimodal capabilities to see more from every assay.

Throughput and resolution. Together.

More Electrodes

>130K electrodes/well with 12.5 µm spacing for single-cell spatial insight

More Wells

Record up to 96-wells simultaneously, with 384-well formats coming soon for high-throughput HD assays

More Possibilities

MEA, HDMEA, and over 15 measurement modes to capture a full spectrum of cellular behavior



The next evolution of MEA

Synexus advances label-free electrophysiology beyond single-feature performance. More than electrode count alone, it is engineered to support the full experiment — from multimodal measurement and stable environmental control to cleaner signal acquisition, modular expansion, and intuitive operation. The result is a complete MEA platform designed to help researchers do more, with less compromise.



More ways to measure

The only platform to bring MEA, HDMEA, and high-content electrical imaging together in one integrated system. Built for richer functional assays and insights.



Built for better biology

Multizone heating, 360° CO_2 delivery, and heat management create stable, even conditions to support healthy cultures and more consistent performance.



Configured for your research

A modular design, broad consumable options, **organoid-ready** plates, and custom adapters let Synexus fit your research today – and grow with it tomorrow.



Designed for better data, easier use

Integrated touchscreen, intuitive software, and low-noise recordings make it easier to generate clearer signals and move from setup to insight with confidence.



Coming Soon

Perfusion, built-in hypoxia, and new plates will further expand capabilities for advanced live-cell assays

One platform. More ways to interrogate cellular biology

Live-cell research is evolving beyond single-readout assays. Researchers need to capture more biology from every experiment. Synexus brings MEA, HDMEA, and high-content electrical imaging together in one integrated live-cell analysis platform. Measure dynamic activity, add structural and spatial context, and follow biology in real time – label free.



Connect structure and function

Connect cellular organization, morphology, and spatial patterns to functional behavior over time with high-content electrical imaging and live-cell electrophysiology.



Follow biology as it changes

Capture dynamic cellular behavior in real time with label-free measurements that track development, response, recovery, and toxicity without disrupting the culture.

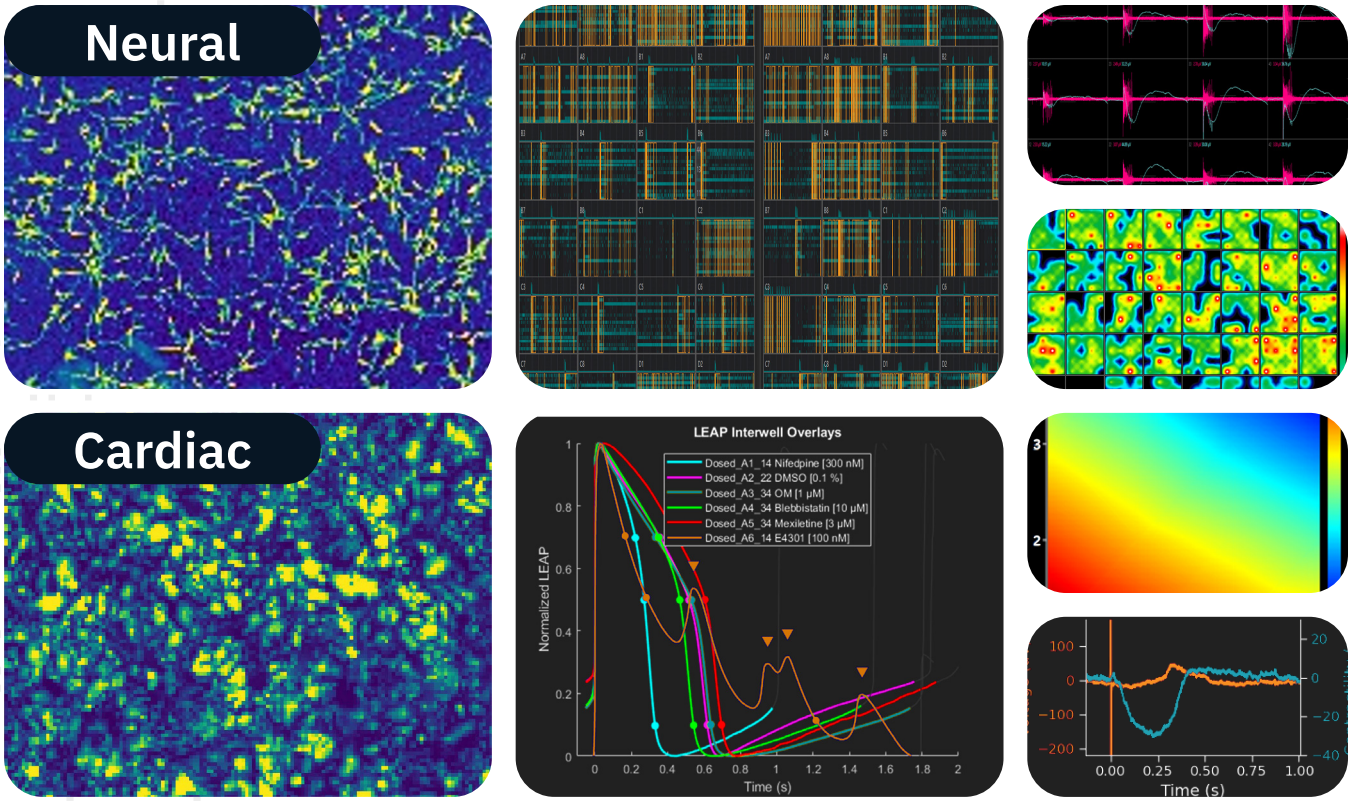


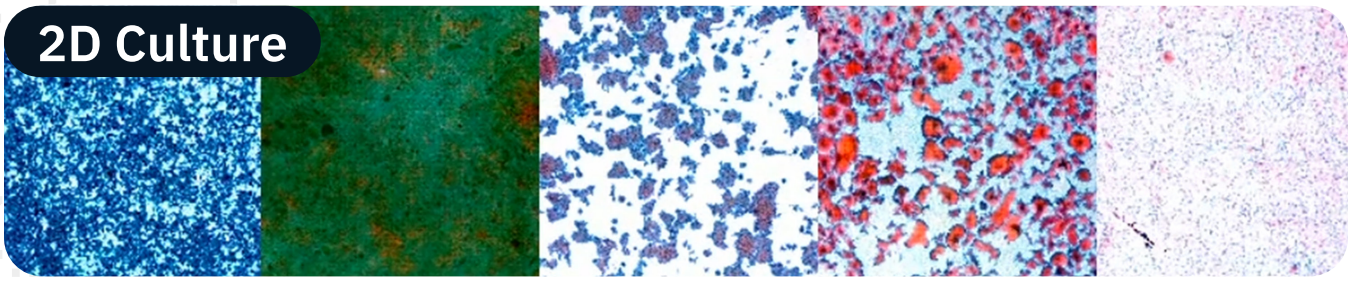
Choose the workflow that fits

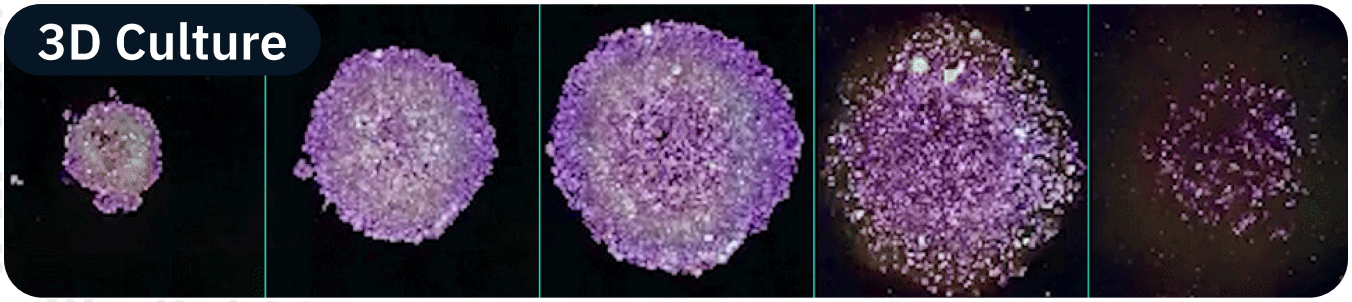
From scalable MEA and organoid-ready consumables to high-definition, high-content measurements, Synexus gives researchers options for matching depth, throughput, and assay design to the question at hand.

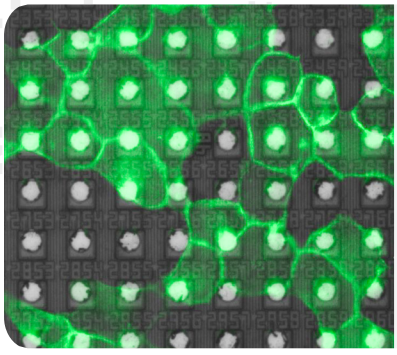
More than a new MEA.

A new way to connect activity, structure, and dynamics in living cells.









Powered by Pixel HD technology

See what's next in high-definition biology.

Pixel HD technology powers richer live-cell insight and opens the door to expanded assay possibilities. Contact us to see what it could unlock for your research.

Configured for your workflow

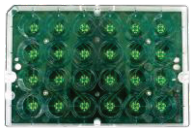
From everyday electrophysiology to high-definition multimodal assays, Synexus can be configured around the throughput, capability, and flexibility your research demands.

1

Choose your throughput

Select the Synexus configuration for studies up to 24 wells, or the Synexus Pro configuration for high-throughput workflows up to 96 wells.

Synexus
Up to 24 wells



Synexus Pro
Up to 96 wells*



2

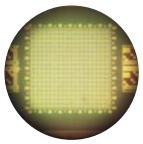
Add Pixel HD

Add the Pixel HD module to unlock HDMEA and high-content electrical imaging.

Standard
MEA & Impedance



Pixel HD
HDMEA & Electrical Imaging



3

Build around your science

Add the peripherals your research needs, from optogenetic stimulation and custom MEA design to connected live-cell imaging and monitoring.

Lumos
Optogenetic stimulator



MEA Creator Kit
Custom MEA adaptor



Connected Lab
Omni live-cell imaging



Software and consumables tailored to your science

A broad software ecosystem and a wide range of plate formats let researchers tailor Synexus to established assays today and new experiments tomorrow.

Software Modules

Choose from application and automation software modules to fit your research. Pixel HD module included with the Pixel HD hardware upgrade.

Pixel HD | Cardiac | Neural | Impedance | MEA Viability | GxP Impedance | MEA Automation | Impedance Automation

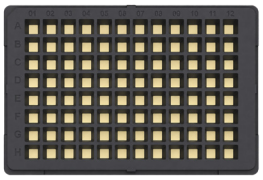
Plate Formats

Select the plate format that fits your assay — from scalable MEA and impedance plates to high-definition Pixel HD and organoid-ready options.

Pixel HD

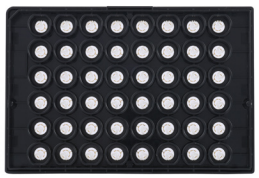
Premium high-definition plates.
Format: 24, 96, 384*

** Coming soon*



MEA

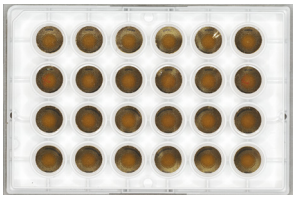
Transparent and cost effective.
Format: 6, 12, 24, 48, 96



Organoid MEA

3DMap: 1**, 12, 24
SpheroGuide: 48
SpheroHD: 1**

*** MEA Creator Kit required*



Impedance

Transparent
Format: 96 & 384



Trusted foundation.
Designed for what's next.

Synexus builds on the Axion technology researchers **know and trust.** Carry forward familiar MEA assay workflows, consumables, and electrophysiology expertise while expanding into HDMEA, high-content electrical imaging, and future-ready multimodal assays.

Proven where it matters

Synexus brings new possibilities, backed by the proven Axion MEA foundation trusted by researchers worldwide.

1000+
Axion systems at leading pharma and academic labs

1000+
Publications and growing featuring Axion data

Trusted
Highly rated products on user review sites

The future of live-cell analysis starts here.

Talk with an expert to discuss your models, assays, and what Synexus can do in your lab.

Scan to connect
with a Synexus expert

axionbio.com/contact
contact@axionbio.com

AXION BIOSYSTEMS