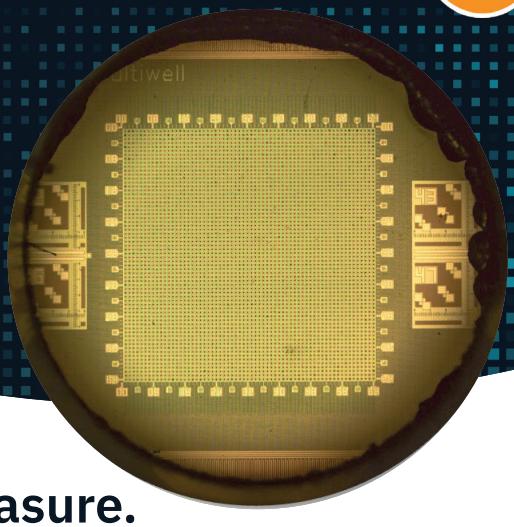
Flyer

Pixel HD™

The future of high-definition biology is here

High-Definition Electrophysiology | High-Content Electrical Imaging



One electrode array. More ways to measure.

Available exclusively on Axion BioSystems' Synexus™ platform, Pixel HD is the next-generation CMOS technology for high-definition electrophysiology and high-content electrical imaging. Pixel HD is a semiconductor-to-live-cell interface that captures multimodal, real-time measurements from the same culture. High-dimensional, high-resolution data delivers the spatial detail to investigate local differences and the ability to follow responses over time, offering new insights into the structure and function of your cells.

High-definition electrophysiology

Measure cellular electrical activity with single-cell resolution.

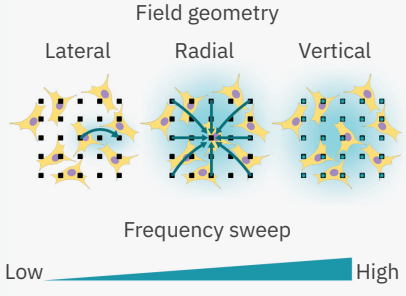
High-content electrical imaging

Follow cellular phenotype without labels or disruptive endpoints.

Different measurements. More biological detail.

Pixel HD™ varies the frequency and geometry of applied electric fields to generate more than 20 complementary impedance measurement modes. Each mode provides a different sensitivity to cellular properties, adding information about morphology, coverage, attachment, barrier integrity, and other aspects of cell behavior.

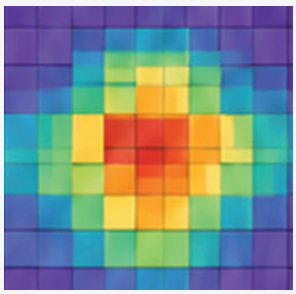
Vary frequency and field direction



Capture response across channels



Build a multidimensional view



Selected channels can be layered into composite electrical images. Patterns across channels, spatial locations, and time build high-dimensional phenotypic profiles, revealing differences that a whole-well average can hide.

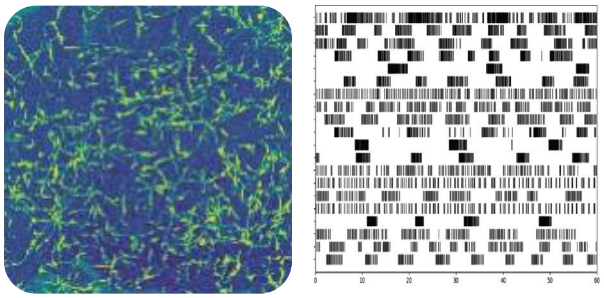
Discover what Pixel HD can reveal.

axionbiosystems.com

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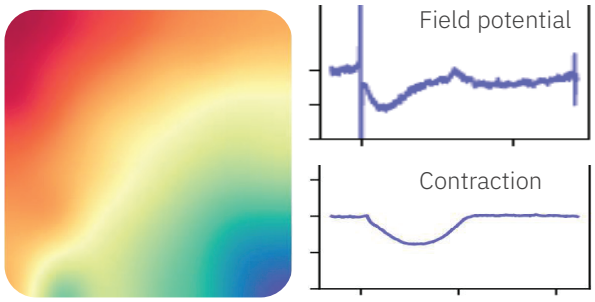
See more in every response.

Electrical imaging connects cellular phenotype with function and monitors change over time.



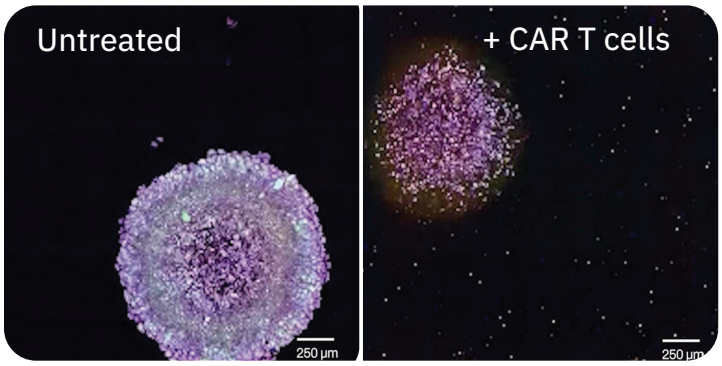
Neural activity & morphology

Explore how cellular organization and local responses relate to electrophysiological function as you track spikes and network behavior together with electrical images.



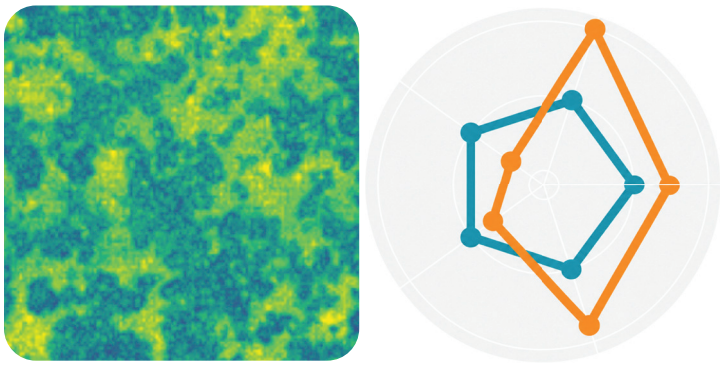
Cardiac function & safety

Connect high-definition conduction, contractility, and field potentials to structural changes in cardiac cultures.



Immune-cell killing & 3D cultures

Follow target-cell responses in 2D and 3D cultures. Electrical imaging adds spatial context to response kinetics, helping researchers examine where cellular changes occur and how they develop.



Phenotypic profiling & cocultures

Combine complementary measurements into rich phenotypic profiles, helping distinguish cell populations within cocultures and reveal differences beyond visual appearance. Label-free measurements let researchers follow these populations and their responses over time.

And more.

Explore barrier integrity, attachment, motility, and other label-free impedance assays in high definition.

Discover a new dimension to your research

Contact our experts about Synexus with Pixel HD technology.

contact@axionbio.com