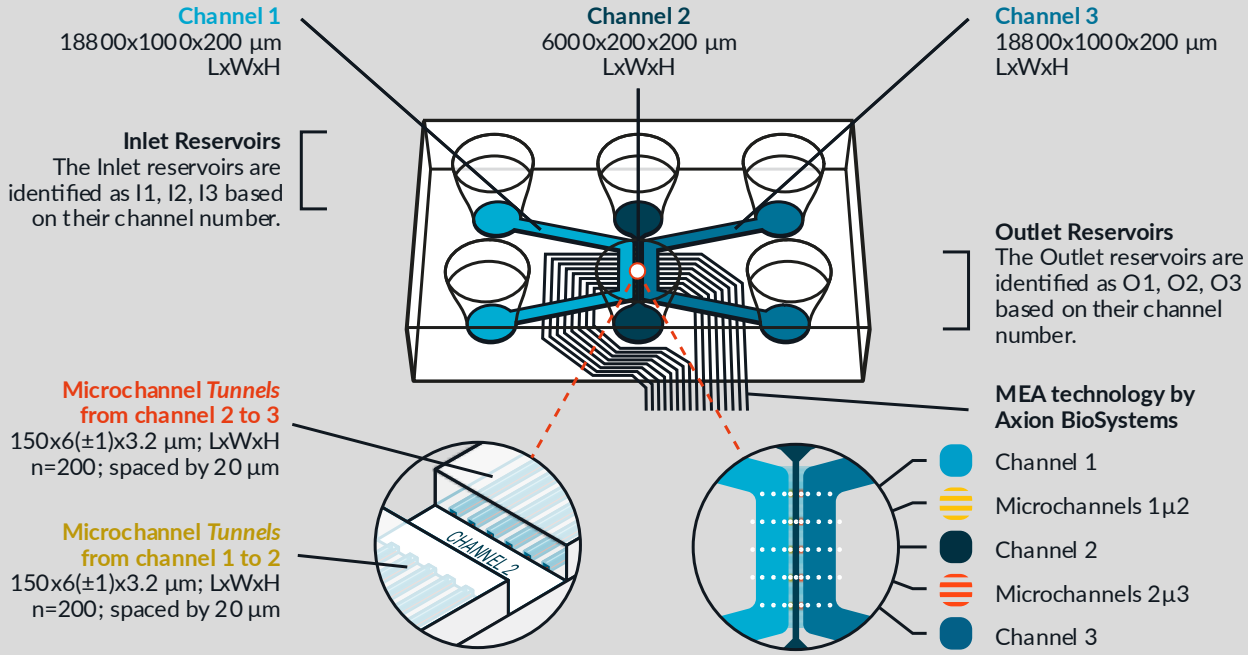
DUALINK™ MEA

The DuaLink™ MEA is a 3-compartment chip for cell co-culture connected by microchannel technology. Due to their micron scale, only cell extensions can grow within the microchannels, leaving the cell bodies within the compartments themselves. The compartments of the DuaLink™ MEA and its microchannel *Tunnels* allow a bilateral connectivity and enhanced fluidic isolation, as well as neuronal functional analysis with integrated microelectrode arrays (MEAs) using Axion BioSystems technology.



TECHNICAL SPECIFICATIONS

Surface Areas

Channel 1
18.8 mm² (32.9 mm² with reservoirs)
Channel 2
1.2 mm² (15.3 mm² with reservoirs)
Channel 3
18.8 mm² (32.9 mm² with reservoirs)

Volumes

Channel 1
3.8 µL (160 µL with reservoirs)
Channel 2
0.2 µL (156 µL with reservoirs)
Channel 3
3.8 µL (160 µL with reservoirs)

Formats

Microfluidic chip
3x2 wells QuarterBento™
4 chips
(52.6x34.6x6.2 mm)
NeoBento™
SLAS standard 96-well plate
(127.8x85.5x17.1 mm)

Materials

Microfluidic chip
PolyDiMethylSiloxane biocompatible and low compound absorbing

NeoBento™
Polystyrene (1.4 mm thick + refractive index: 1.59)

MEA Surface
PET (125 µm thick refractive index: 1.64)
SU8 (5 µm coating)
PEDOT-coated gold electrodes (see NeoBento MEA User Guide for details)

Capabilities

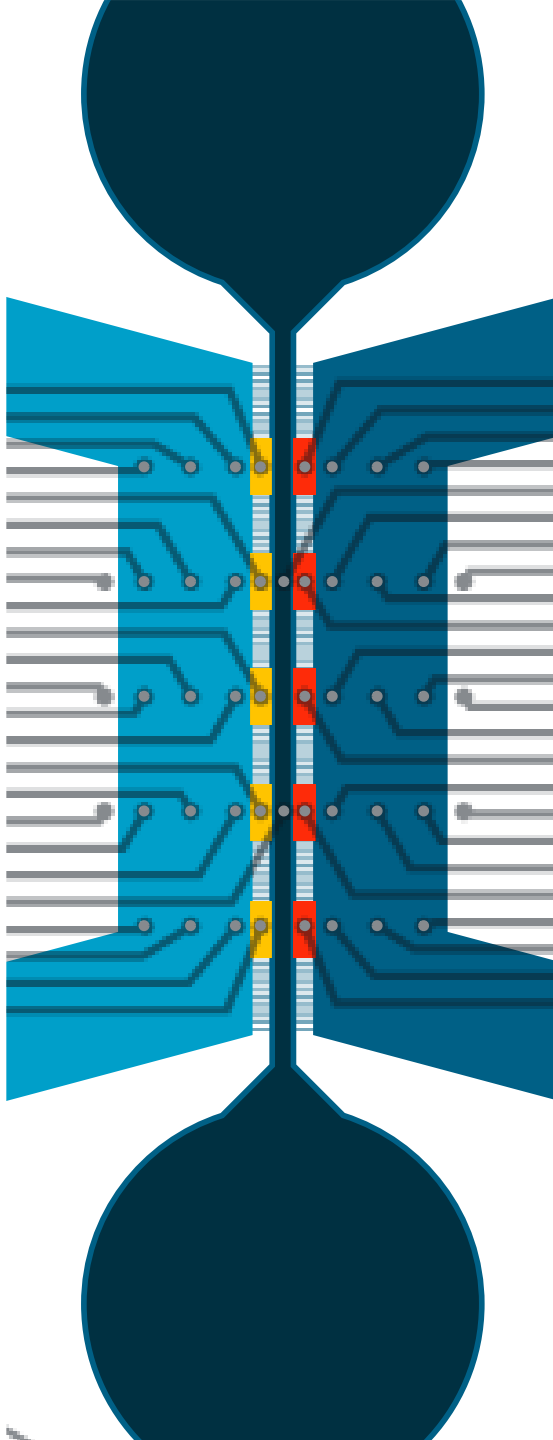
Co-culture & compartmentalization
hiPSC derived cell
Axonal transport
Functional analysis

Applications

Drug screening
Innervated skin
Toxicology
Virology
Neuroinflammation
Neuromuscular junction
Motor neuron diseases
Study of the functional activity of neurons

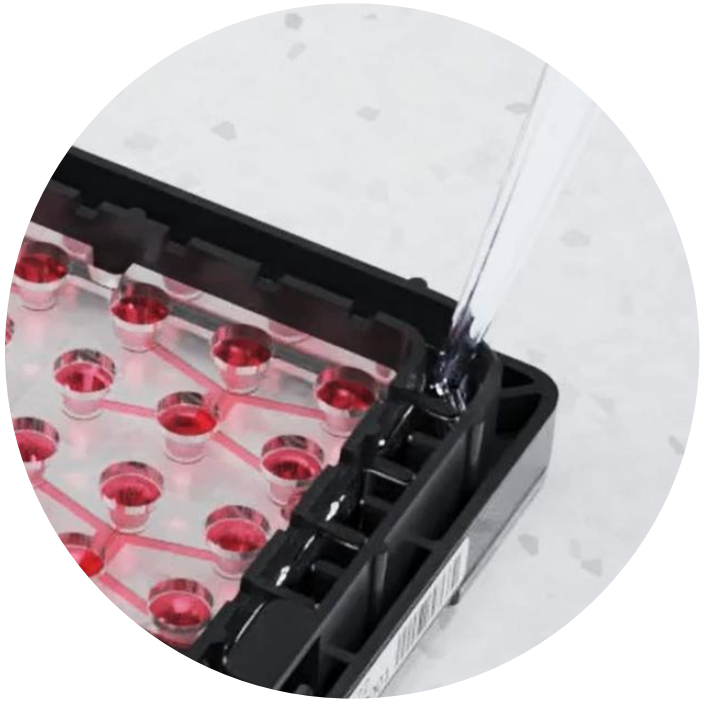
Readouts

Electrophysiology
Immunofluorescence
Live Dead Assays
Live Staining
Liquid chromatography
Mass Spectrocopy
Lysis cell/supernatant analysis
ELISA
Calcium Imaging



NEOBENTO™ MEA

- Abiding by the 96-well microplate standard format, NeoBento™ MEA is a versatile container that enables electrophysiological recording of microfluidic experimentation while being compatible with standard equipment for liquid handling and imaging.



LABYRINTH

By filling the labyrinth with sterile water, the NeoBento™ MEA will securely hold the water needed to maintain, for several days, a humid environment for your cell cultures.

⚠ Empty the labyrinth before placing in Axion's Maestro

TENSION STRUT

It protects the NeoBento™ MEA against the clamping forces of the Axion Biosystems Maestro. Do not remove it

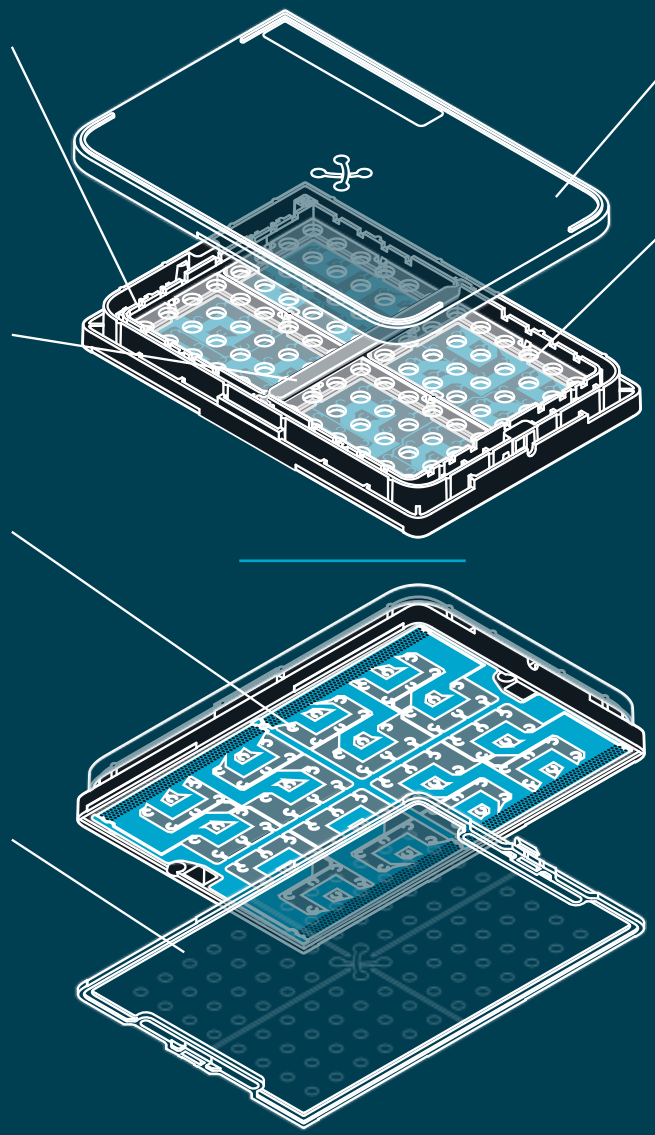
AXION MEA SURFACE

With up to 48 Electrodes per chip, NeoBento™ MEA has integrated Axion Biosystems MEA technology and is compatible with the Axion Biosystems Maestro Pro for 16-chip recordings

BOTTOM COVER

It protects your cultures when manipulating your NeoBento™ MEA, and it is compatible with low magnification imaging (x10, x20).

⚠ Make sure you remove the Bottom Cover before placing inside Axion's Maestro



LID

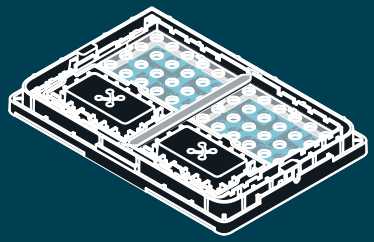
The lid protects your cultures and maintains a humid environment.

QUARTERBENTO™

The chips of a NeoBento™ are arranged in 4 PDMS QuarterBento™ adhered to the MEA Surface. They each provide multiple microfluidic architectures while optimizing the oxygenation of cells.

MAESTRO EDGE VERSION

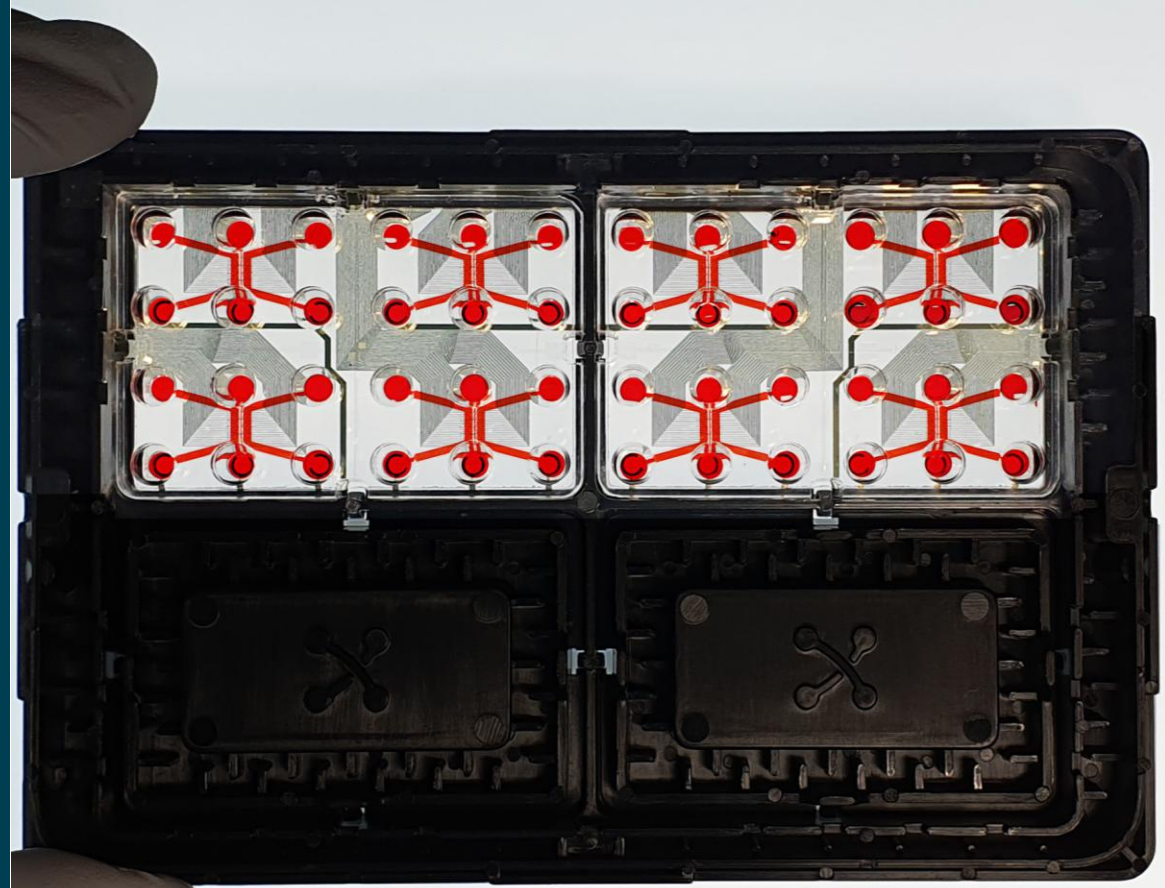
The NeoBento™ MEA version for Maestro Edge has Plugs that take up the space where two QuarterBentos™ cannot be recorded.



Plugs allow you, thanks to their own labyrinths, to bring humidity close to the wells on the edges of the remaining QuarterBentos™.

NEOBENTO™ MEA EDGE vs. PRO

Maestro EDGE Version
8 Chips per plate (the top half)



Maestro PRO Version
16 Chips per plate