

CUTTING-EDGE Innovative Biochips

- Single-Cell Devices
- ✓ Single-Cell Kits
- Glass Bottom Devices
- Yeast Aging Assays
- Cell Pairing Devices
- Standard Hole Array
- Microfluidic Microplates
- Endotoxin Assays
- Customized Service

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Company

Innovative Biochips (a.k.a. iBiochips) is a spin-off company from Houston Texas Medical Center, the largest medical complex in the world.

iBiochips develops microplates to integrate ultra-low volume assays and microfluidics engineering that achieve high efficiency and cutting-edge precision. iBiochips resolve traditional biotech challenges with innovative biochip approaches for various biological and biomedical applications.

iBiochips has established strategic partnerships with Thermo Fisher Scientific, Millipore Sigma, BioTek, Grant Instruments, and Harvard Bioscience that allow key benefits to drive product development.





National Institutes of Health



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Single-Cell Devices

Single-Cell Isolation, Lysis, PCR & Sequencing

Successful single-cell isolation is a primary step for downstream single-cell genetic analysis, especially in single-cell PCR which highly requires a convenient and reliable method to rapidly isolate a viable and intact cell into a specific PCR tube. Our Single-Cell Devices overcome current single-cell isolation technical challenges in operational complexity, time consumption, the requirement of special skill or an expensive instrument, damage to cell viability or integrity, and incompetence in the isolation of single cells into small-volume liquids. <u>1CellDish™-60mm</u> containing 64 ultra-low volume wells and <u>1CellPlate®-mini</u> containing 192 ultra-low volume wells combine standard Petri Dish and 6-well microplate formats with proprietary microfluidic designs to provide easy, rapid, and affordable methods to isolate single cells from both cell lines and primary cells into ultra-low volumes for desired single-cell-based genetic analyses, such as lysis, PCR and sequencing. <u>Million Microwell Device</u> containing 1,000,000 ultra-small wells provides a low-cost and ultra-high-throughput method for single-cell isolation and RNA sequencing.

1CellDish[™]-60mm

Ultra-Low Volume 64-Well Single-Cell Isolation Petri Dish



1CellPlate[®]-mini Ultra-Low Volume 192-Well Single-Cell Isolation Microplate



Million Microwell Device

Ultra-Low Volume 1,000,000-Well Single-Cell Isolation Device



1CellDish[™]-60mm

Ultra-Low Volume 64-Well Single-Cell Isolation Petri Dish

1CellDish[™]-60mm Ultra-Low Volume 64-Well Single-Cell Isolation Petri Dish provides an easy and rapid method to isolate single cells into 2 µL volumes for various downstream analyses, including single-cell PCR & sequencing.





Cat. No. H2-SCD-5PK

Specifications	Description
Format	Standard 60 mm Petri Dish format
Material	Polystyrene & PDMS
Sterility	Sterile
No. of Wells	64 wells (8 x 8 array)
Well Volume	2.5 µL per well
Well Bottom	Flat polystyrene
Surface Treatment	Tissue culture-treated
Single-Cell Yield	~ 20 per device
Single-Cell Isolation Volume	2 µL
Compatible Cell Size	≤ 50 µm (diameter)
Cell Types Can Be Isolated	1 cell type per device

Initial Cell Suspension



Final Cell Suspension: 1 Cell in 1 Tube

1 cell per 2 µL





Single-Cell Isolation by 1CellDish[™]-60mm

1. Rapidly isolate ~ 20 single cells in 20 seconds



2. Conveniently identify single cells in 1.8-mm diameter of wells

Isolated single cell 3. Easily retrieve single cells in 2 µL of suspensions



Features

- ✓ Compatible with cell diameter ≤50 µm
- ✓ Compatible with cell numbers ≤100 cells
- ✓ Easy single-cell identification in 1.8 mm well
- ✓ Ultra-low single-cell isolation volume: 2 µL/cell
- ✓ Gentle microflow keeps high single-cell viability
- ✓ No liquid backflow and cross-talk between wells
- Easy operation by regular pipette in a sterile hood
- ✓ No special equipment or operation skills are required

Applications

- ✓ Single-Cell Isolation
- ✓ Single-Cell Lysis
- ✓ Single-Cell Multiomics
- ✓ Single-Cell PCR & Sequencing
- ✓ CRISPR Cell Isolation
- ✓ Stem Cell Isolation





1CellPlate[®]-mini

Ultra-Low Volume 192-Well Single-Cell Isolation Microplate

1CellPlate[®]-mini Ultra-Low Volume 192-Well Single-Cell Isolation Microplate provides an easy and rapid method to isolate multiple types of single cells into 2 µL volumes for various downstream analyses, including PCR & sequencing.



Cat. No. P2-SCPM-5PK

Specifications	Description
Format	Standard 6-well plate format
Material	Polystyrene & PDMS
Sterility	Sterile
No. of Wells	192 wells (32 x 6)
Well Volume	2.5 µL per well
Well Bottom	Flat polystyrene
Surface Treatment	Tissue culture-treated
Single-Cell Yield	~ 60 per device (~ 10 x 6)
Single-Cell Isolation Volume	2 µL
Compatible Cell Size	≤ 50 µm (diameter)
Cell Types Can Be Isolated	6 cell types per device



Single-Cell Isolation by 1CellPlate®-mini

1. Isolate ~ 60 single cells in one minute



2. Identify single cells in 1.8-mm diameter of wells by common microscope



3. Retrieve single cells in 2 µL of suspensions with a regular pipette



Features

- ✓ Compatible with cell diameter ≤50 µm
- ✓ Compatible with cell numbers ≤100 cells
- ✓ Compatible with cell types 1-6 types/device
- ✓ Easy single-cell identification in 1.8 mm well
- ✓ Ultra-low single-cell isolation volume: 2 µL/cell
- ✓ Gentle microflow keeps high single-cell viability
- ✓ No liquid backflow and cross-talk between wells
- Easy operation by regular pipette in a sterile hood
- ✓ No special equipment or operation skills are required

Applications

- Single-Cell Isolation
- ✓ Single-Cell Lysis
- Single-Cell Multiomics
- ✓ Single-Cell PCR & Sequencing
- CRISPR Cell Isolation
- Stem Cell Isolation

Million Microwell Device

Ultra-Low Volume 1,000,000-Well Single-Cell Isolation Device

Million Microwell Device (MMD) Ultra-Low Volume 1,000,000-Well Single-Cell Isolation Device provides an easy method to isolate single cells into 23 pL volumes for low-cost high-throughput single-cell RNA sequencing.



Capture of GFP-labeled cells and magnetic beads in MMD



Specifications	Description
Material of Device	PDMS
Size of Device	62 mm x 62 mm
Thickness of Device	2 mm
Diameter of Well	30 µm (Diameter)
Depth of Well	33 µm
Number of Well	1,000,000

- The Magnet Kit for MMD is available.
- We provide custom-made microwell- & micropillar-array devices with desired dimensions.

Single-Cell Kits Single-Cell Lysis Kit & 3D Culture Kit

There are two single-cell kits: 1CellAssay®-Lysis Kit and 1CellAssay®-3D Culture Kit. (1) Single-cell sequencing enables a better understanding of the omics features of genomic, epigenomic, and transcriptomic data at the single-cell level. Isolation and lysis of desired single cells into small volumes are initial steps for downstream sequencing assays. The <u>1CellAssay®</u> Ultra-Low Volume Single-Cell Isolation & Lysis Kit, containing 2 devices of 1CellDish™-60mm, 200 µL of Cell Lysis Buffer, and 3 strips of 8-Strip PCR Tubes, provides a complete solution from easy single-cell isolation in a 2 µL volume for downstream single-cell lysis, PCR & sequencing. (2) 3D cell culture closely resembles *in vivo* cell environments to provide more physiologically relevant information and more predictive data and therefore has gained increasing interest in drug toxicity testing and screening. <u>1CellAssay®</u> Ultra-Low Volume Single-Cell Isolation & 3D Culture Kit, containing 5 devices of 1CellPlate®-96well, 5 Inlet Adaptor, and 2 mL of Hydrogel Matrix, provides a complete solution from easy single-cell isolation to efficient 3D cloning in a 2.8 µL of xeno-free hydrogel for generating spheroids and organoids.



1CellAssay®-3D Culture Kit Ultra-Low Volume Single-Cell Isolation & 3D Culture Kit



1CellAssay®-Lysis Kit

Ultra-Low Volume Single-Cell Isolation & Lysis Kit

1CellAssay[®] Ultra-Low Volume Single-Cell Isolation & Lysis Kit provides a complete solution from easy single-cell isolation in a 2 μL volume for downstream single-cell lysis, PCR & sequencing.



Highlight

- Guarantee to isolate 24 single cells
- Isolate single cells in 2 µL volume
- Lyse single cells in 4 μL volume

Cat. No. K1-SCLS-KIT

Applications

- Single-cell isolation from cell lines, CRISPR-edited cells, stem cells, and primary cells
- Single-cell lysis in a small volume
- ✓ Single-cell PCR & sequencing
- Single-cell multi-omics assays, e.g. protein and metabolite quantification

Features

- Easy operation by regular pipette in a sterile hood
- ✓ Gentle flow keeps high single-cell viability & integrity
- ✓ Compatible with cell size \leq 50 µm and numbers \leq 100
- ✓ Isolate and lyse 24 single cells in less than 30 minutes
- ✓ No special equipment or operation skills are required
- No liquid backflow or cross-talk between wells

Component	Description
1CellDish [™] -60mm	2 devices (60 mm Petri Dish format; flat polystyrene well bottom; isolate ~ 20 single cells per device)
Cell Lysis Buffer	200 µL (10mM Tris pH 7.5, 130mM NaCl, 1% Trito n X-100™, 10mM NaF, 10mM NaPi, 10mM NaPPi)
8-Strip PCR Tubes	3 strips (DNA, RNase & DNase free; compatible with 0.2 mL thermal cycler for qPCR/Real-Time PCR)

Single-Cell Isolation and Lysis



Single-Cell PCR and RNA-Sequencing



(A) Analysis of partially purified cDNA from 1 single NK-92 cell.

(B) Correlations between 2 single NK-92 cells and bulk NK-92 cells in RNA-seq measurement of the gene.

(C) Principal Component Analysis of 92 single HEK 293 cells (blue dots) and 4 non-template controls (red dots).

(D-E) Enrichment analysis of GO terms and pathways for highly variable genes of 92 single HEK 293 cells.

Note: 1CellDish[™]-60mm is used with SMART-Seq v4 Kit (A-B) and BD Whole Transcriptome Analysis Kit (C-D).

1CellAssay®-3D Culture Kit

Ultra-Low Volume Single-Cell Isolation & 3D Culture Kit

1CellAssay[®] Ultra-Low Volume Single-Cell Isolation & 3D Culture Kit provides a complete solution from easy single-cell isolation to efficient 3D cloning in a 2.8 µL hydrogel for generating clonal spheroids and organoids.



Cat. No. K2-SCTD-KIT

Performance Highlights	1CellAssay [®] 3D Cloning Kit	96-Well Plate-based Method
Anti-Clog & Anti-Contamination	YES, patented 1CellPlate®-96well	NO, complex FACS-based system
Easy Single-Cell-Hydrogel Isolation	YES, patented microfluidic channels	NO, labor-intensive limiting dilution
Rapid Single-Cell Identification	YES, in a single field-of-view microscope image	NO, require microscopy image stitching
Stable Hydrogel-Liquid Interface	YES, innovative well-in-well design	NO, easy to disrupt during liquid exchange
Low Hydrogel Consumption	YES, 0.22 mL of hydrogel for 96 wells	NO, 3.2 mL of hydrogel for 96 wells

Workflow from Single-Cell Isolation to 3D Cell Cloning



Generation of Single MDA-MB-231/GFP Cell-Derived Spheroid



Kit Components and Description

Components	Description
1CellPlate [®] -96well	5 devices (Standard 96-well plate format; flat polystyrene well bottom; ~ 30 single cells per device)
Inlet Adaptor	5 each (Compatible with 20-200 μL pipette to aliquot liquid from 1 Inlet Port to 32 Outlet Wells)
Hydrogel Matrix	2 mL (Xeno-free, biological functional hydrogel, support a wide range of cell types and applications)

Easy Single-Cell Isolation by 1CellPlate®-96well





Aliquot the cell-hydrogel mixture into 96 small wells with 2.8 μ L of hydrogel per well in 1 minute



Convenient Single-Cell Identification in Small Wells



Growth Tracking of 3D Clonal Spheroids Generation





Note: MDA-MB-231/GFP breast cancer cells are individually isolated for 3D clonal cell culture.

Features and Applications

Features

- Easy operation by regular pipette in a sterile hood
- ✓ Gentle flow keeps high single-cell viability & integrity
- ✓ Compatible with cell size ≤ 80 µm and numbers ≤ 100
- ✓ Isolate ~ 30 single cells in one 1CellPlate[®]-96well
- No liquid backflow or cross-talk between wells
- No special equipment or operation skills are required

Applications

- Single-cell isolation from cancer cells, stem cells, CRISPR-edited cells, and primary cells
- Single-cell 3D clonal culture in a small volume of xeno-free hydrogel
- Generation of clonal spheroids and organoids for drug toxicity testing and screening

Glass Bottom Devices

Single-Cell Isolation and High-Resolution Imaging

Our Glass Bottom Devices combine the advantages of Single-Cell Devices and coverslips or microscope slides for easy single-cell isolation and high-quality single-cell imaging. <u>ICellDish™-Glass Bottom</u> containing 32 ultra-low volume wells and <u>ICellPlate®-Glass</u> <u>Bottom</u> containing 192 ultra-low volume wells combine standard Petri Dish and 6-well microplate formats with proprietary microfluidic designs to provide easy, rapid, and affordable methods to isolate single cells into 2 µL volumes for high-resolution imaging at #1.5 coverslip such as confocal imaging. <u>ICellArray-Glass Bottom</u> provides a perfusion culture dish for high-throughput single-cell capture by microhook array and highresolution single-cell imaging at the #1.5 coverslip such as confocal imaging. <u>ICellAssay-Chamber Slide</u> provides an easy method to isolate single cells into 2 µL volumes on a glass bottom chamber slide, allowing fluorescent or microscopy analysis of living/fixed cells. <u>PicoWells In 6-Well Plate</u> and <u>PicoWells In Chamber Slide</u> provide an easy method to isolate single cells into many picoliter volume wells for high-quality single-cell imaging at #1.5H coverslips and high-throughput single-cell RNA-Seq.

1CellDish[™]-Glass Bottom



1CellArray-Glass Bottom



1CellPlate®-Glass Bottom



1CellArray-Chamber Slide



PicoWells In 6-Well Plate



PicoWells In Chamber Slide



1CellDish[™]-Glass Bottom

Ultra-Low Volume Single-Cell Isolation & Imaging Petri Dish

1CellDish[™]-Glass Bottom Ultra-Low Volume Single-Cell Isolation & Imaging Petri Dish provides an easy and rapid method to isolate single cells into 2 µL volumes for high-resolution imaging at #1.5 coverslip such as confocal imaging.





Cat. No. H6-SGB-5PK

Specifications	Description
Format	50 mm glass bottom dish with 40 mm #1.5 coverslip glass
Material	Polystyrene, glass, PDMS
Sterility	Sterile
No. of Wells	32 wells
Well Volume	2.5 µL per well
Well Bottom	#1.5 coverslip glass (~0.17 mm thickness)
Single-Cell Yield	~ 10 per device
Single-Cell Isolation Volume	2 µL
Single-Cell Isolation Pressure	<1 psi (traditional cell sorters: 20-70 psi)
Compatible Cell Size	≤ 50 µm (diameter)
Cell Types Can Be Isolated	1 cell type per device

Initial Cell Suspension



Final Cell Suspension: 1 Cell in 1 Tube

1 cell per 2 µL





Single-Cell Isolation by 1CellDish[™]-60mm

1. Rapidly isolate ~ 20 single cells in 20 seconds



2. Conveniently identify single cells in 1.8-mm diameter of wells

lsolated sin<u>gle cel</u>l 3. Easily retrieve single cells in 2 µL of suspensions



Features

- ✓ Compatible with cell diameter ≤50 µm
- ✓ Compatible with cell numbers ≤100 cells
- ✓ Easy single-cell identification in 1.8 mm well
- ✓ Ultra-low single-cell isolation volume: 2 µL/cell
- ✓ Gentle microflow keeps high single-cell viability
- ✓ No liquid backflow and cross-talk between wells
- Easy operation by regular pipette in a sterile hood
- ✓ #1.5 coverslip glass bottom for high-quality imaging
- ✓ No special equipment or operation skills are required

Applications

- ✓ Single-Cell Isolation
- ✓ Single-Cell Multiomics
- ✓ Single-Cell PCR & Sequencing
- Single-Cell Imaging with DIC, TIRF, FRET, confocal microscopy, and widefield fluorescence

Single-cell imaging on #1.5 coverslip glass bottom (~0.17 mm thickness)



1CellPlate®-Glass Bottom

Ultra-Low Volume Single-Cell Isolation & Imaging Microplate

1CellPlate[®]-Glass Bottom Ultra-Low Volume Single-Cell Isolation & Imaging Microplate provides an easy and rapid method to isolate single cells into 2 µL volumes for high-resolution imaging at #1.5 coverslip such as confocal imaging.



Isolate 1 cell in 2 μL volume

Cat. No. P5-SGP-5PK

Specifications	Description
Format	Standard 6-well plate format
Material	Polystyrene, glass, PDMS
Sterility	Sterile
No. of Wells	192 wells (32 x 6)
Well Volume	2.5 µL per well
Well Bottom	#1.5H coverslip glass (~0.17 mm thickness)
Single-Cell Yield	~ 60 per device (~ 10 x 6)
Single-Cell Isolation Volume	2 μL
Single-Cell Isolation Pressure	<1 psi (traditional cell sorters: 20-70 psi)
Compatible Cell Size	≤ 50 µm (diameter)
Cell Types Can Be Isolated	6 cell types per device



Single-Cell Isolation by 1CellPlate[®]-mini

1. Isolate ~ 60 single cells in one minute



2. Identify single cells in 1.8-mm diameter of wells by common microscope



3. Retrieve single cells in 2 µL of suspensions with a regular pipette



Features

- ✓ Compatible with cell diameter ≤50 µm
- ✓ Compatible with cell numbers ≤100 cells
- Compatible with cell types 1-6 types/device
- Easy single-cell identification in 1.8 mm well
- ✓ Ultra-low single-cell isolation volume: 2 µL/cell
- ✓ Gentle microflow keeps high single-cell viability
- No liquid backflow and cross-talk between wells
- Easy operation by regular pipette in a sterile hood
- ✓ #1.5H coverslip glass bottom for high-quality imaging
- ✓ No special equipment or operation skills are required

Applications

- Single-Cell Isolation
- Single-Cell Multiomics
- ✓ Single-Cell PCR & Sequencing
- ✓ Single-Cell Imaging with DIC, TIRF, FRET, confocal microscopy, and widefield fluorescence

1CellArray-Glass Bottom

High-Throughput Single-Cell Capture & Imaging Perfusion Dish

1CellArray-Glass Bottom High-Throughput Single-Cell Capture & Imaging Perfusion Dish provides an easy and rapid method to capture single cells for high-resolution imaging at #1.5 coverslip such as confocal imaging.



Cat. No. H5-GBD-5PK

A trap array with captured single cells



Specifications	Description
Format	35 mm glass bottom dish with 28 mm #1.5 coverslip glass
Material	Polystyrene, glass, PDMS
Sterility	Sterile
Inlet Well Volume	75 μL
Traps Numbers	4,096 (64 x 64 array)
Тгар Туре	Microscale hook
Trap Bottom	#1.5 coverslip glass (~0.17 mm thickness)
Trap Size	8 µm, 10 µm, 12 µm, 14 µm, 16 µm, 18 µm, 20 µm
Tubing Length	20 inch
Syringe for -P Generation	1 mL volume

Choose Hook



Applications

- ✓ Single-cell array
- ✓ Single-cell capture
- Single-cell trapping
- Single-cell perfusion
- Single-Cell Imaging with DIC, TIRF, FRET, confocal microscopy, and widefield fluorescence

Features

- Compatible with cell diameter 5-22 µm
- Easy operation by pipette in a sterile hood
- Efficient single-cell capture by optimized hooks
- ✓ #1.5 coverslip glass bottom for high-quality imaging
- ✓ No special equipment or operation skills are required

Workflow for Single-Cell Capture



Capture Single THP-1 Cells



Reference: Kai Zhang, et al. "Block-Cell-Printing for live single-cell printing." *PNAS*, 2014 Feb 25;111(8):2948-53.

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1CellAssay-Chamber Slide

Single-Cell Isolation, Culture, and Imaging Chamber Slide

1CellAssay-Chamber Slide provides an easy method to isolate single cells into 2 µL volumes on a glass bottom chamber slide, allowing fluorescent or microscopy analysis of living/fixed cells.



Cat. No. H7-SCS-5PK

Specifications	Description
Format	Standard microscope slide format (75 x 26 mm)
Material	Borosilicate glass, biocompatible PDMS, polypropylene frame
Sterility	Sterile
No. of Wells	32 wells
Well Volume	2.5 µL per well
Well Bottom *	Borosilicate glass (1 mm thickness) *
Single-Cell Yield	~ 10/device
Single-Cell Isolation Volume	2 µL
Single-Cell Isolation Pressure	<1 psi (traditional cell sorters: 20-70 psi)
Compatible Cell Size	≤ 50 µm (diameter)
Removable Polypropylene Frame	Yes
Removable PDMS Piece	Yes

* Coverslips or other types of glass and plastic microscope slides can be customized for specific applications.

Easy Operations

1CellAssay-Chamber Slide



One-Step Pipette Loading





Multiple Applications

1. Microscopy Analysis of Living/Fixed Cells



2. Grow Cells Directly on Microscope Slide



3. Remove Chamber for Further Analysis





Features

- ✓ Compatible with cell diameter ≤50 µm
- ✓ Compatible with cell numbers ≤100 cells
- ✓ Easy single-cell identification in 1.8 mm well
- ✓ Ultra-low single-cell isolation volume: 2 µL/cell
- Gentle microflow keeps high single-cell viability
- No liquid backflow and cross-talk between wells
- Easy operation by regular pipette in a sterile hood
- No special equipment or operation skills are required
- ✓ No cell transfer is needed prior to visualization/staining

Applications

- Single-Cell Isolation and Assay
- Single-Cell Culture and Assay
- Fluorescent and Microscopy Analysis of Living or Fixed Cells

PicoWells In 6-Well Plate

Ultra-Low Volume 1,500,000-Well Single-Cell Isolation Plate

PicoWells In 6-Well Plate provides an easy method to isolate single cells into 1,500,000 picoliter volume wells for high-quality single-cell imaging at #1.5H coverslips and high-throughput single-cell RNA-Seq.



Isolation and Imaging of Single Cells & Beads in Picowells



Specifications	Description
Format	6-Well Plate with lid
Plate Bottom	#1.5H glass coverslip
Thickness of Glass Coverslip	0.170 mm
Material of Picowell	PDMS (biocompatible polymer)
Thickness of PDMS	500 µm
Diameter of Picowell	30 µm
Depth of Picowell	30 µm
Volume of Picowell	23 picoliter
No. of Picowell per Well	250,000
Total No. of Picowell per Plate	1,500,000
Sterility	Sterile

We also provide custom-made microwell- & micropillar-array devices with desired dimensions.

PicoWells In Chamber Slide

Ultra-Low Volume 187,000-Well Single-Cell Isolation Slide

PicoWells In Chamber Slide provides an easy method to isolate single cells into 187,000 picoliter volume wells for high-quality single-cell imaging at a #1.5H coverslip and high-throughput single-cell RNA-Seq.



Isolation and Imaging of Single Cells & Beads in Picowells



Specifications	Description
Format	Chamber Slide with lid
Chamber Slide Bottom	#1.5H glass coverslip
Thickness of Glass Coverslip	0.170 mm
Material of Picowell	PDMS (biocompatible polymer)
Thickness of PDMS	500 µm
Diameter of Picowell	30 µm
Depth of Picowell	30 µm
Volume of Picowell	23 picoliter
No. of Picowell per Chamber Slide	187,000
Sterility	Sterile

We also provide custom-made microwell- & micropillar-array devices with desired dimensions.

Yeast Aging Assays Automated Dissection Chip (AD-Chip)

Advancing our understanding of the underlying molecular mechanisms of aging, as well as their contributions to age-associated diseases, will have a profound impact on public health. Studying the replicative aging phenomenon in the budding yeast Saccharomyces cerevisiae has led to significant findings on how aging is regulated by evolutionarily conserved enzymes and molecular pathways. However, the laborious and low-throughput methods of current yeast replicative lifespan assays limit their usefulness as a broad genetic screening platform for research on aging.

The <u>Automated Dissection Chip (AD-Chip)</u> family provides automated wholelifespan tracking of over 10,000 single yeast cells for 20 different strains in 3 days with time-lapse microscopy. The AD Chip enables high-resolution fluorescent imaging of single-cell during the entire aging process, allowing for the investigation of gradual changes in molecular markers on the single-cell scale and high-throughput examination of the aging phenotype, including organelle morphology, gene expression, and protein localization to identify genetic or environmental factors that regulate lifespan.



AD-Chip U & AD-Chip Y

Automated Dissection Chip (AD-Chip) provides automated wholelifespan tracking with high spatiotemporal resolution, minimum manual intervention, and large-scale data quantification of single yeast cells.

AD-Chip has 2 types of traps available



Cat. No. A1-ADU-5PK and A2-ADY-5PK

AD-Chip U (U-shaped traps)



Applications

High-Throughput Replicative Lifespan Assay

Genetic Screening for Longevity Associated Genes

Proteomic Screening for Protein Turnover and Relocalization

> Nutrient Sensing and Signaling Pathways

AD-Chip Y (Y-shaped traps)





Trap depth: 6 µm

Features of AD-Chip

High-Throughput to Reduce Labor & Time

Continuous and automatic dissection of daughter cells without disturbing mother cells, allowing highthroughput lifespan assay of over 10,000 single yeast cells for 20 different strains in 3 days

High Resolution Fluorescent Imaging

Compatible with high resolution fluorescent imaging for gene expression and molecular markers assays on single-cell level during entire aging process

Maintaining Constant Growth Condition

Supply of continuous flow of fresh media, minimizing variations introduced by operators and environment

Tracking of Virgin Cells (with AD-Chip-Y)

Enable to assay starting from virgin cells, never having previously produced a daughter cell.

1st bud

t = 0 min

t = 2020 min

26th bud (last)





Reference: M.C. Jo, et al. "High-throughput analysis of yeast replicative aging using a microfluidic system." PNAS, vol. 112 (2015), 9364-9369.

	Specifications of AD-Chip
Material	Biocompatible polymer
Dimensions	• 75 mm (Length), 25 mm (Width), 4 mm (Height)
Substrate	 Glass coverslip (0.16 mm thickness), allowing simultaneous lifespan and gene expression assays with up to 100X oil objective (Upon Request) Microscope slide (1 mm thickness), allowing general lifespan assay with up to 40X objective
Number of Traps	 Total 18,000 traps (900 traps x 20 separate channels)
Inlet and Outlet	 1 Inlet for media & yeasts in and 1 Outlet for waste out 33

AD-Chip Size Screening & AD-Chip Customized Size

Automated Dissection Chip (AD-Chip) Size Screening provides a method to rapidly screen out the most suitable trap size to study single budding yeasts for whole-lifespan tracking with high spatiotemporal resolution.

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One channel contains 20 different size traps

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	00
0 0 0 0 0	00
	00
	00
	00
0 0 0 0 0 0	00
	00
	00

Specifications of AD-Chip Size Screening



All Trap Dimensions in A-Channels, B-Channels, and C-Channels (unit: µm)

Ch.	Sp	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
_	W	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	8	8	8	8
	L _m	6	6	6	6	7	7	7	7	7	7	7	7	8	8	8	8	8	8	8	8
A	W _d	3	3.5	4	4.5	3	3.5	4	4.5	3	3.5	4	4.5	3	3.5	4	4.5	3.5	4	4.5	5
	L _d	4	4	4	4	4	4	4	4	4	4	4	4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	5
	W m	6	6.06	6.12	6.18	6.24	6.3	6.36	6.42	6.48	6.54	6.6	6.66	6.72	6.78	6.84	6.9	6.96	7.02	7.08	7.14
_	L _m	7	7.07	7.14	7.21	7.28	7.35	7.42	7.49	7.56	7.63	7.7	7.77	7.84	7.91	7.98	8.05	8.12	8.19	8.26	8.33
в	W _d	3	3.03	6.12	3.09	3.12	6.3	3.18	3.21	6.48	3.27	3.3	6.66	3.36	3.39	6.84	3.45	3.48	7.02	3.54	3.57
	L _d	4	4.04	4.08	4.12	4.16	4.2	4.24	4.28	4.32	4.36	4.4	4.44	4.48	4.52	4.56	4.6	4.64	4.68	4.72	4.76
	W m	6	6.12	6.24	6.36	6.48	6.6	6.72	6.84	6.96	7.08	7.2	7.32	7.44	7.56	7.68	7.8	7.92	8.04	8.16	8.28
•	L _m	7	7.14	7.28	7.42	7.56	7.7	7.84	7.98	8.12	8.26	8.4	8.54	8.68	8.82	8.96	9.1	9.24	9.38	9.52	9.66
C	W _d	3	3.06	3.12	3.18	3.24	3.3	3.36	3.42	3.48	3.54	3.6	3.66	3.72	3.78	3.84	3.9	3.96	4.02	4.08	4.14
	L _d	4	4.08	4.16	4.24	4.32	4.4	4.48	4.56	4.64	4.72	4.8	4.88	4.96	5.04	5.12	5.2	5.28	5.36	5.44	5.52
Trap Depth	Two depths are available: 5.1 μm and 5.6 μm																				

After Screening Desired Trap: Choose AD-Chip Customized Size

AD-Chip Customized Size



- ✓ 1,050 same-size traps per channel
- ✓ 10 channels per AD-Chip Customized Size
- \checkmark 5.1 μ m and 5.6 μ m trap depth are available
- ✓ Glass coverslip bottom (0.16 mm thickness)
- 75 mm (Length), 25 mm (Width), 4 mm (Height)
- ✓ 1 Inlet for media, 1 Inlet for yeast, 1 Outlet for waste

No.15 trap size (W_m =7, L_m =8, W_d =4, L_d =4.5)

A1 Cell Imaging System

The AI Cell Imaging System is a fully automated, digital, inverted multi-channel fluorescence and transmitted light imaging system. The system is designed for a broad range of applications including, but not limited to, multi-channel fluorescence imaging, multiple-position vessel scanning, area scanning with montage or tile stitching, and time-lapse imaging.

Features

- New high-resolution CMOS cameras for improved resolution, sensitivity, and higher image quality (dual color and monochrome cameras)
- Enhanced scan speed and autofocus functions for improved throughput and data quality
- Fully automated and motorized X/Y scanning stage, refined autofocus, and multiple options for automation routines
- Simultaneous acquisition in 4 fluorescence channels and transmitted light
- Powerful PC with graphics processing unit (GPU) for fast processing of large data sets and demanding visualization applications
- Compatibility with the Onstage Incubator for precise control of temperature, humidity, and gases for normoxic or hypoxic conditions allows a wide range of biological studies under physiological conditions



Microfluidic Devices

iBiochips provides development and manufacturing of customized microfluidic devices based on your desired dimensions and functions.

Applications

- Neurobiology
- Immuno-oncology
- Live-cell imaging
- 3D cell imaging
- High-resolution tile scanning
- Immunohistochemistry (IHC)

A1 Cell Imaging System Specifications

Optics	Infinity-corrected optical system; Royal Microscopical Society (RMS) threaded objectives with a 45 mm parfocal distance
Illumination	LED light cubes (>50,000-hour life per light cube) with adjustable intensity
Fluorescence Channels	Simultaneously accommodates 4 fluorescence cubes plus bright-field imaging
Contrast Methods	Fluorescence and transmitted light (bright-field and phase-contrast)
Objective Capacity	5-position turret; front-mounted control
Objectives	Wide selection of high-quality, long working distance (LWD), and coverslip-corrected objectives ranging from 1.25x to 100x
Condenser	60 mm LWD condenser, 4-position turret with a clear aperture and 3-phase annuli
Stage	Motorized X/Y scanning stage; 120 x 80 mm travel range with submicron resolution; drop- in inserts to receive vessel holders and lockdown holders to fix sample during long scans
LCD Display	23" high-resolution touch-screen color monitor; 1,920 x 1,080 pixel resolution
Cameras	High-sensitivity 3.2 MP (2,048 x 1,536) monochrome & color CMOS sensors with 3.45 μ m pixel resolution
Captured Images	16-bit RAW monochrome: TIFF, PNG; 8-bit TIFF, PNG, JPG; Movies and time-lapse images: AVI, WMV
Dimensions (L x W x H)	46 x 33 x 36 cm (18 x 14 x 13 in.)

Onstage Incubator

When combined with the Onstage Incubator, the Al Cell Imaging System is ideal for long-term monitoring of cell cultures and time-lapse imaging at high resolution. The Onstage Incubator is an environmental chamber that allows for precise control of temperature, humidity, and three gases for time-lapse imaging of live cells under both physiological and nonphysiological conditions, making the system ideal for demanding hypoxia experiments.



Onstage Incubator Specifications

Compatible Vessels	Multiwell plates, 35, 60, and 100 mm petri dishes, T-25 flasks, chamber slides, and more
Temperature Range	Ambient to 40°C
CO ₂ Range	0 - 20%
O ₂ Range	0% to ambient
Humidity Range	> 80% relative humidity at 37°C
Dimensions (L x W x H)	25 x 19 x 3.7 cm (environnemental chamber), 37 x 16 x 20 cm (control unit)

Cell Pairing Devices

Cell Pairing for Cell-Cell Interactions & Single-Cell Cytokine Secretion Assay

Evaluation of cytotoxicity of single T cells relies on the successful pairing of single T cells with the single target cells. Unfortunately, traditional methods, such as microwell arrays and droplet microfluidics, suffer from uncontrolled object sedimentation, which even exaggerates when trying to combine two or more cells together. Microfluidic traps can capture and controllably pair hundreds of cells to study immune cell-target cell interaction. However, microfluidic chips require peripheral equipment for accurate fluidic control, as well as professional skills for performing the assays. Furthermore, the throughputs of the microfluidic traps are limited for studying large-scale immune cell-target cell interactions or samples with low reaction rates. Here, we introduce a newly developed <u>Cell Pairing Plate</u> that integrates multi-well traps and can efficiently achieve desired cell-cell or cell-bead pairing in an easy and high-throughput manner, enabling live imaging of cell-cell interactions and single-cell cytokine secretion assay.



Cell Pairing Plate High-Throughput Cell Pairing for Cell-Cell Interaction

Cell Pairing Plate

High-Throughput Cell Pairing for Cell-Cell Interaction

Cell Pairing Plate can efficiently achieve desired cell-cell or cellbead pairing in a high-throughput manner, enabling live imaging of cell-cell interactions and single-cell cytokine secretion assay.

Cell Pairing Plate



Cat. No. P6-CPP-5PK

Cell Pairing in a 2-Well Trap



Pulsed by NY-ESO-1 peptide

Pulsed by NY-ESO-V peptide



Specifications	Description
Format	Standard 6-well plate format
Material	Biocompatible PDMS, polystyrene, and/or glass
Sterility	Sterile
No. of Traps	450,000 (75,000 traps/well x 6 wells)
Well Depth*	30-50 μm
Cell-Pairing Yield	Up to 90%
Compatible Cell Size*	7-10 μm (effector cells) and 12-17 (target cells)
Compatible Bead Size*	~20 µm (streptavidin-coated polystyrene beads)

* Well size, depth, and numbers can be customized for specific cell/bead pairing applications. 39



Representative Microscopic Images of Cells / Beads Pairing





Cell-Cell-Bead Pairing



Cytotoxicity & Cytokine Secretion Assays



Main Applications



Evaluation of Single-Cell Cytokine Secretion and Cell-Cell Interactions with a Hierarchical Loading Microwell Chip. *Cell Reports.* 2020 Apr 28;31(4):107574. doi: 10.1016/j.celrep.2020.107574

Standard Hole Array

Create Your Own High-Quality Microwell Devices

Standard Hole Array can self-seal with commonly used standard platforms having smooth surfaces, including microplate, Petri Dish, microscope slide, and coverslip, to form a desired microwell device.



Cat. No. S1-SHA-1536-10PK

Assemble Hole Array-1536 with 1-Well Plate



Specifications	Description
Material	Biocompatible PDMS (polydimethylsiloxane)
Hole Diameter*	1.8 mm
Hole Depth	1 mm
Hole Volume	2.5 µL
Hole Center Spacing	2.25 mm or 4.5 mm
Number of Holes	Between 75 and 1536 depending on platform size and hole density
Hole Pattern	Array
Sterility	Sterile
Compatible Platforms	Microplate, Petri Dish, microscope/chamber slide, coverslip, etc.

* The number, size, and spacing of through holes can be customized.

Products	Catalog No.	Size of Hole Array	Compatible Platforms	No. of Holes
Hole Array-1536	S1-SHA-1536-10PK	116 mm (L) x 79 mm (W)	1-Well Plate	1,536
Hole Array-384	S2-SHA-384-10PK	116 mm (L) x 79 mm (W)	1-Well Plate	384
Hole Array-6well	S3-SHA-900-10PK	33 mm (Diameter)	6-Well Plate	900
Hole Array-60mm	S4-SHA-350-10PK	50 mm (Diameter)	60 mm Petri Dish	350
Hole Array-Glass Bottom	S5-SHA-75-10PK	25 mm (Diameter)	35 mm Dish with 28 mm Glass Bottom	75
Hole Array-Slide	S6-SHA-240-10PK	75 mm (L) x 25 mm (W)	Microscope Slide (75 mm x 25 mm)	240
Hole Array-Coverslip	S7-SHA-240-10PK	75 mm (L) x 25 mm (W)	Microscope Coverslip (75 mm x 25 mm)	240
Hole Array-Chamber	S8-SHA-160-10PK	43 mm (L) x 17 mm (W)	1-Well Removable Chamber Slide	160

Gallery of 8 Hole Array Products and their Assembled Devices



Features and Applications

- Standard Hole Array contains high-quality through holes with smooth edges which are punched only by using iBiochips' Robotic Punching System.
- Standard Hole Array can easily assemble with many commonly used platforms, including microplates, Petri Dishes, microscope slides, chamber slides, coverslips, silicon wafers, and others with smooth surfaces.
- ✓ The formed devices have very flat microwell bottom surfaces beneficial for subsequent microscopy imaging.
- ✓ The formed high-density microwell array allows for performing multiplex assays in a single device.
- ✓ Cells may be isolated, cultured, and assayed in microwells with hydrophobic well-well barriers.
- ✓ They can be reused by simple water washing and ethanol sterilization.
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Assemble a Hole Array-1536 with a 1-Well Cell Culture Plate



S1-SHA-1536-10PK

Assemble a Hole Array-384 with a 1-Well Cell Culture Plate

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S2-SHA-384-10PK

Assemble a Hole Array-6well with a 6-Well Glass Bottom Plate



S3-SHA-900-10PK

Assemble a *Hole Array-60mm* with a Cell Culture Dish



Assemble a Hole Array-Glass Bottom with a Glass Bottom Dish



S4-SHA-350-10PK

Assemble a Hole Array-Slide with a Microscope Slide



S6-SHA-240-10K

Assemble a Hole Array-Coverslip with a Microscope Coverslip



S7-SHA-240-10PK

Assemble a Hole Array-Chamber with a 1-Well Chamber Slide



S8-SHA-160-10PK

Microfluidic Microplates

Single-Cell Cloning, Cytokine, Proteomics Assays

Microfluidic microplates, with the combination of ultra-small well structures, microfluidic microchannel networks, and standard 96-well plate format, provide unprecedented simplicity and efficiency in single-cell isolation and downstream analysis. Our microfluidic microplates have many merits, including easy microfluidic aliquoting by a regular pipette without needing prior training, high single-cell viability and integrity by proprietary microflow, broad cell compatibility with cell number less than 100 and cell diameter less than 80 µm, 2 mm dimension of wells for convenient single-cell identification, and ultra-low single-cell isolation and culture volume for clonal and genetic analysis. <u>ICellPlate®-96well</u> is an ultra-low volume 96-well-in-well microfluidic microplate and compatible with long-term single-cell culture for 2D & 3D cloning generation. <u>ICellPlate®-96Well Low Evaporation</u> is an ultra-low volume 96-well microfluidic microplate and compatible with short-term single-cell culture for cytokine assays.



1CellPlate[®]-96well Ultra-Low Volume

96-Well-in-Well Microfluidic Microplate

1CellPlate®-96Well Low Evaporation

Ultra-Low Volume 96-Well Microfluidic Microplate



1CellPlate[®]-96well

Ultra-Low Volume 96-Well-in-Well Microfluidic Microplate

1CellPlate[®]-96well is an ultra-low volume 96-well plate that combines unique well-in-well structures with microfluidic microchannels to meet various single-cell analysis needs, including single-cell 2D & 3D cloning.







Isolate 1 cell in 2.5 µL volume

Cat. No. P1-SCP-5PK

Specifications	Description
Format	Standard 96-well plate format
Material	Polystyrene & polypropylene
Sterility	Sterile
No. of Wells	96 wells (12 x 8 array)
Well Volume	166 μL (Inlet Port), 2.7 μL (Inner Well), 350 μL (Outer Well)
Well Bottom	Flat polystyrene
Surface Treatment	Tissue culture-treated
Single-Cell Yield	~ 30 per device (~10 x 3)
Single-Cell Volume	2.5 μL (isolation to transfer), 200 μL (culture to clone)
Compatible Cell Size	≤ 80 µm (diameter)
Cell Types Can Be Isolated	3 cell types per device

Initial Cell Suspension



Single-Cell Isolation by 1CellPlate[®]-96well

1. Add initial cell suspension into each Inlet Port



2. Isolate ~ 30 single cells in 30 seconds





3. Identify isolated single cells in Inner Wells





Features

- ✓ Compatible with cell diameter ≤80 µm
- ✓ Compatible with cell numbers ≤100 cells
- Compatible with cell types 1-3 types/device
- Small single-cell isolation well: 2 mm diameter
- ✓ Large single-cell culture well: 6.5 mm diameter
- ✓ Ultra-low single-cell isolation volume: 2.5 µL/cell
- ✓ Gentle microflow keeps high single-cell viability
- ✓ No liquid backflow and cross-talk between wells
- Easy operation by regular pipette in a sterile hood
- ✓ No special equipment or operation skills are required

Applications

- ✓ Single-Cell Isolation
- ✓ Cell Line Development
- Stem Cell Isolation
- ✓ CRISPR Cell Line Development
- ✓ Single-Cell Lysis
- Single-Cell Multiomics
- Single-Cell PCR & Sequencing

 Single-Cell PCR: 1 Cell in 1 PCR Tube
 Single-Cell

 1. Retrieve desired single cells from Inner Wells
 1. Add medi

 2.5 µL per Inner Well
 1

 1. Optimized from Cell in 1 PCR Tube
 1. Add medi

 2.5 µL per Inner Well
 1

 1. Add medi
 1

 <



1 cell per 2.5 µL



Single-Cell Cloning: 1 Cell in 1 Culture Well

1. Add medium into Outer Wells having single cells



2. Culture for several days to generate clonal cells



1CellPlate®-96Well Low Evaporation

Ultra-Low Volume 96-Well Microfluidic Microplate

1CellPlate®-96Well Low Evaporation combines ultra-small 96 wells with microfluidic channels to meet various experiments with low reaction volume and low evaporation requirements.

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Cat. No. P4-SCPA-5PK

Performance Highlights	1CellPlate [®] -96Well Low Evaporation	96-Well Low Volume Plate
Ultra-Low Working Volume	YES, 4-8 μL/well	NO, 20-40 µL/well
Easy Single-Cell Isolation	YES, patented microfluidic aliquoting	NO, labor-intensive limiting dilution
Rapid Single-Cell Identification	YES, in single field-of-view microscope image	NO, require microscopy image stitching
Good Evaporation Prevention	YES, by using provided Adhesive Film	YES, by using microplate sealing film

Innovative Design of 1CellPlate[®]-96Well Low Evaporation

Top view contains a well array



Back view contains microfluidic channels



Easy Microliter Liquid Aliquoting into 96 Small Wells



Liquid aliquoting by using a general pipette

Finish liquid aliquoting with 5.6 μ L/well



Specifications	Description
Format	Standard 96-well plate format
Material	Polystyrene & polypropylene
Sterility	Sterile
No. of Wells	96 wells (12 x 8 array)
Well Bottom	Flat polystyrene
Well Surface Treatment	Tissue culture-treated
Well Volume	14 µL
Working Volume	4-8 μL
Single-Cell Yield	~ 30 per device (~10 x 3)
Compatible Cell Size	≤ 80 µm (diameter)
Cell Types Can Be Isolated	3 cell types per device

Compatible with Standard Microscope Imaging

In a microscope with GFP channel



Focusing on the well #C7



Convenient Single-Cell Identification in Single Field-of-View

Single field-of-view microscope image



Features

- ✓ Ultra-low working volume: 4-8 µL/well
- ✓ Compatible with cell diameter ≤80 µm
- ✓ Compatible with cell numbers ≤100 cells
- Easy single-cell identification in 2 mm well
- Easy operation by pipette in a sterile hood
- Gentle microflow keeps high single-cell viability
- No liquid backflow and cross-talk between wells
- No special equipment or operation skills are required



Applications

- Single-Cell Isolation
- Single-Cell Incubation
- ✓ Single-Cell Multiomics
- Single-Cell Metabolomics
- Single-Cell Cytokine Detection
- ✓ Single-Cell Lysis, PCR & Sequencing

Single-cell identification

Convenient Adhesive Film Placing through Notched Sides



Excellent Evaporation Prevention during Assay Incubation



Endotoxin Assays Bacterial Endotoxin Test Platform

Endotoxin, originating from the cell membrane of gram-negative bacteria, causes a strong immune response resulting in symptoms such as fever, nausea, and septic shock. It is required by a regulation to test the level of endotoxin in medical products, including implants, human and animal parenteral drugs, vaccines, medical equipment, and all products labeled as non-pyrogenic.

iBiochips endotoxin testing platform offers a more precise kinetic endotoxin assay with reduced reagent consumption. Innovative microfluidic flow control integrated into standard well plate eliminates the source of experimental and environmental errors, while it is compatible with the existing endotoxin test system.





LOFT Plate®





Save 85% reagents





Eliminate evaporation





Meet USP. EP. and JP. standards

Easy Operation Steps



Add Sample

Centrifuge

Readout

Innovative Design

It is an endotoxins test plate at another level.



- Save 85% LAL and endotoxin reagent consumption
- Skim air bubbles
- Improve readout accuracy by a fixed optical path
- Assist mixing by centrifugation
- Eliminate evaporation and environmental contamination by dual optical windows
- Compatible with existing endotoxin test system

Microplate Reader

High quality optics and rugged design are the hallmarks of the ELx808[™] Absorbance Microplate Reader. The 340 nm – 900 nm wavelength range encompasses a wide range of potential applications for this multichannel reader.

The ELx808 offers unsurpassed superior 4-Zone[™] incubator, providing excellent stability for temperature sensitive assays like endotoxin analysis and long-term bacteria and yeast growth studies.

The ELx808 is controlled by Gen5 Reader Control Software for rapid data collection, export and printing. Other available Gen5 editions offer powerful data analysis for end point and kinetic measurements, along with customizable reporting and exporting features.

ys dies

Applications

- Endotoxin Assays
- Protein Assays
- ELISA
- Enzyme Kinetics
- Cell Growth Studies
- Cytotoxicity

Features

- Incubation provides improved reproducibility for temperature-sensitive assays
- Fast kinetic measurements in intervals as short as 6 seconds with multiple kinetic analysis options
- Superior optical design incorporates staggered optics to eliminate channel-tochannel cross-talk
- End point, kinetic, and linear well-scanning read modes
- Gen5 Reader Control Software included

Specifications

Detection Method	Absorbance
Read Method	End-point, kinetic, linear scanning
Microplate Types	96 wells
Temperature Control	Incubation to 50 °C
Shaking	Linear
Software	Gen5 Reader Control Software included
Light Source	Tungsten halogen
Wavelength Selection	Filters
Wavelength Range	340 – 900 nm
Dynamic Range	0-4.0 OD
Resolution	0.001 OD
Filter Wheel Capacity	6 positions
OD Accuracy	< 1% at 2.5 OD, < 2% at 3.5 OD
OD Linearity	< 1% at 2.5 OD
OD Repeatability	< 0.5% at 2.5 OD, < 1.5% at 3.5 OD
Reading Speed	8 seconds for 96 wells

Benchtop Centrifuge

The LMC-3000 is a low speed benchtop centrifuge with interchangeable rotors for accommodating microplates and centrifuge tubes (2 to 50 mL). It is suitable for a wide range of analytical applications including biomedical, bio-organic and immunoenzyme analysis.

Features

- Spin speed: up to 3000 rpm for tubes, up to 2000 rpm for microplates
- Timed operation (1 to 90 minutes), with automatic switch-off
- Convenient interchangeable rotor for 6 or 12 tubes or 2 microplates provides flexibility for an easy change in application
- Easy set-up of spin speed and time via 2line LCD display and simple push buttons
- Sturdy metal housing and lid, automatic imbalance switch-off and lid lock when centrifuge is running provide for safe operation in your workplace
- Compact design with small footprint
- The powerful and extremely quiet motor has a 'soft' start-up and run-down function to prevent possible damage to samples from sudden jolting.



Specifications

Max RCF (Bottom of tube)	1700 x g
Speed (Centrifuge tubes)	100 – 3000 rpm
Max RCF Microplate Rotor	560 x g
Speed (Microplates)	100 – 2000 rpm
Centrifugation Time	Up to 90 minutes (1 min increment)
Speed Increment	100 rpm
Temperature Range	4–40 °C (suitable for use in cold rooms)
Chamber Diameter	335 mm
Overall Dimensions	420 mm (W), 495 mm (D), 235 mm (H)

Accessories



R-2 centrifuge rotor for 2 microplates

- Dimensions: 128mm (W) x 85.6mm (D) x 45mm (H)
- Suitable for deep well plates

R-6 centrifuge rotor for 6 x 50mL tubes

- With cap, Conical end
- Dimensions: ø 29 mm x 115 mm

R-12-10 centrifuge rotor for 12 x 10 to 15mL tubes

- No cap, Rounded end
- Dimensions: ø 16 mm x 105 mm

R-12-15 centrifuge rotor for 12 x 15mL tubes

- With cap, Conical end
- Dimensions: ø 17 mm x 120 mm

Customized Service

Innovative Biochips offers a full range of product development services from design and prototype to scale-up manufacturing of microfluidic products based on your specification. Our team with extensive experience will provide comprehensive design and development of cutting-edge products.



Development Tool Box

Innovative Biochips equipped with a comprehensive toolbox to build a complex microfluidic product with fast turn-around efficiently and effectively.

- ✓ Class 1000 ISO 6 certified cleanroom
- Micro-fab and soft lithography
- Laser material processor
- Multichannel fluorescent microscope
- 2D and 3D CAD design
- Injection molding
- CNC machining
- Substrate bonding
- And more....

Applications

With extensive knowledge and experience in microfluidic design and manufacturing, Innovative Biochips develops high-accuracy microfluidic products in a wide range of applications.

- Live-cell imaging chamber
- Cell manipulation for trapping and pairing
- Cell isolation and separation
- High throughput drug screening
- Single-cell genomics and proteomics
- Customized microwell array
- Fluid metering and transfer
- ✓ And more....

Product Display: Microfluidic Multiwell Plates

96-well polystyrene microfluidic plate by injection molding





6-well polystyrene/PDMS hybrid microfluidic plate by photolithography





Order Information

All products can be directly ordered from iBiochips webpage. Some products can be ordered from Fisher Scientific.

Product	Cat. No.	Fisher Cat. No.
1CellPlate®-96well, 10 pack	P1-SCP-10PK	NC1880660
1CellPlate [®] -96Well Low Evaporation, 5 pack	P4-SCPA-5PK	NC2171346
1CellDish™-60mm, 5 pack	H2-SCD-5PK	NC1637881
1CellPlate®-mini, 5 pack	P2-SCPM-5PK	NC1941871
1CellDish™-Glass Bottom, 5 pack	H6-SGB-5PK	N/A
1CellPlate®-Glass Bottom, 5 pack	P5-SGP-5PK	N/A
1CellArray-Glass Bottom, 5 pack	H5-GBD-5PK	N/A
1CellAssay-Chamber Slide, 5 pack	H7-SCS-5PK	N/A
PicoWells In 6-Well Plate, 5 pck	H8-PWP-5PK	N/A
PicoWells In Chamber Slide, 5 pack	H9-PCS-5PK	N/A
Cell Pairing Plate, 5 pack	P6-CPP-5PK	N/A
Hole Array-1536, 10 pack	\$1-SHA-1536-10PK	N/A
Million Microwell Device, 5 pack	H4-MMD-5PK	NC1637882
1CellAssay®-Lysis Kit	K1-SCLS-KIT	NC2131160
1CellAssay®-3D Culture Kit	K2-SCTD-KIT	NC2171348
AD-Chip U, 5 pack	A1-ADU-5PK	N/A
AD-Chip Y, 5 pack	A2-ADY-5PK	N/A
AD-Chip Size Screening, 5 pack	A3-ADC-5PK	N/A
AD-Chip Customized Size, 5 pack	A4-ADC-5PK	N/A
Loft Plate, 5 pack	E1-LP-5PK	NC1880661

Order Information

According to the different surface treatments, 1CellDish™-60mm and 1CellPlate[®]-mini can be further classified.

Product	Surface Treatment	Cat. No.
 1CellDish™-60mm, 5pack 	TC-treated PS	H2-SCD-TCT-5PK
	Hydrogel coated PS	H2-SCD-HYD-5PK
	Poly-D-Lysine coated PS	H2-SCD-PDL-5PK
	Poly-L-Lysine coated PS	H2-SCD-PLL-5PK
	Collagen I coated PS	H2-SCD-COI-5PK
	Collagen IV coated PS	H2-SCD-CIV-5PK
	Fibronectin coated PS	H2-SCD-FIB-5PK
	Laminin coated PS	H2-SCD-LAM-5PK
1CellPlate®-mini, 5pack	TC-treated PS	Р2-ЅСРМ-ТСТ-5РК
	Hydrogel coated PS	P2-SCPM-HYD-5PK
	Poly-D-Lysine coated PS	P2-SCPM-PDL-5PK
	Poly-L-Lysine coated PS	P2-SCPM-PLL-5PK
	Collagen I coated PS	P2-SCPM-COI-5PK
	Collagen IV coated PS	P2-SCPM-CIV-5PK
	Fibronectin coated PS	P2-SCPM-FIB-5PK
	Laminin coated PS	P2-SCPM-LAM-5PK



Order Information

The following is product accessory order information.

Product Accessory	Cat. No.
A1 Cell Imaging System	A1-IBE-7000
Microplate Reader	A3-ELX-808
Benchtop Centrifuge	A3-LMC-3000
Microfluidics Tubing	MTB-100
Microfluidics Syringe Tip	LSA-100
Microfluidics Hollow Pin	HSP-50
Magnet Kit for Million Microwell Device	H4-MAG-1P

Global Distributors

Belgium

Tebu-bio https://www.tebu-bio.com Phone: 03 454 00 66 Email: belgium@tebu-bio.com

France

Tebu-bio https://www.tebu-bio.com Phone: 01 30 46 39 00 Email: france@tebu-bio.com

France

Darwin Microfluidics http://www.darwin-microfluidics.com Phone: +33 184 163 808 contact@darwin-microfluidics.com

Germany

Tebu-bio https://www.tebu-bio.com Phone: 069 801013-0 Email: germany@tebu-bio.com

Israel

Doron Scientific https://www.doronscientific.com Phone: +972-(0)54-5544004 Email: info@doronscientific.com

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Tebu-bio https://www.tebu-bio.com Phone: 02 97 29 50 10 Email: italy@tebu-bio.com

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BioStream https://www.biostream.co.jp Phone: +81 03-6869-4402 Email: info@biostream.co.jp

Japan

NT Science https://www.nt-science.com Phone: +81-568-97-5142 Email: info@nt-science.jp

Netherlands

Tebu-bio https://www.tebu-bio.com Phone: 072-572 21 00 Email: netherlands@tebu-bio.com

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Genomax Technologies https://www.genomax.com.sg Phone: 65-6777 1886 Email: info@genomax.com.sg

Spain

Tebu-bio

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