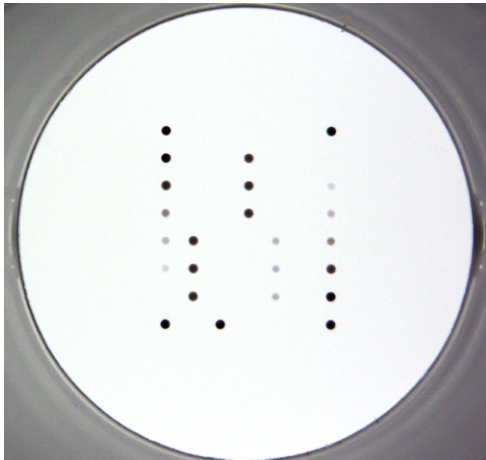


Precise Low
Volume
Dispensing



Biosensors
Biochips
Lateral Flow
Microarrays



Multiplexing
&
Miniaturizing



Assay
Development



Contract
Manufacturing

**BIOSENSORS, MULTIPLEX ELISAs AND LATERAL FLOW ASSAYS, MICROFLUIDIC DEVICES,
DNA BIOCHIPS, GLYCAN ARRAYS, MICRONEEDLES, PROTEIN BIOCHIPS,
DOT-BLOT ASSAYS, AND MANY MORE...**

IN BASIC RESEARCH

IN DIAGNOSTICS

IN YOUR INDUSTRY

OUR VALUES

**SCIENION IS A WORLD LEADER IN LOW VOLUME PRECISION DISPENSING
AND MICROARRAY TECHNOLOGIES.**

**WE PROVIDE AN INTEGRATED PRODUCT PORTFOLIO FOR DEVELOPMENT AND OPTIMIZATION
OF MULTIPARALLEL BIOANALYTICS, HIGH-THROUGHPUT SCREENING AND PRODUCTION OF
MICROARRAYS.**

Quality

Customer First
Error Free
On Time
Dedication
Excellence
Credibility
Honesty

Innovation Integrity

Accountability

Value
Creativity
Courage
Persistence
Knowledge
Understanding
Performance
Improvement
Competence
Reliability
Discipline
Responsibility
Community

Collaboration

Leadership

Teamwork
Energy
Goals
Cooperation
Diversity
Growth

TECHNOLOGY

Unsurpassed Precision and Accuracy

Volume on Demand Technologies

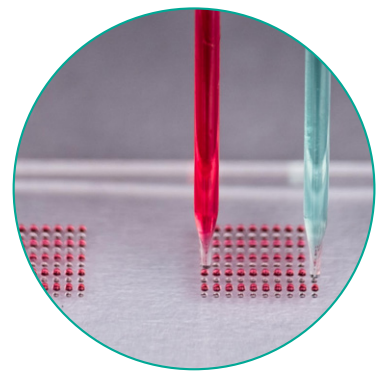
Printing of Arrays and Arbitrary Patterns

Into a Wide Variety of Substrates including Cavities

Highly Reproducible Drop Volumes



**HIGH PRECISION
DISPENSING**



OPEN PLATFORM

ALL SUBSTRATES

ANY CONTENT

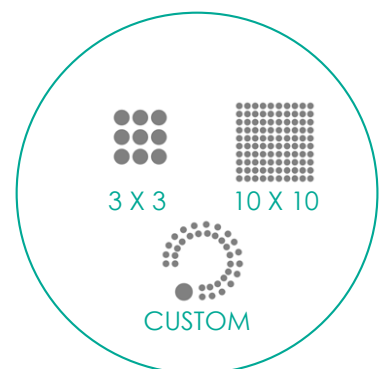
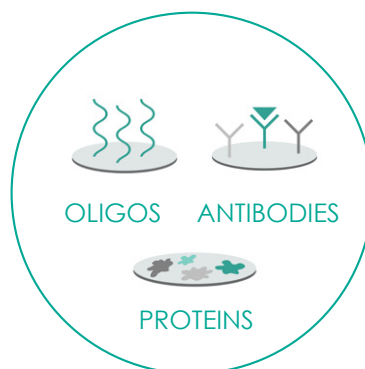
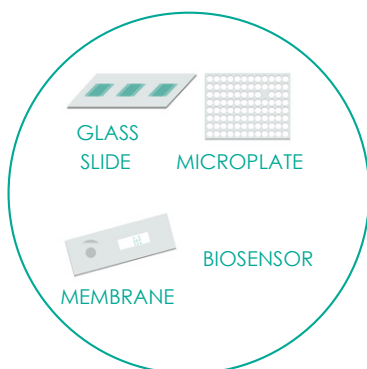
ANY CONFIGURATION

pL - nL - μ L

**BROAD
DISPENSE RANGE**

IN ONE SYSTEM

DROP ON DEMAND



pL - nL - μ L

DISPENSING TECHNOLOGIES

sciDROP PICO

Gentle Acoustic Piezo Dispensing

Volume Control with Unique Visual Detection

Non Contact Drop-on-Demand

Dispensing and Isolating Living Cells

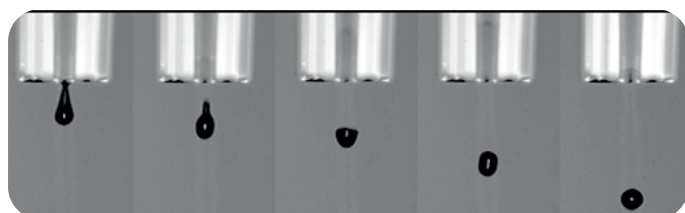
Typical Spot Size	80 to 250 μ m
Drop Volume Range	30 to 800 pL
Viscosity Range	Up to 8 mPa s

Low Dead Volume - Minimum Sample Waste

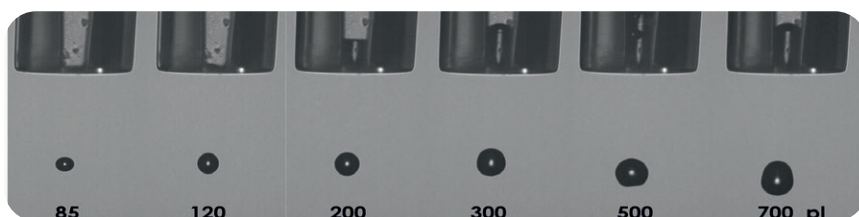
No Need for Printing Additives

No Satellite Drops

No Cross Contamination



Stroboscopic imaging of drop ejection from 0 to 200 ms



PICO DISPENSE CAPILLARIES - PDC

sciDROP PICO dispensing technology is based on a ceramic piezo element that is fitted around a glass capillary. The piezo element is triggered by an electrical pulse which, in turn, leads to contraction of the ceramic material. This creates a gentle wave inside the capillary that forces out a small drop of sample from the orifice of the PDC (piezo dispense capillary).

Printing quality depends on numerous parameters. Therefore, SCIENION offers a broad portfolio of different PDC sizes and surface coatings. The dispense process is fully controlled by pulse parameters settings as voltage, frequency, pulse width. This enables high accuracy and precision dispensing of a wide range of liquids, opening the door to many Life Science applications.

Each PDC is produced in-house
Each PDC is subjected to strict quality control to
meet your high production standards

Eight standard PDC sizes
provide a drop volume
range to create the
perfect drop

PDC 40	100-150 pL
PDC 50	150-220 pL
PDC 60	220-300 pL
PDC 70	300-360 pL
PDC 80	360-440 pL
PDC 90	440-520 pL
PDC 100	520-600 pL
PDC 110	600-800 pL



Four coating types allow
stable dispensing of a
broad range of media

Type 1	Aqueous solutions and organic solvents
Type 2	Samples containing organic solvents like DMSO, DMF etc. and protein mixtures (lysates, allergens)
Type 3	Samples containing protein solutions and organic solvents like methanol, isopropanol, acetonitrile
Type 4	Protein solutions and Sol-Gel samples

Custom coatings are also available

Contact us for advice on the ideal PDC for your application

Dispensable Media / Samples

We have dispensed very successfully the following samples:

- Allergens, Antibodies, Antigens, Carbohydrates, Cells, Enzymes, Glycans, Glycoproteins, Lipids, Oligonucleotides / DNA / RNA, PNA, Proteins in Aqueous Buffers
- Organic Solvents as Acetone, BSA, Butylacetate, Ethanol, Glycerol, Isopropanol
- Gelatin, Hepes, Sol-Gel, Sucrose, Tween, Urea
- Magnetic Beads, Nanoparticles, Polymers



sciDROP NANO

Electromagnetic Solenoid Microvalve

Bulk Dispensing or Aspirate and Dispense

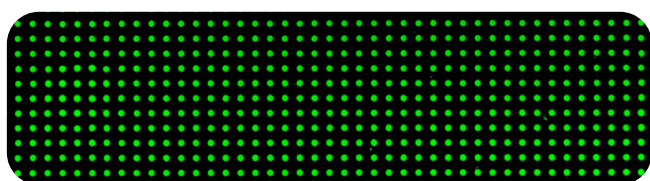
Prints Dots, Lines, Bars and Coatings

Volume Control via Flow Sensor

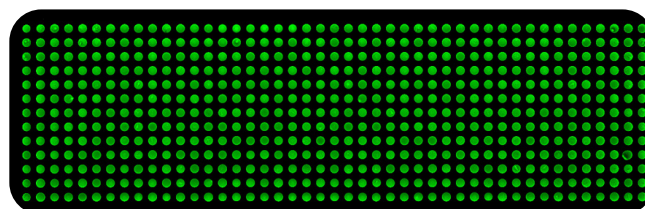
Flow Rate	Up to 8 mL/min
Drop Volume Range	25 to 600 nL
Viscosity Range	Up to 22 mPa·s

sciDROP NANO option combined with SCIENION's highest precision and accuracy is a perfect choice for dispensing into cavities of microfluidic devices, printing of bigger spots and thin or thick lines.

The technology is based on an electromagnetic micro-valve with an extremely fast response time. Moreover, since the current is kept low, samples are retained at a safe temperature.



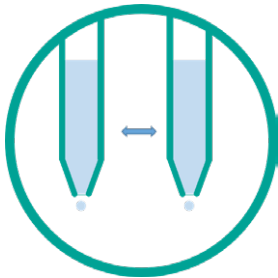
Blocking solution spotted on a slide.
70 nL per spot. CV=4.3%. Array 11 x 43 = 473 spots.



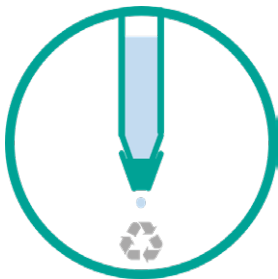
Antibody solution spotted on a slide.
86 nL per spot. CV=2.1%. Array 13 x 45 = 585 spots.

sciDROP CUSTOM

Our engineers can build a complete solution for your application



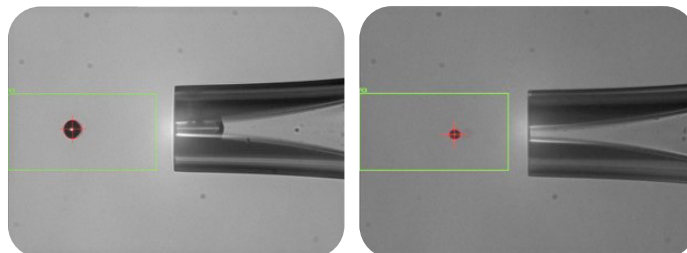
Custom Dispense Heads
with Custom Distance Between PDCs



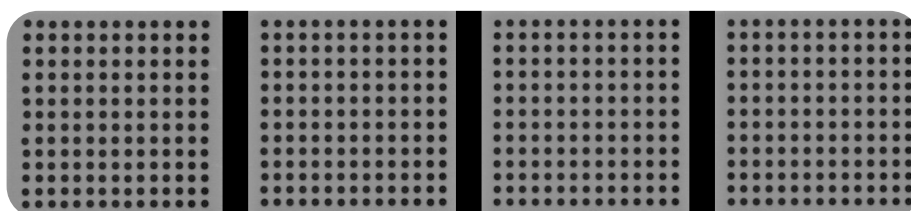
Disposable Tips
for Single Use

sciDROP PICO & NANO in One Device

Pulse Shaper for
Volumes under 50 pL with our sciPU VARIO
& High Viscosities (Gelatin, Oil, Wax)



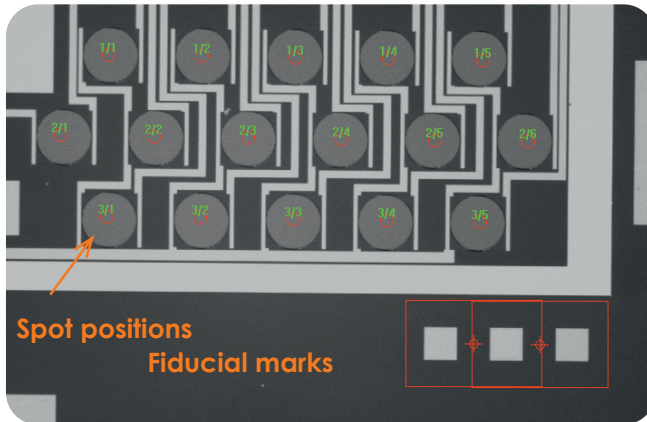
Reducing stable drop volume from 250 pL (left) to 35 pL
with sciPU VARIO modified pulse shape (right)



Printing arrays (15x15) of Glycerol in a range of 50, 60, 65 and 70 % at 25 °C.

SOFTWARE

SMART TARGET ALIGNMENT

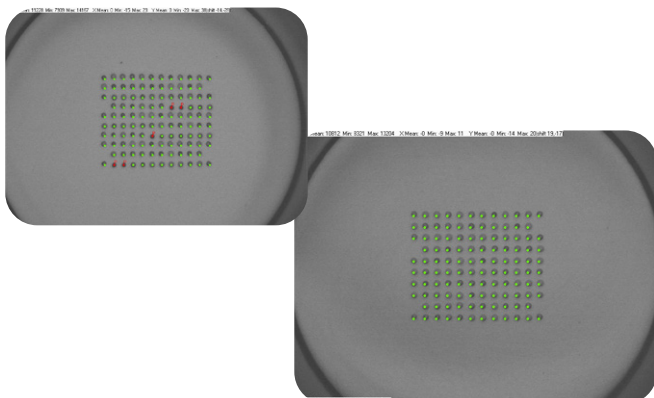
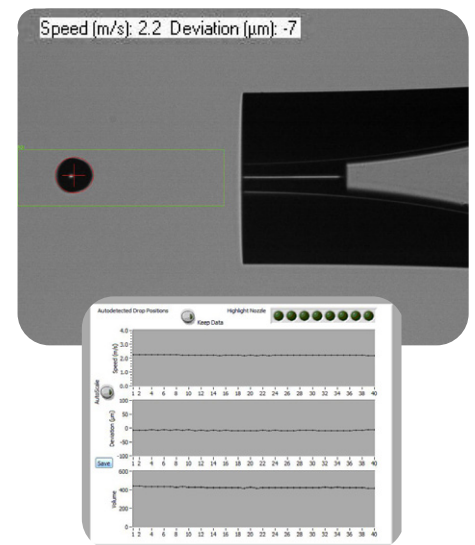


- Advanced Software Modules for Detection & Analysis
- Fiducial Marks for Highly Accurate Positioning and for Individual Biosensor Alignment
- **Find Target Array:** Matrix of Equal Structures Detection and Spotting on Them
- **Find Target Reference Points:** Detection of Fiducial Marks on the Target to Define a Reference Point and Orientation of The Target

Image analysis, pattern recognition and angle correction to identify deposition targets

DROP CONTROL: FULL TUNING OF DROPLET

- Speed, Size and Volume of Droplet Electronically Modified
- Adjustments in Voltage (Speed) and Pulse Width (Volume) for Optimal Shooting and Reliable Printing
- **In-Line QC of Dispensed Drops:** Volume, Deviation and Speed
- Library of Validated Programs/Tasks based on Applications
- Validated Technology for Many Diagnostic Applications



POWERFUL QUALITY CONTROL

- **Online QC Analysis**
- Spot Analysis: Positional Accuracy, Area & Roundness
- Re-spotting of Missing Spots
- Scan 100% of Spots
- Results showed Live
- sciREPORT Software to Import/Export Run Parameters into your Labfolder or LIMS Systems

Many more options according to your needs

HARDWARE: FROM R&D TO MANUFACTURING

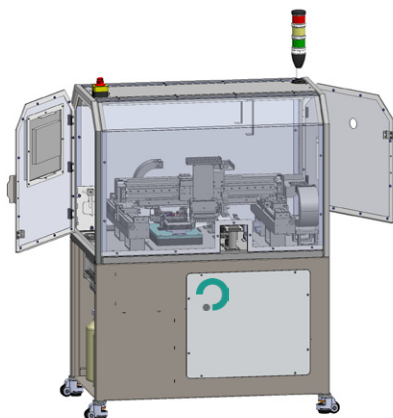


COMPONENTS of SUPERIOR QUALITY

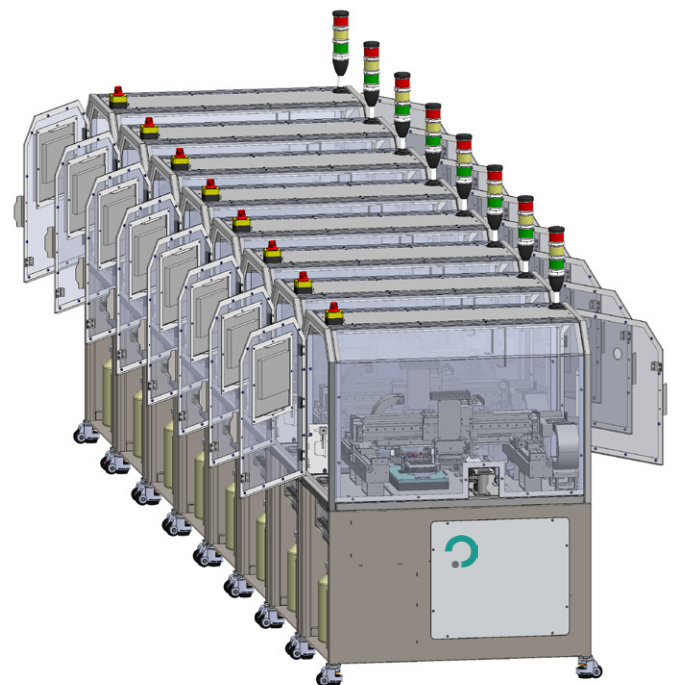
- High Precision Motion System
- Environmental Control -
Temperature , Humidity & Dew Point
- Ceramic Vacuum Holder for all Substrates -
Coolable and Heatable, Customized
- 3D Drop Camera and Live Stream Camera
- UV Crosslinking Package
- Inline Degassing System
- Anti-Static Bar
- Illumination Ring for Low-Contrast Surfaces
- Efficient Ultrasonic Washing
- Compatibility with Organic Solvents

EASY SCALABILITY

Same printing technology used
from development to large scale
production runs



Streamlining process validation



TESTIMONIALS

"sciFLEXARRAYER is a key tool in all of our projects,
for depositing an enzyme onto the surface of
an electrode, or most challenging we use it to
deposit onto the surface of a microneedle array.

Exactly the right volume, in exactly the right
place."

Prof. Tony Cass,
Imperial College, London

"We print from 200 to 500 different antigens on the chip,
depending on the disease that we are monitoring.

We have been working together with SCIENION for
several years, we started with one of their smaller
instruments and now we are happy to own two of their
largest instruments."

Donna Edmonds,
Chairman & CEO of ImmunArray Diagnostics, USA

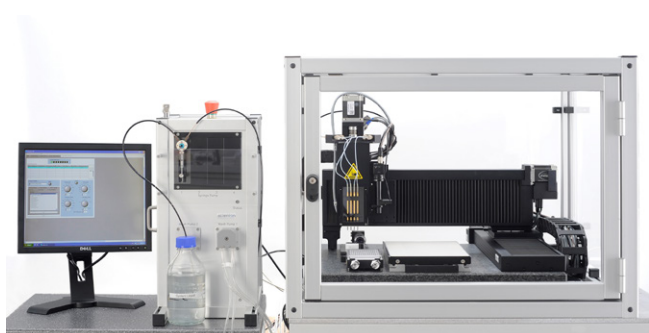
sciFLEXARRAYER

The sciFLEXARRAYER product line represents the perfect tool for automated **low volume precise dispensing** of various types of samples (i.e. biological, organic, nanoparticle and dyes) in diagnostics, genomics, proteomics and technical applications.

sciFLEXARRAYER comes in four well-established versions, addressing the needs of our customers from early research to high throughput manufacturing:

- **sciFLEXARRAYER S3** for R&D
- **sciFLEXARRAYER S12** for Medium Scale Batch
- **sciFLEXARRAYER SX** for High Scale Batch
- **sciFLEXARRAYER S100** for In-Line Production

sciFLEXARRAYER S3 for R&D



Bench-Top Size

Economic Unit

For Academic and Research Labs

Flexible Printing Capacity in Microplates,
Glass Slides, Microfluidics, etc

Arraying of DNA and Proteins, Cell
Transfection Arrays, Loading of Biosensors
and Preparation of MALDI Targets

Reference Centers

Imperial College
London

Tyndall
National Institute
Institut National de la Santé et de la Recherche Médicale

Max Planck Institute
of Colloids and Interfaces

Stanford
University

Available Options for the S3

Humidity and Dew Point Control
Cooling Unit for both Source Plate and Targets
Anti-Static Bar
HEPA Filtered Hood
Heavy-Duty Table
Variety of Software Features
User-Programmable Spotting Routines

"We have worked in partnership with the team at SCIENION who have supported our development of customized arrays – enabling us to print DNA to a range of substrates, such as plastic, glass or silicon, depending on the application. The tool offers accurate, precision printing, at speed. As the printer is scalable we'll eventually be able to produce high volumes of microarrays."

Dr Jennifer Hannant, Head of Chemistry at QuantuMDx

sciFLEXARRAYER

Compact All-in-One Design

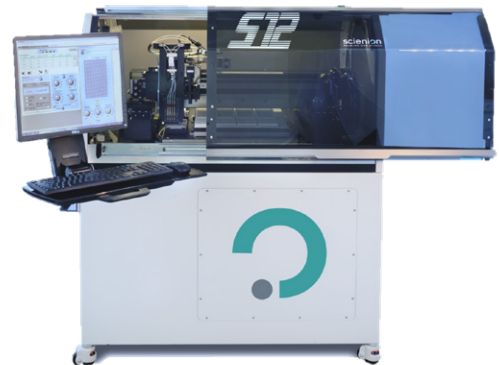
For Medium Manufacturing Needs

High Precision Magnetic and Spindle Drives

Outstanding Batch-to-Batch Reproducibility

Ideal for Biosensors, Wafers (up to 12" or 300 mm), Slides

sciFLEXARRAYER S12 for MEDIUM SCALE BATCH



Reference Clients

immun
array®

GENOMICA

unisensor
DIAGNOSTIC ENGINEERING

QuantuMDx

Available Options for the S12 and SX

- Humidity and Dew Point Control
- Cooling Unit for both Source Plate and Targets
- Anti-Static Bar
- 3D Drop Camera
- Spot-on-the-Fly to Speed up Array Printing
- Clean Room Compatible
- Fiducial Recognition and Target Alignment
- Online Array Quality Control

For High Throughput

Large Target Capacity

Fast High Precision Drives

Outstanding Batch-to-Batch Reproducibility

Ideal for High Throughput Production of
Multiplex Diagnostic Tests

sciFLEXARRAYER SX for HIGH SCALE BATCH



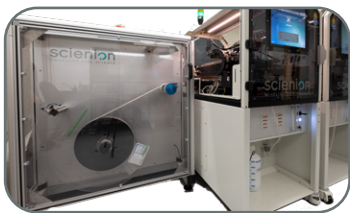
sciFLEXARRAYER

sciFLEXARRAYER S100 for IN-LINE PRODUCTION

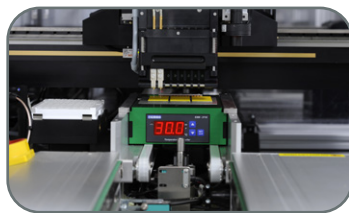


High Throughput

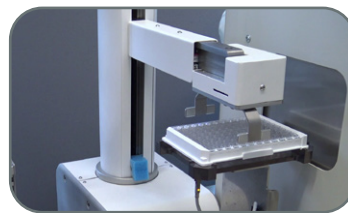
100% Custom-Made



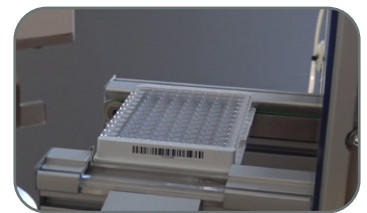
Reel-to-Reel Operation



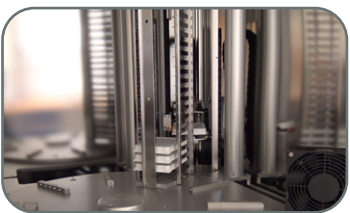
Heatable Target Carriers



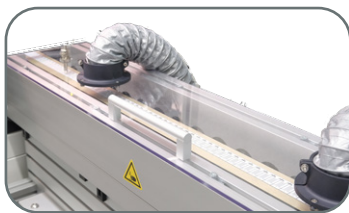
Robotic Handling



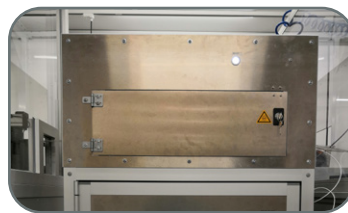
RFID Station and Target
Barcoding for Tracking



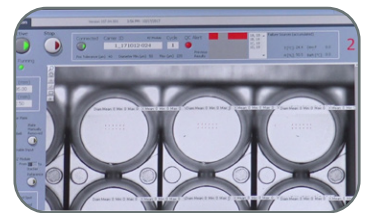
Stacking System with
Environmental Control



Drying Tunnel



UV Crosslinking Box



Online Array QC

Manufactured by SCIENION

- Infectious Diseases Multiplex Diagnostic Tests
- Multiplex Food Diagnostics Biochips
- High-Speed Optical Laser Detectors
- Biosensors Based on qPCR
- Gas and Odor Sensors



APPLICATION SUPPORT

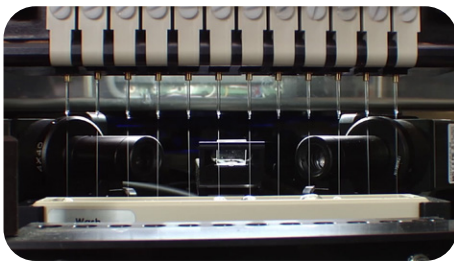
We optimize your production process to

Reduce Scrap Rate

Increase Efficiency

Maximize Return on Investment

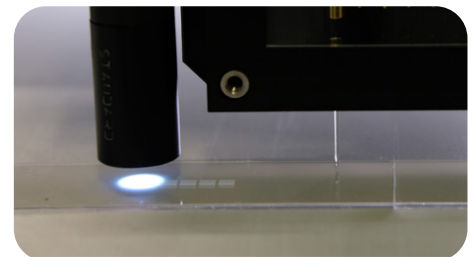
Possibilities are unlimited: starting from application support, including customized hardware and software solutions and process engineering adapted to meet your specific needs.



Up to 12 dispensing channels to maximize production throughput



Custom target holder to host nitrocellulose round membranes



UV-LED light source mounted next to the dispense head to crosslink probes right after printing

GLOBAL SERVICE & SUPPORT



- Highly Qualified Personnel for On-site Service & Support
- Quick Response Worldwide
- Service & Maintenance Contracts Tailored to Your Needs
- Preventive Maintenance
- Basic & Advanced User Training
- Wear & Tear Parts Stock Guaranteed



For Europe & Asia
For Australia, Canada & USA

+49 (0)30 6392 1700
+1 888 988 3842

sciFLEXARRAYER

Features/Options		S3 	S12 
Field of Use		R&D	Medium Scale
sciDROP PICO		Yes	Yes
sciDROP NANO		Yes	Yes
Number of Dispensing Channels		Up to 8	Up to 8
Spottable Area (X x Y)		227 x 276 mm	380 x 370 mm
Target Capacity		Up to 36 Slides 4 MTPs	70 Slides 12 MTPs
Axis System		X-Y-Z Spindles	X-Y Magnetic, Z Spindle
Axis Resolution (Step Size)		5 µm	1 µm
Axis Precision		< 5 µm	< 3 µm
Absolute Accuracy		< 15 µm	< 5 µm
HARDWARE OPTIONS	Dispense Control Station (CCD Camera)	Yes	Yes
	Head Camera	Optional	Optional
	3D Drop Camera	No	Optional
	Live Stream Camera	No	No
	Cooling / Heating Unit	Optional	Optional
	Humidity Control	Optional	Optional
	UV Light (Crosslinking)	Optional	Optional
	In-Line Degassing	Optional	Optional
	Anti-Static Bar	Optional	Optional
SOFTWARE OPTIONS	Spot-on-the-Fly	No	Optional
	Fiducial Recognition & Target Alignment	Optional	Optional
	Scan Spot Area	Optional	Optional
	Online Array QC	Optional	Optional
	sciPU VARIO	Optional	Optional
Dimensions with Enclosure (L x W x H)		760 x 850 x 650 mm	1300 x 800 x 1200 mm
Weight		130 kg	420 kg
Service and Maintenance Contract		Basic or Standard	or All-Inclusive Possible

sciFLEXARRAYER

SX



S100



Features/Options

High-Throughput

High-Throughput In-Line

Field of Use

Yes

Yes

sciDROP PICO

Yes

Yes

sciDROP NANO

Up to 8

Up to 12 / Custom

Number of Dispensing Channels

803 x 370 mm

Custom

Spotable Area

140 Slides
27 MTPs

Continuous production

Target Capacity

X-Y Magnetic
Z Spindle

X-Y Magnetic
Z Spindle, Conveyor Belt

Axis System

1 µm

1 µm

Axis Resolution (Step Size)

< 3 µm

< 3 µm

Axis Precision

< 5 µm

< 5 µm

Absolute Accuracy

Yes

Yes

Dispense Control Station (CCD Camera)

Optional

Optional

Head Camera

Optional

Yes

3D Drop Camera

Optional

Optional

Live Stream Camera

Optional

Optional

Cooling / Heating Unit

Optional

Optional

Humidity Control

Optional

Optional

UV Light (Crosslinking)

Optional

Optional

In-Line Degassing

Optional

Optional

Anti-Static Bar

HARDWARE OPTIONS

Optional

Optional

Spot-on-the-Fly

Optional

Optional

Fiducial Recognition & Target Alignment

Optional

Optional

Scan Spot Area

Optional

Optional

Online Array QC

Optional

Optional

sciPU VARIO

SOFTWARE OPTIONS

1550 x 850 x 1750 mm

1300 x 800 x 1200 mm

Dimensions with Enclosure (L x W x H)

410 kg

420 kg

Weight

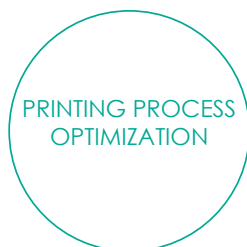
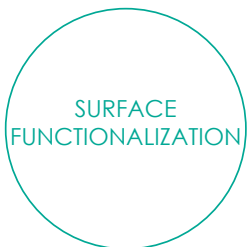
Basic or Standard or All-Inclusive Possible

Service and Maintenance Contract

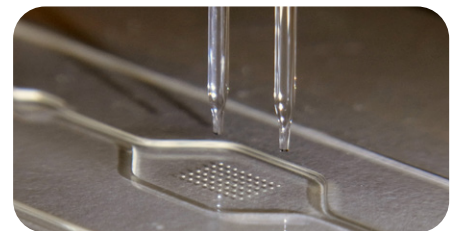
ASSAY DEVELOPMENT

SCIENION offers innovative, complete and flexible solutions for assay development and optimization for Diagnostics and Life Science research.

Our experts specialize in all aspects of successful assay development.



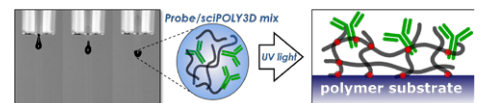
We work with **all typical supports** including microplates, biosensors, wafers, slides, nitrocellulose membranes, lateral flow membranes and microfluidic chips that are made of glass, silicon dioxide, polymers or gold.



PRINTING ON NON ACTIVATED SURFACES - MICROFLUIDICS

sciPOLY 3D

- Fast and Effective Surface Functionalization + Probe Immobilization Approach for Non Activated Surfaces
- Solution Containing a Soluble and Photoreactive Polymer
- Ideal for Polymer Surfaces as Microfluidics, Cartridges and Microplates



APPLICATION SUPPORT

- **Array Specifications**
Array Layout - Spot Diameter - Dot Pitch
- **Substrate Specifications**
Substrate Format - Surface Functionalization of Custom Supports
- **Printing Protocols**
Buffers - Concentrations - PDC Surface Chemistry - Wash Procedures



3 x 3



10 x 10



CUSTOM PATTERN



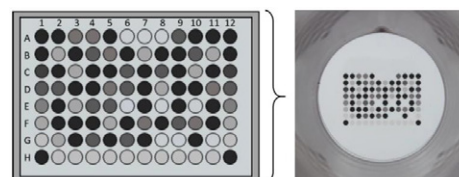
ASSAY DEVELOPMENT

ASSAY TO ARRAY TRANSFER - MINIATURIZATION & MULTIPLEXING

The primary motivator for transferring traditional ELISA assays to a miniaturized multiplex ELISA format is the significant **saving of time, assay materials and patient samples**. The **use of capture probes** for example, can be **reduced by a factor of 10^5 - 10^6** yielding equivalent data at the same or even better sensitivity. With multiplex ELISA tests, multiple analytes can be detected in parallel with all controls included in the same well. With SCIENION sciMULTIPLEX BOX, miniaturization and multiplexing can be achieved.

sciMULTIPLEX
BOX

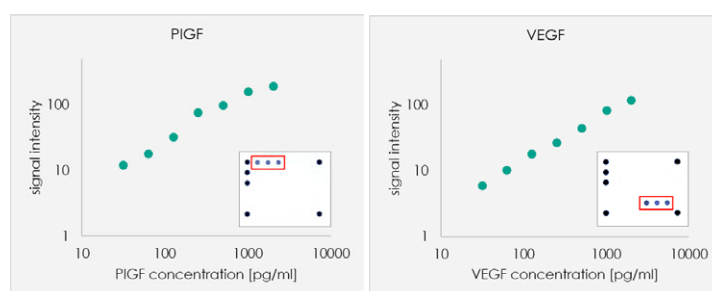
- High Quality Multiplex Immunoassays
- No Non Specific Antigen/Antibody Binding
- Reproducible Precision
- Large Dynamic Range (4 logs) with pg/mL Sensitivity



Enables miniaturization and multiplexing of classic assay applications to planar array format!

ASSAY OPTIMIZATION - CALIBRATION CURVES

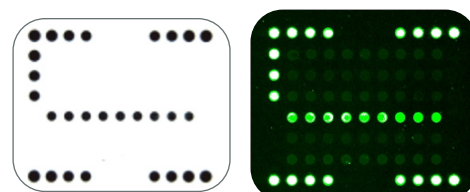
An example of assay optimization is the investigation of cardiovascular disease to diagnose its presence and progression using a panel of protein biomarkers in microarray format with a sandwich immunoassay constructed for each of the capture antibodies. Calibration curves confirm that sensitivity and dynamic range are comparable to standard whole well ELISAs (30 – 2000 pg/ml or 100 – 2000 pg/ml, respectively).



Calibration curves of two protein biomarkers.
One example microarray image is shown as an insert.

Two different detection formats were successfully tested with microarray ELISA.

The biotinylated detection antibodies were stained with streptavidin conjugated either with HRP for colorimetric readout (image left) or with Cy3 for fluorescent readout (image right).



ASSAY DEVELOPMENT

sciREADERs FAMILY: FL2, CL2 & Multiplex Lateral Flow



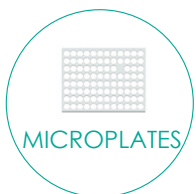
- High Resolution Digital Imaging for **Colorimetric** and **Fluorescence** Assays
- For Slides, Microtiter Plates, Lateral Flow Membranes and Custom Format

ANALYZING MULTIPLEX DATA of MULTIPLEX ARRAYS



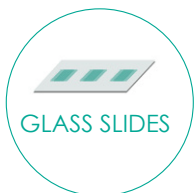
- Powerful Software
- Quantitative Detection
- Grouping of Spots and Definition of Custom Test Rules
- Fast Reading (2 min/plate)
- Automated Spot Finding, Image Analysis and Evaluation of Arrays
- Seamless Integration of GAL Files
- Fully Integrated Image Acquisition, Analysis and Reporting
- OEM Units with Software and Hardware Customization

sciCONSUMABLEs for HIGH QUALITY ARRAYS



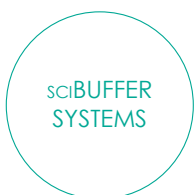
sciPLEXPLATE 96

- High Immobilization Efficiencies - Optimized Surfaces
- 12x8 Well Strips, 12x8 Single Breakable and 96 Well Solid Formats
- Functionalized Surface for DNA, Oligos and Protein Microarrays
- Compatible with Standard Lab Automation



sciCHIP

- High Density and Homogeneity of Coupling Groups
- **EPOXY** Coating for Oligos Immobilization
- **AMINO** Coating for Immobilization of PCR, RT-PCR Products
- **ALDEHYDE** Coating for Immobilization of Oligos, PCR Products, Peptides and Cells



sciBUFFER systems

- Optimized for DNA or Antibody Microarray Application
- Pre-Mixed and Sterile
- Compatible with All Major Microarray Spotters

CONTRACT MANUFACTURING

Using State-of-the-Art sciFLEXARRAYER technology, SCIENION achieves the highest quality and consistency for array production. Quality control of 100% of the arrays is guaranteed.

Leveraging our Contract Manufacturing Services saves your time and money, and enables you to focus on your core business.

FULL TEST DEVELOPMENT SERVICE: From Idea to Product

FEASIBILITY
STUDY

DEVELOPMENT
AND
OPTIMIZATION

VERIFICATION
AND
VALIDATION

PILOT
PRODUCTION



QUALITY CONTROL & ASSURANCE

- ISO 9001:2008 Quality Management System Certified for Development, Manufacturing and Sales of Dispensing Systems and Microarrays
- Clean Room Facilities
- Advanced In-Process QC, 100% Automated Array Control
- Functional QC: Application Tests of Randomly Selected Arrays
- QC Certificate Provided alongside with Each Batch of Arrays



Guaranteed Results:
Advanced QC of Each Printed Array
Short Production Cycles from
Purchase Order to Shipment
High Reproducibility in Diagnostic
Assay Performance
Knowledge Transfer at Any Time

"We have been using SCIENION manufacturing printing services to produce our CLART® product line. CLART® is a low density well-based microarray platform for clinical use that allows the detection of multiple targets in a single test. This technology, jointly developed between SCIENION and GENOMICA, has enabled us to meet high quality standards and a flexible production schedule."

Dr. María Luisa Villahermosa, R&D Director of GENÓMICA

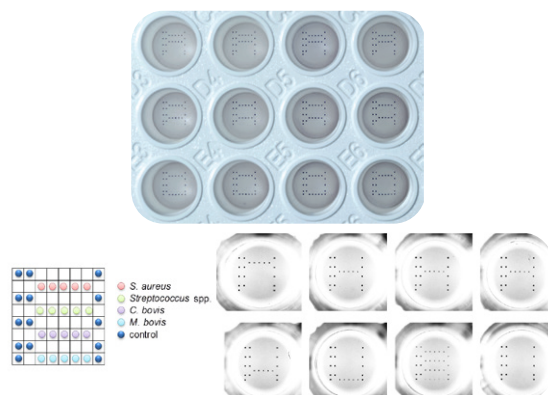


APPLICATIONS

SCIENION dispensing technology enables the deposition of small capture molecules on a wide range of surfaces for drug discovery and diagnostics. Below are several examples of applications of sciDROP PICO technology in different fields such as human, veterinary, food and environmental.

MULTIPLEX ELISA

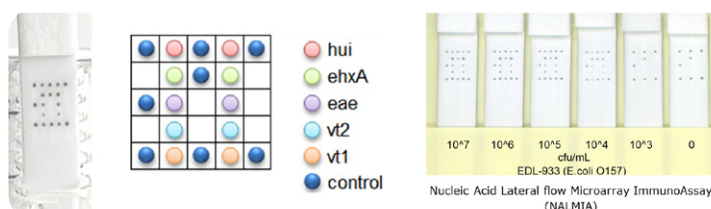
- High Quality Multiplex Immunoassays in 96 or 384 Well Plates
- Deposit a Matrix of Capture Antibodies in a Defined Array
- One Assay per Well
- Antigen and Antibody Binding Optimization
- Replicates for Robust Statistical Analyses
- Large Dynamic Range (4 logs) with pg/mL Sensitivity
- Reduced Sample and Reagent Use, Lower Assay Costs



Microarray-ELISA for the detection of specific amplicons from microorganisms that cause mastitis in cows.

MULTIPLEXED LATERAL FLOW

- Multi-Analyte Lateral Flow Microarray as a Diagnostic Method to Detect:
 - Proteins (Biomarkers, Toxins, Food Allergens)
 - Microorganisms
 - Specific RNA/DNA Sequences
 - Toxic Chemicals (Plasticizers)
 - Contaminants (Antibiotics/Pesticides)
- Save Time, Material, and Costs

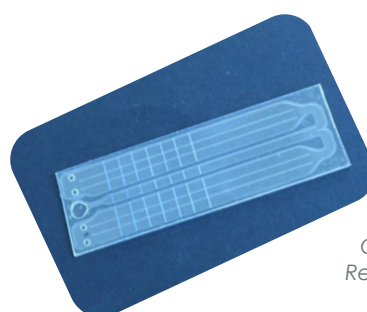


Lateral flow microarray immunoassay to detect genes that code for virulence factors from Escherichia coli O157.

Courtesy of Aart van Amerongen
www.wageningenUR.nl/fbr/sensing-and-diagnostics

POINT OF CARE TESTING

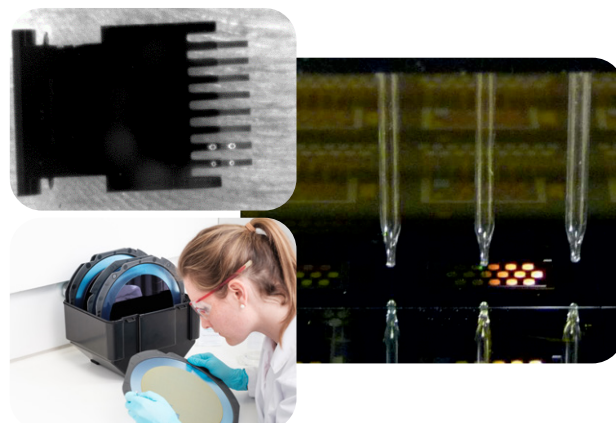
- Rapid Tests in Microfluidic Chip including a Reaction Channel and Waste Reservoir
- Multi-Analyte in a Single Test Readout
- Transfer of Existing Test to POC



Courtesy of Joanneum Research Institute (Austria)

BIOSENSOR LOADING

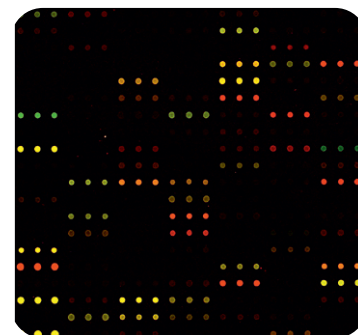
- Probe Deposition onto High Reflective or Particular Surfaces: Wafers, Chips, MEMs, CMOS, Optical Sensors, Cantilevers
- Software for Detection of Microstructures and Intricate Patterns on Biosensors
 - Fiducial Recognition
 - Target Alignment
 - Unsurpassed Level of Accuracy
 - High Reproducibility



APPLICATIONS

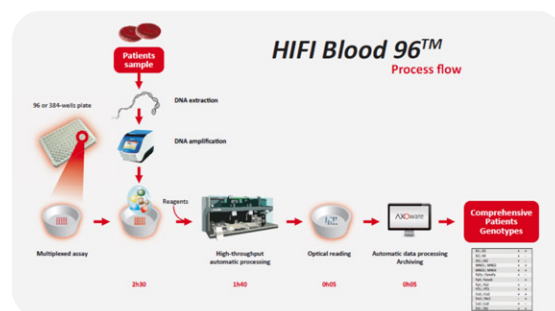
DNA BIOCHIPS

- Single or Double Stranded Nucleic Acid Spotted on e.g. Glass Slides in Microarray Formats
- Nucleic Acid - Nucleic Acid Interactions and
- Nucleic Acid - Protein Interactions as Diagnostic Tools
- Nanoliter PCR : Real-Time Expression Profiling and SNP Genotyping
- Efficient Analysis Methods: Fast Results and Low Cost



BLOOD GENOTYPING

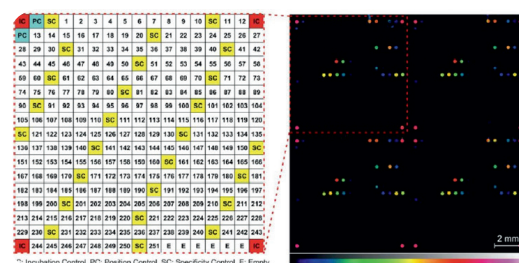
- High-Throughput, Fast, Reliable and Cost-Efficient Blood Genotyping Solution
- High-Throughput and Multiplexed Assay based on a DNA Chip
- Spotted Oligos (Specific for the Targeted Alleles) into 96 Well Plate
- Dedicated to the Genetic Characterization of Selected Extended Blood Groups



Courtesy of AXO Science (France)

PEPTIDE / PROTEIN BIOCHIPS

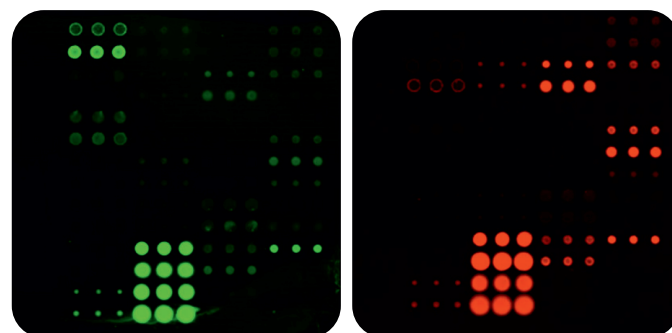
- Antibodies as Diagnostic Markers
- Accurate Characterization of the Antibody/Antigen Binding Region
- Excellent Performance and High Specificity in Single and Multiplex Antibody Analyses
- Multideterminate In Vitro Diagnostic Assay for Analysis of Heterogenous Antibodies involved in the Pathogenesis of Autoimmune Diseases



Courtesy of Heiko Andressen, Fraunhofer Institute for Biomedical Engineering
Published in J. of Immunological Met.
315, 11-18 (2006)

GLYCAN ARRAYS

- Glycan Microarrays for High/Throughput Approach to Determine the Specificity of Lectins, or Glycan-Binding Proteins (GBPs)
- Carbohydrate Studies as a Tool in Biological Research and Medical Applications
- Multiplex Glycan Microarray to detect Several Carbohydrate Specific Antibodies

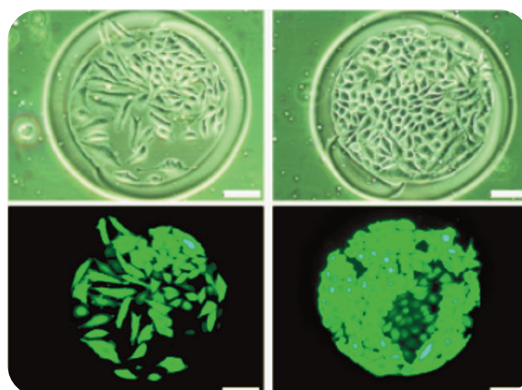


Multiplexed Glycan Array 12 x 14 multiplex
(green: coated glycans + serum1, red: coated glycans + serum2)

APPLICATIONS

CELL ARRAYS

- Immobilization of Vital Cells used in Cell Based Biosensors, Multiplexed Toxicity Assays, Drug Screening and Protein-Protein Interaction Studies
- Bacterial and Mammalian Cells Successfully Dispensed
- Cells Spotted into Microtiter Plates and onto Glass Slides
- Formation of 100 nL drops on 400-500 μm spots



Courtesy of Université Claude Bernard Lyon 1 (France)

MICRONEEDLES

- Microneedles to Deliver a Broad Range of Different Low Molecular Weight Drugs, Biotherapeutics and Vaccines, including Published In Vivo Studies with a Number of Small-Molecule and Protein Drugs and Vaccines.
- High Quality Loading of Different Kinds of Microneedles (Solid, Polymer Microneedles)
- Reduced Sample and Reagent Use, Lower Production Costs

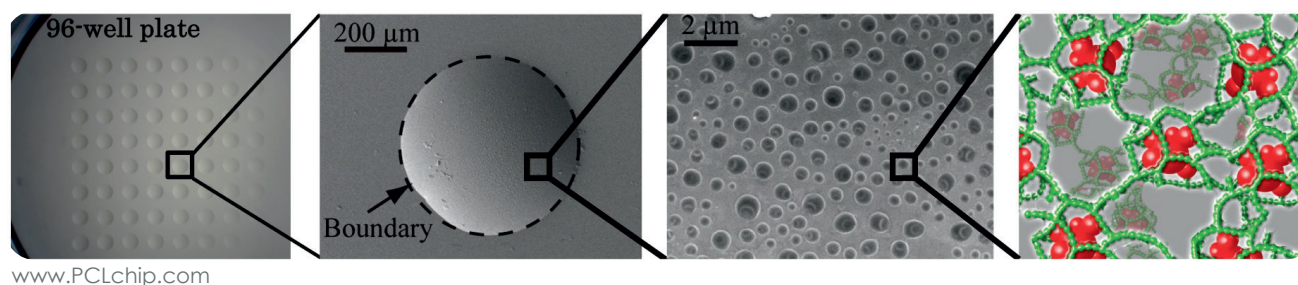


Courtesy of Tyndall National Institute (Ireland)

ENCAPSULATION TECHNOLOGY

PCL's SG Cap™ technology is an innovative new way to study molecular interactions. The SolB™ reagent captures large amounts of chemicals or macromolecules within a network of pores. Captured molecules remain in their natural conformation and in an active orientation, without the need for any affinity-tag modifications.

- Drug Target Identification by Compound – Target Protein Binding
- Multiple Disease Diagnostic Chip
- Detection of Protein Expression in Cell Lysates
- Reverse Phase Protein Microarray with High Dimensional Proteomic Data
- Study of Molecular Interactions, e.g. Chemical – Protein, Protein – Protein, Aptamer – Protein, etc



www.PCLchip.com

SINGLE CELL ISOLATION AND NANOLITER DISPENSING

cellenONE, an automated single cell dispensing system based on SCIENION piezo-acoustic technology, allows precise cell deposition on a wide range of microplates (96, 384, 1536) and microwell substrates.

Accuracy

Up to 100% single cells, forget Poisson distribution

Versatility

Cell types & concentrations. Nanoliter dispenser

Recovery

Small dead volumes & high recovery rate, thus ideally suited to rare or precious cells

Viability

No toxicity on dispensed cells, allowing further downstream work

Open-platform

Dispense into/onto any type of well or consumable (PCR plate, SBS microplates, microwells)



LOW VOLUME, HIGH VIABILITY & PRECISION SINGLE CELL ISOLATION

FOR SEQUENCING... FOR CELL LINE DEVELOPMENT... AND MUCH MORE



mAb



Stem Cells



CRISPR/CAS9



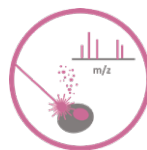
scRNA-Seq



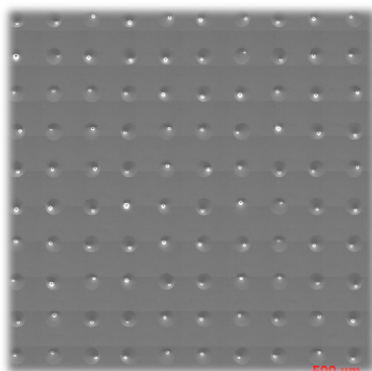
scATAC-Seq



scWGS



scMS



Single cells from dissociated lung cancer spheroids successfully isolated onto a microscope slide. Every position contains a single cell.

Reference Centers



WHY SCIENION?

SCIENION strives to develop innovative, reliable and cost efficient diagnostic and bioanalysis test platforms for the benefit of patients, consumers, public health and environmental protection globally. We aspire to be the number one partner for all players who share these common goals and to provide a broad range of solutions and services for our customers.

Experience with a focus on the future

Our considerable heritage makes us a reliable and competent partner. We have a close eye on and involvement with emerging research and key new developments in the field. We believe that our cutting-edge technology and know-how will continue to contribute to exciting advances in many areas such as personalized medicine, companion diagnostics, point-of-care testing, and wearable medical devices.

Solutions tailored for your needs

We are much more than an automation company. We are a complete solution provider for the diagnostic market with expertise ranging from assay development and optimization, through regulatory affairs to high-throughput production systems, with design and configuration tailored to meet your specific product needs.

Scalability made simple

Start small and grow big with us. Thanks to our in-house R&D teams we can offer the full range of services on your way to the market. Technology transfer can happen at any point of your project. Our contract manufacturing facilities (cleanrooms) are fully available to you if you use that route.

Global service and support

A team of qualified engineers and technicians serve our multiple clients from academia to the manufacturing sector worldwide. We understand the importance of application support, production process optimization and swift technical service. We strive to provide our clients with the highest level of security and rapid response time.

Quality comes first

SCIENION is certified according to DIN EN ISO 9001:2015 for the development, manufacturing and sales of dispensing systems, diagnostic manufacturing devices and microarrays. We generate loyalty from our broad customer base by providing high quality products and services and superior technical know-how and support.

They trust us



Stanford University

EUROIMMUN



INSTITUTO DE MICROELECTRÓNICA DE MADRID
(CENTRO NACIONAL DE MICROELECTRÓNICA)



QuantuMDx

SCIENION AG

+49(0)30-6392-1700

support@scienion.com

Volmerstr. 7b /
D-12489 Berlin, Germany

SCIENION UK Ltd.

+44 (0) 1243 887165

support@scienion.com

Chichester Enterprise Centre /
Terminus Road, PO19 8TX, UK

SCIENION US, Inc.

+1-888-988-3842

USsalesupport@scienion.com

2640 W. Medtronic Way /
Tempe AZ 85281

www.scienion.com