Mission Statement

Develop and provide fully integrated systems for life sciences research
Leverage proprietary approaches to empower advances in healthcare
Improve the quality of life through pre-symptomatic diagnostic testing

Business Overview 2011

Arrayit Corporation emerged as a publicly trading company on the OTC Bulletin Board in 2009 (Ticker Symbol: ARYC). Arrayit leads professionals in the microarray industry by developing, manufacturing and marketing life science tools and integrated laboratory platforms for the analysis of genetic variation, biological function, and diagnostics. Arrayit provides its specialized equipment, tools, microarray manufacturing services to more than 10,000 research laboratories, pharmaceutical companies, academic institutions, clinical research organizations, government agencies and biotechnology companies around the globe.

Arrayit Corporation is deeply committed to research and development in the area of cancer diagnostics, allergy, autoimmune and other disease testing. Through its subsidiary, Arrayit Diagnostics, Inc., the company plans to launch Arrayit’s first in-vitro diagnostic multivariate index assay for ovarian cancer, OvaDx®. The test uses more than 100 unique proteomic biomarkers to detect the immune response in early stage disease. Upon FDA approval, Arrayit and its strategic partners will mass market OvaDx® to health care professionals for use in the detecting even the earliest stages of ovarian cancer.

We are dedicated to providing the highest quality microarray products and services to our loyal customer base. We also strive to provide Arrayit shareholders with strong and continuing growth potential. Gene specific personalized treatments are in their infancy and with your continuing support, Arrayit Corporation will continue to be a major contributor in the revolution to provide personalized health care treatments that improve the quality of life.

Sincerely,

Rene Schena
Chief Executive Officer
rene@arrayit.com

Todd J. Martinsky
Executive Vice President
todd@arrayit.com
SpotBot® 3
Complete Protein Microarray Manufacturing System

- Compact and affordable
- Desktop microarray printing
- Cooling to 4°C
- DNA, RNA, proteins, peptides, antibodies, patient samples and other biomolecules

Get one today!

Arrayit CORPORATION
www.arrayit.com, (408) 744-1331 USA e-mail arrayit@arrayit.com. OTC: ARYC

SpotBot® 3 Complete Protein Edition (shown) SpotBot® 3 Microarray, Cooling Unit, Printing Solution, Wash Station, High-Speed Centrifuge, Hybridization Cassette and SuperEpoxy 2 Microarray Substrates.
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Titan Microarrays are highly recommended for research laboratories and core facilities requiring high-throughput printing capabilities. Constructed from space-age alloys and utilizing Arrayit’s patented printing technology, these systems offer high-speed and user-friendly microarray manufacturing at an affordable price.

**System Features:**
- Holds 136 substrates and 8 pre-prints (25 x 76 mm)
- Three 384-well microplates
- 48 microarray pins
- Professional printhead
- Repeatability of ±5 µm
- 250,000+ spots per substrate
- Megasonic pin cleaning
- Forced-air pin drying
- Humidity control of 10-80% RH
- Humidity maintained at ±1%

**SpotBot® Titan Microarray Robot**

**System Features:**
- Moderate buffer consumption
- 36 kg (80 lbs)
- 114 x 76 x 31 cm (45” x 30” x 12”)
- BioBlue computer & LED monitor
- Intuitive user software
- Print design wizard
- Magnetic door sensors
- Built-in vibration dampeners
- Pre-calibrated and ready to use
- Installation time of 2.5 hours
- Comprehensive technical support

arrayit.com  (408) 744-1331 USA
**SpotBot® Extreme** Microarray Spotters are the perfect microarrays for research laboratories and core facilities seeking greater speed and throughput while maintaining compactness, portability and affordability. Print 10,000 samples onto 28 substrates in 12 hours!

SpotBot® Extreme comes equipped with everything needed to print microarrays including including peristaltic pump, heavy duty gantry, advanced robotic micro-motors, high-performance professional series printhead and 16 patented 946 Micro Spotting Pins®, megasonic pin cleaning, wash and dry station and intuitive easy to use graphical software.

Built on the engineering technology of SpotBot® (350 installations worldwide and 100s of scientific citations), SpotBot® Extreme continues the legacy.

Features:
- Repeatability ±10mm
- 28 glass substrates
- (25 x 76 mm), optional preprints
- Single 384-well microplate capacity with manual plate changes
- Up to 5 replicates per sample
- Capable of high-density printing (50,000+ spots per substrate)

Features continued:
- Maximum printable area of 20 mm x 70 mm
- Sensors for user safety
- Compatible with Windows 2000 thru Windows 7 x64
- Compact size: 30 x 54 x 27 cm about 2 square feet!
- Weight: 11.4 Kg (24 lbs) including vacuum and peristaltic pumps.

SpotBot® Extreme Microarray Robot...........#SBX
SpotBot® Extreme Microarray Robot - Protein Edition (platen cooling from ambient to 4°C).............#SBXPRO

arrayit.com (408) 744-1331 USA
SpotBot® is the affordable automated personal microarrayer with over 339 installations worldwide! It prints one 384 well plate in triplicate on 14 substrates in less than 2 hours - the perfect complement to a microarray core facility and ideal personal microarrayer.

NEW! SpotBot® 3 Personal Microarrayer updates include: heavy duty gantry, professional series printhead*, new software and vision system. SpotBot® 3 is equipped with everything needed to print microarrays, including peristaltic pump, wash station and software. Options include megasonic wash station and platen cooling.

Microarrays printed with the SpotBot® 3 are compatible with all microarray detection platforms using standard (25 x 76 mm) glass substrates.

Features:
- Repeatability ±10μm
- 14 glass substrates (25 x 76 mm), optional preprints
- Single 384-well microplate capacity with manual plate changes
- Up to 5 replicates per sample
- Capable of high-density printing (50,000+ spots per substrate)

Features (cont.):
- Maximum printable area of 20 x 70 mm
- Sensors for user safety
- Compatible with Windows XP and 7
- Compact size: 22 x 30 x 30 cm (only about 1 square foot)
- Weight: 6.4 Kg (14 lbs) including vacuum and peristaltic pumps

Available soon: SpotBot® Turbo with 48 Pro Pins and 120 Slide Platen...#SBT

arrayit.com   (408) 744-1331 USA
NanoPrint™ Microarrayers are enterprise level systems for research and diagnostic microarray manufacturing of any biomolecule type.

NanoPrint™ Microarrayers print sub-nanoliter volumes and move in 500 nanometer steps. Sophisticated Warp1 controllers and linear drive technology on all three axes combine to afford sub-micron positional control on the entire line of NanoPrint™ Microarrayers. Systems are available in 60 and 210 substrate slide configurations - using patented Arrayit high throughput Professional, 946 and 192 Pin Printing Devices. Options include microplate stacker, environmental controls and and custom platens to accommodate any substrate format.

Features include:
User and version control management
Auto calibration of substrate and microplate positions
Complete sample tracking software
Support of input / output data files
Custom microarray and automatic method validation
Speed profiles and wash protocols
Runtime sample, spotting views, simulation mode
Easy to use graphical re-print wizard

NanoPrint™ 60....................................#LM60
 NanoPrint™ 60 Protein Edition......#LM60PRO
 NanoPrint™ 210.............................#LM210
 NanoPrint™ 210 Protein Edition...#LM210PRO

Linear servo motors provide:
Nanometer scale positional movement
Quiet operation, no vibration
Low heat generation, no motor dust
Superior accuracy, low maintenance
High load capacity
High user safety

Pictured is a NanoPrint Pro Printhead with 192 Technology. This device holds 192 pins at 2.25 mm centers in a 8 x 24 pattern to load samples from 1536 well plates. Patented (U.S. 6,101,946)

arrayit.com (408) 744-1331 USA
NEW! ArrayIt® InnoScan® 900 microarray scanners are the only 0.5 µm and 1.0 µm resolution substrate slide scanners on the market. Dynamic auto focusing ensures high uniform scanning across the entire substrate surface. Dual detection channels allow two-color scanning of an entire substrate in 3 minutes. Scanning resolution is adjustable from 0.5-40 µm, making the InnoScan® 900 ideal for all types of microarrays containing DNA, proteins, and other molecules.

The InnoScan® 900AL contains a 24 substrate slide autoloader while InnoScan® 710 and 710AL are affordable 3 µm systems. InnoScan® Scanners are compatible with content microarrays from every open-platform provider.

A high-speed computer and Mapix® Software are bundled with every scanner offering microarray image analysis that is intuitive, easy to use and combines imaging and analysis for superior performance. Mapix® achieves real-time adjustment of scanning intensity, easy channel balancing, data quantitation and data export.

Mapix® Software insures rapid and effective feature gridding through automatic spot searching and optimal grid alignment. These network compatible Windows and Linux systems are compact and weighs just 17 kg.

Microarray scanners with 0.5 µm and 1.0 µm resolution!

Use with Arrayit’s Ozone Free Box!

ArrayIt® InnoScan® 900 Microarray Scanner...#900A (shown)

arrayit.com (408) 744-1331 USA
Dr. Schena first introduced the use of microarrays as diagnostic tools in July of 2000. Microarray Dx is now on pace to become the most widely used form of microarray technology! We created the Personal Microarray Laboratory to serve this important emerging market segment!

**Personal Microarray Laboratory** for microarray manufacturing, processing and analysis.

This open platform system enables the printing and scanning of microarrays containing DNA, RNA, proteins, peptides, antibodies, patient samples and other biomolecules.

**Personal Microarray Laboratory...#PML**
**Personal Microarray Laboratory, Protein Edition...#PMLP**

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**Testimonial**

“We have built a successful Microarray Diagnostic Screening business around the SpotBot Microarray Robot and ArrayIt tools and reagents. Our microarray business is the most successful part of a very successful company. We see no limit to the number and kinds of assays we can convert to the microarray format. Thank-you ArrayIt for making this possible with your cutting-edge, affordable products.”

J. Tallern  
President, BioVend Inc.
NEW! **Arrayit Professional Series** printing pins and printheads meet the most demanding needs of microarray manufacturing. Contoured pin apertures reduce friction by 66% and tighten pin clearance to 2.5 µm for increased durability and accuracy. Professional technology is essential equipment for all professional microarray manufacturing applications including research, genomics, proteomics and diagnostics.*

![Arrayit Professional Series Printhead](image)

**Figure 1.** Pictured is the Arrayit Professional Series Printhead 48 (Cat. PROPH48) with forty eight Pro Series Pins. (Cat. PRO3). Pro Printhead has ultra high-precision contoured pin apertures and 2.5 µm printhead-pin spacing for greater durability and printing precision. The Pro Series Microarray Printing Pin features a 75 µm wide tip and a 0.25 µl sample channel. Pro Series pins are constructed from Arrayit’s proprietary RM101 alloy, which is 10-times more durable than stainless steel, ensuring 10 million printing cycles and faster printing speeds. Pin points are concentric to ±2.5 µm which allows perfect subgrid ("block") alignment and faster data analysis.

The patented **Micro Spotting Devices, PRO, 946, Stealth** and **ChipMaker**, are the most widely used microarray manufacturing technologies in the world. A full line of stock and custom **Printheads** are available to fit any robot. **Micro Spotting Pins** produce spot sizes ranging from 50-1000 µm, depending on the tip size. Over 60 different interchangeable pin styles are available with three different loading volumes, 0.25, 0.60 and 1.25 µl - producing 200,600 and 1200 spots per sample uptake (See Figure 2. below center). Custom pin loading volumes and tip styles are available by special request. Pint cells with **Whole Cell Microarray Printing Pins**.

Micro Spotting Pins do not require a tapping force to expel the sample, they utilize a surface tension printing mechanism. Printing relies on light contact between the pin, sample, and surface. The pins and printheads are durable for millions of printing cycles.

**Superior Design:**
- Surface tension printing mechanism
- Defined sample loading volume
- 60 different interchangeable styles
- Printheads to fit any robot

**Superior Performance:**
- 0.125, 0.25, 0.60 & 1.25 µl uptake
- 50-600 µm diameter spots
- Up to 1200 spots with one uptake
- Durable for millions of cycles

![Arrayit Microarray Printing](image)

**Figure 2.** 200,600 and 1200 spots per sample uptake (946MP3). Protected by U.S. Patent #6,101,946.

**The Industry Standard:**
- >3,500 installations worldwide
- “Zero” mechanical variation
- Award winning customer support
- Popular line of supporting products
- Used in thousands of publications

**Pricing:**
- Printing Pins................see price list
- Printheads......................see price list

*Diagnostic applications require license.
The Pro, 946 and Stealth Microarray Printing Technology Printheads are available in 4, 32, 48 and 64 Pin configurations. They accommodate the complete line of Pro, 946 and Stealth Micro Spotting Pins.

NEW! The Pro Printhead is compatible with all motion control systems. Its lightweight design and tighter tolerances are an industry first!
Pro Printhead (48 Pins)...#PROPH48

NEW! Professional Series Printing Technology.

Pro Pins extended collar design permits easy handling with our new manual Pin Tool. Pro Pins are interchangeable with 946 and Stealth. Pro Pins deliver greater durability, precision and accuracy. All Pins come in sixty tip sizes with three sample loading volumes.

Custom Printheads designed for any microarray robot including Genetix, Genomic Solutions, IAS, PerkinElmer, QBOT and Robodesign.
Pictured is Genetix Stealth 48 Pin...#GSPH48L

“Safety box” packaging insures safe and pristine delivery.

Microarray 946 Printing Technology - precision, reduced weight and extended collar design.
946 Micro Spotting Pins...#946

Professional 48 Pin Printhead for NanoPrint.
NanoPrint Printhead 48 Pin...#PRONPPH48

Stealth Micro Spotting Pins, sixty tip sizes, 0.25, 0.6 and 1.25µl loading volumes.
Stealth Microarray Printing Pins...#SMP

Pins and printheads protected by U.S. Patent #6,101,946.

arrayit.com (408) 744-1331 USA
Magical Microarray Substrates

- Polished to atomic flatness
- Cleanroom manufacturing
- Stable surface chemistries
- Extended shelf life
- Free of DNAses, RNases and proteases
- Chamfer orientation
- Covalent, electrostatic, and hydrophobic binding
- Genomics, proteomics, drug discovery and diagnostics

arrayit.com

Arrayit Corporation
USA e-mail arrayit@arrayit.com OTC: ARYC

**SuperClean 2 - Premium Microarray Substrates**
Polished, atomically smooth, clean and ready for chemistry.
SuperClean 2 (Box of 25)...#SMC2
SuperClean 2 Barcoded (Box of 25)...#SMC2BC
All Substrates available Barcoded.

**SuperAmine 2 - Premium Microarray Substrates**
Electrostatic coupling of biomolecules. Very popular!
Immobilize long oligonucleotides and cDNAs.
SuperAmine 2 (Box of 25)...#SMM2

**SuperAldehyde 2 - Premium Microarray Substrates**
Covalent DNA and protein coupling via primary amines. Ideal for amino modified oligos, amino modified cDNAs, proteins, cells, and tissues.
SuperAldehyde 2 (Box of 25)...#SMA2

**SuperEpoxy 2 - Premium Microarray Substrates**
Covalent binding via amines, thiols, and hydroxyls. Immobilize amino modified and unmodified oligos and cDNAs, immobilize proteins, peptides, cells, tissues etc...
SuperEpoxy 2 (Box of 25)...#SME2

**NEW! Super Microarray Substrate 3 Series**
A sophisticated ultra-clear, ultra-transparent silicon dioxide glass surface possessing the highest coupling efficiency and lowest intrinsic fluorescence on the market.
SuperClean, Amine, Aldehyde and Epoxy

**SuperStreptavidin** - streptavidin activated to bind biotinylated biomolecules.
SuperStreptavidin (Box of 25)...#SMS

**SuperNitro** - Immobilize various biomolecules including proteins, carbohydrates and DNA! Higher binding capacity (2 µg/mm²) than any protein microarray surface available.
SuperNitro (Box of 25)...#SMN

**Substrate Specifications:**
- Polished - atomically smooth glass
- Class 100 cleanroom manufacturing
- Stable reactive surfaces, clear or mirrored
- Long shelf life at room temperature
- Free of DNAses, RNases and proteases
- Chamfer for unambiguous orientation
- Optional standard or custom barcode
- Covalent, electrostatic, hydrophobic binding
- Genomics, proteomics, diagnostics, drug discovery and other microarray applications
Atomic Force Microscopy (AFM) reveals how glass surface topology affects microarray spot morphology.

**Super Microarray Slide Substrates**
are homogeneous. The smooth surface enables even deposition of surface chemistries and perfect spot morphology. Atomic Force Microscopy (AFM) analysis reveals average flatness of 2.0 nm or 20 angstroms, equal to 10 silicon dioxide bonds. All ArrayIt® Super Microarray Slide Substrates utilize this pristine, atomically flat glass surface, the only flat polished glass slide substrates available in the field.

**Competition’s Brands**
Conventional Slide Surfaces
are heterogeneous. The rough surface topology results in uneven deposition of biomolecules with clustering, accretion and pooling, causing poor spot morphology. Atomic Force Microscopy (AFM) analysis reveals poor surface topology. The surface shows roughness and bumps, that cannot be cleaned or removed. Conventional glass slides are raw and unpolished.

All Substrates are available with chemical-resistant barcodes. **Custom Processes** include Ink Screen, Teflon Mask, Chrome Lithography, and Laser Ablation. Create designs to 5 micron accuracy for fiducials, gaskets, alignment marks, numerals or logo artwork.

Custom Processes, request quote...#CCSL
Barcoded...see price list.

**Quality Control:**
Super Microarray Substrates are manufactured in state-of-the art class 100 cleanrooms with air, humidity, temperature and lighting controls. Rigorous monitoring of each individual substrate including confocal laser scans and contact angle testing guarantees the highest quality product!

NEW! Ask for glass and surface chemistries in custom sizes!
Custom glass coverslips, microfluidic biochip devices, prisms and unique shapes. Clean or with any surface chemistry. Thickness from 0.05mm to 150mm.

**Glass Specifications:**
Slide format (25 mm x 76 mm x 0.960 mm)
Smoothness (<50 angstroms over entire surface)
Refractive index of 1.52 (400 - 700 nm)
Tolerances (25±0.2 mm x 76±0.3 mm x 0.96±0.025 mm)
NEW! SpotBot® HD Vision System with high-resolution digital camera, tripod and custom software interface to view and record absolute positional coordinates on the printing deck.

SpotBot® HD Vision System allows visualization of microscopic substrate elements such as 100 µm microelectrodes (see insert) using a digital camera with 10 µm spatial resolution. This unique tool, when combined with a SpotBot® 3 or SpotBot® Extreme Personal Microarrayer allows direct and accurate targeted spotting onto semiconductors and other small feature sensor chips.

View and record absolute positional coordinates on the printing deck. Monitor live video from the camera and zoom to view the details. The system allows users to place the printing pin tip at precise locations - empirically. No need to develop exact mathematical models to guide the printing device. Set up and print to precise locations in real time. Verify sample deposition visually.

Vision System Software utilizes an efficient graphical-user interface that is intuitive and easy to run. It prompts and requests confirmation in dialogue boxes. Simply move the printing pin tip to the first fiducial point (using a lateral tab), calibrate the point down to 10 microns and set the X,Y and Z coordinates, then click done!

Built on the engineering technology of SpotBot® (the affordable automated personal microarrayer with over 335 installations worldwide and hundreds of scientific journal citations), SpotBot® HD Vision System is used in the most advanced labs in the world.

Features:
- Easy to use software
- Accurate to ±10 microns
- Live HD video feed of substrate and pins
- Calibrate printing positions empirically

Highly recommended for:
- Aerospace
- Bioengineering
- Material science
- MEMs
- Microfluidic chips

arrayit.com  (408) 744-1331 USA
NEW! **ArrayIt® Ozone & Dust Free Box**  All ambient air contains ozone and dust. This revolutionary system removes ozone and dust from the ambient air to prevent the degradation of fluorescent dyes, keeping microarrays and equipment clean. It is an optimal working environment for microarrays that use fluorescent dyes that may degrade at ozone concentrations greater than 5 parts per billion (5 ppb). The work environment remains ozone and dust free - even with the door open!

The Ozone & Dust Free Box accommodates many types of microarray processing and laboratory equipment. Shown here is a Hybridization and Scanning Platform featuring the **ArrayIt® TrayMix™ S2 Microarray Hybridization Station**, **ArrayIt® Microarray High-Speed Centrifuge** and **ArrayIt® InnoScan® 900A**, installed inside an **Ozone & Dust Free Box**.

**Compartment dimensions:**
80 cm x 80 cm x 100 cm
(Plus 22.5 cm of control and catalyzer filter box).
Available in lengths of 150 or 200 cm and in custom sizes.

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The Ozone & Dust Free Box uses an air circulation loop that forces the air inside the modular enclosure through a highly efficient catalytic converter, converting ozone to oxygen. Dust and small particles are also removed using a HEPA filter located in the fan assembly. The use of a powerful catalytic monolith technology guarantees an ozone level lower than 1 ppb with the door closed and 5 ppb with the door open. Under normal atmospheric and temperature conditions, the catalyst filter should last two years. Ozone is converted with an airflow of only 1.5 m/s.

Data (right) compare two microarrays exposed to different levels of ozone prior to scanning. Improved signal to noise ratios are easily observed.

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**ArrayIt® Ozone & Dust Free Box...**Cat. OFB100
(shown) also available...Cat. OFB150 & Cat. OFB200

**Exposed to 30 ppb ozone.**

**Exposed to less than 5 ppb ozone.**

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arrayit.com  (408) 744-1331 USA
**NEW VERSION! SpotLight™ Fluorescent Microarray Scanners**, superior performance and efficiency compared to laser scanners. Uses new “cool” excitation technology, sensitive deep-space imaging detectors, high numerical aperture lenses and custom filter sets to capture more signal than other microarray scanners. Excellent field uniformity and rapid scan speed. Scan 1.0 cm² regions anywhere on the glass substrate (25 x 76 mm). Perfect SpotBot® companion, ideal for diagnostics - affordable!

**Features:**
- “Cool” excitation
- Superior detectors
- High signal to noise ratio
- 10 micron resolution
- 16 bit data
- Low fluorescence background
- Cyanine 3 & Cyanine 5 detection

**SpotWare™ Colorimetric Microarray Scanners**, complete software and hardware solutions. Leverages alkaline phosphatase (AP) and horseradish peroxidase (HRP) labels. Works with membrane based slides, plates and microfluidics.

**Flexible:**
- High-speed colorimetric scanning
- Adjustable gain
- 5, 10, 20 and 50 µm scanning resolution
- Accommodates 12 microarray substrates
- For research and diagnostic applications

**Pin and Printhead Cleaning Kit** guarantees performance of Micro Spotting Devices. Ultrasomics and newly formulated cleaning agents remove contaminants at the atomic level.

Pin and Printhead Cleaning Kit...#PPCK80UB

**Custom modules:**
- Fluorescein analogs
- TRITC (Rhodamine)
- APC
- Ethidium Bromide
- Alexa Fluors
- GFP

**Microarray High-Speed Centrifuge**
Remove wash buffer and dry microarray slide substrates in seconds.

#MHC110V or #MHC220V
Hybridization Cassettes designed to facilitate coverslip biochemical reactions of DNA, protein and peptide microarrays. Accommodates 25 x 76 mm substrate.

Microarray Hybridization Cassettes 1x24, 1x16, 4x24, 4x16
The AHIC1X24 (right) has a well size of 7.5 mm x 6.5 mm with 75 - 100 μl reaction volumes. The 3 x 8 format with 9 mm center-to-center well spacing enables loading by multi-channel pipettes or automated robots. Hybridization Cassette...#AHC

24 Well Hybridization Cassette (below) allows submersible temperature controlled reactions without sample evaporation.

Six colors available, all suitable for use in 0-100°C. No tools required. Ruby, Citrine, Peridot, Topaz, Amethyst, and Black.

High Throughput Wash Station, for 25 microarray slides, works with aqueous based buffers and any magnetic stir plate. High Throughput Wash Station...#HTW

24 Well Features
- Multiplexed 24 well format
- 9 mm center to center spacing
- Reaction volume 50 μl per well
- Pristine reaction environment
- Durable gasket can be reused many times

24 Well Multiplexed Hybridization Cassette...#RC1x24
Hybit Hybridization Solution 1.25X, 1 ml
UniHyb Hybridization Solution 1.25X, 1 ml
Hybit 2 Hybridization Solution 1.25X, 1 ml
Micro Spotting Solution 2X, 50 ml
Micro Spotting Plus 2X, 50 ml
AP Reaction Buffer 3X (30 ml)

BlockIt™ Microarray Blocking Buffer

Micro Spotting Solution Plus 4X
Micro Spotting Solution 2X, 50 ml
Micro Cleaning Solution 20X, 50 ml
Protein Printing Buffer 2X, 50 ml

arrayit.com  (408) 744-1331 USA
Super Protein Blocking Buffer 1X, 250 ml.............#SPBB
SuperHyb™ Hybridization Solution 1.25X, 1 ml.....#SHS
PCR Binding Buffer..............................................#PCRBIND
PCR Wash Buffer..................................................#PCRWASH
Human Universal Reference mRNA 30 µg............#URH
Arrayit® has been developing **Protein Microarray** technology since 1997. As leaders in the field, we have created the essential tools, kits, reagents, instruments, and content necessary for protein microarray analysis. Key components of the Arrayit® protein microarray platform are the SpotBot® and NanoPrint™ Protein Edition microarrayers with cooling capabilities, protein spotting buffers, protein microarray substrates and surface chemistries, and pre-printed protein microarrays. Arrayit® also offers contract protein, peptide and small molecule microarray manufacturing through our Microarray Services Division.

Arrayit® microarray technology empowers the manufacture and analysis of many different types of protein microarrays including those representing the proteome. Target proteins are printed onto derivatized or membrane-coated glass substrates using patented contact printing technology (U.S. 6,101,946) and a suitable motion control system. The printed protein microarrays are processed and reacted with protein probe mixtures derived from cell lysates, serum samples or other sources. Fluorescent, colorimetric, chemiluminescent and unlabeled protein probe molecules are detected using standard microarray scanners, surface plasmon resonance, or mass spectrometry. The full gamut of protein biochemistry questions can be addressed with our protein microarray platforms.

**Protein microarray applications include:**

- Expression profiling
- Serum-based diagnostics
- Protein-protein binding assays
- Drug-target binding
- Receptor-epitope binding

The inherent multiplexing and miniaturization of Arrayit® microarray technology allows the analysis of tens of thousands of proteins in a single binding step. Important assays include drug binding, structural studies, enzyme analyses, and pathway elucidation. Microarrays are excellent tools for discovering novel proteins key to understanding disease progression and safe and affordable drug development.

Pharmaceutical and biotechnology companies employ our protein microarray technology to streamline drug target identification, validation and toxicity testing.

Recombinant proteins, antigens, antibodies, protein domains, peptides, cellular extracts and other sources of polypeptides are printed into microarrays using the SpotBot®, SpotBot® Turbo or NanoPrint™ microarrayers, and reacted with labeled probe molecules derived from any protein source capable of binding to the immobilized target proteins. A nearly infinite variety of protein-protein assays can be devised using the “open platform” architecture of Arrayit® protein microarray systems.
Overview of Arrayit® Protein Microarray Services, Instrumentation, Buffers, Microarrays and Slide Substrates.

Protein Microarray Manufacturing Services
Protein, Peptide, Reverse Phase and Small Molecule

Custom Microarray Manufacturing consistent with FDA MicroArray Quality Control (MAQC-I, II) standards for research and research diagnostics. Sample preparation, tracking and micro spotting performed in class 100 cleanrooms with advanced robotics and patented printing technology. Confidentiality assured under NDA. Pilot studies to high throughput manufacturing.

Call for quote.

Protein Edition Instrumentation
Microarray Printers, Scanners and Hybridization Stations

Microarray Robots NanoPrint™, Titan, SpotBot® Extreme and SpotBot® 3 have optional deck cooling from ambient to 4°C for protein microarray printing. Scanners InnoScan®, ArrayPix™ and SpotLight™ are all compatible with protein microarrays. Hybridization instruments Array Plate and TrayMix™ Automated Hybridization Stations also support protein microarrays.

Protein Microarray Buffer Kit
Kit includes activation, reaction, wash and rinse buffers. Buffers are 0.1 μm-filtered, pre-mixed and ready to use. Kits are designed to increase signal strength and reduce background. Highly recommended for peptide, antibody, antigen, reverse phase and PlasmaScan™ Microarrays.

Protein Microarray Buffer Kit...#PMBK

PlasmaScan™ Antibody Microarrays
PlasmaScan™80 / PlasmaScan™380 antibody microarrays contain 80 and 380 (respectively) different mAbs printed on glass substrates. PlasmaScan™ is the only microarray that contains non-redundant mAbs raised exclusively against native human plasma proteins. PlasmaScan™ antibodies recognize naturally occurring post-translational modifications and folding to allow the correct detection of glycosylation and other modifications that are highly antigenic.

Arrayit® PlasmaScan™ Antibody Microarray...#PS80 and...#PS380

Protein Microarray Substrate Slides
SuperAldehyde 2, SuperEpoxy 2, SuperNitro and SuperProtein: Glass engineered for microarrays - maintains the five essential characteristics:
- polished surface
- flatness
- parallelism
- durability
- low intrinsic fluorescence.

SuperEpoxy 2 (Box of 25)...#SME2
Single Tube, 96-well & 384-well PCR Purification Kits allow high-throughput purification of PCR products for DNA microarrays, sequencing, and other applications.

Using sophisticated membrane separation technology, these kits remove unwanted salts, enzymes, primers, unincorporated nucleotides, and other contaminants from PCR products. Arrayit® kits increase the quality of microarray data, labeled probes and sequencing products! More affordable than competitor’s kits!

**Superior Purification Kits:**
- Reduce background and improve signal intensity
- Increase coupling efficiency
- Supports native and modified PCR products
- Work on 2D and 3D microarray surfaces
- Filter chemistry provides >99% PCR purity
- > 90% yield (versus 25-75% other brands)
- No glass fiber contamination
- Purifies 50-10,000 bp PCR products
- 0.2 μm-filtered for optimal performance
- Designed for manual or automated use

**Fluorescent Probe Purification** kits utilize sophisticated separation buffers in a convenient single column kit. Works with amino allyl labeling dyes from any vendor.

Fluorescent Probe Purification,
50 Single Columns..........................#FPP
1 x 384-Well Microplate Format.....#FPP384

**Dye Terminator Clean Up** Kits 1 x 96 and 1 x 384-Well Microplate Format. For high throughput DNA sequencing!
96-Well Kit...#DTC96
384-Well Kit... #DTC384
Arrayit® Microarrays are the best quality available. Extraordinary resources are devoted to each chip. See SERVICES page for information on Arrayit® Microarray Manufacturing.

H25K
Whole Human Genome Microarray

H25K is the world’s first human genome microarray based on the completely sequenced human genome and derived from a fully annotated set of 25,509 human genes. This next generation microarray represents a significant advance over competing products consisting of collections of expressed sequences tags (ESTs) from poorly annotated sequence databases.

H25K is a multi-purpose microarray containing 26,304 long oligonucleotides designed to maximize studies of the entire human genome in a single biochemical reaction. Researchers can utilize samples prepared from genomic DNA, mRNA and protein to study problems ranging from karyotyping and gene expression profiling to chromatin structure and protein-DNA interactions. For gene expression users, this revolutionary one spot-one gene™ design allows the quantitative measurement of >300,000 human transcripts in a single hybridization reaction. The most advanced bioinformatics, oligonucleotide manufacturing, microarray printing and surface chemistry provide streamlined data analysis and mining. Fully compatible with an installed base of >10,000 microarray substrate slide scanners, H25K sets a new standard for human genome microarrays.

The H25K microarray contains a single set of gene-specific identifiers capable of examining the entire human genome. It is the only whole human genome chip in the world to provide this capability.

H25K Whole Human Genome Microarray...#H25K
Biomarker Discovery and Validation Services...#BMR1 - BMR5
Discover™ Chips offer an opportunity to examine 380 popular, well studied genes from four important organisms: Arabidopsis, Human, Mouse and Rat.

Discover™ Chip oligonucleotide microarrays contain 380 genes selected from 30 major functional groups, providing broad coverage of physiological and transcriptional information. The highly optimized and melting temperature-matched 70-mers were synthesized and printed in class 100 microarray cleanrooms. Discover™ Chips yield outstanding microarray data!

Four negative controls are included with the gene sequences. The control oligos are designed for uniqueness computationally by “crunching” the sequences against the public sequence databases to avoid cross-hybridization.

Arabidopsis...#DCA
Human...#DCH
Mouse.........#DCM
Rat.........#DCR

CheckIt™ Chips Kit

CheckIt™ Chips Kits contain microarrays and fluorescent probes for test hybridization and quality control experiments.

Each kit contains 5 printed microarrays, 8 glass coverslips, plus aliquots of Seelt™ Universal probe and Hyblt™ buffer.

Hybridize Seelt™ probe to test for microarray element attachment. CheckIt™ Chips microarray elements are custom 70-mer oligos, in both sense and antisense orientations. Easy to read 300 µm spots are printed in duplicate as two 10 x 10 grids.

Great for practice experiments!

CheckIt™ Chips Kit...#CHK
Microarray Manufacturing Services deliver the highest quality custom micorarrays available for any biomolecule. Expert sample preparation, meticulous handling, data tracking and the highest specification precision manufacturing - all in class 100 cleanrooms with state-of-the-art robotics - guarantee production of the world's best microarrays. Performed confidentially under strict NDA.

Manufactured Chip Specifications:
- Any sequence, any biomolecule, any application!
- Robotics with ± 0.5 µm positional accuracy.
- Arrayit’s patented printing technology (U.S. 6,101,946)
- Triplicate* spotting assures high data precision and low CVs.
- Proprietary, covalent coupling chemistries - stable to 100°C.
- Provide substrate or use Arrayit Super Microarray Substrates.
- Arrayit substrates are pristine, atomically smooth glass surfaces.
- Barcoding allows automated chip identification.
- Substrates can be plates, microfluidic chips or custom formats.
- Manufactured in state-of-the-art class 100 cleanrooms - designed and custom built for microarrays.
- Low reaction volumes (1-15 µl) speed kinetics, maximize signals.
- Wide range of parallel analysis applications.
- Develop new assays, discover, patent and publish results.
- Turnaround time of 2-4 weeks.

* Replicates specified by the customer.

Flex Chips:
- Provide any sample and Arrayit® prints microarrays!
- Customer provides the samples in 384 well microplates
- Microarrays of cDNAs, oligos, PNAs, small molecules, peptides, receptors carbohydrates, BACS, proteins or any biomolecules.
- Rapid turnaround time of 2-4 weeks.

Oligo & Peptide Design Services
- Provide data and Arrayit® designs gene-specific oligos or peptides that are uniquely present in the genome or proteome.

Oligo Design Directive
- The oligos map to 1,000 nucleotides of the 3’ end.
- Sequence repeats and long stretches of poly A, G, C and T, are avoided.
- Melting temperatures of the oligos are matched within a selected range.

eChips:
- Provide oligo or peptide sequence, Arrayit® prints microarrays!
- Customer provides sequence information.
- Internet services allow electronic design and ordering.
- Reasonable turnaround time of 2-4 weeks (large orders with oligo design and synthesis may take longer).

Oligo & Peptide Synthesis
- Arrayit® provides professional oligonucleotides or peptides for your specific needs.
- Premium oligonucleotides & peptides
- Testing conducted to establish concentration and stability
- Arrayit® coordinates time table
- Arrayit® protocol for handling and shipping samples.

For pricing and quote email arrayit@arrayit.com
HYBRIDIZATION

Todd Martinsky envisioned the need for microarray products in 1995. Since then, Arrayit has introduced more than 900 products into the marketplace including advanced hybridization stations for all microarray laboratories.

**Array Plate Hybridization Stations**

Array Plate Hybridization Stations permit automated time, temperature and mixing control of 4x16 and 4x24 Multi-Well Hybridization Cassettes. Hybridize and incubate 96 DNA, protein, peptide or carbohydrate microarrays at a time using digital and Peltier control. Supports many other applications including cell studies, transcription, immunoprecipitation, enzyme kinetics, and other hardware types including microplate and single tubes.

Designed and developed to rapidly and efficiently hybridize and/or incubate DNA, protein, carbohydrate and peptide microarrays. Multi-Well Hybridization Station customers will appreciate the following:

**Features**

- Easy-to-use digital interface
- Track operations on high-luminosity 3-color digital display
- Versatile block accommodates microplates and single tubes
- Compatible with microplate hardware AHC4X16 and AHC4X24
- Temperature range: ambient to 100°C
- Timer range: 1 min to 100 hr
- Mixing speed: 300-1,500 RPM
- 10 min heating time from 20°C to 100°C
- Dimensions (L x W x H): 32.5 x 26.5 x 17.0 cm (12.8 x 10.4 x 6.7 in)
- Net weight: 8.5 kg (18.7 lbs)

Array Plate Multi-Well Microarray Hybridization Station...#MMHS110V

**Multi-Well Hybridization Cassette**

uses silicon gaskets to create 96 - 7.5 x 6.5 mm wells in four 3x8 patterns at 9 mm centers and microplate foil seals to eliminate sample evaporation. Accommodates four substrate slides.

Hybridization Cassette, 4x24...#AHC4x24

**Arrayit TrayMix™ S4 Automated Hybridization Station**

Micro-mixing system based on patented chaotic advection for microarray hybridization. Superior results are obtained by homogeneous dispersion of molecules throughout the computer controlled 21 x 60 mm chemical resistant hybridization area.

TrayMixS4 significantly reduces hybridization times while offering reproducible and robust results from one experiment to the next using as little as 5 pmole of biological target. Achieve greater hybridization specificity while reducing coefficients of variation. Enhance gene expression, detection of mutations, microarray comparative genomic hybridization, genotyping, FISH, and more.

Arrayit TrayMix™ S4 Automated Hybridization Station...#TMHS

**NEW! smaller reaction volumes**
NEW! **Arrayit OvaDx® Ovarian Cancer Research Test** is the market’s first pre-symptomatic screening test for ovarian cancer. OvaDx® is an advanced microarray-based blood serum test that measures the activation of the immune system in response to early state ovarian tumor cell development.

Research studies with OvaDx® indicate high sensitivity and specificity for all types and stages of ovarian cancer including stage Ia-IV borderline serous, clear cell, endometrioid, mixed epithelial, mucinous, serous, and ovarian adenocarcinoma. Serum is applied to the OvaDx® microarray to allow binding between proteomic biomarkers in the sample and approximately 100 capture agents on the microarray. The microarray is washed and scanned to produce a digital readout for each serum sample, and the data are quantified and analyzed in software to generate the test results.

**Research Applications** OvaDx® can be used to analyze different tumor types and stages, the effectiveness of chemotherapies, biomarker profiles in breast cancer and other epithelial cancers, studies of benign gynecological conditions, the effectiveness of ovarian cancer drugs for treatment and prevention, and to benchmark existing tests including CA-125, OVA1®, HE4 and transvaginal ultrasound. OvaDx® is sold for research purposes only and customers expressly agree that test results will not be used for diagnostic purposes or for patient management. Arrayit Corporation disclaims any liability resulting from improper use of this research product.

**Sample and Labeling Requirements:**
Draw fresh blood intravenously (0.5-1.0 ml), collect in a red-top tube with no additive and centrifuge immediately for 5 min at 6,000 rpm (2,000 x g) to isolate the serum fraction (top layer). Transfer serum (0.1-0.25 ml) to a fresh microfuge tube or sample vial and freeze immediately at -20°C or -70°C. Previously prepared samples stored at -20°C or -70°C are also acceptable. Label each sample clearly with a permanent marker or adhesive label prior to shipping.

Ship samples overnight on dry ice with annotation and complete investigator contact information to:

Arrayit Corporation
OvaDx® Receiving
524 East Weddell Drive,
Sunnyvale, CA 94089 USA

For Research Use Only - Not For Use in Diagnostic Procedures

**Test Results**
Arrayit® provides a full test report with each submitted sample including benchmarks for sample integrity (pass/fail), protein concentration (pass/fail), spectrophotometric (pass/fail), assay background (pass/fail), assay uniformity (pass/fail), positive controls (pass/fail), negative controls (pass/fail), capture agents (numerical score), and test results (positive or negative). A graphical report showing the capture agent profile is available upon request for customers interested in correlating samples and capture agents.

Order Information: Catalog #....OVADX

Cost: $650 per sample

arrayit.com (408) 744-1331 USA

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Arrayit Corporation possesses an important portfolio of patented, patent pending and trade secret technologies, products and methods, for population wide screening and diagnostics, available for license or purchase.

**Variation Identification Platform (VIP) License** Arrayit Corporation has developed and patented (U.S. 6,913,879) Microarray Screening technology, a revolutionary approach for human disease screening, blood typing, parentage testing, forensics, human leukocyte antigen (HLA) analysis, and infectious disease diagnosis.

Different from oligonucleotide microarrays, these microarrays attach segments of patient DNA to the chip. This multi-patient single nucleotide polymorphism and allele screening method provides a massively parallel format allowing up to 100,000 patients and many diseases to be scored on a one microarray with a single hybridization reaction.

VIP technology can be used to screen 10 to 100,000 patients for genetic diseases, neonatal disorders, and infectious diseases in a single experiment. Tests have been designed to diagnose cystic fibrosis, sickle cell anemia, and dozens of serious diseases that are treatable by early detection.

This approach can also be used to identify disease carriers and for forensics, food safety testing, parentage testing, HLA screening, blood typing and anti-terrorism analysis. Access to VIP technology will allow the licensee to develop genetic screening and diagnostic tests that are fast, highly affordable, and completely safe.

VIP Technology Diagnostic License...#VIPL

The multi-patient genotyping method can utilize DNA samples from large numbers of patients. Specific genomic segments containing disease markers are amplified by PCR and printed into microarrays - with each spot containing DNA segments from a patient. The microarrays are hybridized with fluorescent oligonucleotides representing the disease, then processed and scanned. The fluorescent signal of each spot allows assignment of normal (green), carrier (yellow) and disease (red) genotypes for each patient. This massively parallel multi-patient genotyping format allows the genotyping of tens of thousands of patients on a single microarray (see Figure 1).

![DNA from multiple patients](image)

**Figure 1.** One embodiment of VIP methods.

Micro Spotting Device Technology License for diagnostic applications of patent U.S. 6,101,946

Micro Spotting Device Diagnostic Technology License...#MSDTL
Why is Arrayit’s Microarray Platform the most Popular?

- Compact, affordable tools
- Microarray printing & scanning
- Desktop processing & analysis
- Print DNAs, RNAs, proteins, peptides, antibodies, patient samples and other biomolecules

Arrayit’s Variation Identification Platform (VIP) offers infinite possibilities. Use this massively parallel and multiplexed microarray screening method for human disease analysis, blood typing, parentage testing, forensics, HLA analysis, and infectious disease diagnostics. Test up to 100,000 samples per microarray.

PlasmaScan™ monoclonal antibody microarrays explore and identify novel biomarkers in the human plasma proteome. It is the market’s only microarray containing monoclonal antibodies generated against native human plasma proteins*.

www.arrayit.com, call (408) 744-1331 or e-mail arrayit@arrayit.com. OTCBB: ARYC

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