



Routine microarray analysis *made easy*
with the ZiPLEX[®] Automated Workstation!



Axela's fully integrated platform is especially designed to serve researchers looking to translate genetic or protein biomarkers from complex, large scale discovery platforms to highly focused microarrays ideal for routine and simple multiplex assays.

axela^x

Bringing New Dimensions to Multiplex Biomarker Testing

For research use only

The Zplex System

Axela's Zplex System represents the latest development in rapid, cost-effective multiplex molecular testing. The Zplex Automated Workstation is the only microarray platform available that consolidates array molecular binding, imaging, data quantification, and quality control into a single, small bench-top unit.

The Zplex load, lock, and leave functionality minimizes user interaction, requiring investigators to only load prepared samples (extracted and labeled RNA or diluted protein) and reagents according to a predetermined template and enter the sample information. The fully automated and integrated nature of the Zplex System limits total operator hands-on time to approximately 20 minutes.



The Zplex System consists of the standalone instrument, analytical software and disposable TipChip arrays that utilize Axela's patented Flow-Thru Chip® technology. Reagents are loaded into two microplates and a robotic arm transfers the TipChip arrays between the samples and assay reagents. Hybridized oligonucleotides or bound proteins within the TipChip arrays are detected using highly sensitive chemiluminescence and a CCD camera. Results are reported in a standard tabular format for easy viewing or manipulating with spreadsheets or scripts.

The Zplex System is capable of testing up to eight samples at a time, and reports results in approximately three hours for gene expression assays. For protein assays, results are obtained faster than from traditional two-dimensional arrays due to the system's flow-thru technology. Its embedded software simplifies data interpretation by reporting quality controlled test results rather than just raw, complex data. These features, along with its focused content arrays make the Zplex System a powerful tool for routine molecular testing and biomarker validation.



The Flow-Thru Chip Technology

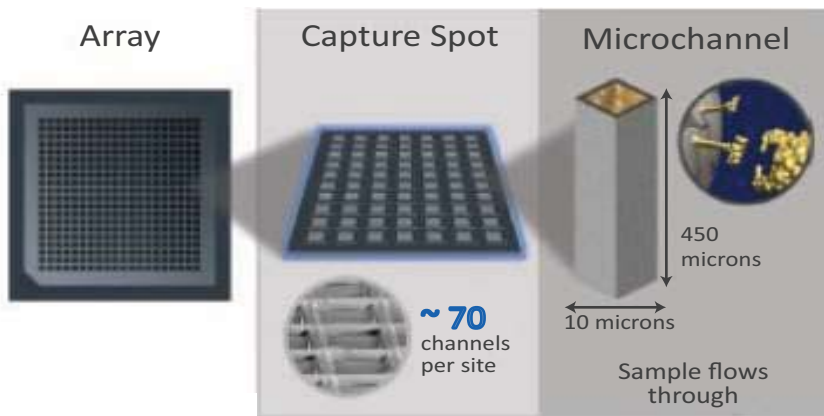
Microarrays are traditionally printed on glass slides where molecular binding takes place on a flat surface. This process relies on diffusion for the probe and target molecules to interact, a process that can take up to 14 hours or more.



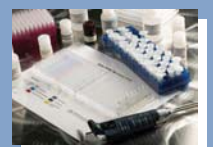
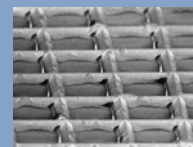
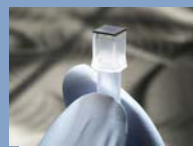
Axela has introduced a unique technology called the Flow-Thru Chip® in where molecular interactions occur in three-dimensional microchannels allowing for continual and thorough mixing of reagents within its porous, flow-through channels. Providing intimate contact with the surface greatly facilitates interactions between sample targets and probes. There are approximately 220,000 microchannels in a TipChip, and a single capture spot includes 70 to 100 microchannels. The flow of analyte solution through the microchannels ensures optimal interaction between the affinity probes on the TipChip and the target molecules in the fluid test mixture. This active interaction and automation enables rapid testing by reducing the nucleic acid hybridization process to 90 minutes and protein binding to as quick as 10 minutes.



The TipChip microarray is designed to contain up to 576 capture spots per chip, and depending on the number of replicates and controls, each microarray can provide quantitative data on up to approximately 120 different molecular targets. Axela's unique microarray technology enables the TipChips to carry either oligonucleotide arrays for focused gene expression analysis, or protein arrays for proteomics or clinical research.



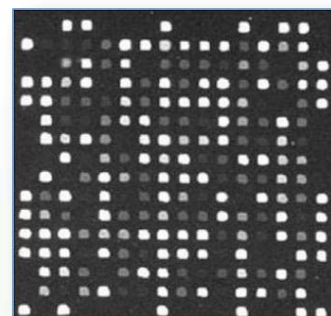
The ability to focus on a narrow set of disease biomarkers allows for cost-effective interrogation of the most relevant markers for an investigator's unique application. Investigators can work with Axela to customize arrays for their unique needs, or they can use one of our disease Xpress Chips. Currently, Axela is offering Xpress Chips designed to investigate gene expression in breast and colon cancers, and metabolic and inflammatory diseases. Proteomic Xpress Chips will be released in the near future.



The Tip Chip Array



The TipChip array is a disposable, porous chip that is mounted on a precision molded polycarbonate tube similar to a pipette tip, and interfaces with a standard XYZ arm similar to those commonly used for handling disposable pipette tips. Up to eight TipChip arrays can be mounted on the Zplex System simultaneously, and the robotic arm moves the TipChip arrays in and out of the microplate wells.



A CCD camera captures chemiluminescent images for processing results

Rather than using lasers to produce fluorescence, the Zplex System captures chemiluminescence using a CCD (charge-coupled device) camera to quantify molecular binding signal intensities. This simplifies the detection optics and takes advantage of the inherently low background of chemiluminescent detection.

Products & Consumables

Catalog #	Product Name
Systems and Consumables¹	
26100-01	Zplex® Automated Workstation
26210-01	Zplex® Assay Reagent Kit - 48 tests / Kit
26300-01	Metabolic Xpress Chip - 48 TipChips / Pkg
26301-01	Breast Cancer Xpress Chip - 48 TipChips / Pkg
26302-01	Colon Cancer Xpress Chip - 48 TipChips / Pkg
26303-01	Inflammation Xpress Chip - 48 TipChips / Pkg
Custom Services²	
26400-00	Gene Expression Services
26400-01	Autograph Chips™ Custom TipChip printing; up to 120 genes printed in triplicate
26400-02	Design Fee - one time fee per custom TipChip configuration
111-1053	Zplex Qualification Kit

¹. Visit our website for your local distributor or contact us directly

². Contact Axela for custom services and collaborative projects

Summary

Flow-Thru microarray technology for rapid oligonucleotide hybridization (< 90 min.) and protein binding (as quick as 10 min.)

Fully automated for simple load, lock and leave functionality

Rapid throughput capacity of up to 8 samples in parallel

Built-in image capture and analysis software delivers easy-to-interpret reports on biomarker expression

Single, robust platform for both gene and protein expression analysis with high inter-assay and inter-instrument reproducibility



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