



## company overview

Eksigent Technologies is creating new possibilities for life science research, drug discovery & development, and medical devices with its low-flow fluid delivery systems.

Through successful internal R&D efforts and partner collaborations, Eksigent Technologies is producing breakthrough platforms that firmly establish the company as a global leader in micro-scale chromatography systems. These micro-scale approaches are creating a novel class of devices that set new standards in throughput, sensitivity, and flexibility.

With several complementary fluid delivery technologies in its portfolio, Eksigent develops systems that produce the highly precise and accurate flow characteristics required for a number of important life science, pharmaceutical, and emerging medical device applications. Eksigent's growing technology portfolio includes the following:

**Microfluidic Flow Control™ (MFC) technology** is a proprietary pumping system that combines direct flow rate feedback to a rapidly adjustable pressure source. MFC enables the development of numerous high-performance micro-scale and nano-scale systems, including HPLC systems for proteomics and drug discovery.

**EKPump™ technology** enables the generation and control of precise, pulse-less flow at rates of one nanoliter to tens of milliliters per minute. By applying an electrical potential across a fluid-filled porous medium, the system generates an electro-osmotic force while avoiding hydrolysis and its undesirable effects such as gas generation and pH changes. As a result, EKPump technology can generate significant flow rates for a variety of medical device applications.

**Microfabrication technology** achieves the same benefits that microfabrication brought to the electronics industry such as integration of complex functions in an easily manufactured format, exact run-to-run reproducibility, high speed processing of complex processes through multi-plexing, and miniaturization of much larger components to produce a compact "chip" device. In addition to fused silica chips, Eksigent's use of microfabrication enables design and manufacturing of disposable single-use drug infusion devices.



Whether it's a nano-scale HPLC system with exceptional reproducibility and reliability, a drug delivery device with extreme accuracy at low flow-rates, or an eight-channel HPLC that significantly increases sample throughput, Eksigent is creating an entirely new class of analytical instruments and medical devices based on its proprietary microfluidics technology.

## eksigent products

**NanoLC™ systems** perform high-resolution and reproducible separations of peptides up to 10,000 psi pressure prior to introduction into a mass spectrometer. Nanoscale flow control runs precise HPLC gradients at flow rates as low as 20 nL/min. Low flow rates provide maximum sensitivity and contribute to improved identification of low-abundance proteins. Nearly one thousand NanoLC systems are currently being used by researchers around the globe.

**The NanoLC™ MALDI spotting system** brings together a highly reproducible NanoLC system with a highly precise MALDI spotter, the Eksport™, to provide a comprehensive platform for biomarker research.

**The cHiPLC™ Nanoflex** is a docking station for up to three microfluidic chips, utilizing Eksigent's proprietary Eksport "chip to world" interface technology for easy connection of chips without introducing extra column dispersion. Microfluidic based nanoLC columns have excellent column to column reproducibility, making nanoLC-MS more suitable for long term and/or cross platform studies in for example biomarker validation.

**The NanoFlow™ Metering System** is a precision reagent delivery device for lab-on-a-chip systems. The NanoFlow system is ideal for micro-scale synthesis reactions which require precise delivery of reactants to the reaction chip. The system can also be used for sample delivery, derivitization on chip, and sample clean-up.

**The ExpressHT-Ultra system** is a UHPLC system optimized for ultra fast LC/MS analysis using 0.5- 1 mm ID columns. This system has been proven to be an excellent choice for LC/MS based studies for DMKP.

nanoLC-ultra with the cHiPLC nanoflex for high sensitivity and excellent reproducibility

With the launch of the cHiPLC nanoflex brings excellent cross platform reproducibility to Nano LC/MS for biomarker validation.



**The ExpressLC®-Ultra system** is a single-channel LC that runs fast micro UHPLC separations with excellent full spectral UV detection. Solvent savings of up to 90% are achieved, while lower frictional heating allows for much better temperature control compared to conventional UHPLC. The ExpressLC-Ultra is designed to accelerate the optimization of potential drug candidates through the critical drug development cycle and has had practical success in most areas of drug discovery.

**The ExpressLC®-800 Plus system** consists of eight fully independent HPLCs in a single module and is controlled by a single software platform. Each channel is an independent HPLC system that can run its own mobile phases, methods, and columns, or it can operate in high throughput mode with each channel running the same analysis. The system offers rapid, high resolution, parallel HPLC for dramatic savings in time, labor, and space and can reduce methods development time from weeks-to-days or days-to-hours.

**The ExpressRT™-100 system** utilizes the ExpressLC-100 LC pump and injector in combination with a novel integrated sampling and dilution module to enable real time online HPLC analysis for applications such as reaction monitoring and dissolution testing.

**EKPump™ devices** are compact, disposable devices that bring new levels of precision to portable infusion pumps. Eksigent's EKPump devices can achieve a wide range of delivery rates/volumes, and meet or exceed the performance characteristics of electronic ambulatory pumps at a much lower cost. Performance areas include delivery accuracy, low flow continuity and occlusion detection. Other advantages include significant miniaturization, disposability, and low power consumption. Current devices under development are targeted at implantable animal testing and ambulatory infusion system for the delivery of both proteins and small molecule drugs.

nanoLC-MALDI spotting system for proteomics

The NanoLC-MALDI system provides reliability and reproducibility without compromising speed and precision for high-throughput analysis of complex protein and peptide samples.



## core applications

For **pharmaceutical researchers**, Eksigent systems provide increased levels of chromatographic resolution and speed for library purity tests, methods development, process optimization, and formulation or stability testing. Eksigent's drug discovery tools are producing dramatic increases in analysis speed and throughput for pharmaceutical research.

**Life science researchers** are taking advantage of Eksigent's low-flow fluid delivery HPLC systems to produce reproducible gradients at column flow rates of 20-1000 nL/min without flow splitting. This core technology advantage is expanding the possibilities in proteomics, biomarker discovery and validation, and metabolomics research.

**Eksigent's medical devices** are compact, disposable devices that bring new levels of precision to portable drug and IV infusion. Because of their small size, flexible configuration, and ease-of-use, Eksigent's medical devices are ideally suited for emerging micro-pumping applications. Eksigent's medical devices are currently under development for implantable and non-implantable drug delivery for both proteins and small molecules.

## current customers

Leading research, pharmaceutical, biotechnology, and nonprofit firms around the world use systems from Eksigent. A partial list of Eksigent's current customers include:

### *pharmaceutical companies*

- Amgen
- Bristol-Myers Squibb
- Genentech
- GlaxoSmithKline
- Johnson and Johnson
- Lilly
- Merck
- Pfizer

### *research institutions*

- Mayo Clinic
- McMaster University
- National Institutes of Health
- Sandia National Laboratories
- The Scripps Research Institute
- University of California, San Francisco
- European Molecular Biology Lab

### expressLC®-Ultra system for micro-UHPLC separations

The ExpressLC-Ultra system allows ultra-fast micro UHPLC separations for pharmacokinetic analysis and metabolite identification.



### expressHT®-Ultra system for ultra fast LC/MS

The ExpressHT-ultra system is optimized for ultra fast LC/MS analysis.



### expressLC-800® plus for method development

Operating at micro-liter flow rates, the ExpressLC-800 Plus parallel HPLC system enables methods development in hours versus days.





eksigent technologies

headquarters  
5875 arnold road  
dublin, california 94568  
tel: 925 560 2600  
fax: 925 560 2700

email: [info@eksigent.com](mailto:info@eksigent.com)  
website: [www.eksigent.com](http://www.eksigent.com)

Eksigent is creating new possibilities for life science research, drug discovery & development, and medical devices with its innovative Microflow™ and Nanoflow™ fluid delivery systems.

Eksigent's HPLC systems deliver dramatic increases in analysis speed, throughput, and sensitivity. Eksigent's drug delivery systems bring new levels of precision to portable drug delivery.

Today, leading research, pharmaceutical, and biotechnology firms around the world use Eksigent's innovative solutions.

## company milestones

- 0210 • Launch of the ExpressLC-Ultra system with a completely new microLC UV detector for ultra sensitive detection with full spectral capabilities
- 0209 • Introduction of the cHiPLC nanoflex for using Eksigent's first chip based columns for nanoLC
- 0608 • ExpressHT system for fast LC/MS introduced at ASMS 2008
- 0208 • Launch of 10,000 psi nanoLC-Ultra system
- 0707 • Distribution in over 35 countries
- 0407 • Launch of NanoLC-MALDI spotting system
- 0307 • Strategic Directives International (SDI) cites Eksigent as "Fastest Growing Nano LC Systems Supplier"
- 0107 • Launch of ExpressRT-100 for online reaction monitoring
- 0306 • Eksigent expands LC column line
- 1205 • 250 instruments operating on four continents
- 1205 • Commercialization agreement for drug delivery system
- 1105 • Exclusive global OEM supplier agreement with AB/Sciex for micro- and nano-HPLC systems
- 1005 • Operations relocated to Dublin, CA
- 0105 • 100th system delivered
- 0804 • Manufactured first drug delivery EKPump for animal implant
- 0704 • Commercial launch of ExpressLC HPLC system
- 0504 • Entered product development agreement with leading diabetes care company for drug pump
- 0903 • Awarded \$2 million NIST Advanced Technology Program grant for chip-based HPLC
- 0603 • Commercial launch of NanoLC Proteomics system
- 0303 • Early access shipments of ExpressLC-100 HPLC system
- 0902 • Early access shipments of NanoLC system to Lawrence Livermore, Beckman, Scripps, Novartis
- 0802 • First Nanoflow system installed
- 0201 • Collaboration with Beckman Coulter for bead-based microfluidic systems
- 0500 • Company founded in Livermore, CA