Unmatched flexibility for low flow LC/MS

EKSIGENT EKSPERT™ NANOLC 400

eksigent®
part of AB SCIEX

Focused ekspertise

In 2003, Eksigent changed the way scientists looked at nanoscale chromatography with the introduction of the NanoLC 1D featuring splitless Microfluidic Flow Control™ (MFC) technology.

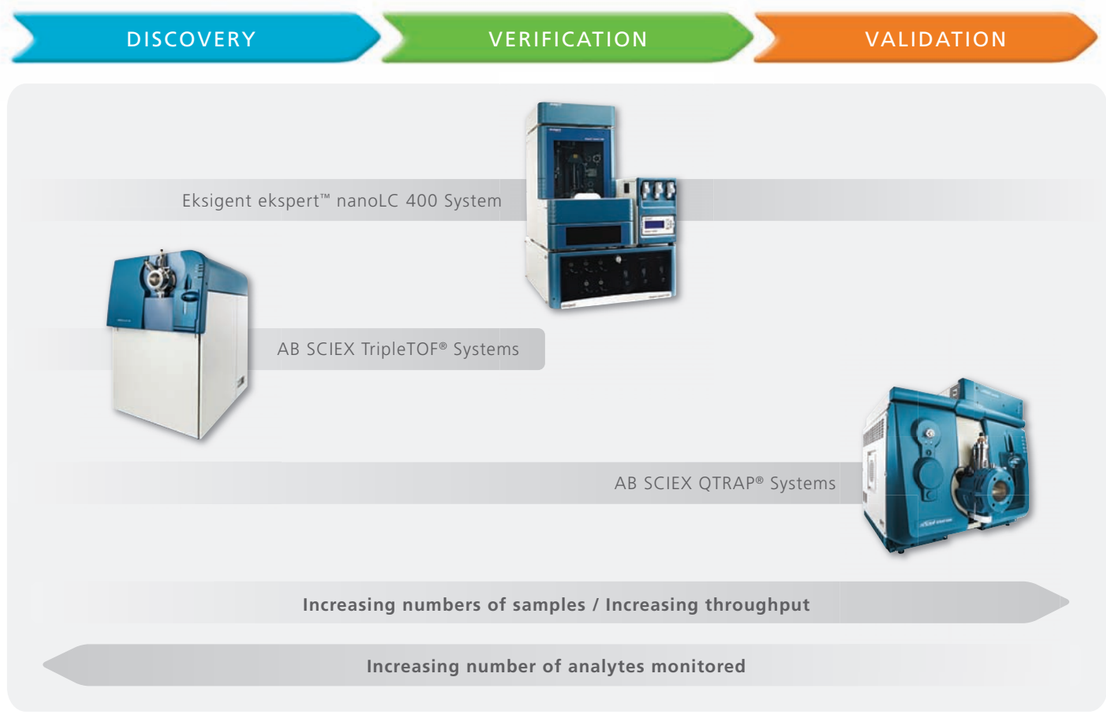
In 2009, Eksigent introduced the unique cHiPLC® system for ease-of-use and consistent superior performance in proteomic separations.

With the ekspert™ nanoLC 400 system, Eksigent continues to lead the field in nanoflow separations, increasing flow rate range and improving retention time stability with MFC*Plus*™ technology to create the most versatile and productive nanoLC yet.

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.

The Eksigent ekspert™ nanoLC 400 system

The ekspert choice for proteomics and the protein research pipeline



The ekspert™ nanoLC 400 system provides a new level of flexibility with plug-and-play flow cartridges that enable easy switching from high-sensitivity nanoflow for discovery to high throughput microflow for validation.

Designed with proprietary MFC*Plus*™ Technology for improved reproducibility, the ekspert nanoLC is made to support the latest in data-independent quantitative proteomics, MS/MS^{ALL} with SWATH™ Acquisition.

Combined with multi-purpose workflows enabled by the cHiPLC®, the ekspert nanoLC is the only system that can move rapidly and expertly from exhaustive discovery to targeted peptide quant in busy multi-user laboratories.

Engineered for flexibility

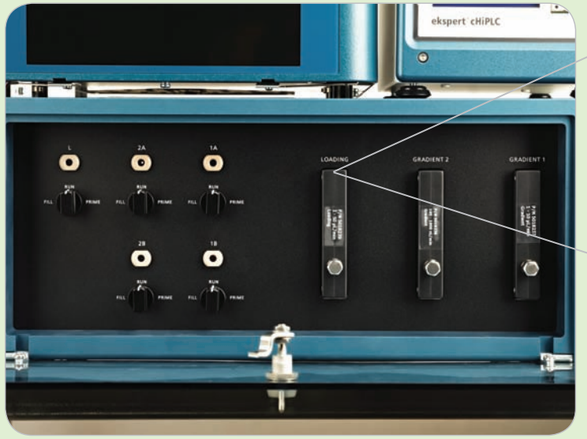
With exchangeable flow modules that extend the flow rate from nano to microflow in minutes and a 5x faster autosampler than our previous nanoflow system, the ekspert™ nanoLC system provides both flexibility and high throughput for the proteomics environment.

Move from discovery experiments, done at nano flow conditions for the ultimate sensitivity, to targeted experiments at higher flow rates for more throughput and robustness on any mass spectrometer*.

DISCOVER / VERIFY
AB SCIEX TripleTOF® Systems

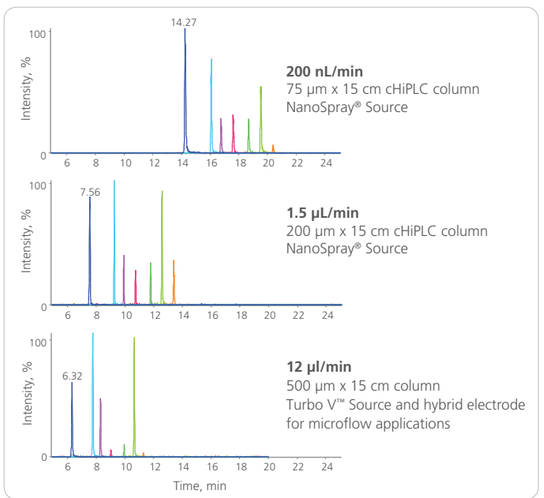
Eksigent ekspert™ nanoLC 400
with cHiPLC® System

VALIDATE
AB SCIEX QTRAP® Systems



Plug and play flow modules enable flow rate ranges of:

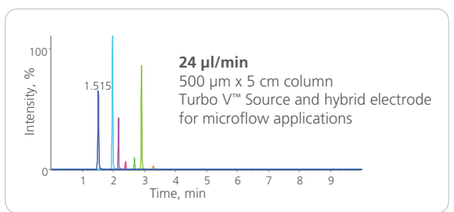
100 - 1000 nL/min
1 - 10 µL/min
5 - 50 µL /min



Significantly shorter run times and higher throughput can be achieved using micro flow. Tryptic peptide standards run at flow rates from 200 nL/min to 24 µL/min using different flow modules.

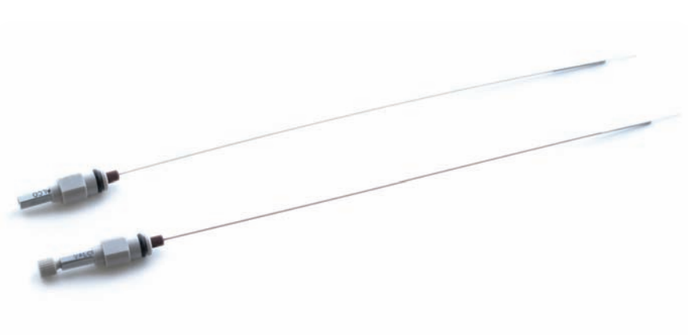
The ekspert nanoLC provides the highest levels of separation versatility for protein research. Here, a mixture of standard peptides is run at increasing flow rates ranging from a typical nanoflow separation (200nL/min) to higher microflow (12uL/min) for accelerated throughput.

For targeted experiments, shorter columns and higher flow rates enable an even higher degree of throughput.



The ekspert™ nanoLC can also be used with shorter columns for a further increase in flow rate and throughput.

PROVEN ROBUSTNESS
The AB SCIEX Turbo V™ ion source



SMALL ELECTRODES, BIG ADVANTAGE
Low-dispersion hybrid electrodes for the Turbo V™ source improve robustness

For experiments done at the highest flow rates, switch to the Turbo V™ source with low-dispersion hybrid electrodes, and enjoy an even greater degree of robustness on your AB SCIEX mass spectrometer.

*Software control is directly integrated into Analyst® and Xcalibur.

Engineered for superior reproducibility and reliability

The Next Generation of Innovative Microfluidic Flow Control – MFC*Plus*™ Technology

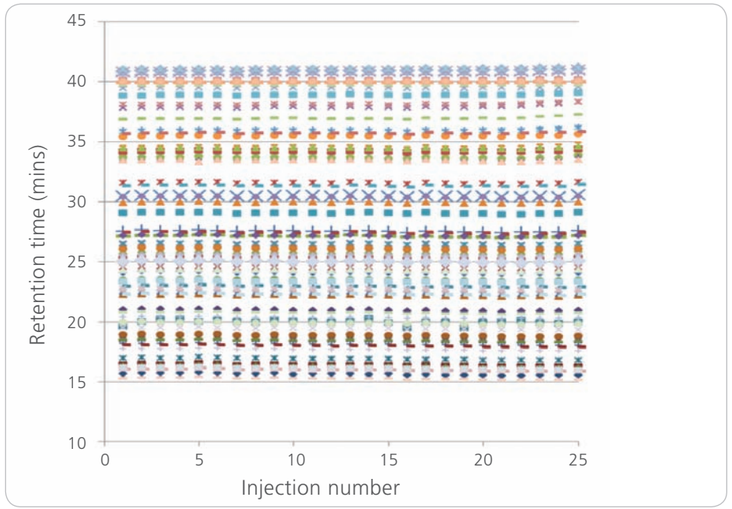
Enables a wide flow range (100nL/min to 50µL/min) via simple exchange of flow modules.

Improved flow rate precision for retention time reproducibility <0.35% RSD at 500 nL/min.

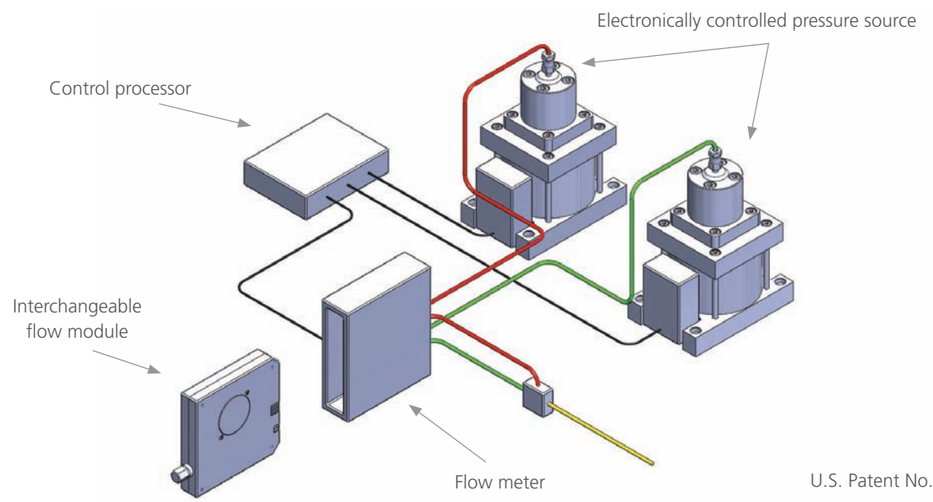
- No pulsation – pneumatic amplifier controlled by MFC*Plus* controller

Ultra high performance liquid chromatography.

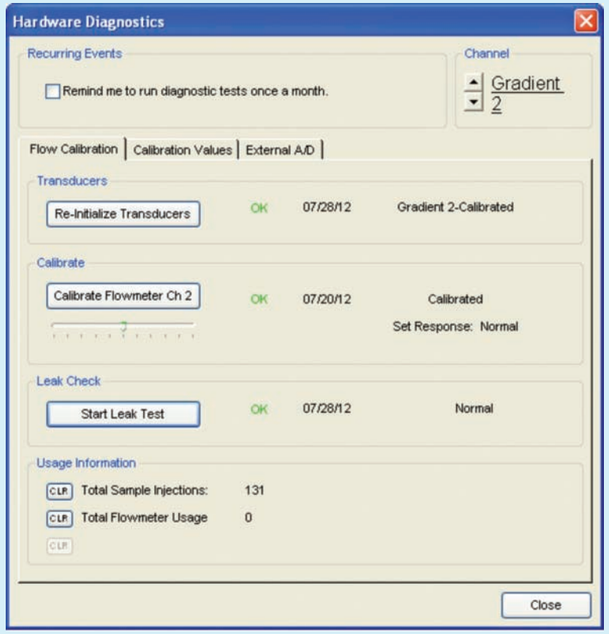
- Splitless nanoflow system
- Pressure up to 10,000 PSI



Reproducible retention times for 56 peptides monitored in an E.*coli* cell lysate across 25 replicate injections, using a 75um ID cHiPLC column at 300 nL/min. Average RSD across all peptides was 0.21% RSD.

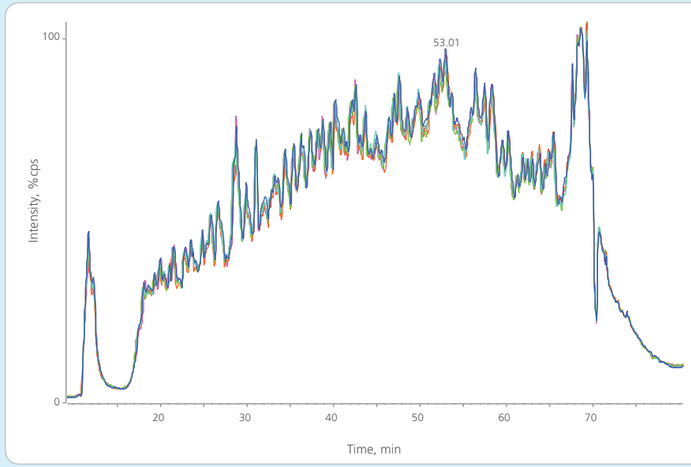


U.S. Patent No. 7,927,477



Built in diagnostics for maximized uptime

Self-diagnostic system monitoring ensures maximum uptime and warns you when maintenance is due.



Superior reproducibility for quantitative proteomics

High retention time reproducibility is critical for comprehensive quantitative proteomics workflows such as MS/MS^{ALL} with SWATH™ Acquisition on the AB SCIEX TripleTOF 5600^{+} system. The Total Ion Chromatograms (TICs) of 10 replicate injections of depleted plasma analyzed by MS/MS^{ALL} with SWATH™ Acquisition overlay with excellent reproducibility for highest quantitative robustness.

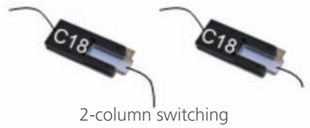
Easy, extendible, every time with the cHiPLC® system

The simplicity of a chip with the performance of a nano-column

The engineered flexibility of the cHiPLC® system saves time and money. Plug & play simplicity means that you can switch between multiple productivity workflow modes in minutes and achieve expert results every time – day-to-day, column-to-column and lab-to-lab. From routine direct injection, to dual-column multiplexing and exhaustive interrogation, the cHiPLC® system brings reproducibility to proteomics labs with multiple mass spectrometers and to global multi-lab projects.

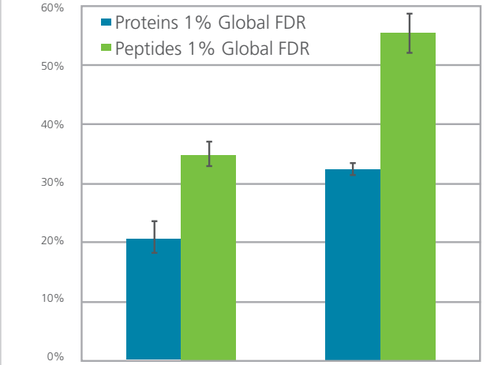
Change the chips – change the workflow. Combine traps and columns in several ways to carry out very different experiments. Supported workflows include: direct injection, trap and elute, dual-column multiplexing, and serial 2-column.

- Increase productivity – switch workflows easily in multi-user labs
- Eliminate contamination between projects by using different chips
- Reduce lab overhead costs – analytical chips typically last for over 500 injections and do not need to be replaced when the separate trap column is exhausted
- cHiPLC® columns available in a variety of microflow and nanoflow formats
- Advanced micro-fabrication techniques create the only nanoLC chip column with a cylindrical cross-section to deliver ideal chromatography
- Picoliter dead volume microfluidic edge connectors provides reproducible, high pressure, dispersion-free connections

Standard 1	 Direct inject
Dirty sample 2	 Trap and elute
Multiplexing 3	 2-column switching
Exhaustive 4	 Serial 2-column

Increase the depth of proteome coverage in one quick and easy step.

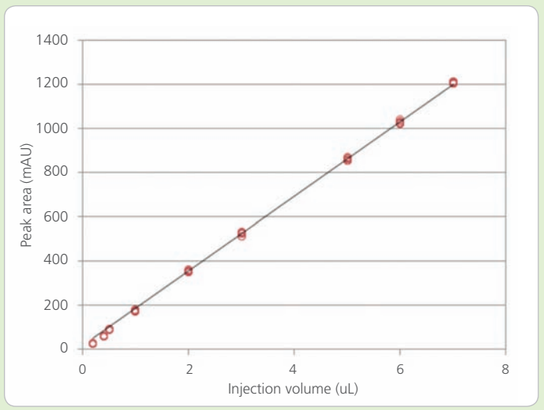
Moving from fast direct injection of simpler samples to an exhaustive serial-column workflow for complex proteomes could not be easier and takes only minutes. Combine two 75 µm x 15 cm columns serially to double the effective length, maximize peak capacity, and increase depth of proteome coverage up to 50% when compared to a 60 minute run on a single 75 µm x 15 cm column.



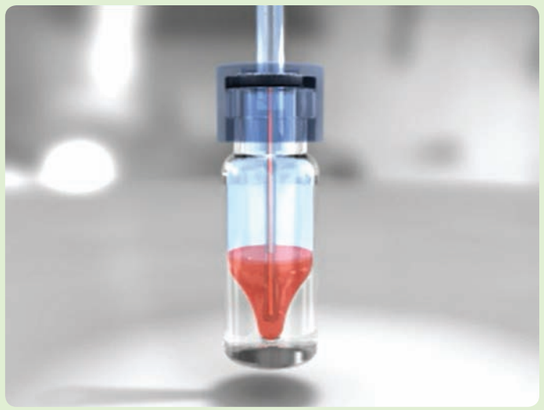
Engineered for precision and speed

Next generation autosampler

Instrumental to the ekspert™ nanoLC 400's reproducibility and flexibility is an autosampler that delivers new levels of injection precision, minimal sample consumption and carryover, and the speed to accommodate high-throughput injection cycles at the same time.



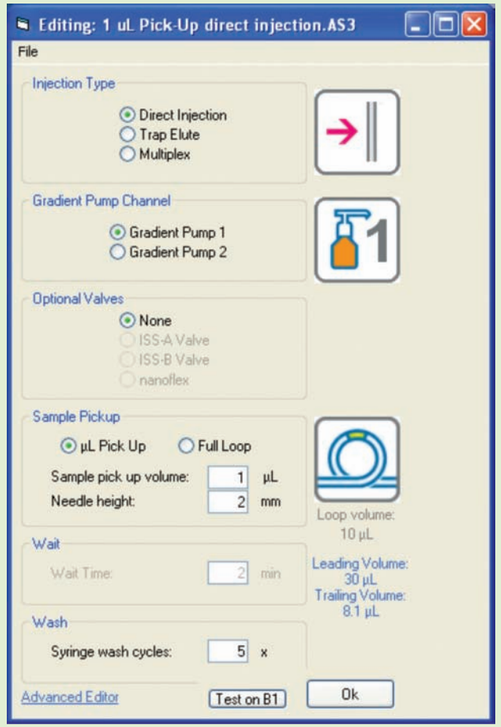
Reproducible peak areas are obtained across a range of injection volumes with good linearity using the nanoLC 400 autosampler, using a µL pick-up injection method that eliminates sample waste.



The ekspert nanoLC 400 autosampler uses a dual needle-design and advanced washing capabilities enable the use of extremely limited sample volumes and limits carryover. Automatic vial bottom-sensing ensures minimal sample waste and helps to avoid clogged needles.

Key Features and Benefits

- Faster cycle times for high-throughput workflows
- Improved injection sequences – inject as little as 200 nL with no wasted sample
- Automatic vial-bottom sensing for injecting small sample volumes
- Internal and external needle wash for reduced carryover
- Integrated 10-port switching valve(s) for trap/elute and column switching applications



Available configurations

p/n	Description	Flow modules included	
		100-1000 nL/min gradient	1-50 µL/min loading
5020321	**ekspert™ nanoLC 425**, dual gradient system, with built-in loading pump. Includes autosampler with built-in 10 port column switching valve and solvent organizer.	2	1
5020322	**ekspert™ nanoLC 415**, single gradient system, with built-in loading pump. Includes autosampler with built-in 10 port column switching valve and solvent organizer.	1	1
950-00070	**ekspert cHiPLC® system**. Built-in 10 port valve and temperature control for two chips.		

Available flow modules

5018236	Nano gradient flow module (100-1000 nL/min)
5018237	Low micro gradient flow module (1-10 µL/min)
5018238	High micro gradient flow module (5-50 µL/min)
5018239	Loading pump flow module (1-50 µL/min)

Other optional accessories

5019593	nanoLC 400 column oven (ambient + 5°- 60°C) with mount
5019951	Analog to Digital Converter for recording signal from alternative detectors (e.g. UV)

Your success is our success.

We take it personally.

As a customer of Eksigent, part of AB SCIEX, you have access to a world-class customer support organization. Wherever you are, we're there with you as a trusted partner to answer questions, provide solutions, and maximize lab productivity.

Our service engineers have the experience and expertise to help you get the most from your Eksigent ekspert™ UHPLC systems. Whether you're looking to improve sensitivity, resolution, speed, or throughput, they can direct you to the right solution. They understand that you can't afford downtime and need problems fixed fast. In fact, they do what it takes to make sure everything is working to your satisfaction and that your results look like they should.

Our application chemists specialize in making workflows flow. They can streamline your sample preparation and eliminate manual steps. They can help you develop methods for fast implementation and scale up. From biomarkers and omics to drug discovery and development, they can help get you up and running fast. And if you need immediate assistance, they're only a phone call away.

When it comes to training, different labs have different needs. Our training specialists can design programs specific to your lab that make the experience as effective and efficient as possible. Choose from hands-on system training for UPLC techniques, application-specific courses given by leading experts, or learn at your own pace with our e-learning modules.

You can always count our customer support specialists for up-to-date information. They have access to the latest product updates, software revisions, methods and repair procedures to make sure that you stay on top of your game.

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