Unmatched flexibility for low flow LC/MS
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 MFCPlus™ technology to create the most versatile and productive nanoLC yet.

For Research Use Only. Not for use in diagnostic procedures.
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*.

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 (200 nL/min) to higher microflow (12 µL/min) for accelerated throughput.

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

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 – MFCPlus™ 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 MFCPlus controller
- Ultra high performance liquid chromatography.
  - Splitless nanoflow system
  - Pressure up to 10,000 PSI

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

- No pulsation – pneumatic amplifier controlled by MFCPlus controller

Reproducible retention times for 56 peptides monitored in an E.coli cell lysate across 25 replicate injections, using a 75um ID column at 300 nL/min. Average RSD across all peptides was 0.3% RSD.

Built in diagnostics for maximized uptime

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

High retention time reproducibility is critical for comprehensive quantitative proteomics workflows such as MS/MS 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 with SWATH™ Acquisition overlay with excellent reproducibility for highest quantitative robustness.

Superior reproducibility for quantitative proteomics

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

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

---

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.

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

---

Proteins 1% Global FDR

Peptides 1% Global FDR
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 enabling 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

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

Available flow modules

<table>
<thead>
<tr>
<th>p/n</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5018236</td>
<td>Nano gradient flow module (100-1000 nL/min)</td>
</tr>
<tr>
<td>5018237</td>
<td>Low micro gradient flow module (1-10 µL/min)</td>
</tr>
<tr>
<td>5018238</td>
<td>High micro gradient flow module (5-50 µL/min)</td>
</tr>
<tr>
<td>5018239</td>
<td>Loading pump flow module (1-50 µL/min)</td>
</tr>
</tbody>
</table>

Other optional accessories

- 5019593 | nanoLC 400 column oven (ambient + 5°- 60°C) with mount |
- 5019551 | 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.

When you have questions, we have answers.

For more information, visit www.absciex.com/customersupport