

# OptiFlow Quant solution for high-sensitivity quantitation

The intelligent union of sensitivity, ease of use and robustness



# Microflow sensitivity with analytical flow usability

## Transform your quantitation

Discovery and development of novel biomarkers and biotherapeutics are increasingly requiring more sensitive assays with less sample. To meet this demand, many researchers are turning to low flow rate regimes, but they are struggling with the complexities associated with this approach. With the OptiFlow Quant solution from SCIEX, you can achieve the sensitivity benefits of moving to microflow rates without sacrificing the robustness and usability you've come to expect from traditional analytical flow rate assays.

### Enhanced sensitivity

The M5 MicroLC system supports flow rates down to 1  $\mu\text{L}/\text{min}$  to increase ionization efficiency, and it is now compatible with SCIEX OS software.



### Innovation to drive usability

The new OptiFlow Turbo V ion source supports a wide flow rate range, and it requires no manual adjustment for optimized spray.

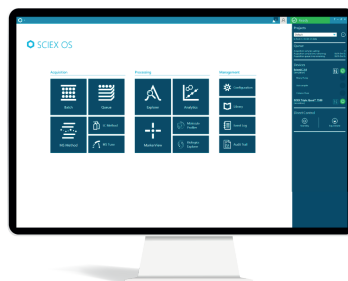


### Trusted mass spectrometer performance

High-performance MS systems and powerful software from SCIEX can support even the most regulated labs.

### Improved lab efficiency

SCIEX OS software facilitates compound analysis and sample testing in an all-in-one platform for control, analysis and reporting, and it includes support for CFR 21 Part 11 compliance.



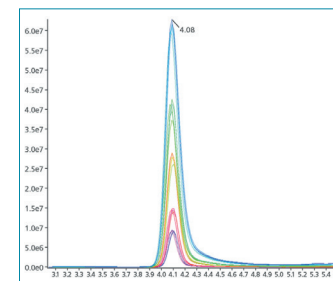
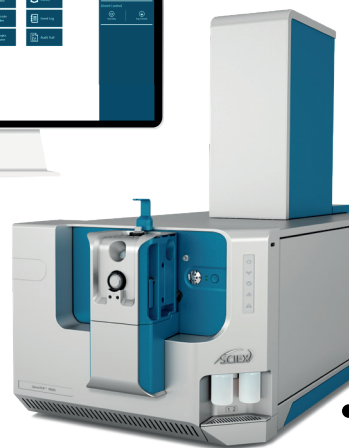
### Flexibility to take on any challenge

Use any microflow LC column in any column chemistry for ultimate workflow flexibility. Choose from a large portfolio of microflow LC columns from our affiliates at Phenomenex.



### Selectivity with no method development

High-resolution multiple reaction monitoring (MRM) approaches are the most flexible for high-quality targeted quantitation.



### Amplify your analyte

Gain up to a 10x increase in sensitivity to take your small and large molecule assay performance to the next level.

# The ultimate balance of sensitivity and robustness

## M5 MicroLC system

Now you can gain sensitivity and improve signal-to-noise by moving to microflow rates on the M5 MicroLC system. Get the throughput and robustness you need for large sample studies without the added complexity of making difficult column and source connections.

### Cost savings

Reduce cost per sample with up to 250x less solvent consumption than analytical flow assays.

### Maximize the use of limited sample

Vial bottom-sensing technology ensures that limited sample is fully utilized.

### Accurately sensitive

Microfluidic control for accurate flow rates down to 1  $\mu\text{L}/\text{min}$  helps you quantify samples with an up to 10x lower LLOQ compared to analytical flow.



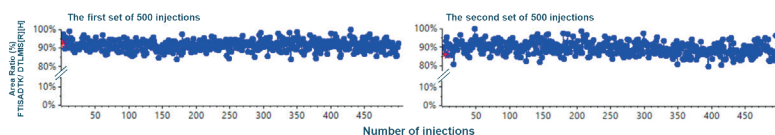
### Maximize throughput

A trap-elute option with an additional gradient pump provides fast offline sample loading to reduce analysis time.

### System specifications

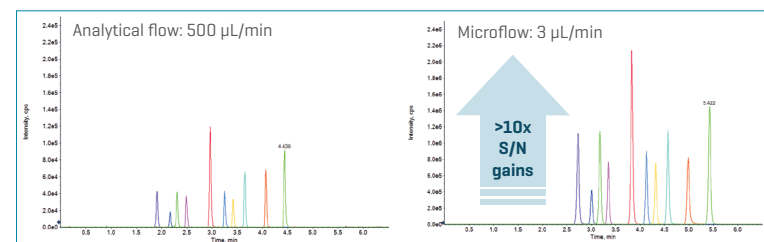
Flow rate ranges	1–10 $\mu\text{L}/\text{min}$ 5–50 $\mu\text{L}/\text{min}$ 20–200 $\mu\text{L}/\text{min}$
Autosampler	6 sample tray capacity
Injection volume range	2–50 $\mu\text{L}$
Trap-elute (TE) option	Additional valve and gradient pump
SecurityLINK tubing and fittings	Finger-tight, zero dead volume

### Long-term robustness to keep your lab running



A 3.08% peak area ratio CV over 500 injections is shown with no increase in back pressure.

### Improvement in peptide sensitivity at microflow, with similar assay throughput



Peptide mix separation [500  $\mu\text{L}/\text{min}$ ] is shown with a 2.6  $\mu\text{m}$  C18 3 x 50 mm column and no matrix.

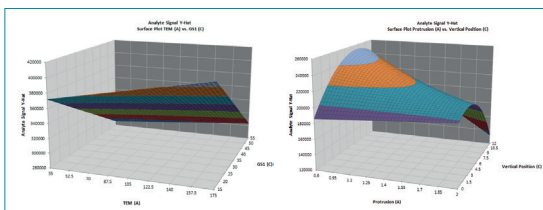
An average signal-to-noise [S/N] increase of >10x using microflow peptide separation [3  $\mu\text{L}/\text{min}$ ] is shown with a 2.7  $\mu\text{m}$  C18 0.2 x 50 mm column and no matrix.

# Simplified setup for optimal microflow ionization

Based on the trusted Turbo V ion source, the OptiFlow Turbo V ion source provides the robustness and simplicity you've come to expect from traditional analytical flow LC-MS—now for more sensitive microflow regimes [1–200  $\mu\text{L}/\text{min}$ ]. Engineered with enhanced gas flow dynamics and new features for maximizing ion production and robustness, the OptiFlow Turbo V ion source helps to ensure consistency in results across multiple systems and multiple users.

## Maximized intensity with no manual adjustments

Intelligent probe-sensing technology presets system source settings to an optimal range for the best spray conditions, eliminating manual adjustments on the source and decreasing optimization time.



A preset range of source settings is provided for compounds at each flow rate regime.

## Extended time between cleanings

Scheduled ionization minimizes ion optic contamination and maximizes the length of time between instrument cleanings.

## Retention time consistency

An integrated column heater with heating up to 90°C supports challenging separations.

## Consistent high quality spray

SteadySpray probes are designed give consistent droplet formation and stable spray at microflow rates.

## Increased ion production

Larger heaters improve ionization efficiency.

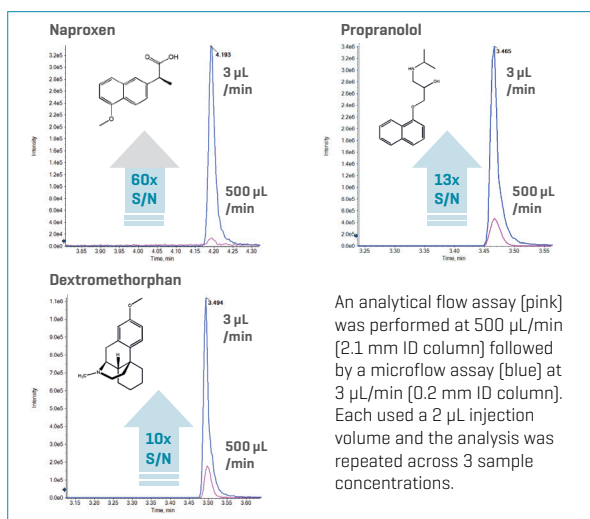


# Proven mass spectrometry performance

## across a wide range of analytes

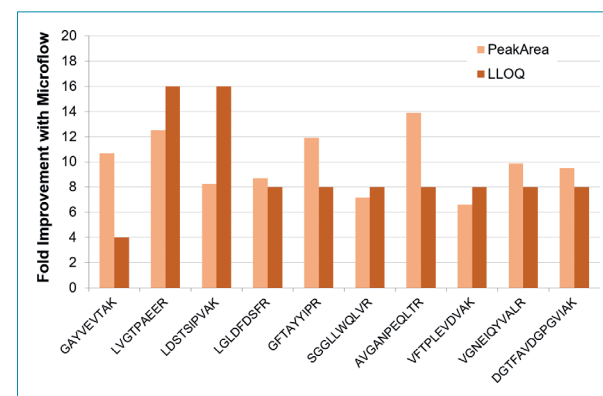
Industry-leading mass spectrometry systems from SCIEX are designed to handle any quantitation challenge that you face, today and in the future. With a combination of best-in-class hardware and extremely high sensitivity and linear dynamic range, they are trusted to deliver accurate analysis of both small and large molecules in complex sample matrices.

### Significant sensitivity improvement for small molecule analytes

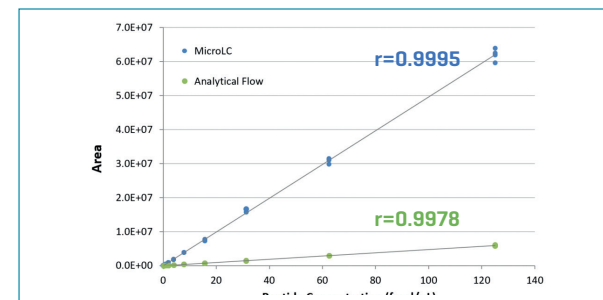


Compound	Avg. area gain	Avg. signal-to-noise gain
Naproxen	25.9	60.7
Buprenorphine	6.7	13.9
Propranolol	6.1	13.4
Alprazolam	5.3	33.5
Dextromethorphan	5.2	10.7
Buspirone	5.0	8.4
Haloperidol	4.8	9.0

### Consistent sensitivity improvement for a wide range of peptides



LLOQ gains and peak area improvements are shown for 10 synthetic peptides in diluted crashed plasma using microflow LC-MS at 3 µL/min vs. analytical flow LC-MS at 500 µL/min.



Calibration curves are shown for a synthetic peptide (VGNEIQVALR) in diluted crashed plasma using microflow LC-MS at 3 µL/min and analytical flow LC-MS at 500 µL/min. LLOQ with microflow LC was 8x lower than what could be achieved with analytical flow LC-MS, and linearity was excellent for both flow rates.

# Flexibility for the best performance

## Improve your microflow LC applications for a wide range of column selectivities



Gain maximum flexibility by using Phenomenex microflow LC columns in a variety of column chemistries to help ensure the best possible performance for your analyte types. Phenomenex, a SCIEX partner, offers a large and diverse portfolio of microflow LC columns and a commitment to product reliability for a wide range of flow rates.

### Select the right chemistry for your application



#### Peptide analysis and quantitation

- Luna™ Omega PS-C18
- Kinetex™ XB-C18
- Jupiter™ Proteo



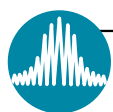
#### Metabolomics

- Kinetex Biphenyl
- Kinetex F5



#### Small molecule quantitation

- Luna Omega C18
- Luna Omega Polar C18
- Synergi™ Fusion-RP [C18]
- Synergi Hydro-RP [C18]
- Kinetex EVO C18
- Gemini™ C18



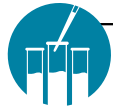
#### Intact protein quantitation

- Jupiter C4
- Luna C8
- Jupiter C18



#### Oligonucleotides

- Luna NH2
- Kinetex EVO C18



#### Drug research panels

- Kinetex Biphenyl
- Kinetex Phenyl-Hexyl
- Luna Omega Polar C18
- Kinetex C18

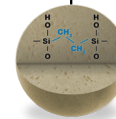


For column ordering information, visit:  
[www.phenomenex.com/microLC](http://www.phenomenex.com/microLC)

### Select the right solid support

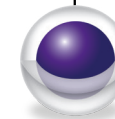
#### Fully Porous traditional silica

Excellent mechanical strength [Luna, Synergi, Jupiter]



#### Core-shell

High efficiency, sensitivity and fast run times [Kinetex]



#### Fully porous/Core-shell organo-silica

pH stability from 1-12 [Gemini, Kinetex EVO]



#### Thermally modified fully-porous silica

High efficiency, sensitivity and inertness [Luna Omega]



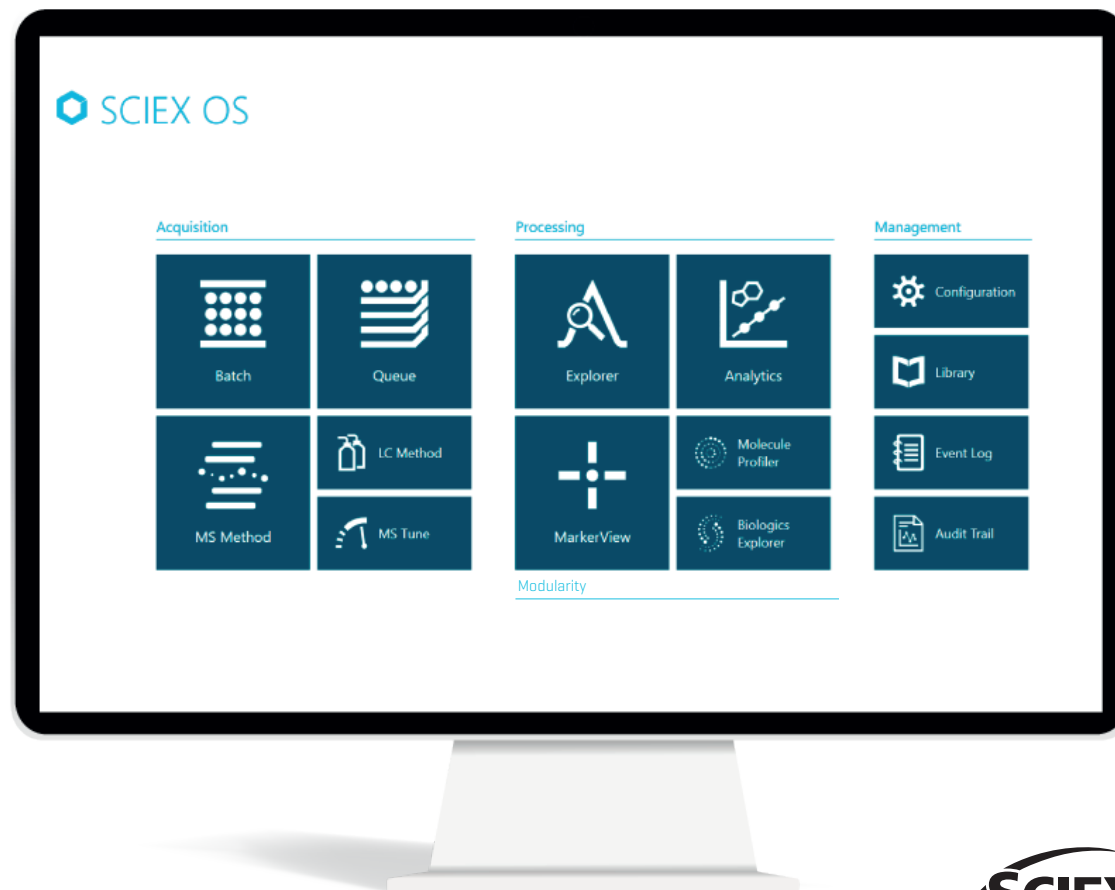
Standard-size finger-tight fittings enable a simple, tool-free setup every time. Trap columns provide additional sample cleanup capabilities.

# The intelligent union of sensitivity

## Ease-of-use, and robustness for quantitation

The OptiFlow Quant solution from SCIEX combines the sensitivity of microflow separations with the reliability of traditional analytical flow assays. Its robust system and proven mass spectrometry platform handle all bioanalytical challenges.

SCIEX OS software enhances lab efficiency, facilitates compound analysis and sample testing and provides an all-in-one platform for control, analysis and reporting. It also enables real-time decision-making and outlier functionality for peak modeling and calibration curve review. The software is compliant with 21 CFR Part 11, offers customizable security settings and, includes a reliable validation support team.



# SCIEX Now support network

## SCIEX Now

- Manage your instruments
- Submit and manage support cases, track status and view history
- Access online training courses and articles
- Manage software licenses linked to your registered instruments
- View and report critical instrument statistics when connected to the StatusScope remote monitoring service
- Be a part of the SCIEX community by submitting questions and comments
- Receive notifications from SCIEX with content based on your preferences

→ CONTACT SCIEX NOW

## SCIEX Now Learning Hub

- SCIEX Now Learning Hub success programs provide LC-MS and CE training customized to meet your exact needs
- With a selection of training methods and certifications available, you can build a mass spectrometry learning program that is most suited to your lab and users
- By starting with a clear understanding of your desired learning outcomes, we help you improve lab productivity and consistency by designing and delivering a program that is focused on knowledge advancement and retention

→ FIND OUT MORE

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The Power of Precision