

Echo[®] MS System[™]

RUN **FAST.**

Accelerating your speed of analysis with **up to 3 samples per second**, RUN FAST delivering results up to **50x faster** than conventional LC-MS, RUN FAST with uncompromising data quality only with the Echo[®] MS System.



Powered by SCIEX OS

Echo[®] MS System[™]

ECHO[®] MS FLUIDICS MODULE

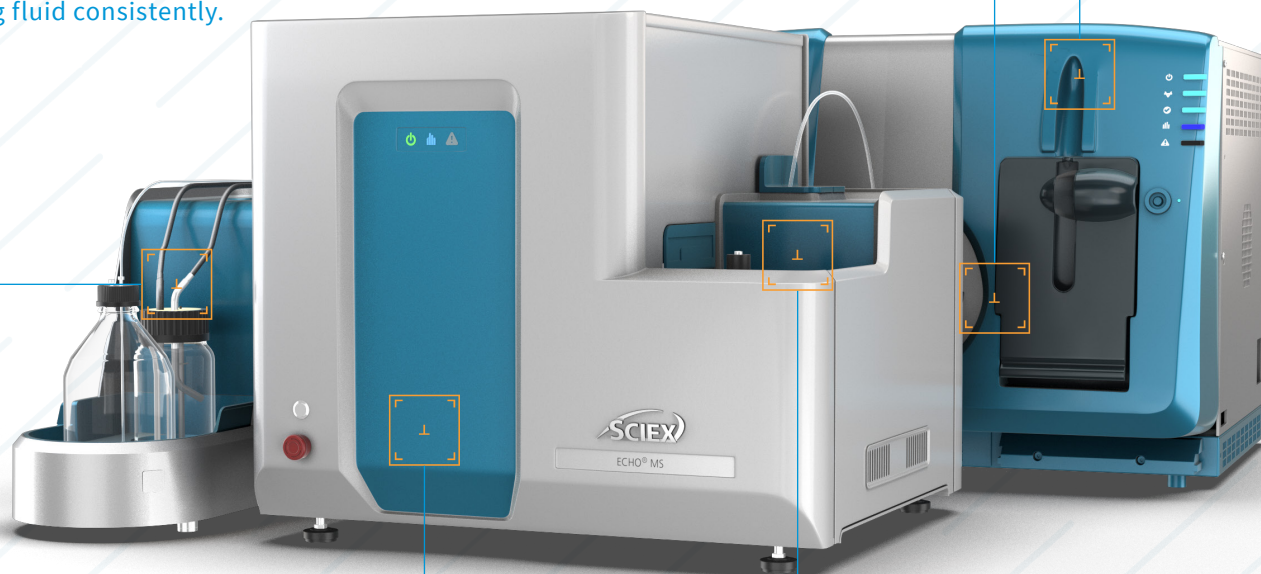
Built for productivity, to supply the Open Port Interface (OPI) transport fluid and acoustic coupling fluid consistently.

OPTIFLOW[®] TURBO V ION SOURCE

Optimized for the best spray conditions without manual adjustments.

SCIEX TRIPLE QUAD[™] 6500+ MASS SPECTROMETER

Delivers trusted quantitative performance, powered by SCIEX OS software.



ECHO[®] MS MODULE

A pioneering combination of Acoustic Droplet Ejection (ADE) and the Open Port interface (OPI), along with the quantitative power of the QTRAP[®] 6500+ LC-MS/MS System.

BUILT FOR THROUGHPUT

The Echo[®] MS System can be integrated into any high-throughput setting and is compatible with any robotics system. It is supplied with samples in Echo[®] Qualified microplates, with either 384 or 1536 wells, from Beckman Coulter life Sciences.

[Learn More](#)

RUN **FAST.**

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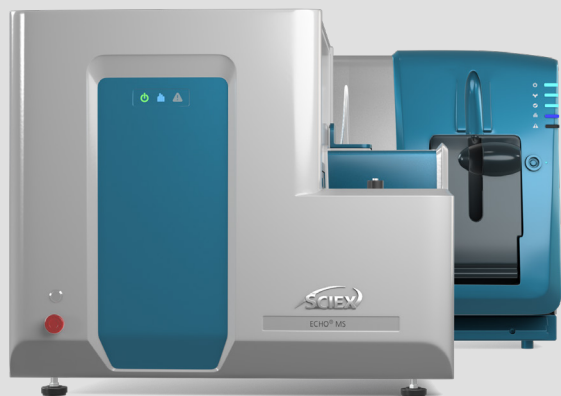
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Echo[®] MS System TM



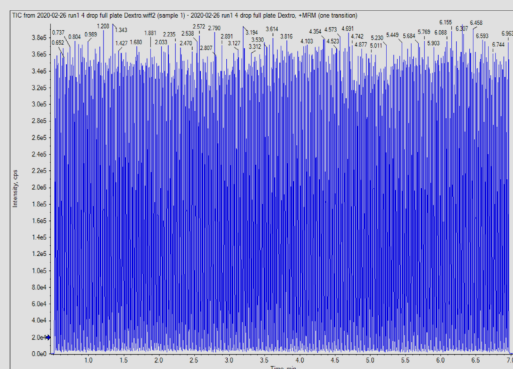
SYSTEM PERFORMANCE SPECIFICATIONS

- Sampling Rate: up to 3 samples per second
- Full Plate CV: < 9% (single droplet)
- Plate Cycle Time: < 10 min per 384-well microplate or < 30min per 1536-well microplate (at Normal Sampling Rate)
- Ejection Modes: Single peak (single or multiple droplet ejections) or infusion (continuous ejections)
- Sample Ejection Volume: ≥ 2.5 nL (in intervals of 2.5 nL)

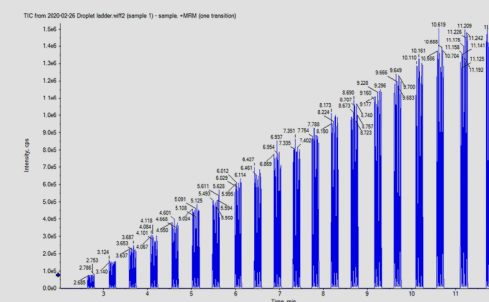
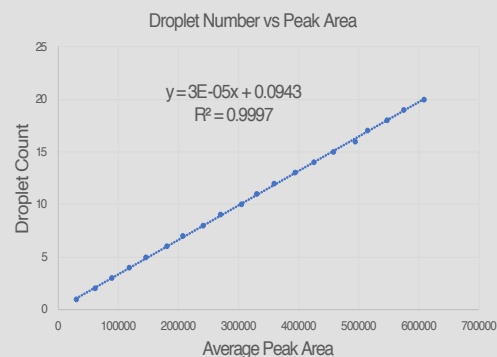
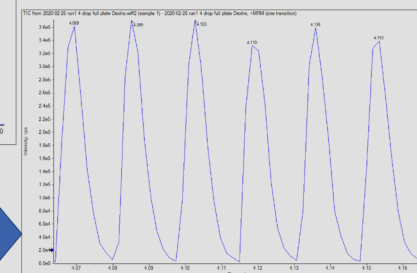
CONTACTLESS SAMPLING TO REDEFINE YOUR WORKFLOWS

Ejected droplets are a fixed size, but multiple droplets can be rapidly ejected to increase the total ejection volume.

Full 384 well plate reproducibility. 100nM dextromethorphan, 1 ejection per well across an entire plate at 1 Hz



Avg Area: 141,368cps
StdDev: 2799
%cv: 1.98



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Echo[®] MS SystemTM

PROVEN MASS SPECTROMETRY PERFORMANCE ACROSS A WIDE RANGE OF ANALYTES

The SCIEX Triple Quad[™] 6500+ LC-MS/MS System has exceptionally high sensitivity and linear dynamic range, which are a trusted combination to deliver accurate quantification of both small and large molecule classes.

ECHO[®] MS PROBE MAXIMIZED INTENSITY WITH NO MANUAL ADJUSTMENTS

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

OPTIFLOW[®] SOURCE

Increased Ion Production
Larger Ion Drive[™] heaters for improving ionization efficiency.



[Learn More](#)

RUN **FAST.**

CHALLENGE POSSIBILITIES WITH ACOUSTIC EJECTION MASS SPECTROMETRY

Acoustic Ejection Mass Spectrometry (AEMS): A pioneering combination of Acoustic Droplet Ejection (ADE) and the Open Port interface (OPI), along with the quantitative power of the SCIEX Triple Quad[™] 6500+ LC-MS/MS System.

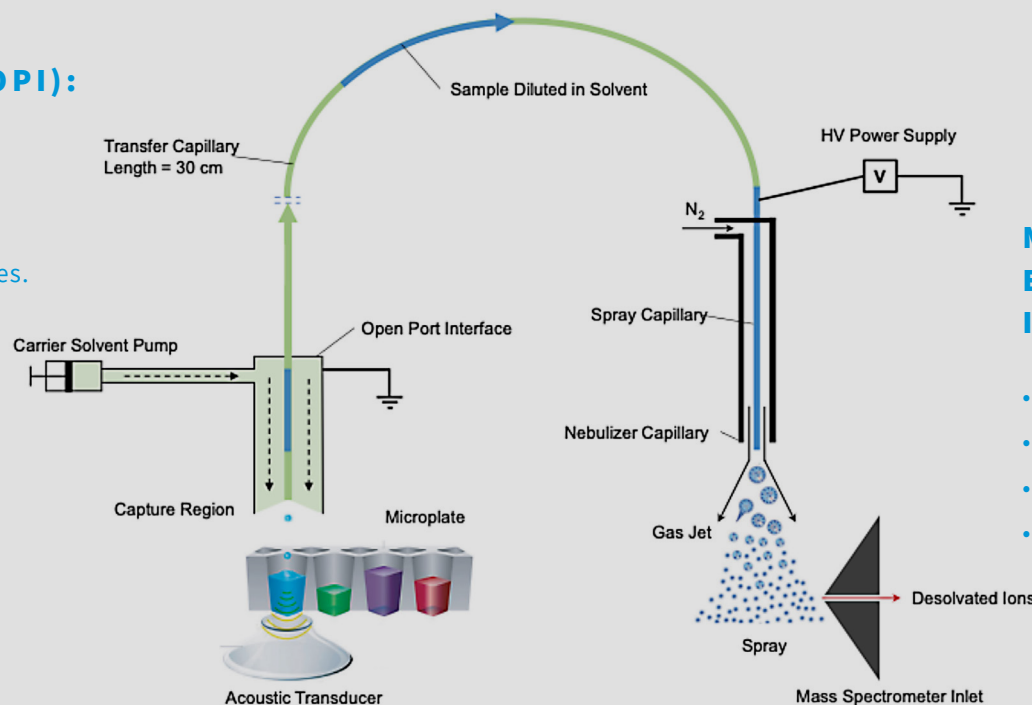
The Echo[®] MS System integrates ADE technology with an OPI. The ADE is optimized to deliver small volumes of solution from source to destination using acoustic energy. Ejected droplets are delivered to a fixed, inverted OPI, where they are met and diluted by transport fluid. This introduces the sample to the mass spectrometer by conventional electrospray at atmospheric pressure.

OPEN PORT INTERFACE (OPI):

- Direct liquid transferring, no sample loss or carry over.
- Significant matrix dilution, allowing the direct ejection of complex samples.

ACOUSTIC DROPLET EJECTION (ADE):

- Non-contact, high-throughput sampling from high-density microplates precision and low volume sampling



MS WITH ELECTROSPRAY IONIZATION:

- Label free
- Universal detector
- High ionization efficiency
- Sensitivity and robustness

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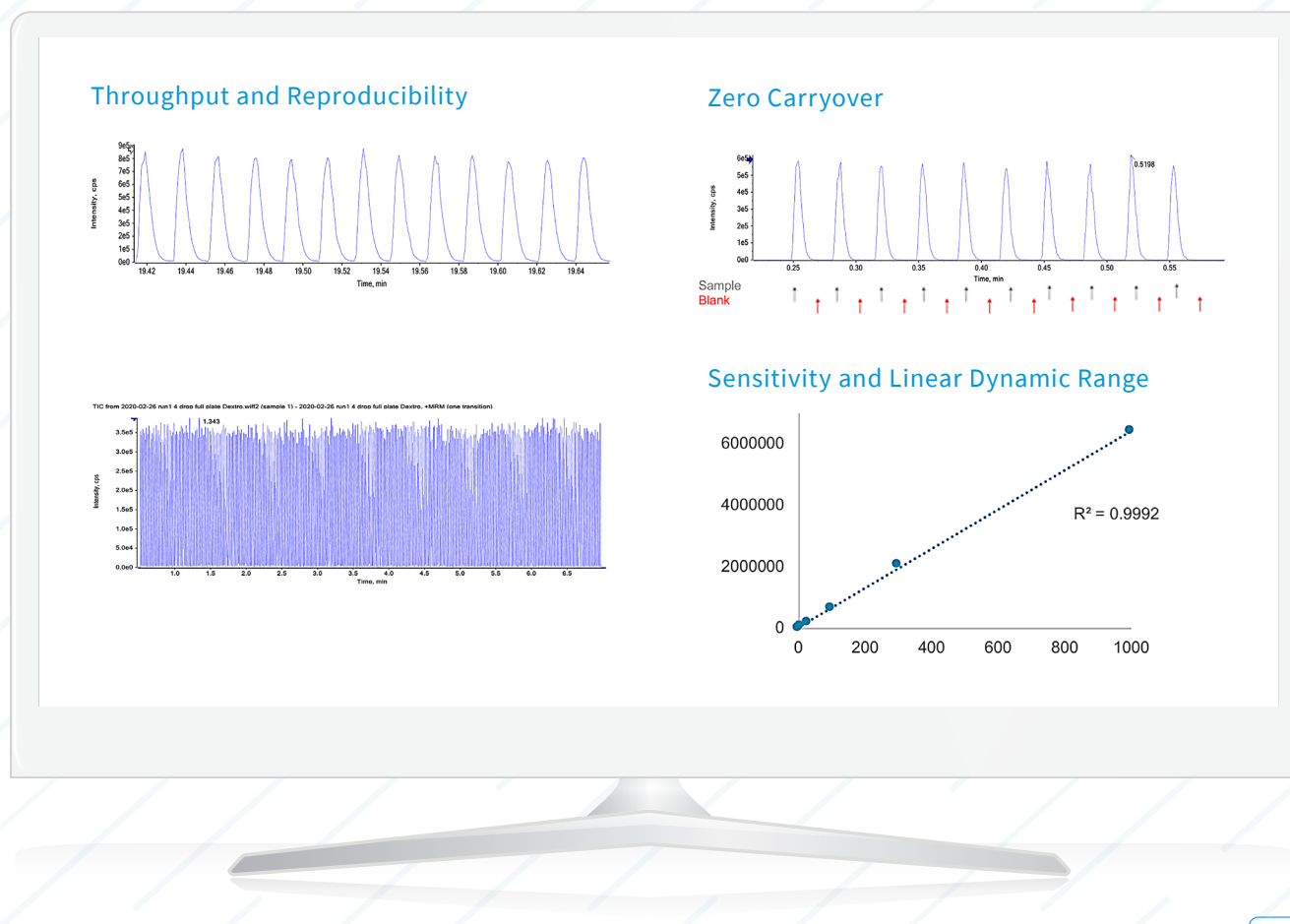
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HIGH THROUGHPUT SCREENING (HTS): REDUCE THE ANALYTICAL BURDEN

Compound libraries can vary in size from thousands to millions of compounds. Targeted segments of compounds are screened to save time, but false negatives, false positives or ambiguous results necessitate repeat screenings or rework at later stages of drug discovery. This adds to the analytical burden.

The Echo[®] MS System signals a new era for HTS laboratories that want to RUN FAST and demand the shortest time to actionable results.

The Echo[®] MS System is an ultra-high throughput solution with excellent reproducibility and robustness. It delivers high data quality with minimal sample preparation to connect laboratories to results faster, and to add certainly to go/no-go decisions earlier in their projects.



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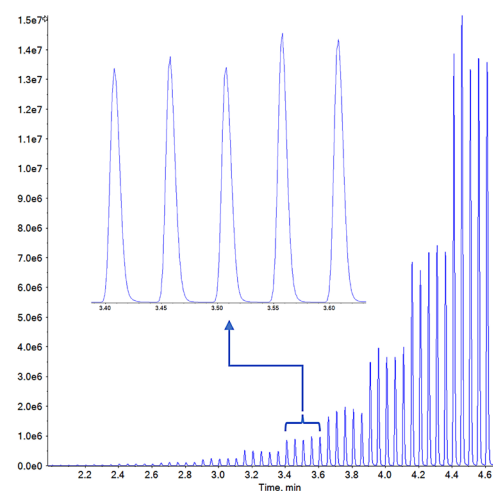
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HIGH THROUGHPUT ADME: QUALIFY DRUG CANDIDATES FASTER

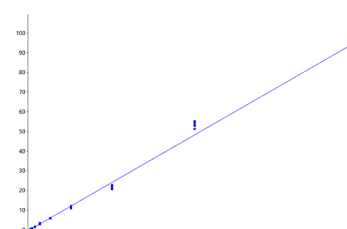
ADME testing is a critical decision gate for early lead drug candidates. Faster screening assays have led to an increased volume of leads which require optimization by ADME. For high-throughput ADME studies this means an increased analytical bottleneck with increased potential hits.

The Echo[®] MS System delivers an extremely high-throughput solution with high data quality and minimal sample preparation. Plus, it provides you with excellent reproducibility and robustness to rapidly qualify drug candidates faster.

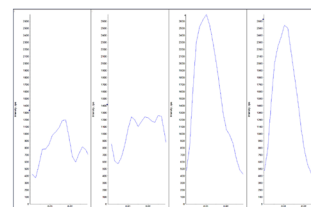
Complete pharmacokinetic study in plasma in under 5 minutes

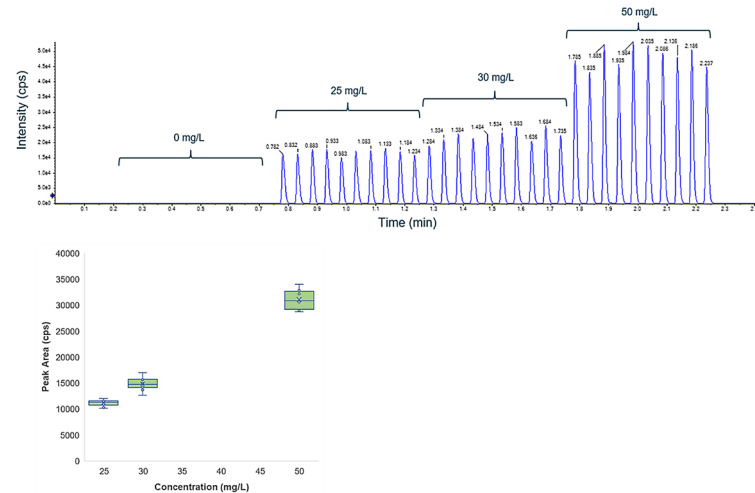


Example calibration curve for fentanyl in untreated plasma



Blank samples followed by standard ejections of the fentanyl in untreated plasma at a concentration of 0.2 ng/mL





- Direct analysis from yeast fermentation broth without sample cleanup
- Enough sensitivity covering the required concentration range
- Great reproducibility allowing the statistically distinguish between small differences in concentration of angiotensin in broth

For the synthetic biologist who needs to assess many potential biosynthetic strains, analysis time can be a costly bottleneck because of the sheer number of time-critical samples that are produced.

The Echo® MS System delivers speed and scalable, high sample throughput with minimal sample preparation. The efficient workflow produces precise and information-rich data, to identify the highest yielding synthetic biology pathways, faster.

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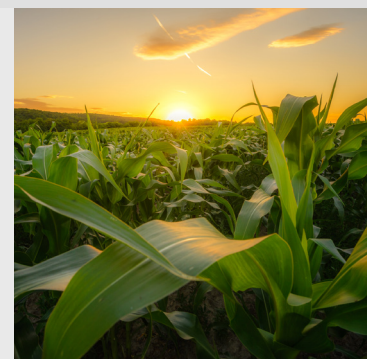
FOOD TESTING: IMPROVED EFFICIENCIES IN PRODUCTION LINE

Food analysis is subject to stringent testing. Consumers want clarity and data regarding the quality and safety of the food they eat. Which is why labs need fast and accurate ways of screening residues, contaminants and ingredients. The Echo[®] MS System leverages next generation Acoustic Ejection Mass Spectrometry (AEMS) technology than provides you speeds of up to 3 samples per second to increase your food lab's productivity and improve time to market on perishables. The Echo[®] MS System could open your business to improved efficiencies and faster turnaround time in your production line.



AGROCHEMICAL TESTING: EXPEDITE SAFE PRODUCTS TO MARKET

Farmers rely heavily on quality solutions to help them operate in a fast-paced environment while improving yields and resilience. That means agronomical and agrochemical businesses need new methods and technologies to be developed quickly, to deliver safe, quality products to the market consistently. The Echo[®] MS System offers agribusinesses the speed they need to accelerate their path to results. Get a scalable, high-throughput sampling solution that requires minimal sample preparation, without sacrificing data quality. Start generating reproducible results faster than before and expedite getting products to market.



FORENSICS TESTING: OPPORTUNITY FOR REAL-TIME ANALYSIS

Time-critical analysis of evidence samples has the potential to be quicker than ever before with the Echo MS[®] System. The advanced innovation of Acoustic Ejection Mass Spectrometry (AEMS) has the capacity to test up to 3 samples per second. Compound specific workflows could be reimagined with this technology, to enable faster processing of cases, which can reduce backlogs. The speed of the Echo[®] MS System is complimented by the robustness, accuracy, and precision that is at the core of the whole SCIEX portfolio. This technology can open up new testing opportunities, can test evidence before it decays and can launch your forensic laboratory on a trajectory towards a real-time analysis environment.



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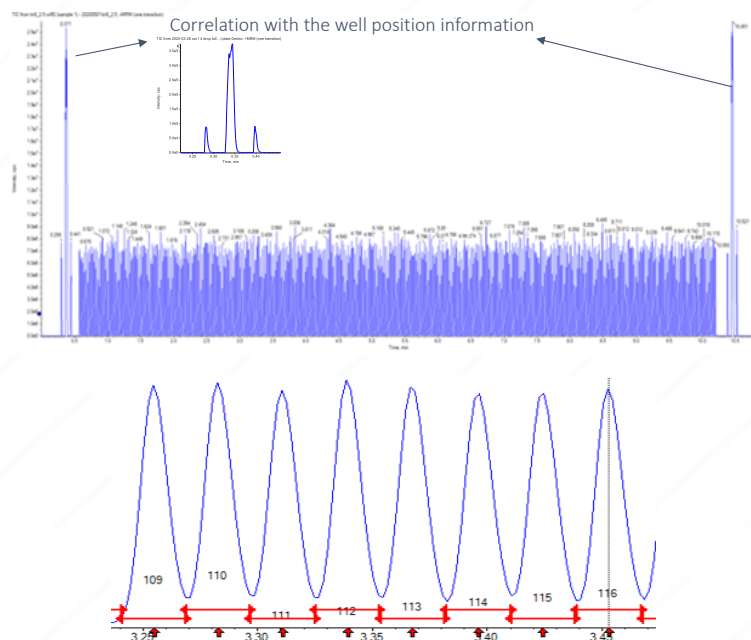
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POWERED BY SCIEX OS SOFTWARE

Unlocking the productivity of the Echo[®] MS System, SCIEX OS software opens up your laboratory to a new dimension of efficiencies, compound analysis and sample testing.

SCIEX OS Software elevates the data acquisition and automatic processing productivity of the Echo[®] MS System. Implementation in your high-throughput laboratory setup is seamless. The software has new features to integrate with any automation setup using our robotic scheduler development kit.

SCIEX OS Software has evolved to provide you with modernized data review tools, visual aids and faster processing. These enhanced features allow you to have greater confidence in your results, and to make better decisions, faster.



Auto-generation of the result table

Sample Name	Well Position	Compound	Peak Area	Peak Height	Peak Width
test	A1	Dextrometorphane	287547.3	551142	0.016333
test	A1	Olanzapine	625918	1267019	0.016333
test	A1	Propranolol	145421.2	242126	0.016333
test	A1	Terfenadine	67407.34	150055	0.016333
test	A2	Dextrometorphane	244768	445079	0.01635
test	A2	Olanzapine	602600.7	1131460	0.01635
test	A2	Propranolol	129844	280733	0.01635
test	A2	Terfenadine	58963.11	104825	0.01635
test	A3	Dextrometorphane	264182.2	576012	0.016333
test	A3	Olanzapine	671599.8	1441817	0.016333
test	A3	Propranolol	133808.2	279352	0.016333
test	A3	Terfenadine	57012.06	109476	0.016333
test	A4	Dextrometorphane	224330.3	466889	0.01635
test	A4	Olanzapine	580772.4	1220027	0.01635
test	A4	Propranolol	131373.1	280611	0.01635
test	A4	Terfenadine	53681.46	132671	0.01635
test	A5	Dextrometorphane	230785.5	491891	0.016333
test	A5	Olanzapine	598921.5	1178736	0.016333
test	A5	Propranolol	134864.7	227162	0.016333
test	A5	Terfenadine	54950.7	126976	0.016333
test	A6	Dextrometorphane	280594	589247	0.01635
test	A6	Olanzapine	562932.6	1285588	0.01635
test	A6	Propranolol	138059.6	252664	0.01635
test	A6	Terfenadine	67867.14	165310	0.01635
test	A7	Dextrometorphane	250399.2	474476	0.016333
test	A7	Olanzapine	503185.9	1133176	0.016333
test	A7	Propranolol	121654.8	232397	0.016333
test	A7	Terfenadine	53150.86	118756	0.016333
test	A8	Dextrometorphane	241965.2	540094	0.01635
test	A8	Olanzapine	599506.9	1324475	0.01635
test	A8	Propranolol	130018.5	270023	0.01635
test	A8	Terfenadine	60794.71	135237	0.01635
test	A9	Dextrometorphane	258771.7	587895	0.016333
test	A9	Olanzapine	568511.4	1131052	0.016333
test	A9	Propranolol	117596.6	228702	0.016333

OPEN INTEGRATION FOR ANY AUTOMATION SOLUTION

The Echo[®] MS System is supported with direct automation instrument control. The SCIEX software developer kit (SDK) enables any and all robotic vendors to write drivers and interface with the Echo[®] MS System.

SCIEX OS Software supports an open application programming interface (API) for the creation of integrated control through 3rd-party automation software packages.



Our preferred partner for an automation solution is Beckman Coulter Life Sciences. Their SAMI EX Software scheduling offers seamless control and the ability to organize your work. Designed to provide complete automation and process control across a wide variety of applications, SAMI EX creates planned data-driven schedules in an optimized and predictable scheduling environment.

[Learn More](#)

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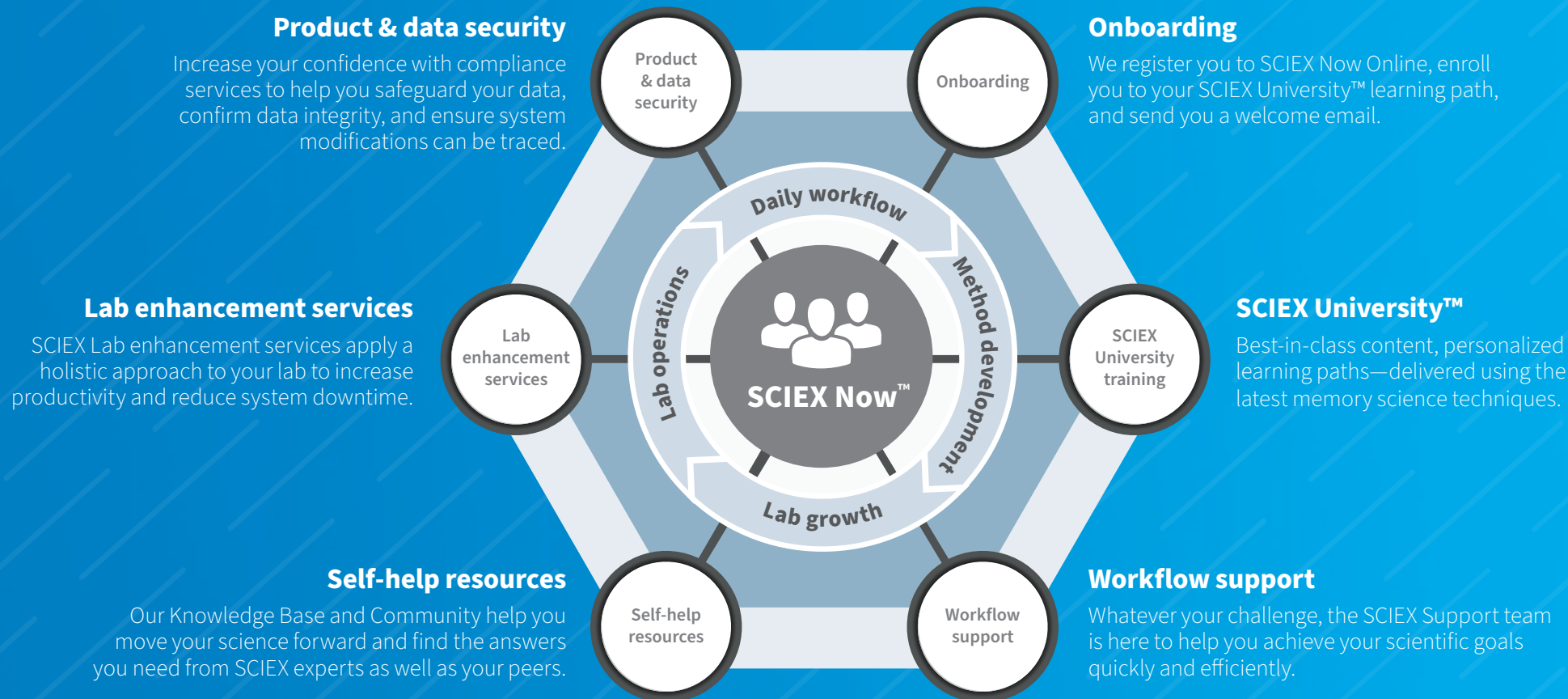
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SCIEX Now™ Support Network

The destination for all your support needs



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