



CASE STUDY

Revolutionizing Opioid Biosurveillance with Automated Mass Spectrometry

From PARC's Bench to Public Health Lab's Frontlines

Opioid Biosurveillance

Opioid Biosurveillance is vital for informing public health policies on polysubstance abuse, capturing exposure data beyond traditional sources. The CDC's OD2A initiative tasked **Public Health Labs** (PHLs) to track emerging drug use, but many struggle with delays in reporting toxicology results or lack the technology, workflows, or expertise needed to provide timely, data-driven insights.

Reimaging Workflows with ToxB^ox[®] JustGo[™]

The **ToxB^ox[®]** consumable platform delivers hands-free testing, enhancing efficiency in toxicology labs. Used in validating an LC-MS/MS method at the **DC Public Health Laboratory** in under two months, it's now in use for analyzing case samples, covering Tier 1, 2, 3 drugs for **OD2A** and beyond. Its integration reduced sample processing time by **30–40%**

and provided a foundation for rapidly completing the validation of a new workflow for their laboratory.

The **ToxB^ox[®] JustGo[™]** workflow solution enhances the **ToxB^ox[®]** platform by transforming standard **LC-MS/MS** instrumentation into a fully automated analyzer. This expandable urine testing platform eliminates extraction and dilution, automates sample prep, and optimizes lab efficiency using standard equipment.

The research and development of this method was conducted at **PARC**, utilizing the **Bruker EVOQ[®] DART-TQ⁺** for method development and optimization. The method was then successfully reproduced and validated on a different vendor's LC-MS, demonstrating its reproducibility. This confirms the **ToxB^ox[®] JustGo[™]** significantly accelerates processing, which will help **PHLs** meet **OD2A** data quality objectives and reporting requirements faster than ever.



Sne Parikh

OD2A Program Manager, Public Health Laboratory, Washington D.C.

“The ToxB^ox[®] consumable platform streamlined not only our method validation, but our daily sample processing workflows. We are excited to implement the ToxB^ox[®] JustGo[™] workflow – it will be a game-changer”

Results: Data-Driven Outcomes

- **30-90% Reduction in Processing Time:** Eliminates sample aliquoting, dilution and cleanup procedures, reducing materials and time compared to traditional workflows.
- **Data Quality:** Removes labor-intensive sample preparation and limits the chances for human errors from pipetting and processing.
- **Increased Throughput:** Enables laboratory staff to focus on data processing, interpretation and reporting.

Urine Toxicology	Traditional Workflows	ToxB ^o x [®] Platform	ToxB ^o x [®] JustGo [™] Workflow
Sample Prep Time	6-8 Hours	2-4 Hours	0.5 Hours
Reporting Time	3-5 Days	1-2 Days	Same or Next Day
Sample Throughput	Low	Moderate	High
Validation Studies	6-12 Months	4-6 Weeks	4-6 Weeks

Urine Toxicology, Evolved

- **Ready-to-Go, Hands-Free Materials:** Pre-formulated, formatted, and quality controlled ToxB^ox[®] analytical plates containing certified reference materials (ISO17034-CRMs), delivered ready for analysis.
- **Autosampler Optimization:** The ToxB^ox[®] JustGo[™] workflow uses quantitative specimen transfer and incubations in the autosampler, enabling direct injection on-column without extraction.
- **Same-Day Reporting:** Process up to 40 OD2A samples for same-day results.

Scalable Solutions for Forensic Toxicology and Clinical Research

The ToxB^ox[®] consumable platform and the ToxB^ox[®] JustGo[™] workflow solutions are versatile for complex drug testing menus and workflows.

Learn More:

- About [PARC](#)

Products

- [EVOO[®] DART-TO⁺](#)
- [ToxB^ox[®]](#)

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