



71% INCREASE OF DEATHS

FROM 2010 to 2020

due to opioid use disorders
over the past decade³

35



MILLION INDIVIDUALS

suffer from drug
use disorders¹



210 MILLION

2009

269 MILLION

2020

Number of people who use illicit drugs at least once¹



DRUG-ATTRIBUTABLE DEATHS WORLDWIDE

were related to opioids²

SUBSTANCE ABUSE AND COVID-19

The long-term ramifications of COVID-19 are not yet fully known but are expected to be far-reaching and will undoubtedly impact the drug market.¹



DRUGS OF ABUSE TESTING

The global drug market grows more complicated as harmful new substances emerge.

While there is a familiarity with commonly abused drugs such as heroin, cocaine, and amphetamines, drug uses are evolving as various controlled and illicit substances are being combined. The lines between legal and illegal drug markets are becoming increasingly blurred. **Reliable testing for drugs of abuse is needed now more than ever.**

LEARN ABOUT
BECKMAN
COULTER'S
EXPANDED
DRUGS OF ABUSE
TESTING MENU.



The Need for **Reliable Testing**

Due to the emergence of new substances, increasing drug use, and the COVID-19 pandemic, there is a rising demand for high-quality drugs of abuse testing (DAT). The evolving drug market requires more complex testing and can bring forth potential challenges in interpreting results. It’s essential for laboratories to identify a larger number of substances to address the ever-changing needs of drug screening.

As a result, Beckman Coulter has expanded its extensive drug abuse test menu with three new assays: Fentanyl, Hydrocodone and Ketamine. Beckman Coulter offers a comprehensive menu on its Automated Clinical Chemistry Analyzers, including the AU480, AU680, DxC 700 AU and AU5800 Series.



DAT MENU OFFERING		
6-acetylMorphine*	Cannabinoid*	LSD*
Amphetamines*	Cocaine Metabolite*	Methadone*
Barbiturates*	Ecstasy*	Methaqualone*
Barbiturate Serum Tox*	Ethyl Alcohol*	Opiate*
Benzodiazepine*	Fentanyl**	Phencyclidine*
Benzodiazepine Serum Tox*	Hydrocodone**	Propoxyphene*
Buprenorphine*	Ketamine**	Tricyclics Serum Tox*

*Manufactured by Siemens® **Manufactured by Lin-Zhi®

INTRODUCING

New Esoteric Drugs of Abuse Testing Assays to Enhance Your Screening Menu

Fentanyl

Intended for the qualitative or semi-quantitative determination of norfentanyl in human urine. It’s the only assay that can measure norfentanyl up to 100% cross-reactivity at a low cutoff of 5 ng/mL.

Hydrocodone

Intended for the qualitative or semi-quantitative determination of hydrocodone in human urine at a cutoff of 300 ng/mL.

Ketamine

Intended for the qualitative or semi-quantitative determination of norketamine in human urine at a cutoff of 50ng/mL.

Precise Interpretation of Results

The robust panel of proven high-specificity and high-sensitivity assays deliver reliable results to physicians and patients alike. Beckman Coulter's DAT menu measures microscopic amounts of drugs and drug metabolites in human urine, combining the specificity and sensitivity of immunoassay with the convenient speed and reproducibility of enzyme measurements.

High-quality assays are extremely useful in meeting demanding laboratory needs for routine analytical drug and metabolite determinations. They also help optimize laboratories' clinical and operational efficiency.

Greater consolidation of testing on one system

Rely on Beckman Coulter to provide solutions that enable your laboratories to sustain the latest development of new assays for drugs of abuse testing.

Beckman Coulter’s DAT menu provides:

- › Ready-to-use liquid reagents, controls, and calibrators with convenient storage at 2–8° C*
- › High concordance with confirmatory methods
- › Serum and plasma testing capabilities available for alcohol, barbiturate serum toxicology, benzodiazepine serum toxicology, and tricyclics serum toxicology reagents

Combining Qualitative and Semi-Quantitative Methodology for Rapid Screening and Treatment Planning

The DAT panel distributed by Beckman Coulter utilizes a homogenous enzyme immunoassay method. The assay is based on competition between a particular drug in the specimen and the drug labeled with the enzyme glucose-6-phosphate dehydrogenase (G6PDH) for antibody binding sites.

Since enzyme activity decreases upon binding to the antibody, the drug concentration is measured in terms of enzyme activity. Active enzyme converts nicotinamide adenine dinucleotide (NAD) to NADH—the reduced form of NAD—resulting in an absorbance change that is measured spectrophotometrically at 340 nm. Endogenous serum G6PDH does not interfere, because the coenzyme NAD functions only with the bacterial (i.e., Leuconostoc mesenteroides) enzyme employed in the assay.

Qualitative results are expressed as positive or negative based on a comparison of the sample rate to the calibrated cutoff rate, which indicates whether a particular substance or analyte is present in the specimen. Semiquantitative results are calculated using of multiple calibrator levels to provide an approximate cumulative concentration of the drug and metabolite detected by the reagent.

Results obtained during the screening⁵ provide a reliable estimate of drug concentration. Semiquantitative drug screening reagents can be a valuable tool in evaluating drug treatment plans, drug overdose medical emergencies, and compliance prescription or nonprescription drug abuse.

Our expanded drug abuse test menu is available on these Automated Clinical Chemistry Analyzers.

Learn more at www.beckmancoulter.com/drugabusetesting



References

1. Executive Summary. (2020). United Nations : World Drug Report 2020. <https://wdr.unodc.org/wdr2020/en/exsum.html>
2. World Health Organization: WHO. (2020, August 28). Opioid overdose. Who.int; World Health Organization: WHO. <https://www.who.int/news-room/fact-sheets/detail/opioid-overdose>
3. Press Release. (2020). United Nations. <https://www.unodc.org/unodc/press/releases/2020/June/media-advisory---global-launch-of-the-2020-world-drug-report.html>
4. Understanding the Epidemic. (2021). <https://www.cdc.gov/drugoverdose/epidemic/index.html>
5. Only applicable outside of the United States.

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FL-302066 | 2021-8852

