



## Technical Memorandum

**To:** DLS Clients

**From:** Steven Brimmer, Ph.D., Director Toxicology  
Wesley Kim, MD, Medical Director

**Date:** May 10, 2019

**Subject:** GC-MS Clinical Claims Validations

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The drug confirmation testing by Gas-Chromatography Mass Spectrometry (GC-MS) has been re-validated in order to demonstrate the method's accuracy and precision. At Diagnostic Laboratory Services, Marijuana, Amphetamines and Cocaine had positivity rates 2.82%, 0.72%, and 0.36%, respectively in 2018. Our laboratory found no PCP confirmed positives in 2018.

This recent validation showed that Diagnostic Laboratory Services' confirmations are accurate and precise. The accuracy testing was performed by analyzing CAP proficiency samples and all results were within 1.75 standard deviations of the mean. The between run precision demonstrates that these methods are very reproducible, with the %CVs being under 10%. The Analytical Measurement Range (AMR) and the Lower Limit of Quantitation (LLOQ) are the same as previously reported.

	Confirmation Cutoff <sup>1</sup>	%CV <sup>2</sup>	AMR (ng/mL)	LLOQ (ng/mL)
Amphetamines	250	5.3%	50-2000	50
Benzoyllecgonine	100	0.8%	50-2000	50
Marijuana	15	6.9%	5.0-200	5
Phencyclidine	25	2.8%	2.5-100	2.5

1 Confirmation cutoff are established by the US DOT

2 Between-run precision with > 30 replicates

If you have any questions or concerns, please call DLS Toxicology at 589-5260 or DLS Client Services at 589-5101.