



## K5 Case Report: Detection of 25C-NBOMe in Three Related Cases

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After attending this presentation, attendees will be familiar with three related cases involving 25C-NBOMe, including a fatal intoxication.

This presentation will impact the forensic science community by reporting a complete tissue distribution of 25C-NBOMe in a postmortem case with antemortem findings in two related cases.

A 23-year-old male became agitated and combative shortly after being detained by police. The individual continued to resist while he was handcuffed and placed prone on the ground. He was subdued by an electronic control device and oleoresin capscicum spray. While prone, the individual experienced respiratory problems and life-saving measures were initiated. He was transported to the hospital and pronounced dead. An autopsy was performed and tissues submitted for toxicological analysis. As part of the investigation, blood and urine specimens from two individuals associated with the decedent were also submitted for analysis.

Specimens from all cases were subjected to volatile analysis by headspace/gas chromatography equipped with a flame ionization detector and immunoassay analysis (amphetamines, barbiturates, benzodiazepines, cannabinoids, cocaine, opiates, oxycodone, phencyclidine, 6-acetylmorphine, and lysergic acid diethylamide). Postmortem specimens were screened for alkaline-extractable drugs by Gas Chromatography/Mass Spectrometry (GC/MS). Based on case history, an additional urine screen was performed on all three cases by Liquid Chromatography/quadrupole Time-Of-Flight/Mass Spectrometry (LC/qTOF/MS). 25C-NBOMe and proposed metabolites were detected in each case. 25C-NBOMe results were confirmed and quantitated using Liquid Chromatography/Triple Quadrupole/Mass Spectrometry (LC/QqQ/MS). A standard addition protocol was implemented for all tissue aliquots to account for matrix effects.

	Matrix	25C-NBOMe ng/mL or ng/g	2C- (ng/mL or ng/g)
<b>Case #1</b> (Postmortem)	Blood (Heart)	2.07	0.12
	Urine	27.43	0.38
	Vitreous	0.50	-
	Adipose	2.35	-
	Brain	19.10	-
	Spleen	27.13	-
	Lung	25.21	-
	Liver	15.20	-
	Kidney	25.06	-
	Gastric	302.41	-
<b>Case #2</b>	Blood	0.48	-
	Urine	1.73	0.20
<b>Case #3</b>	Blood	1.04	-
	Urine	4.06	0.11



## Toxicology Section - 2016

Full-scan GC/MS alkaline drug screen detected pseudoephedrine, nicotine, and cotinine in the urine of Case #1. Pseudoephedrine was confirmed in urine by GC/MS, but was not detected in the decedent's blood at a 50ng/mL cutoff.

The cause of death was ruled 25C-NBOMe toxicity temporally associated with excited delirium and forcible restraint. The manner of death was ruled accidental.

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### **25C-NBOMe, Postmortem, Tissue Distribution**