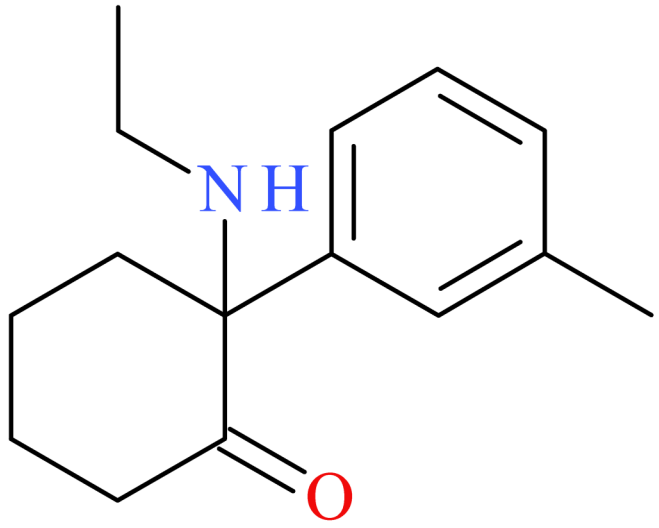
Deoxymethoxetamine



NPS SUBCLASS
Hallucinogen
REPORT DATE
October 28, 2025
SAMPLE RECEIVED
July 9, 2025
SAMPLE TYPE
Drug Material

Preferred Name	Deoxymethoxetamine
Synonyms	DMXE
Formal Name	2-(ethylamino)-2-(m-tolyl)cyclohexanone
InChI Key	WIMLPRYZJQNQLE-UHFFFAOYSA-N
CAS Number	N/A
Chemical Formula	$C_{15}H_{21}NO$
Molecular Weight	231.3
Molecular Ion [M⁺]	231
Exact Mass [M+H]⁺	232.1696

Characterization & Intelligence

The following information was compiled in October 2025 and is subject to change as new research is conducted and as new information becomes available:

Description: Deoxymethoxetamine (DXME) is a novel hallucinogen. Deoxymethoxetamine is categorized as an arylcyclohexylamine and a derivative of methoxetamine, alongside methoxisopropamine (MXiPr). The first identification of deoxymethoxetamine was reported from Denmark in February of 2021.[1] Deoxymethoxetamine was first identified by our laboratory in July 2025 and confirmed after acquiring standard reference material.

Sample Source: In Collaboration with StreetCheck

STREET CHECK COMMUNITY DRUG CHECKING

Sample Appearance: Colorless plastic bag containing residue

Pharmacology: Deoxymethoxetamine is reported to be a potent *N*-methyl-*D*-aspartate (NMDA) receptor blocker with a half-maximal inhibitory concentration (IC_{50}) of 0.679 µM, similar to that of methoxetamine (MXE, IC_{50} = 0.524 µM).[2]

Toxicology: Deoxymethoxetamine has not been identified in toxicology cases to date at the CFSRE.

Drug Materials: Deoxymethoxetamine has been detected in two drug materials to date at the CFSRE.

Demographics / Geographics: The drug materials originated from New England. Deoxymethoxetamine was identified alone and alongside 3-HO-PCP.

Legal Status: Deoxymethoxetamine is not currently scheduled in the United States.

References:

- Cayman Chemical: Deoxymethoxetamine
- [1]Han et al. (2022) AddictedChem: A data-driven integrated platform for new psychoactive substance...
- [2]Irie et al. (2022) Derivatives of methoxetamine and major methoxetamine metabolites potently...

About: In collaboration with medical examiner and coroner offices, crime laboratories, clinical partners, and other stakeholders, the Center for Forensic Science Research and Education (CFSRE) is documenting first confirmations of NPS through analysis of drug materials and/or toxicology samples. These reports are generated using comprehensive analytical techniques (e.g., GC-MS, LC-QTOF-MS, NMR) and include available information about the new substances identified at the time of reporting, as well as the analytical data generated during testing. Our new drug monographs are intended to assist with the rapid identification of NPS in forensic casework and related disciplines, and should not be used for confirmatory purposes alone.

Analytical Notes: All identifications were made based on evaluation of analytical data (GC-MS and LC-QTOF-MS) in comparison to analysis of acquired reference material.

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Gas Chromatography Mass Spectrometry (GC-MS)

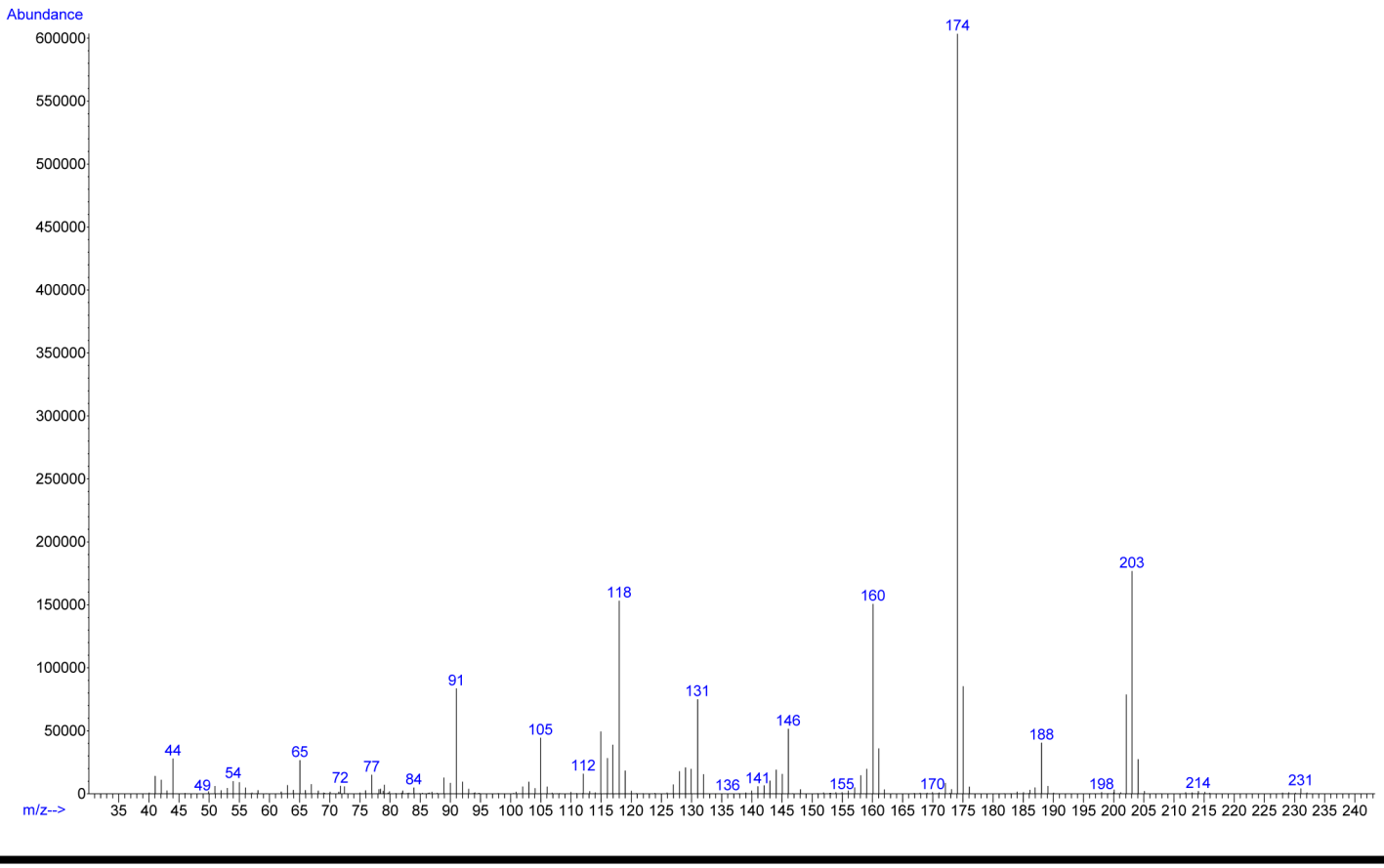
Laboratory: Center for Forensic Science Research and Education (CFSRE, Horsham PA, USA)

Sample Preparation: Acid-base extraction

Instrument: Agilent 5975 Series GC/MSD

Methods: GC-MS Method Details & Monographs

GC-MS: Mass Spectrum (EI 70 eV)



Confirmation Using Drug Standard: *Reference material for deoxymethoxetamine (Batch: 0619632-3) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be deoxymethoxetamine based on retention time (sample: 4.87 min vs. standard: 4.84 min) and mass spectral data comparisons.*

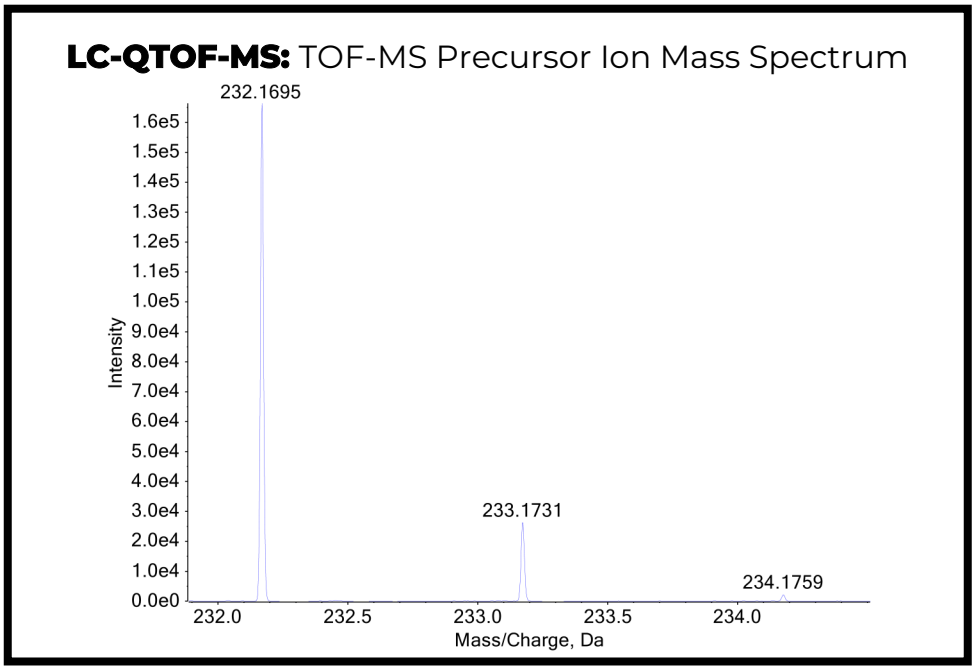
Liquid Chromatography Quadrupole Time-of-Flight Mass Spectrometry (LC-QTOF-MS)

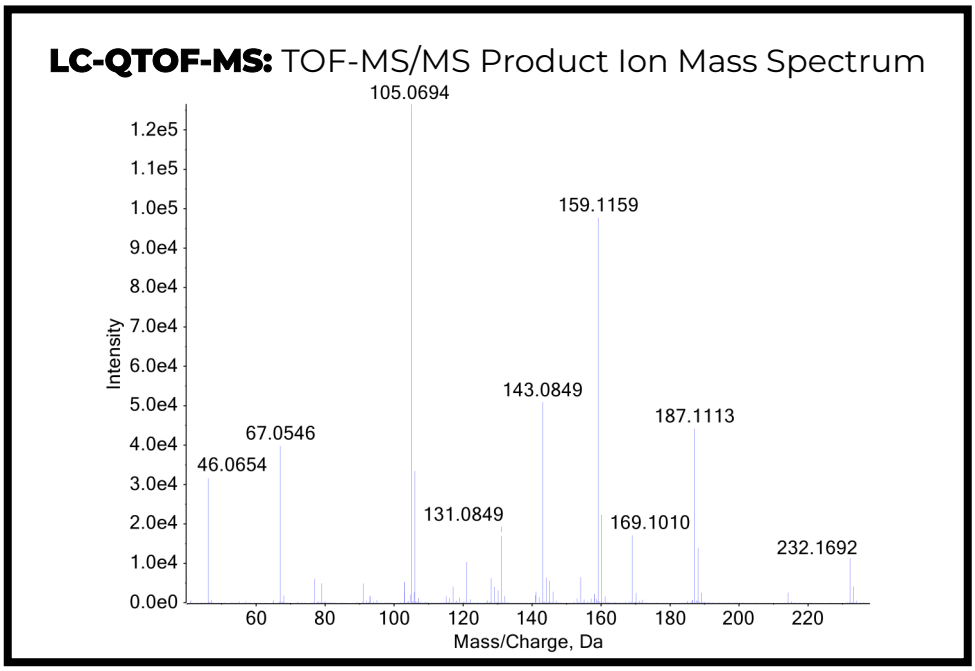
Laboratory: Center for Forensic Science Research and Education (CFSRE, Horsham, PA, USA)

Sample Preparation: Dilution in mobile phase

Instrument: Sciex 5600+ LC-QTOF-MS

Methods: LC-QTOF-MS Method Details & Monographs





Confirmation Using Drug Standard: *Reference material for deoxymethoxetamine (Batch: 0619632-3) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be deoxymethoxetamine based on retention time (sample: 5.18 min vs. standard: 5.27 min) and mass spectral data comparisons.*