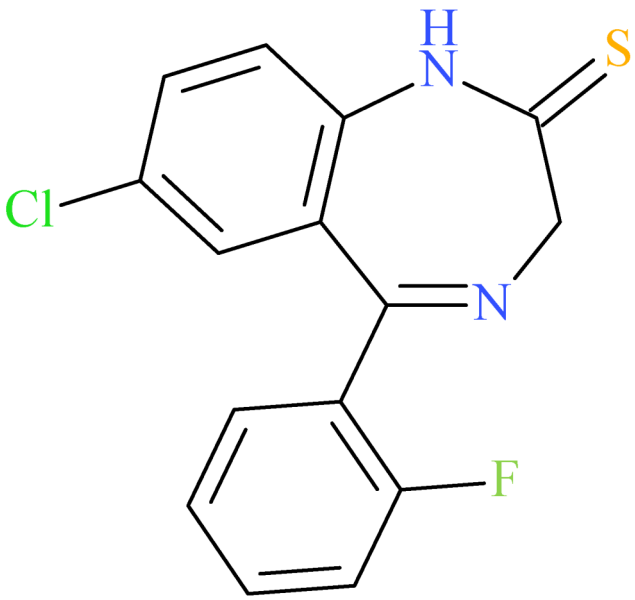
Desalkylquazepam



NPS SUBCLASS
Benzodiazepine
REPORT DATE
August 28, 2024
SAMPLE RECEIVED
May 1, 2024
SAMPLE TYPE
Drug Material

Preferred Name	Desalkylquazepam
Synonyms	*N*-Desalkylquazepam, *N*-Desmethylquazepam
Formal Name	7-chloro-5-(2-fluorophenyl)-1,3-dihydro-1,4-benzodiazepine-2-thione
InChI Key	UAFWJQYZZIJGPD-UHFFFAOYSA-N
CAS Number	1645-32-5
Chemical Formula	$C_{15}H_{10}ClFN_2S$
Molecular Weight	304.8
Molecular Ion [M⁺]	304
Exact Mass [M+H]⁺	305.0310

Characterization & Intelligence

The following information was compiled in August 2024 and is subject to change as new research is conducted and as new information becomes available:

Description: Desalkylquazepam is a novel designer benzodiazepine bearing structural similarity to diclazepam, desalkylgidazepam, phenazepam, and other NPS benzodiazepines. Desalkylquazepam can be used as a precursor in the synthesis of triazolobenzodiazepines.[1] Desalkylquazepam was first detected in May 2024 by our laboratory and was confirmed after acquiring standard reference material.

Sample Source: Canton-Stark County Crime Laboratory (Canton, OH)

Sample Appearance: Blue powder

Pharmacology: No available pharmacological data for desalkylquazepam were discovered during our search. Structurally similar NPS benzodiazepines are active at the $GABA_A$ receptor and produce CNS depressant effects.

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

Drug Materials: Desalkylquazepam has been detected in one drug material to date at the CFSRE.

Demographics / Geographics: The drug material sample originated from Ohio. Desalkylquazepam was detected alongside NPS opioids (e.g., protonitazene) and adulterants (e.g., xylazine, diphenhydramine).

Legal Status: Desalkylquazepam is not explicitly scheduled in the United States.

References:

- Cayman Chemical: Desalkylquazepam
- [1]Hester *et al.* (1971) 6-Phenyl-4H-s-triazolo[4,3-α][1,4]benzodiazepines which have central nervous system depressant activity

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.

Acknowledgements: This report was prepared by Sara E. Walton, Jennifer Creed, Max T. Denn, Alexis D. Quinter, Joshua S. DeBord, Barry K. Logan, and Alex J. Krotulski at the Center for Forensic Science Research and Education (CFSRE) at the Fredric Rieders Family Foundation. The authors acknowledge scientists at the CFSRE for their involvements and contributions. For more information, contact npsdiscovery@cfsre.org or visit www.npsdiscovery.org.

Funding: CFSRE's NPS Discovery is supported by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice (Award Number 15PNIJ-22-GG-04434-MUMU, "Implementation of NPS Discovery – An Early Warning System for Novel Drug Intelligence, Surveillance, Monitoring, Response, and Forecasting using Drug Materials and Toxicology Populations in the US"). The opinions, findings, conclusions and/or recommendations expressed in this publication are those of the author(s) and do not necessarily represent the official position or policies of the U.S. Department of Justice.

Suggested Citation: Walton, SE; Creed, J; Denn, MT; Quinter, AD; DeBord, JS; Logan, BK; Krotulski, AJ. *Desalkylquazepam — NPS Discovery New Drug Monograph*, Center for Forensic Science Research and Education, United States.

Gas Chromatography Mass Spectrometry (GC-MS)

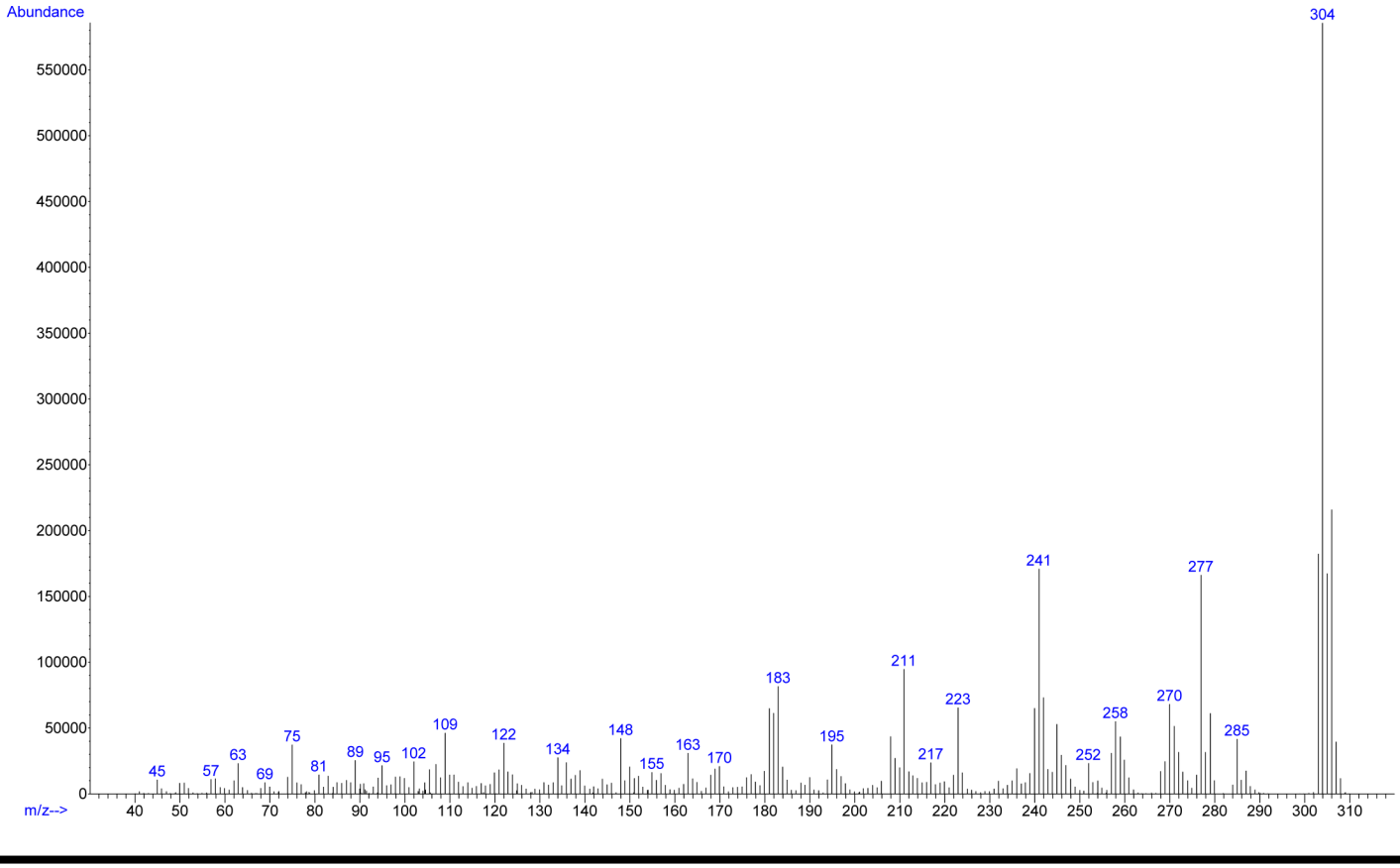
Laboratory: Center for Forensic Science Research and Education (CFSRE, Willow Grove, PA, USA)

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 (Batch: 0669380-2) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be desalkylquazepam based on retention time (sample: 7.48 min vs. standard: XXXX min) and mass spectral data comparisons.*

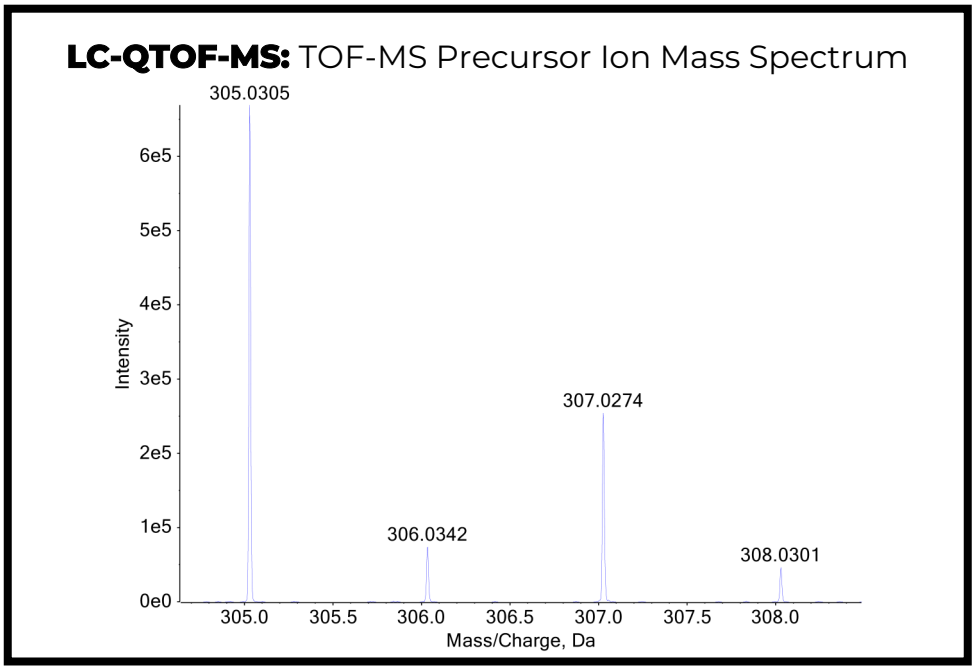
Liquid Chromatography Quadrupole Time-of-Flight Mass Spectrometry (LC-QTOF-MS)

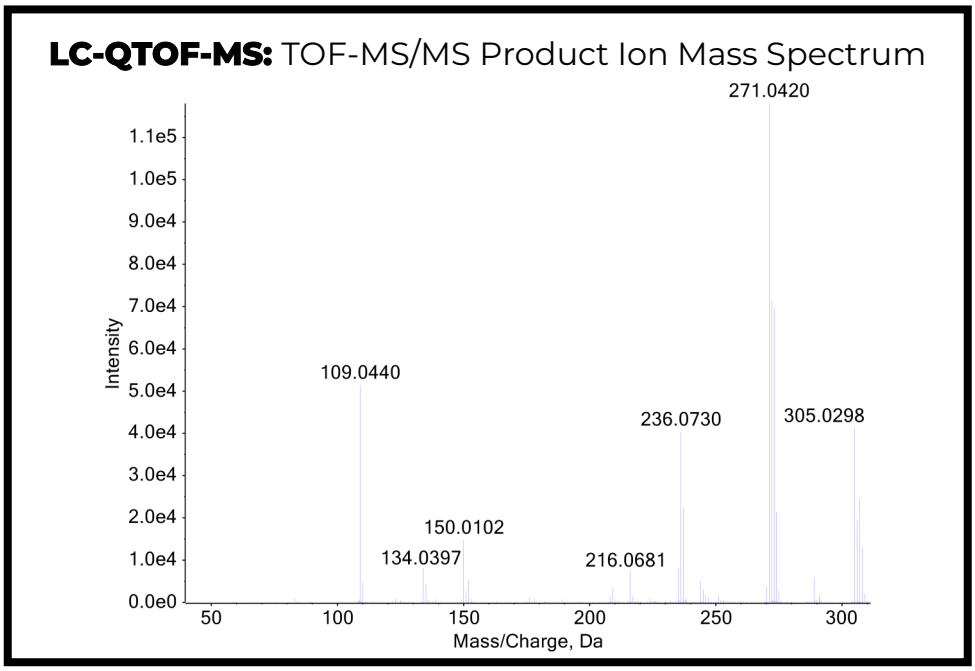
Laboratory: Center for Forensic Science Research and Education (CFSRE, Willow Grove, PA, USA)

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 (Batch: 0669380-2) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be desalkylquazepam based on retention time (sample: 8.13 min vs. standard: 8.13 min) and mass spectral data comparisons.*