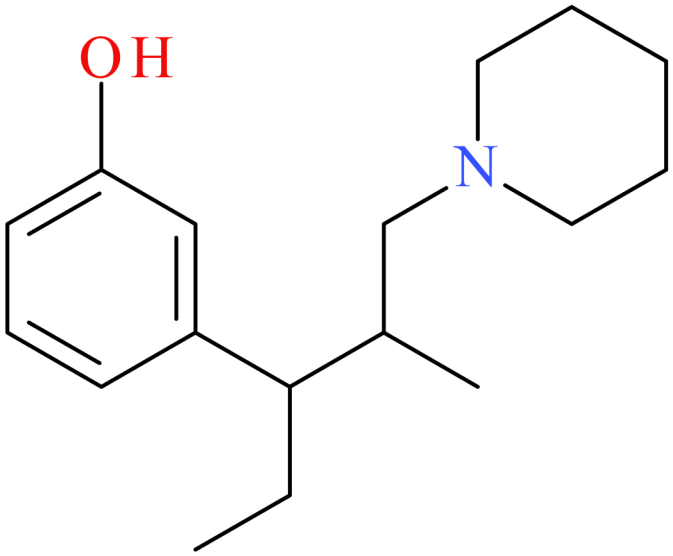
N-Piperidinyl Tapentadol



NPS SUBCLASS
Opioid
REPORT DATE
February 4, 2026
SAMPLE RECEIVED
November 18, 2025
SAMPLE TYPE
Drug Material

Preferred Name	*N*-Piperidinyl Tapentadol				
Synonyms	PiPTapentadol				
Formal Name	3-[1-ethyl-2-methyl-3-(1-piperidyl)propyl]phenol				
Chemical Formula	$C_{17}H_{27}NO$				
Molecular Weight	261.4	**Molecular Ion [M⁺]**	261	**Exact Mass [M+H]⁺**	262.2165

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, and should not be used for confirmatory purposes alone.

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

Acknowledgements: This report was prepared by Sara E. Walton, Nicholas Khorozov, Max T. Denn, Alexis D. Quinter, Angel McDowell, 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.

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Characterization & Intelligence

The following information was compiled in February 2026 and is subject to change as new research is conducted and as new information becomes available:

Description: *N*-Piperidinyl tapentadol, referred to online as "PiPTapentadol" and also called "Piptap3", is a novel opioid and bears structural similarity to tapentadol, a potent synthetic opioid analgesic. *N*-Piperidinyl tapentadol was first identified through online gray market sites and posts on social media forums (e.g., Reddit) as a potential alternative for other synthetic opioids (O-desmethyltramadol, tapentadol).[1] Currently, there is no information regarding the pharmacological effects of *N*-piperidinyl tapentadol. *N*-Piperidinyl tapentadol was identified in a white powder ordered from an online vendor through the CFSRE NPS Discovery Test Purchase Program. The sample was sold as "PiPTapentadol" and subsequently confirmed as the sole component via mass spectrometry and nuclear magnetic resonance (NMR). *N*-Piperidinyl tapentadol is not currently scheduled in the United States.

References:

► [1]National Drug Early Warning System (2025) NDEWS Weekly Briefing Issue 255

Gas Chromatography Mass Spectrometry (GC-MS)

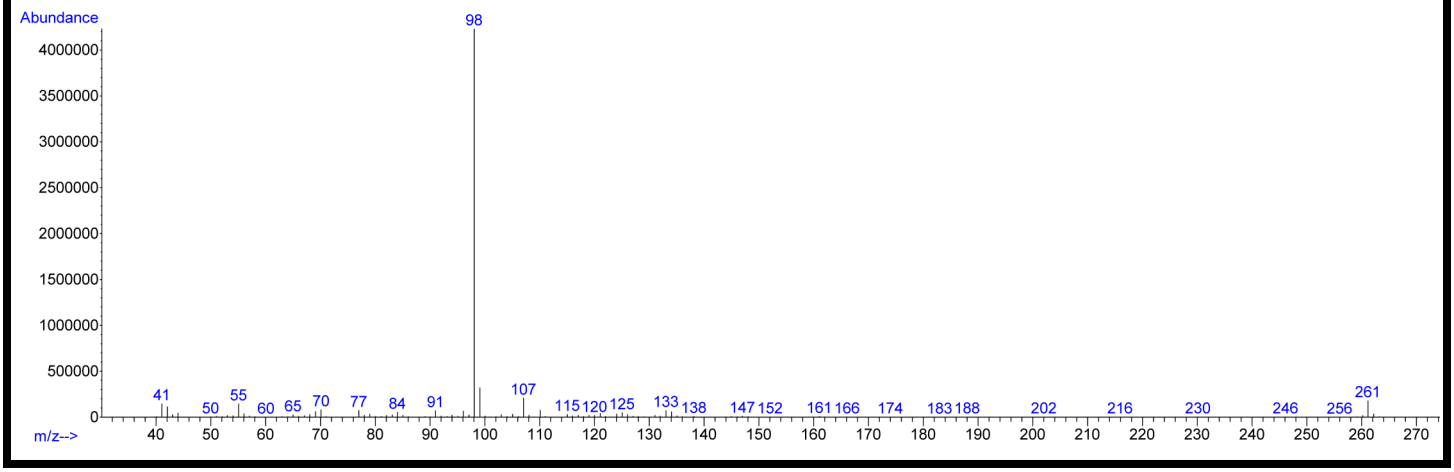
Laboratory: Center for Forensic Science Research and Education (CFSRE, Horsham PA, USA)

Sample Preparation: Acid-base extraction

Instrument: Agilent 5975 Series GC/MSD

Methods: GC-MS Method Details & Monographs

GC-MS: Mass Spectrum (EI 70 eV)



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

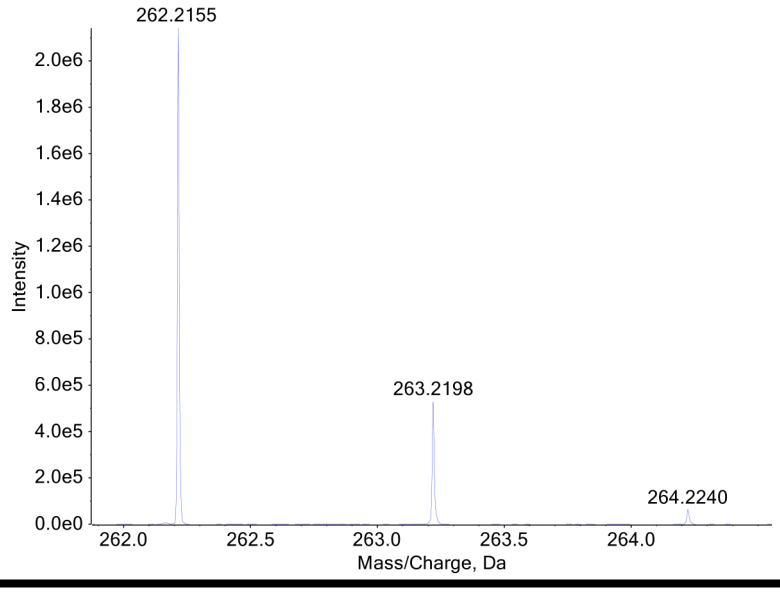
Laboratory: Center for Forensic Science Research and Education (CFSRE, Horsham, PA, USA)

Sample Preparation: Dilution in mobile phase

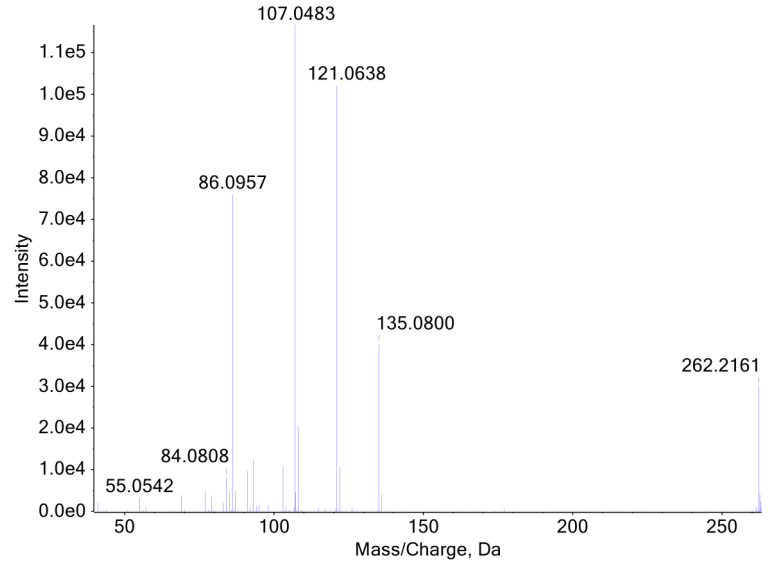
Instrument: Sciex 5600+ LC-QTOF-MS

Methods: LC-QTOF-MS Method Details & Monographs

LC-QTOF-MS: TOF-MS Precursor Ion Mass Spectrum



LC-QTOF-MS: TOF-MS/MS Product Ion Mass Spectrum



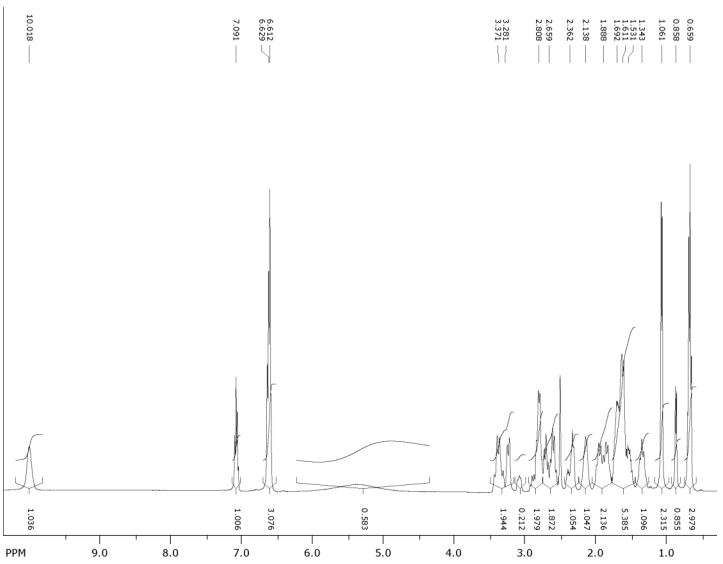
Nuclear Magnetic Resonance (NMR) Spectroscopy

Laboratory: IteraMed™ (Doylestown, PA, USA)

Instrument: Various Spectrometers

Sample Preparation: Dilution in DMSO-D6

^{1}H-NMR: Proton NMR Spectrum



COSY: ^{1}H-^{1}H COSY NMR Spectrum