

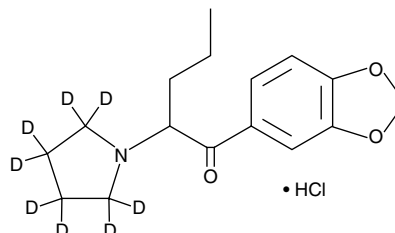
Product Information



3,4-Methylenedioxy Pyrovalerone-d₈ (hydrochloride)

Item No. 10679

CAS Registry No.: 1246820-09-6
Formal Name: 1-(1,3-benzodioxol-5-yl)-2-(1-pyrrolidinyl-d₈)-1-pentanone, monohydrochloride
Synonym: 3,4-MDPV-d₈
MF: C₁₆H₁₃D₈NO₃ • HCl
FW: 319.9
Chemical Purity: ≥98% 3,4-Methylenedioxy Pyrovalerone (hydrochloride)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₈); ≤1% d₀
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 236, 283, 322 nm



Laboratory Procedures

3,4-Methylenedioxy pyrovalerone-d₈ (hydrochloride) (3,4-MDPV-d₈ (hydrochloride)) contains eight deuterium atoms at the 1-pyrrolidinyl position. It is intended for use as an internal standard for the quantification of 3,4-MDPV by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that 3,4-MDPV-d₈ (hydrochloride) be stored as supplied at -20°C. It should be stable for at least two years.

3,4-MDPV-d₈ (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the 3,4-MDPV-d₈ (hydrochloride) in the solvent of choice. 3,4-MDPV-d₈ (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 3,4-MDPV-d₈ (hydrochloride) in these solvents is approximately 1, 0.1, and 0.25 mg/ml in ethanol, DMSO and DMF, respectively.

3,4-MDPV-d₈ (hydrochloride) is used as an internal standard for the quantification of 3,4-MDPV by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Pyrovalerone (Item No. 10817) and its analogs are inhibitors of the transporters for certain monoamine neurotransmitters, including dopamine and norepinephrine, preventing their uptake.^{1,2} 3,4-MDPV is an analog of pyrovalerone which includes the 3,4-methylenedioxy moiety found on 3,4-methylenedioxymethamphetamine, a DEA Schedule I controlled substance. While its physiological, neurological, and toxicological actions have not been characterized, 3,4-MDPV has been reported by the DEA to be abused as a central nervous system stimulant.³ Its effective dose and chemical interactions are unknown, but it has been used alone and in combination with other stimulating compounds. Products containing 3,4-MDPV have been marketed in Europe and Australia; they have also been seized by law enforcement in several states.³ 3,4-MDPV and some of its metabolites have recently been characterized by spectroscopic analysis.⁴⁻⁷ 3,4-MDPV is to be used in the forensic analysis of samples that may contain this compound. The hydrochloride salt of 3,4-MDPV, has superior solubility in aqueous solvents, compared to the free base (Item No. 10624).

References

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2. Meltzer, P.C., Butler, D., Deschamps, J.R., *et al. J. Med. Chem.* **49**(4), 1420-1432 (2006).
3. Drug Enforcement Admin. Office of Diversion Control Retrieved 2010, from http://www.deadiversion.usdoj.gov/drugs_concern/mdpv.pdf.
4. Westphal, F., Junge, T., Rosner, P., *et al. Forensic Sci. Int.* **190**, 1-8 (2009).
5. Meyer, M.R., Du, P., Schuster, F., *et al. [In Press] J. Mass Spectrom.* (2010).
6. Yohannan, J.C. and Bozenko, J.S. *Microgram Journal* **7** (1), 12-15 (2010).
7. Strano-Rossi, S., Cadwallader, A.B., de la Torre, X., *et al. Rapid Commun. Mass Spectrom.* **24**, 2706-2714 (2010).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10679

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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