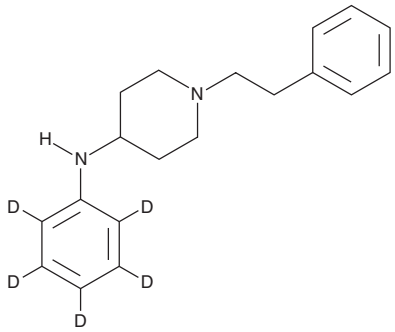
PRODUCT INFORMATION

4-ANPP-d_5

Item No. 19232



CAS Registry No.:	1189466-15-6
Formal Name:	N-phenyl-d_5-1-(2-phenylethyl)-4-piperidinamine
Synonyms:	4-Aminophenyl-1-phenethylpiperidine-d_5, 4-Anilino-N-phenethylpiperidine-d_5, Despropionyl fentanyl-d_5
MF:	$C_{19}H_{19}D_5N_2$
FW:	285.4
Purity:	≥98%
Supplied as:	A neat solid
Storage:	-20°C
Stability:	≥5 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

4-ANPP-d_5 (Item No. 19232) is an analytical reference material intended for use as an internal standard for the quantification of 4-ANPP (Item Nos. 22700 | 18810) by GC- or LC-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).

4-ANPP (Item No. 18810) is an analytical reference material categorized as an opioid metabolite and a precursor in the synthesis of fentanyl (Item Nos. ISO60197 | 22659 | 14719) and other opioids.[1-5] 4-ANPP is a metabolite of acetyl fentanyl (Item Nos. ISO60128 | ISO00128), butyryl fentanyl (Item Nos. 19734 | 14728), furanyl fentanyl (Item Nos. 19633 | 18705), acrylfentanyl (Item Nos. 23060 | 19312), and fentanyl.[1-4] It has also been found as an impurity in illicit fentanyl preparations.[6] 4-ANPP-d5 is regulated as a Schedule II compound in the United States. This product is intended for research and forensic applications.

This product is qualified as a Reference Material that has been manufactured and tested to ISO/IEC 17025 and ISO 17034 international standards for reference materials.

References

1. Watanabe, S., Vikingsson, S., Roman, M., *et al.* *In vitro* and *in vivo* metabolite identification studies for the new synthetic opioids acetylfentanyl, acrylfentanyl, furanylfentanyl, and 4-fluoro-isobutyrylfentanyl. *AAPS J.* **19(4)**, 1102-1122 (2017).
2. Labroo, R.B., Paine, M.F., Thummel, K.E., *et al.* Fentanyl metabolism by human hepatic and intestinal cytochrome P450 3A4: Implications for interindividual variability in disposition, efficacy, and drug interactions *Drug Metab. Dispos.* **25(9)**, 1072-1079 (1997).
3. Melent'ev, A.B., Kataev, S.S., and Dvorskaya, O.N. Identification and analytical properties of acetyl fentanyl metabolites *J. Anal. Chem.* **70(2)**, 216-224 (2015).
4. Steuer, A.E., Williner, E., Staeheli, S.N., *et al.* Studies on the metabolism of the fentanyl-derived designer drug butyrfentanyl in human in vitro liver preparations and authentic human samples using liquid chromatography-high resolution mass spectrometry (LC-HRMS). *Drug Test Anal.* **9(7)**, 1085-1092 (2017).
5. Pease, J.P., LePine, A.J., and Smith, C.M. Methods for preparing fentanyl and fentanyl intermediates, *Cedarburg Pharmaceuticals, Inc.* **US20130281702** (2013).
6. Lurie, I.S., Berrier, A.L., Casale, J.F., *et al.* Profiling of illicit fentanyl using UHPLC-MS/MS. *Forensic Sci. Int.* **220(1-3)**, 191-196 (2012).

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