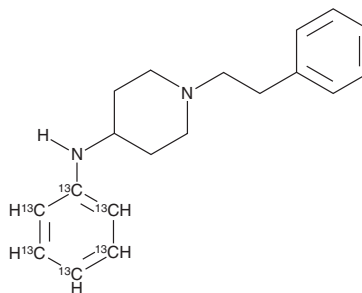


PRODUCT INFORMATION



4-ANPP-¹³C₆
Item No. 25559

CAS Registry No.: 2748319-07-3
Formal Name: 1-phenethyl-N-(phenyl-¹³C₆)piperidin-4-amine
Synonyms: 4-Aminophenyl-1-phenethylpiperidine-¹³C₆,
4-Anilino-N-phenethylpiperidine-¹³C₆,
Despropionyl fentanyl-¹³C₆
MF: C₁₃[¹³C]₆H₂₄N₂
FW: 286.4
Purity: ≥98%
Supplied as: A neat solid
Storage: -20°C
Stability: ≥6 years



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

Description

4-ANPP-¹³C₆ (Item No. 25559) 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. 4-ANPP is categorized as a piperidinamine. It is an intermediate in the synthesis of fentanyl (Item Nos. ISO60197 | 14719 | 22659) from N-phenethyl-4-piperidone (NPP; Item No. 20528).¹ As such, 4-ANPP has been used as a precursor for the manufacture of fentanyl and related opioids. 4-ANPP is also an impurity found in fentanyl preparations. It is a known 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.²⁻⁵ 4-ANPP-¹³C₆ 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.

References

1. Pease, J.P., LePine, A.J., and Smith, C.M. Methods for preparing fentanyl and fentanyl intermediates. *Cedarburg Pharmaceuticals, Inc.* **US2013/0281702A1** (2013).
2. 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).
3. 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).
4. 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).
5. Steuer, A.E., Williner, E., Staeheli, S.N., *et al.* Studies on the metabolism of the fentanyl-derived designer drug butyrylfentanyl 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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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