

PRODUCT INFORMATION



Oxytocin-d₁₀ (trifluoroacetate salt) Item No. 44812

Formal Name: (2S)-N-(1-((2-amino-2-oxoethyl)amino)-4-(methyl-d₃)-1-oxopentan-2-yl)-2,3,3,4,5,5,5-d₇-1-((4R,7S,10S,13S,16S,19R)-19-amino-7-(2-amino-2-oxoethyl)-10-(3-amino-3-oxopropyl)-13-((S)-sec-butyl)-16-(4-hydroxybenzyl)-6,9,12,15,18-pentaoxo-1,2-dithia-5,8,11,14,17-pentazacycloicosane-4-carbonyl)pyrrolidine-2-carboxamide, trifluoroacetate salt

Synonym: OXT-d₁₀
MF: C₄₃H₅₆D₁₀N₁₂O₁₂S₂ • XCF₃COOH
FW: 1,017.3

Chemical Purity: ≥95% (Oxytocin)

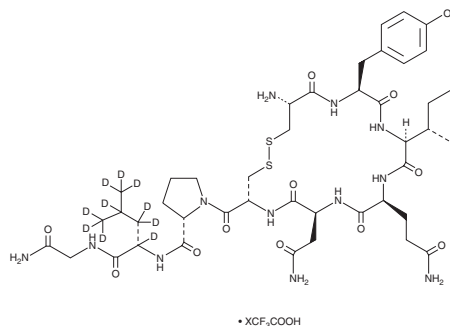
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₁₀); ≤1% d₀

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years



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

Description

Oxytocin-d₁₀ is intended for use as an internal standard for the quantification of oxytocin (Item No. 11799) by GC- or LC-MS. Oxytocin is a nine-amino acid peptide hormone with roles in development, parturition, lactation, olfaction, and social behavior.¹⁻³ It is synthesized in hypothalamic magnocellular neurons and in some peripheral tissues, including the lining of the uterus during pregnancy and the testes.³ Oxytocin binds primarily to and activates the oxytocin receptor (OT receptor) to initiate tissue-dependent biological responses, including uterine contraction, social cognition, and prevention of gastrointestinal inflammation, but also acts as an agonist of transient receptor potential vanilloid 1 (TRPV1) and a positive allosteric modulator of μ-opioid receptors.¹ Dysregulation of oxytocin signaling is associated with dysfunctional labor, postpartum hemorrhage, and preterm birth.³ Formulations containing oxytocin have been used in the induction of labor and antepartum to control postpartum bleeding or hemorrhaging.

References

1. Carter, C.S., Kenkel, W.M., MacLean, E.L., *et al.* Is Oxytocin “Nature’s Medicine”? *Pharmacol. Rev.* **72(4)**, 829-861 (2020).
2. Oetttl, L.-L. and Kelsch, W. Oxytocin and olfaction. *Curr. Top. Behav. Neurosci.* **35**, 55-75 (2018).
3. Arrowsmith, S. and Wray, S. Oxytocin: Its mechanism of action and receptor signalling in the myometrium. *J. Neuroendocrinol.* **26(6)**, 356-369 (2014).

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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