



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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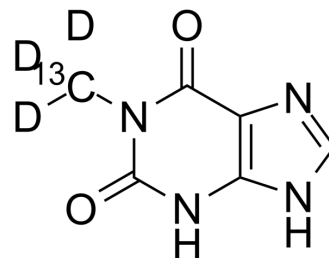
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## 1-Methylxanthine-13C,d3

|                    |   |
|--------------------|---|
| Cat. No.:          | HY-W008449S   |
| Molecular Formula: | C <sub>5</sub> <sup>13</sup> CH <sub>3</sub> D <sub>3</sub> N <sub>4</sub> O <sub>2</sub> |
| Molecular Weight:  | 170.15  |
| Target:            | Endogenous Metabolite   |
| Pathway:           | Metabolic Enzyme/Protease   |
| Storage:           | Please store the product under the recommended conditions in the Certificate of Analysis. |



### BIOLOGICAL ACTIVITY

|                    |  |
|--------------------|--|
| <b>Description</b> | 1-Methylxanthine-13C,d3 is the 13C- and deuterium labeled 1-Methylxanthine. 1-Methylxanthine, a caffeine derivative, is an essential human urinary metabolite of caffeine and theophylline (1,3-dimethylxanthine, TP) <sup>[1]</sup> . 1-Methylxanthine enhances the radiosensitivity of tumor cells <sup>[2]</sup> .  |
| <b>In Vitro</b>    | Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs <sup>[1]</sup> .<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

### REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216.
- [2]. Algharrawi KH, et al. Direct conversion of theophylline to 3-methylxanthine by metabolically engineered *E. coli*. *Microb Cell Fact.* 2015 Dec 21;14:203.
- [3]. Youn H, et al. 1-Methylxanthine enhances the radiosensitivity of tumor cells. *Int J Radiat Biol.* 2009 Feb;85(2):167-74.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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