



# SZABO SCANDIC

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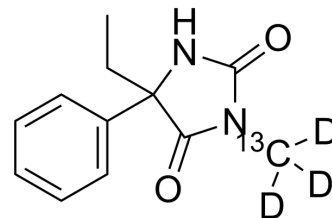
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## Mephenytoin-<sup>13</sup>C,<sub>3</sub>D<sub>3</sub>

<b>Cat. No.:</b>	HY-B1184S3
<b>CAS No.:</b>	1261398-53-1
<b>Molecular Formula:</b>	C <sub>11</sub> <sup>13</sup> CH <sub>11</sub> D <sub>3</sub> N <sub>2</sub> O <sub>2</sub>
<b>Molecular Weight:</b>	222.26
<b>Target:</b>	Cytochrome P450; Isotope-Labeled Compounds
<b>Pathway:</b>	Metabolic Enzyme/Protease; Others
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Mephenytoin- <sup>13</sup> C, <sub>3</sub> D <sub>3</sub> is a deuterated labeled Mephenytoin <sup>[1]</sup> . Mephenytoin, an anticonvulsant, is the CYP2C19 and CYP2B6 substrate <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> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	Mephenytoin (orally administration, 100 mg/kg, 200 mg/kg) can reduce maternal weight gain and increase offspring mortality at 200 mg/kg but not produce excessive offspring mortality at 100 mg/kg in Pregnant Sprague-Dawley CD rats <sup>[3]</sup> . ?Mephenytoin (i.p., 20 mg/kg per day for 16 days) significantly reduces serum cholesterol and triglyceride levels in mice, which may have a hypolipidemic effect <sup>[4]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

- [1]. D R Minck, et al. Comparison of the behavioral teratogenic potential of phenytoin, mephenytoin, ethotoin, and hydantoin in rats. *Teratology*. 1991 Apr;43(4):279-93.
- [2]. Klaassen T, et al. Assessment of urinary mephenytoin metrics to phenotype for CYP2C19 and CYP2B6 activity. *Eur J Clin Pharmacol*. 2008;64(4):387-398.
- [3]. J H Maguire, et al. Hypolipidemic activity of antiepileptic 5-phenylhydantoins in mice. *Eur J Pharmacol*. 1985 Oct 29;117(1):135-8.
- [4]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.

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

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