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SZABO-SCANDIC Handels GmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

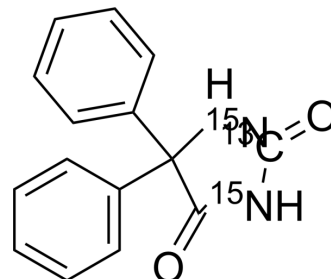
mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

Phenytoin-¹⁵N₂, ¹³C

Cat. No.:	HY-B0448S1
CAS No.:	78213-26-0
Molecular Formula:	C ₁₄ ¹³ CH ₁₂ ¹⁵ N ₂ O ₂
Molecular Weight:	255.25
Target:	Sodium Channel; Virus Protease
Pathway:	Membrane Transporter/Ion Channel; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Phenytoin- ¹⁵ N ₂ , ¹³ C is the ¹³ C and ¹⁵ N labeled Phenytoin[1]. Phenytoin (5,5-Diphenylhydantoin) is a potent Voltage-gated Na ⁺ channels (VGSCs) blocker. Phenytoin has antiepileptic activity and reduces breast tumour growth and metastasis in mice[2][3].
In Vitro	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 ^[1] . 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 Feb;53(2):211-216.
- [2]. Rogawski, M.A. and W. Loscher, The neurobiology of antiepileptic drugs. Nat Rev Neurosci, 2004. 5(7): p. 553-64.
- [3]. Porter, R.J., et al., Mechanisms of action of antiepileptic drugs. Handb Clin Neurol, 2012. 108: p. 663-81.
- [4]. Balaji, S., Medical therapy for sudden death. Pediatr Clin North Am, 2004. 51(5): p. 1379-87.
- [5]. Michaela Nelson, et al. The sodium channel-blocking antiepileptic drug phenytoin inhibits breast tumour growth and metastasis. Mol Cancer. 2015 Jan 27;14(1):13.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA