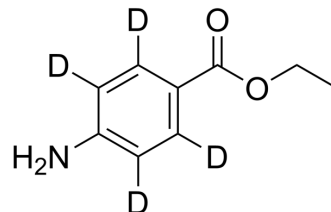


Benzocaine-d₄

Cat. No.:	HY-Y0258S
CAS No.:	342611-08-9
Molecular Formula:	C ₉ H ₇ D ₄ NO ₂
Molecular Weight:	169.21
Target:	Sodium Channel; Isotope-Labeled Compounds
Pathway:	Membrane Transporter/Ion Channel; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Benzocaine-d ₄ is the deuterium labeled Benzocaine. Benzocaine shares a common receptor with all other rLAs in the voltage-gated Na ⁺ channel, with an IC ₅₀ of 0.8 mM tested with a potential of +30 mV.
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;53(2):211-216.
- [2]. Wang GK et al. A common local anesthetic receptor for benzocaine and etidocaine in voltage-gated mu1 Na⁺ channels. *Pflugers Arch.* 1998 Jan;435(2):293-302.
- [3]. Di Croce D et al. Drug action of benzocaine on the sarcoplasmic reticulum Ca-ATPase from fast-twitch skeletal muscle. *Naunyn Schmiedebergs Arch Pharmacol.* 2015 Nov;388(11):1163-70.
- [4]. Davis JA, et al. Benzocaine-induced methemoglobinemia attributed to topical application of the anesthetic in several laboratory animal species. *Am J Vet Res.* 1993 Aug;54(8):1322-6.

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

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