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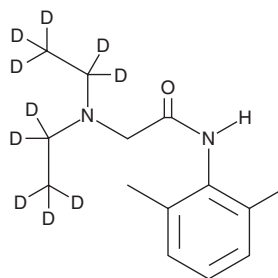
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PRODUCT INFORMATION



Lidocaine-d₁₀ Item No. 35066

CAS Registry No.: 851528-09-1
Formal Name: 2-[di(ethyl-d₅)amino]-N-(2,6-dimethylphenyl)-acetamide
MF: C₁₄H₁₂D₁₀N₂O
FW: 244.4
Chemical Purity: ≥98% (Lidocaine)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₁₀); ≤1% d₀
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Lidocaine-d₁₀ is intended for use as an internal standard for the quantification of lidocaine by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Lidocaine-d₁₀ is supplied as a crystalline solid. A stock solution may be made by dissolving the lidocaine-d₁₀ in the solvent of choice, which should be purged with an inert gas. Lidocaine-d₁₀ is soluble in DMSO.

Description

Lidocaine is an inhibitor of voltage-gated sodium channels (Na_vs) and a local anesthetic.¹⁻³ It inhibits Na_v1.2 (K_i = 11 μM), adult and neonatal Na_v1.5 (IC₅₀s = 380.1 and 360 μM, respectively), and Na_v1.7 and Na_v1.8 channels (IC₅₀s = 450 and 104 μM, respectively) expressed in *Xenopus* oocytes. Topical administration of lidocaine (1-2%) reduces escape behavior in a rhesus monkey model of noxious electrical cutaneous pain.⁴ Formulations containing lidocaine have been used as local and regional anesthetics.

References

1. Ragsdale, D.S., McPhee, J.C., Scheuer, T., *et al.* Common molecular determinants of local anesthetic, antiarrhythmic, and anticonvulsant block of voltage-gated Na⁺ channels. *Proc. Natl. Acad. Sci. USA* **93**(17), 9270-9275 (1996).
2. Fraser, S.P., Onkal, R., Theys, M., *et al.* Neonatal Na_v1.5 channels: Pharmacological distinctiveness of a cancer-related voltage-gated sodium channel splice variant. *Br. J. Pharmacol.* (2021).
3. Chevrier, P., Vijayaragavan, K., and Chahine, M. Differential modulation of Na_v1.7 and Na_v1.8 peripheral nerve sodium channels by the local anesthetic lidocaine. *Br. J. Pharmacol.* **142**(3), 576-584 (2004).
4. Lineberry, C.G. and Kulics, A.T. The effects of diazepam, morphine and lidocaine on nociception in rhesus monkeys: A signal detection analysis. *J. Pharmacol. Exp. Ther.* **205**(2), 302-310 (1978).

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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