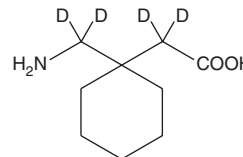


PRODUCT INFORMATION



Gabapentin-d₄ Item No. 18254

CAS Registry No.: 1185039-20-6
Formal Name: 1-(aminomethyl-d₂)-cyclohexaneacetic- α,α -d₂ acid
MF: C₉H₁₃D₄NO₂
FW: 175.3
Chemical Purity: ≥98% (Gabapentin)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Supplied as: A 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

Gabapentin-d₄ is intended for use as an internal standard for the quantification of gabapentin (Item No. 10008346) 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).

Description

Gabapentin is a γ -aminobutyric acid (GABA) analogue that acts as an anticonvulsant.¹⁻³ It does not bind to GABA receptors, does not influence neural uptake of GABA, and does not inhibit the GABA-metabolizing enzyme, GABA transaminase.^{4,5} Unlike GABA, which does not pass through the blood-brain barrier, gabapentin penetrates into the central nervous system and binds to the $\alpha_2\delta$ -type voltage-gated calcium channels. Formulations containing gabapentin have been used to treat neuropathic pain caused by complex regional pain syndrome type one, cancer, and HIV as well as to control dysesthesias in patients with multiple sclerosis.¹⁻³

References

1. van de Vusse, A.C., Stonmp-van de Berg, S.G.M., Kessels, A.H.F., *et al.* Randomised controlled trial of gabapentin in complex regional pain syndrome type I [ISRCTN84121379]. *BMC Neurol.* **4(13)** (2004).
2. Hahn, K., Arendt, G., Braun, J.S., *et al.* A placebo-controlled trial of gabapentin for painful HIV-associated sensory neuropathies. *J. Neurol.* **251(10)**, 1260-1266 (2004).
3. Caraceni, A., Zecca, E., Bonezzi, C., *et al.* Gabapentin for neuropathic cancer pain: A randomized controlled trial from the gabapentin cancer pain study group. *J. Clin. Oncol.* **22(14)**, 2909-2917 (2004).
4. Gee, N.S., Brown, J.P., Dissanayake, V.U.K., *et al.* The novel anticonvulsant drug, gabapentin (neurontin), binds to the $\alpha_2\delta$ subunit of a calcium channel. *J. Biol. Chem.* **271(10)**, 5768-5776 (1996).
5. Goa, K.L. and Sorkin, E.M. Gabapentin. A review of its pharmacological properties and clinical potential in epilepsy. *Drugs* **46(3)**, 409-427 (1993).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/06/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM