

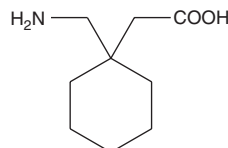
PRODUCT INFORMATION



Gabapentin

Item No. 10008346

CAS Registry No.: 60142-96-3
Formal Name: 1-(aminomethyl)-cyclohexaneacetic acid
Synonym: CI-945
MF: C₉H₁₇NO₂
FW: 171.2
Purity: ≥98%
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

Gabapentin is supplied as a crystalline solid. Aqueous solutions of gabapentin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of gabapentin in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

γ -Aminobutyric acid (GABA) is a major inhibitory neurotransmitter that functions by binding to the GABA receptors located in the spinal cord.¹ Gabapentin is a γ -aminobutyric acid (GABA) analogue that acts as an anticonvulsant with proven analgesic effects in various neuropathic pain syndromes such as Complex Regional Pain Syndrome type one (CRPS 1).²⁻⁴ It is also prescribed to multiple sclerosis patients to control dysesthesias and may be useful in reducing neuropathic pain caused by cancer and HIV infection. It does not bind to GABA receptors, does not influence neural uptake of GABA, and does not inhibit the GABA-metabolizing enzyme, GABA transaminase.^{5,6} 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. The mechanism for the analgesic and anticonvulsant effects of gabapentin are not known.²⁻⁶

References

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3. Hahn, K., Arendt, G., Braun, J.S., *et al.* A placebo-controlled trial of gabapentin for painful HIV-associated sensory neuropathies. *J. Neurol.* **251**, 1260-1266 (2004).
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5. 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).
6. 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.

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