

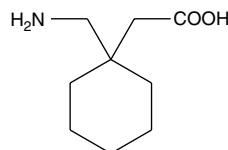
# Product Information



## Gabapentin

Item No. 10008346

**CAS Registry No.:** 60142-96-3  
**Formal Name:** 1-(aminomethyl)-cyclohexanecarboxylic acid  
**Synonym:** Neurontin®  
**MF:** C<sub>9</sub>H<sub>17</sub>NO<sub>2</sub>  
**FW:** 171.2  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that gabapentin be stored as supplied at -20°C. It should be stable for at least two years.

Gabapentin is supplied as a crystalline solid. Gabapentin is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of gabapentin be prepared by directly dissolving the crystalline compound 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.

γ-Aminobutyric acid (GABA) is a major inhibitory neurotransmitter that functions by binding to the GABA receptors located in the spinal cord.<sup>1</sup> Gabapentin (Neurontin®) is a 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).<sup>2-4</sup> 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.<sup>5,6</sup> Unlike GABA, which does not pass through the blood-brain barrier, gabapentin penetrates into the central nervous system and binds to the α<sub>2</sub>δ-type voltage-gated calcium channels. The mechanism for the analgesic and anticonvulsant effects of gabapentin are not known.<sup>2-6</sup>

### References

1. Malcangio, M. and Bowery, N.G. GABA and its receptors in the spinal cord. *Trends Pharmacol. Sci.* **17**, 457-462 (1996).
2. 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 Neurology* **4**(13), (2004).
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).
4. 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. Clinical Oncology* **22**(14), 2909-2917 (2004).
5. Gee, N.S., Brown, J.P., Dissanayake, V.U.K., *et al.* The novel anticonvulsant drug, gabapentin (neurontin), binds to the α<sub>2</sub>δ 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).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/10008346](http://www.caymanchem.com/catalog/10008346)

### Cayman Chemical

**Mailing address**  
1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

**Phone**  
(800) 364-9897  
(734) 971-3335

**Fax**  
(734) 971-3640

**E-Mail**  
[custserv@caymanchem.com](mailto:custserv@caymanchem.com)

**Web**  
[www.caymanchem.com](http://www.caymanchem.com)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. 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

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have any obligation or liability, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.

Copyright Cayman Chemical Company, 04/01/2014