

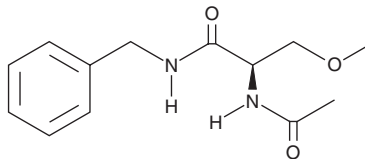
# PRODUCT INFORMATION



## Lacosamide

Item No. 10012592

**CAS Registry No.:** 175481-36-4  
**Formal Name:** 2R-(acetylamino)-3-methoxy-N-(phenylmethyl)-propanamide  
**Synonyms:** ADD 243037, SPM 927  
**MF:** C<sub>13</sub>H<sub>18</sub>N<sub>2</sub>O<sub>3</sub>  
**FW:** 250.3  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥5 years



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

### Laboratory Procedures

Lacosamide is supplied as a crystalline solid. A stock solution may be made by dissolving the lacosamide in an organic solvent purged with an inert gas. Lacosamide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of lacosamide in these solvents is approximately 20 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of lacosamide can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of lacosamide in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Lacosamide selectively enhances sodium channel slow inactivation without affecting fast inactivation.<sup>1</sup> It is effective in multiple rodent models of seizure activity.<sup>2</sup> The neuroprotective effects of lacosamide are also attributed to its ability to modulate collapsin response mediator protein 2 (CRMP-2), a member of the semaphorin signal transduction pathway.<sup>1,3</sup> Formulations containing lacosamide have been used as an adjunctive or monotherapy for focal-onset seizures but, at higher doses, have a low potential for abuse.<sup>4</sup> Lacosamide is regulated as a Schedule V compound in the United States.

### References

1. Sheets, P.L., Heers, C., Stoehr, T., *et al.* Differential block of sensory neuronal voltage-gated sodium channels by lacosamide, lidocaine and carbamazepine. *J. Pharmacol. Exp. Ther.* (2008).
2. Luszczki, J.J. Third-generation antiepileptic drugs: Mechanisms of action, pharmacokinetics and interactions. *Pharmacol. Rep.* **61**(2), 197-216 (2009).
3. Doty, P., Rudd, G.D., Stoehr, T., *et al.* Lacosamide. *J. Am. Chem. Soc. Exp. Neurother.* **4**, 145-148 (2007).
4. Strzelczyk, A., Zollner, J.P., Willems, L.M., *et al.* Lacosamide in status epilepticus: Systematic review of current evidence. *Epilepsia* **58**(6), 933-950 (2017).

#### 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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