



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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- Expressversand

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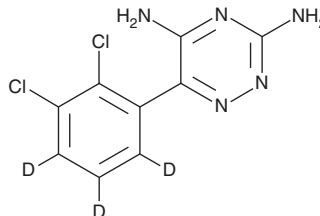
# PRODUCT INFORMATION



## Lamotrigine-d<sub>3</sub>

Item No. 37196

**CAS Registry No.:** 1132746-94-1  
**Formal Name:** 6-(5,6-dichlorophenyl-2,3,4-d<sub>3</sub>)-1,2,4-triazine-3,5-diamine  
**Synonym:** LTG-d<sub>3</sub>  
**MF:** C<sub>9</sub>H<sub>4</sub>Cl<sub>2</sub>D<sub>3</sub>N<sub>5</sub>  
**FW:** 259.1  
**Chemical Purity:** ≥98% (Lamotrigine)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>  
**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

Lamotrigine-d<sub>3</sub> is intended for use as an internal standard for the quantification of lamotrigine (Item No. 15428) 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).

Lamotrigine-d<sub>3</sub> is supplied as a solid. A stock solution may be made by dissolving the lamotrigine-d<sub>3</sub> in the solvent of choice, which should be purged with an inert gas. Lamotrigine-d<sub>3</sub> is soluble in the organic solvent ethanol at a concentration of approximately 25 mg/ml.

### Description

Lamotrigine is an anticonvulsant.<sup>1</sup> It inhibits voltage-gated sodium channels (Na<sub>v</sub>) in HEK293 cells expressing recombinant human Na<sub>v</sub>1.2, Na<sub>v</sub>1.5, or Na<sub>v</sub>1.8 (IC<sub>50</sub>s = 10, 62, and 96 μM, respectively), as well as high voltage-activated calcium currents in isolated rat cortical neurons (IC<sub>50</sub> = 12.3 μM), an effect that can be reversed by the N-type calcium channel blocker ω-conotoxin GVIA (Item No. 24114) and P-type calcium channel blocker ω-agatoxin IVA (Item No. 21605).<sup>1,2</sup> Lamotrigine protects against seizures induced by maximal electroshock (MES) in mice and rats (ED<sub>50</sub>s = 10.1 and 7.4 μmol/kg, respectively).<sup>3</sup> It also decreases mechanical allodynia in a rat model of neuropathic pain induced by spinal nerve ligation (ED<sub>50</sub> = 47 μmol/kg).<sup>1</sup> Formulations containing lamotrigine have been used in the treatment of epilepsy and bipolar disorder.

### References

1. Drizin, I., Gregg, R.J., Scanio, M.J., *et al.* Discovery of potent furan piperazine sodium channel blockers for treatment of neuropathic pain. *Bioorg. Med. Chem.* **16(12)**, 6379-6386 (2008).
2. Stefani, A., Spadoni, F., Siniscalchi, A., *et al.* Lamotrigine inhibits Ca<sup>2+</sup> currents in cortical neurons: Functional implications. *Eur. J. Pharmacol.* **307(1)**, 113-116 (1996).
3. Miller, A.A., Wheatley, P., Sawyer, D.A., *et al.* Pharmacological studies on lamotrigine, a novel potential antiepileptic drug: I. Anticonvulsant profile in mice and rats. *Epilepsia* **27(5)**, 483-489 (1986).

#### 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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