

Product Data Sheet

Product Name: Lamotrigine-d3

Cat. No.: GC52020

Chemical Properties

Cas. No. 1132746-94-1

SMILES NC1=NC(N)=NN=C1C2=C(C(Cl)=C([2H])C([2H])=C2[2H])Cl

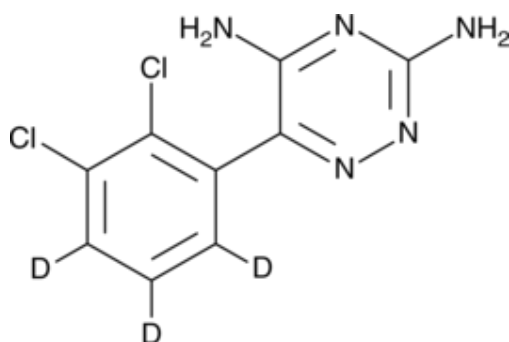
Formula C₉H₄Cl₂D₃N₅ M.Wt 259.1

Solubility Ethanol: 25 mg/ml Storage -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Lamotrigine-d₃ is intended for use as an internal standard for the quantification of lamotrigine by GC- or LC-MS. Lamotrigine is an anticonvulsant.¹ It inhibits voltage-gated sodium channels (Na_v) in HEK293 cells expressing recombinant human Na_v1.2, Na_v1.5, or Na_v1.8 (IC₅₀s = 10, 62, and 96 μM, respectively), as well as high voltage-activated calcium currents in isolated rat cortical neurons (IC₅₀ = 12.3 μM), an effect that can be reversed by the N-type calcium channel blocker ω-conotoxin GVIA and P-type calcium channel blocker ω-agatoxin IVA.^{1,2} Lamotrigine protects against seizures induced by maximal electroshock (MES) in mice and rats (ED₅₀s = 10.1 and 7.4 μmol/kg, respectively).³ It also decreases mechanical allodynia in a rat model of neuropathic pain induced by

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

spinal nerve ligation ($ED_{50} = 47 \mu\text{mol/kg}$).¹ Formulations containing lamotrigine have been used in the treatment of epilepsy and bipolar disorder.

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^{2+} 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)

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA