**PRODUCT INFORMATION**

**Lamotrigine**  
*Item No. 15428*

**CAS Registry No.:** 84057-84-1  
**Formal Name:** 6-(2,3-dichlorophenyl)-1,2,4-triazine-3,5-diamine  
**Synonyms:** BW 430C, LTG  
**MF:** C₉H₇Cl₂N₅  
**FW:** 256.1  
**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**

Lamotrigine is supplied as a crystalline solid. A stock solution may be made by dissolving the lamotrigine in the solvent of choice, which should be purged with an inert gas. Lamotrigine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of lamotrigine in ethanol is approximately 2 mg/ml and approximately 10 mg/ml in DMSO and DMF. Lamotrigine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, lamotrigine should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Lamotrigine has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

**Description**

Lamotrigine is an anticonvulsant.¹ It inhibits voltage-gated sodium channels (Naᵥ) in HEK293 cells expressing recombinant human Naᵥ1.2, Naᵥ1.5, or Naᵥ1.8 (IC₅₀ = 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 (Item No. 24114) and P-type calcium channel blocker ω-agatoxin IVA (Item No. 21605).¹² Lamotrigine protects against seizures induced by maximal electroshock (MES) in mice and rats (ED₅₀ = 10.1 and 7.4 μmol/kg, respectively).³ It also decreases mechanical allodynia in a rat model of neuropathic pain induced by spinal nerve ligation (ED₅₀ = 47 μmol/kg).¹ Formulations containing lamotrigine have been used in the treatment of epilepsy and bipolar disorder.

**References**


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**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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