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# DATASHEET

Lamotrigine

## Product overview

| | |
|---|---|
| **Name** | Lamotrigine |
| **Cat No** | HB0368 |
| **Biological action** | Inhibitor |
| **Purity** | >99% |
| **Description** | $Na^{2+}$ / $K^{+}$ / $Ca^{2+}$ channel inhibitor. Anticonvulsant. |

## Images

## Biological Data

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|---|---|
| **Biological description** | Anticonvulsant. Inhibits voltage-dependent $Na^{2+}$ channels, $K^{+}$ and $Ca^{2+}$ channels. Inhibits α4β2-nACh receptor mediated currents and reduces $GABA_A$ receptor transmission. Inhibits 5-HT, noradrenaline and dopamine uptake into synaptosomes ($IC_{50}$ values are 474, 239 and 322 µM respectively). Shows anticonvulsant and anti-bipolar actions. Blood-brain barrier permeable. |

## Solubility & Handling

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| **Storage instructions** | Room temperature |
| **Solubility overview** | Soluble in ethanol (10mM) or DMSO (100mM) |
| **Important** | This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use. |

## Chemical Data

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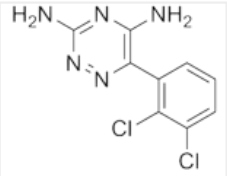
| **Chemical name** | 6-(2,3-Dichlorophenyl)-1,2,4-triazine-3,5-diamine |
| **Molecular Weight** | 256.09 |
| **Chemical structure** |  |
| **Molecular Formula** | $C_9H_7Cl_2N_5$ |

| | |
|---|---|
| **CAS Number** | 84057-84-1 |
| **PubChem identifier** | 3878 |
| **SMILES** | NC1=NC(N)=C(N=N1)C1=CC=CC(Cl)=C1Cl |
| **InChiKey** | PYZRQGJRPPTADH-UHFFFAOYSA-N |

## References


**Modulation of calcium and potassium currents by lamotrigine.**

Grunze H *et al* (1998) Neuropsychobiology 38(3)
**PubMedID** 9778600

**Lamotrigine reduces spontaneous and evoked GABAA receptor-mediated synaptic transmission in the basolateral amygdala: implications for its effects in seizure and affective disorders.**

Braga MF *et al* (2002) Neuropharmacology 42(4)
**PubMedID** 11955522

**Lamotrigine inhibits monoamine uptake in vitro and modulates 5-hydroxytryptamine uptake in rats.**

Southam E *et al* (1998) Eur J Pharmacol 358(1)
**PubMedID** 9809864

**The anticonvulsive drug lamotrigine blocks neuronal {alpha}4{beta}2 nicotinic acetylcholine receptors.**

Zheng C *et al* (2010) J Pharmacol Exp Ther 335(2)
**PubMedID** 20688974