Lamictal

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How does the body take in the drug?
The body takes in this medicine orally. Lamictal is administered in the form of tablets, chewable tablets, and disintegrating tablets. The absorption of Lamictal is in the gastrointestinal tract, where 98% reaches systemic circulation.

What does the body do once the drug is absorbed?
Once absorbed, Lamictal inhibits the release of glutamate and aspartate, excitatory neurotransmitters at voltage-sensitive sodium channels, resulting in decreased seizure activity in the brain. This reaction stabilizes neuronal membranes.

How does the body break down the drug?
Once the body has absorbed the drug and action has taken place, Lamictal is then metabolized in the liver to inactivate the drug metabolite.

How does the body eliminate the drug?
Once the drug has been metabolized, Lamictal can induce its own metabolism and is excreted through the patient’s urine.

Chemical Names and Formula:
6-(2,3-Dichlorophenyl)-1,4,5-triazine-3-diamine,
3,5-diamino-6-(2,3-dichlorophenyl)-1,4,5-triazine
C₂₉H₇Cl₄N₅

Trade Names:
Lamictal, Lamictal CD, Lamictal XR

Classification:
Anticonvulsant

Generic Name:
Lamotrigine

Unlabeled Uses:
The unlabeled uses for Lamictal are for treatment of absence seizures and the prevention of migraines.

Labeled Uses:
Lamictal is used as an adjunctive therapy for partial seizures, generalized tonic-clonic, grand mal, or myoclonic seizures in adults. This medication is also used for treatment of bipolar disorder.

Chosen Dose: 25 mg tablet
Molecules per Chosen Dose: 1.2 x 10^20 molecules
Tablets per Chosen Dose: 2 tablets

Availability:
- Tablets: 25mg, 100mg, 150mg, 200mg
- Chewable Tablets: 2mg, 5mg, 25mg
- Orally Disintegrating Tablets: 25mg, 50mg, 100mg, 200mg

Literature Value for Molar Mass:
256.09 g/mol

Works Cited:

Molar Mass:
- 9 mole C × 12.00 g/mol = 108 g/mol
- 7 mole N × 14.01 g/mol = 98 g/mol
- 2 mole Cl × 35.5 g/mol = 71 g/mol
- 5 mole O × 16.00 g/mol = 80 g/mol

Solubility in Water:
0.488 g/mL (Insoluble)

Ratio of hydrophilic functional groups to hydrophobic functional groups:
3:2

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