

*Title:* Chemistry of Lacosamide

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Lacosamide is a serine-derived chemical substance usually used as an anticonvulsant drug for the treatment of partial-onset seizures in people suffering from epilepsy, a neurological disease affecting people of all ages.

This work consists of two sections. The first section is dedicated to the uses of lacosamide in the field of medicine and its importance in the treatment of epilepsy. A brief mechanism of action of lacosamide is also described to view how it works to treat the disease.

The second section essentially explains the different synthetic methods to synthesize lacosamide. These methods are chiral pool synthesis, asymmetric synthesis and resolution methods, which are studied thoroughly. The aim of these methods is to obtain the enantiopure (*R*)-lacosamide and to study the best way to synthesize it.

**Keywords:** Lacosamide, Amino acid, Antiepileptic drug, Epilepsy, Chiral pool methods, Asymmetric Synthesis, Resolution methods, Enantioselectivity