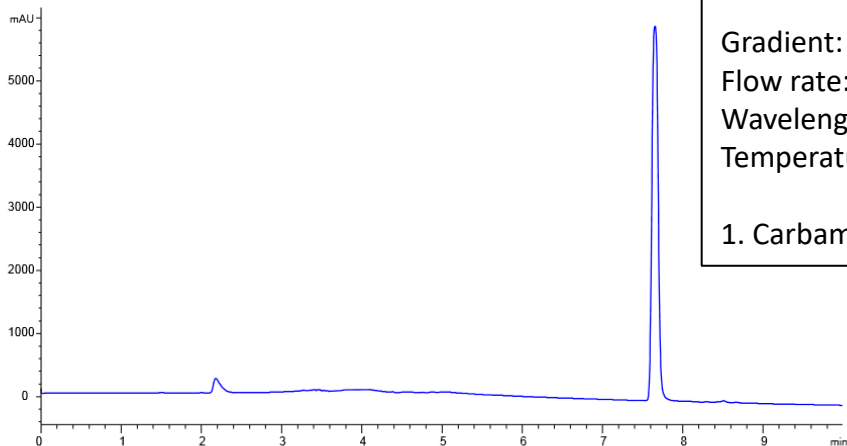
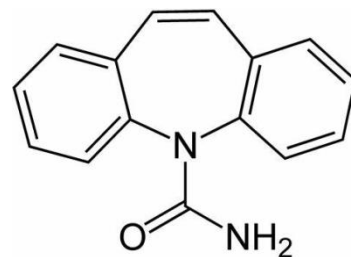


# Application Note: Carbamazepine

Carbamazepine is an anticonvulsant and mood stabilizing drug, used primarily in the treatment of epilepsy and bipolar disorder. It works by decreasing nerve impulses that cause seizures and nerve pain, such as trigeminal neuralgia and diabetic neuropathy.

Carbamazepine is a sodium channel blocker. It binds preferentially to voltage-gated sodium channels in their inactive conformation, which prevents repetitive and sustained firing of an action potential. Carbamazepine has effects on serotonin systems but the relevance to its antiseizure effects is uncertain. There is evidence that it is a serotonin releasing agent and possibly even a serotonin reuptake inhibitor. It has been suggested that carbamazepine can also block voltage-gated calcium channels, which will reduce neurotransmitter release.

It is sold under the brand-names Biston<sup>®</sup>, Calepsin<sup>®</sup>, Carbatrol<sup>®</sup>, Epitol<sup>®</sup>, Equetro<sup>®</sup>, Finlepsin<sup>®</sup>, Sirtal<sup>®</sup>, Stazepine<sup>®</sup>, Tegretol<sup>®</sup>, Telesmin<sup>®</sup>, Timonil<sup>®</sup>.



**Column:** Horizon C18 5 $\mu$  150x4.6mm

**Mobile Phase:** A: 0.1% Formic acid in Water

B: 0.1% Formic acid in MeCN

**Gradient:** 5 – 100% B in 10minutes

**Flow rate:** 1ml/min

**Wavelength:** 254nm

**Temperature:** 20°C

1. Carbamazepine