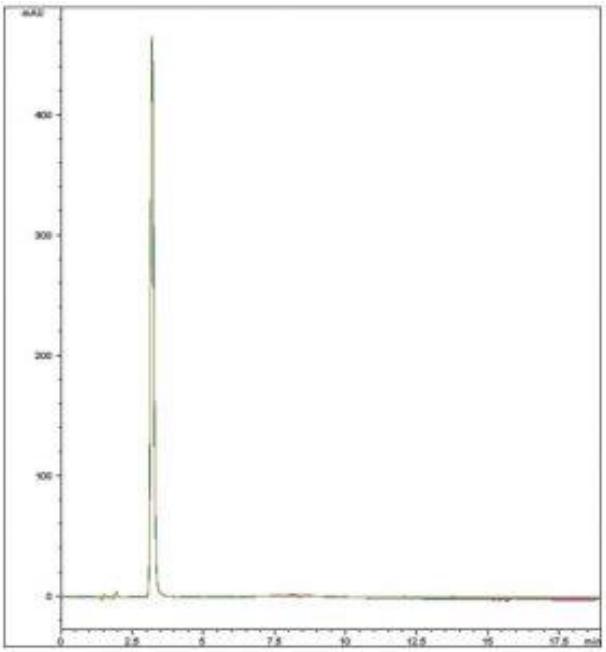
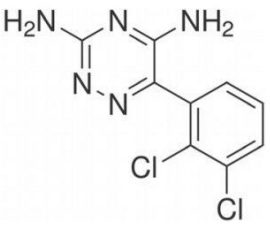
Lamotrigine Analyzed with HPLC - AppNote

USP Assay Method for a Very Polar Compound

The USP Assay Method for Lamotrigine uses a relatively low pH of 2.0. These conditions may promote hydrolysis of the bonded phase in many L1 Columns, but the unique chemistry of the Cogent Bidentate C18 Column (L1) is very rugged and shows no loss of Retention for the API, as the five Chromatogram overlay in the Figure below indicates. The Retention time %RSD for the five runs was 0.15%. In addition the Peak shape was highly Symmetrical.





Peak:

Lamotrigine

Method Conditions

Column: Cogent Bidentate C18™, 4 µm, 100 Å
Catalog No.: 40018-15P
Dimensions: 4.6 x 150 mm

Mobile Phase:

A: 2.7 g / L KH_2PO_4 / Triethylamine 150:1 then adjusted to pH 2.0 with H_3PO_4
B: Acetonitrile

Gradient:

Time *(minutes)*	%B
0	23.5
4	23.5
14	80
15	23.5
19	23.5

Injection vol.: 10 µL
Detection: UV @ 270 nm

Sample Preparation: 25 mg strength tablet was ground and dissolved in 5 mL MeOH in a 100 mL volumetric flask. The flask was diluted to mark with 0.10M HCL. It was sonicated and filtered with a 0.45 µm Nylon Syringe Filter (MICROSOLV Tech Corp.).

t_0 : 1.9 minutes

Note: *Lamotrigine is a phenyltriazine anticonvulsant used to treat Epilepsy and Type I Bipolar disorder. It is believed to act as a Sodium channel blocker.*

COGENT HPLC Columns™

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