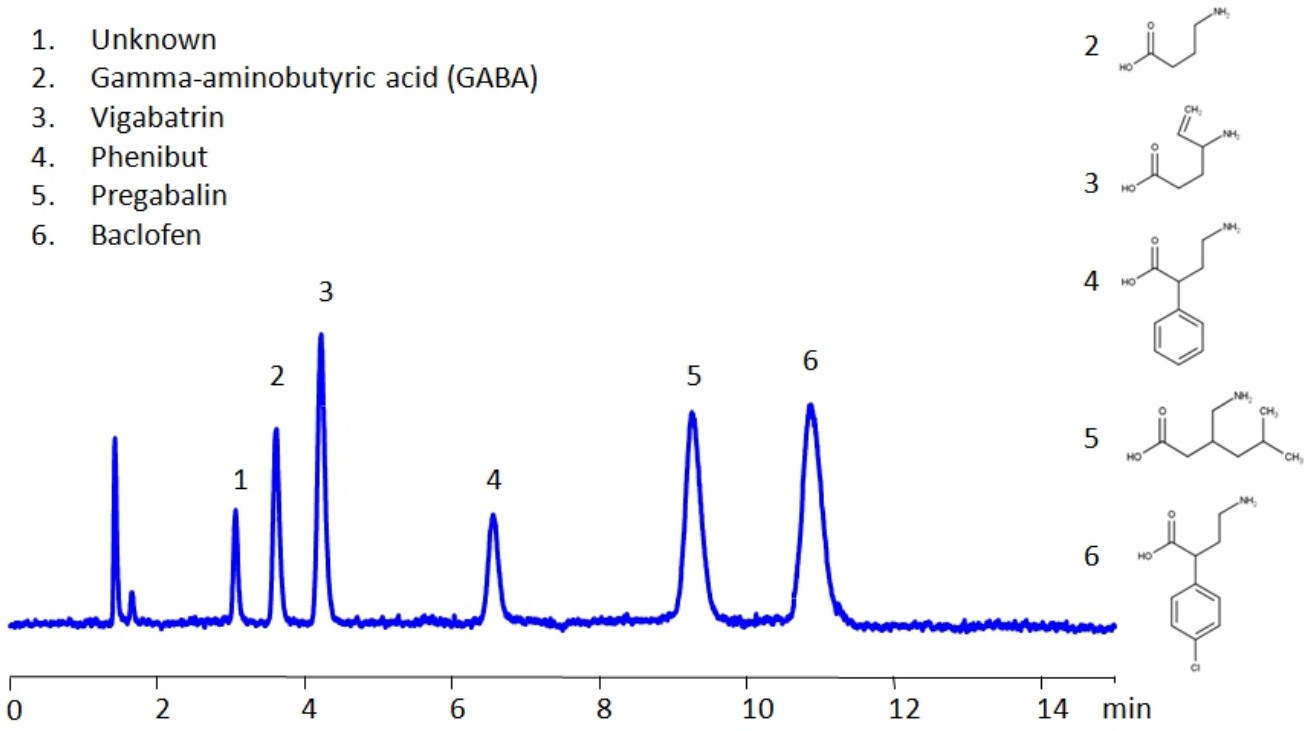
HPLC Method for Determination of Gamma-aminobutyric acid (GABA), Vigabatrin, Phenibut, Pregabalin, Baclofen on Primesep 100 Column

https://sielc.com/hplc-determination-of-gamma-aminobutyric-acid-gaba-vigabatrin-phenibut-pregabalin-baclofen

Chromatogram



Column:	Primesep 100
Column size:	4.6 × 150 mm, 5 µm
Column part number:	100-46.150.0510
Mobile phase:	MeCN/H2O – 30/70%
Buffer:	Am Fm pH 3.0 – 50 mM
Flow rate:	1.0 mL/min
Detection:	CAD (Corona) (MS-compatible mobile phase)

Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of Gamma-aminobutyric acid (GABA), Vigabatrin, Phenibut, Pregabalin, Baclofen

Gamma-Aminobutyric Acid (GABA) is a neurotransmitter with the chemical formula C 4 H 9 NO 2 . It is crucial in the nervous system for reducing anxiety and promoting sleep.

Vigabatrin is a medication with a chemical formula C 6 H 11 NO 2 . In Canada, it is approved for use as an adjunctive treatment for epilepsy, seizures, , and spasms in West syndrome.

Phenibut is a central nervous system (CNS) depressant with the chemical formula C 10 H 13 NO 2 . It is prescribed primarily in Russia and greater Eastern Europe to treat anxiety, insomnia, and other conditions.

Pregabalin is a medication with the chemical formula C 8 H 17 NO 2 . It is an anticonvulsant, analgesic, and anxiolytic amino acid that is used to treat epilepsy, restless leg syndrome, anxiety, neuropathic pain, and fibromyalgia. In the US it is used for adjunctive therapy for adults, while in the European Union, United Kingdom, and Russia, it is approved for treatment of

generalized anxiety.

Baclofen is a central nervous system (CNS) depressant with the chemical formula C 10 H 12 ClNO 2 . It is used to treat spastic movement disorders. Off-balel, it is used as treatment for alcohol use disorder and opioid withdrawals.

All gabapentinoids can be retained and separated on the Primesep 100 mixed-mode column using an isocratic analytical method with a simple mobile phase of water, acetonitrile (MeCN, ACN), and Ammonium Formate (AmFm) buffer. Detection can be achieved with mass spectrometry (MS), evaporative light scattering detection (ELSD) and Charged aerosol detection (CAD).

Method Parameters

Mobile Phase	MeCN/H2O – 30/70%
Buffer	AmFm pH 3.0 – 50 mM
Flow Rate	1.0 ml/min
Detection	CAD (Corona) (MS-compatible mobile phase)
Class of Compounds	Acid, Drug
Analyzing Compounds	gamma-Aminobutyric Acid (GABA),Baclofen,Pregabalin,Vigabatrin,Phenibut

HPLC Column Used

Primesep 100, 4.6 x 150 mm, 5 µm, 100 A, dual ended

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