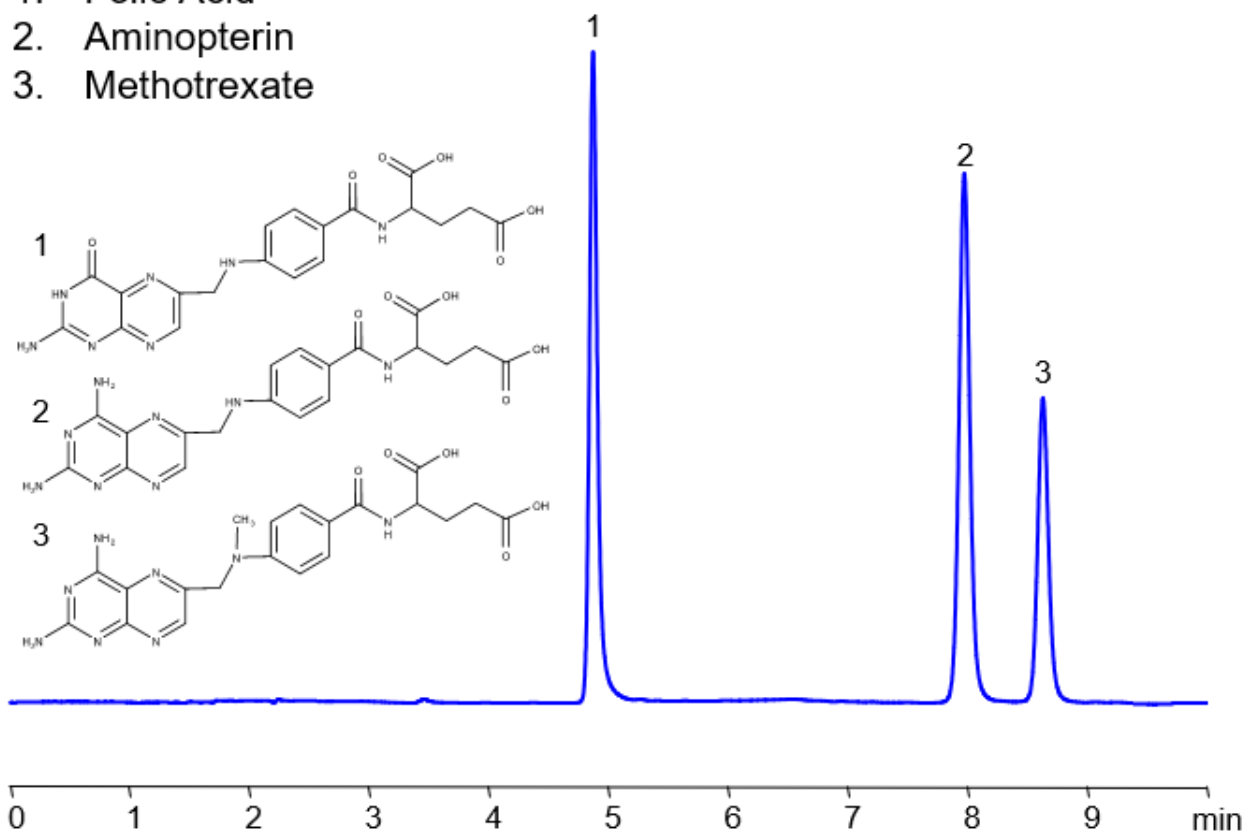


HPLC Method for Separation of Folic Acid, Methotrexate and Aminopterin on Primesep 100 Column

https://sielc.com/hplc-separation-of-aminopterin_folic-methotrexate

Chromatogram

1. Folic Acid
2. Aminopterin
3. Methotrexate



Column:	Primesep 100
Column size:	4.6 × 150 mm, 5 μm
Column part number:	100-46.150.0510
Mobile phase:	Gradient MeCN/H ₂ O – 10-70%, 10 min
Buffer:	Ammonium formate pH 3.0 – 50 mM
Flow rate:	1.0 mL/min
Detection:	UV 290 nm

Description

· Separation type: Liquid Chromatography Mixed-mode

Aminopterin and folic acid are chemically related compounds that play significant roles in biochemistry and medicine.

Methotrexate, Aminopterin, and Folic Acid are chemically related compounds that have important roles in biochemistry and medicine.

The antifolate drugs methotrexate and aminopterin are designed to interfere with the actions of folic acid, making them effective in slowing down the growth of rapidly dividing cells, such as cancer cells. However, this can also affect normal, healthy cells, leading to side effects.

Aminopterin, methotrexate and folic acid can be retained, separated, and analyzed using a reverse-phase Primesep 100, 4.6 x 150 mm, 5 µm, 100 A, dual ended column. The mobile phase for this method consists of water, acetonitrile (MeCN), and ammonium formate, which serves as a buffer. This analytical method can be monitored using UV detection at 290 nm, an Evaporative Light Scattering Detector (ELSD), or any other evaporative detection method such as Charged Aerosol Detection (CAD) or Electrospray Ionization Mass Spectrometry (ESI-MS)

LOD was determined for this combination of instrument, method, and analyte, and it can vary from one laboratory to another even when the same general type of analysis is being performed.

Method Parameters

Mobile Phase	Gradient MeCN -10-70%, 10 min
Buffer	Ammonium formate pH 3.0 – 50 mM
Flow Rate	1.0 ml/min
Detection	UV 290 nm
Peak Retention Time	5.08 min, 8.32 min
Sample concentration	0.02 mg/ml
Injection volume	5 µl
Sample diluent	H ₂ O+NaOH
LOD	0.04 ppm
Class of Compounds	Drug, Aminopterin, Antifolates, Acid
Analyzing Compounds	Methotrexate,Aminopterin,Folic Acid

HPLC Column Used

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

[Order this column at hplc-shop.de →](http://hplc-shop.de)