

# HPLC Separation of Amino Acids

<https://sielc.com/Application-HPLC-Separation-of-Amino-Acids>

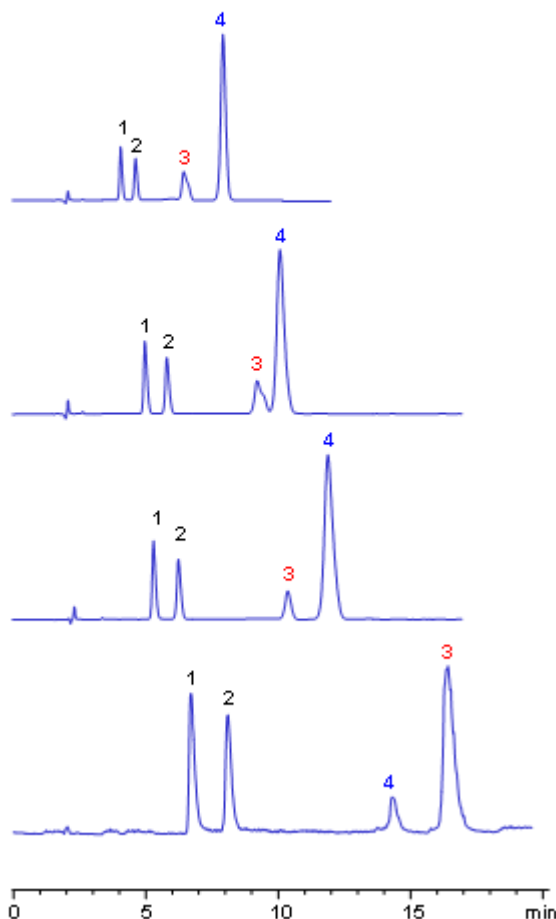
## Chromatogram

1. Serine
2.  $\alpha$ -Methylserine
3. GABA
4. Methionine

**Column:** Primesep 100

**Column size:** 4.6x150 mm

**Flow rate:** 1 ml/min



Mobile phase: MeCN /Water/ H<sub>3</sub>PO<sub>4</sub> = 30/70/0.2

Detection: UV200 nm

Mobile phase: MeCN /Water/ H<sub>3</sub>PO<sub>4</sub> = 30/70/0.1

Detection: UV200 nm

Mobile phase: MeCN /Water/H<sub>3</sub>PO<sub>4</sub> = 20/80/0.1

Detection: UV200 nm

Mobile phase: MeCN /Water/HCOOH = 30/70/0.3

Detection: ELSD

## Description

Amino acids are building blocks for peptides and proteins. Serine is not essential to human diet and it is synthesized in human body. Methionine is not synthesized in human body and needs to be ingested. GABA is used to enhance growth of specified plants, prevent development of powdery mildew on grapes, and suppress certain other plant diseases. In humans GABA helps to maintain normal brain function. Serine, methylserine, GABA and methionine are separated on Primesep 100 column by mixed-mode mechanism. Amino acids are retained by combination of reverse phase and cation-exchange mechanisms. At lower pH carboxylic acid fragment of amino acid is suppressed and not ionized, making amino acids more basic and slightly more hydrophobic. Amount of acetonitrile, buffer concentration and buffer pH can be used to adjust retention time. Underivatized amino acids are well retained and separated with perfect peak shape and symmetry. Fast method can be used for UV, ESLD and LC/MS quantitation of serine, methylserine, GABA and methionine.

## Method Parameters

Mobile Phase

MeCN/H<sub>2</sub>O

<b>Buffer</b>	H3PO4
<b>Flow Rate</b>	1.0 ml/min
<b>Detection</b>	UV, 200 nm, ELSD
<b>Class of Compounds</b>	Drug, Acid, Hydrophilic, Ionizable, Vitamin, Supplements, Amino acid
<b>Analyzing Compounds</b>	Serine, Methylserine, GABA, Methionine

#### HPLC Column Used

**Primesep 100, 4.6×250 mm, 5 µm, 100A**

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