HPLC Separation of Amino Acids in Supplements Composition in Mixed-Mode

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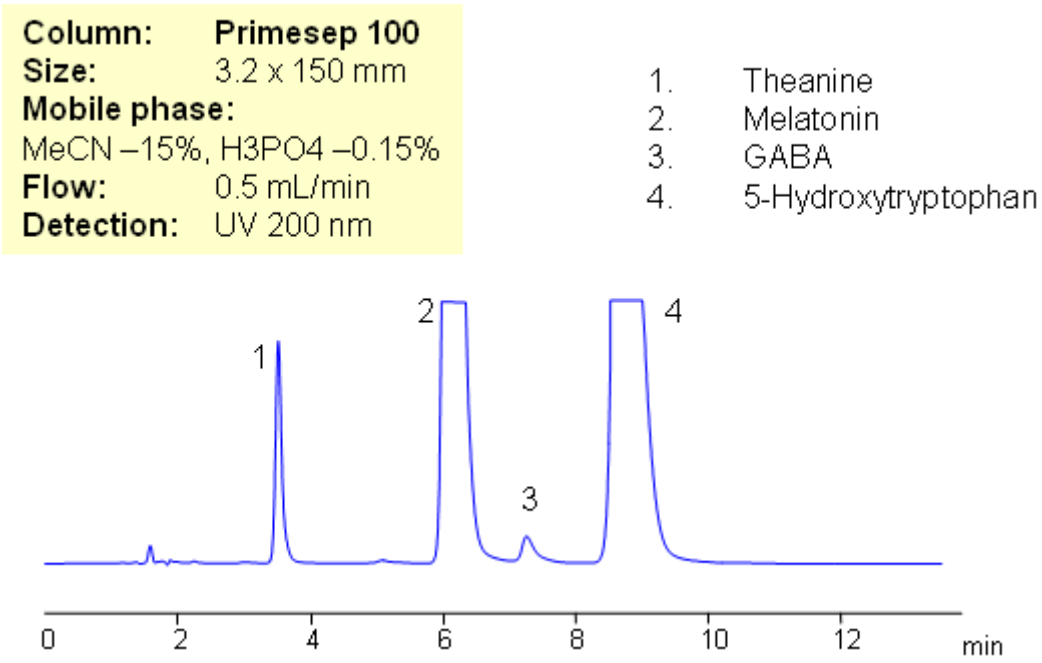
Chromatogram



Description

Amino acids are essential components of numerous formulation. Health supplements can contain various amino acids and vitamins and require quantitation of each ingredients. Amino acids are very polar compounds with limited or no retention in reversed-phase chromatography. The most common approaches are reversed-phase chromatography with ion-pairing reagent and hydrophilic interaction chromatography (HILIC). Underivatized amino acids can be retained by combination of reversed-phase and cation exchange mechanism on Primesep 100 mixed-mode. Retention time is controlled by amount of acetonitrile, buffer and buffer pH. Method does not require ion-pairing reagent. This method is for UV detection. LC/MS, ELSD or Corona CAD can be employed for analysis of amino acids with trifluoroacteic acid or ammonium formate in the mobile phase. This approach can be used for HPLC analysis of all underivatized amino acids.

Method Parameters

Mobile Phase	MeCN/H2O – 15/85%
Buffer	H3PO4
Flow Rate	1.0 ml/min
Detection	UV, 200 nm
Class of Compounds	Drug, Acid, Hydrophilic, Ionizable, Vitamin, Supplements, Amino acid
Analyzing Compounds	Theanine, Melatonin, GABA, 5- Hydroxytryptophan

HPLC Column Used

Primesep 100, 3.2×150 mm, 5 µm, 100A

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