HPLC Separation of Adenosine Mono-, Di- and Triphosphate in Reversed-Phase Mixed-Mode with LC/MS Compatible Conditions

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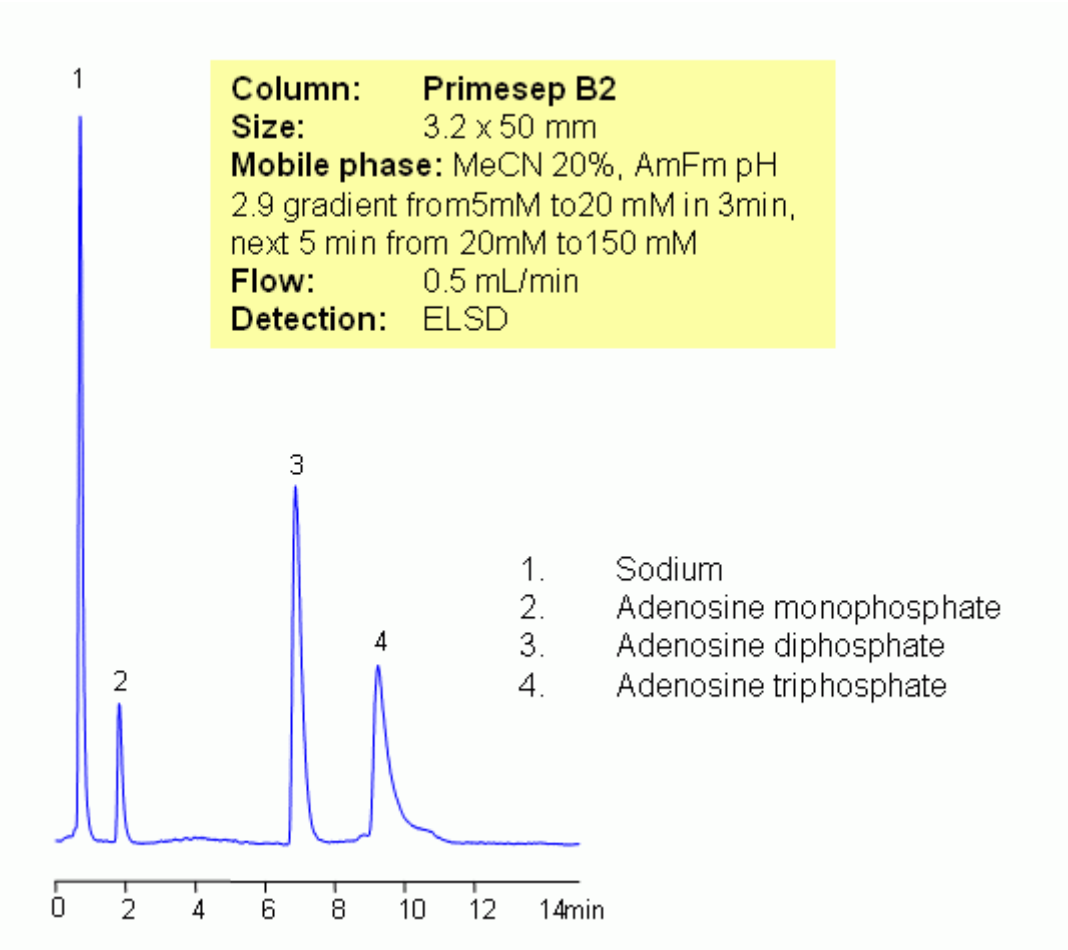
Chromatogram



Description

Adenosine mono-, di and triphosphate are hydrophilic nucleotides which serve as building blocks of DNA and RNA. Each molecule consists of phosphate or phosphate groups, adenine and sugar ribose. Molecules are hydrophilic and lack a retention mechanism on traditional reversed-phase column. Three nucleotides were retained and separated on Primesep B2 reversed-phase anion-exchange column. retention time is controlled by buffer concentration and buffer pH. ADP and ATP require higher concentration of buffer to facilitate elution. Method can be used for LC/MS analysis of different nucleotides in various sample matrices (biofluids, plasma, blood, urine). Other detection techniques can be used for analysis. Method is reliable and robust and can tolerate interference from sample matrix. Additional sample preparation might be required.

Method Parameters

Mobile Phase	MeCN/H2O – 20/80%
Buffer	AmFm pH 2.9- 5-20 mM 3 min, 20-150 mM
Flow Rate	0.5 ml/min
Detection	ELSD

Class of Compounds	Nucleotide, Hydrophilic, Ionizable
Analyzing Compounds	Adenosine Monophosphate, Adenosine Diphosphate, Adenosine Triphosphate

HPLC Column Used

Primesep B2, 3.2×50 mm, 5 µm, 100A

Order this column at hplc-shop.de →