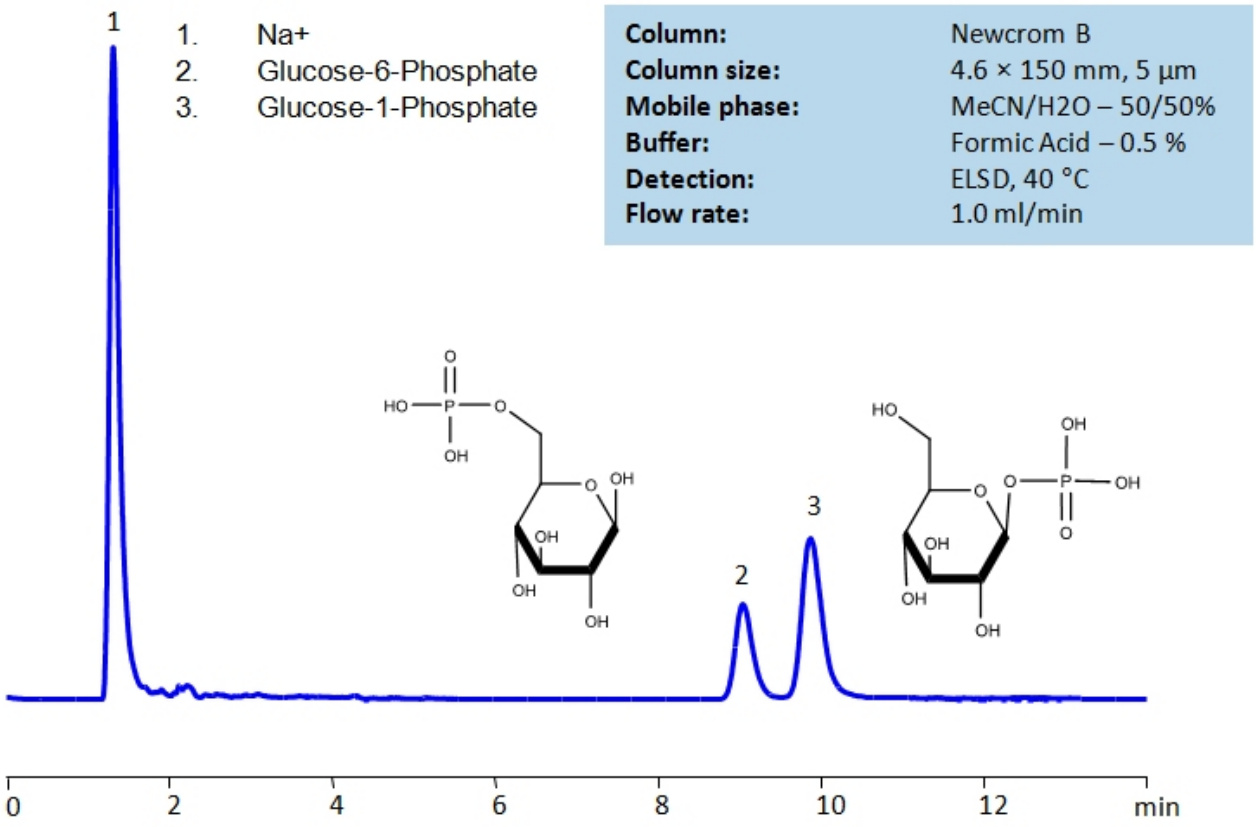
HPLC Separation of Glucose 6- Phosphate and Glucose 1- Phosphate on Newcrom B Column

https://sielc.com/hplc-separation-of-glucose-6-phosphate-and-glucose-1-phosphate

Chromatogram



Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of Glucose 6-Phosphate , Glucose 1- Phosphate .

Structural isomer separation poses a challenging task when using reverse-phase chromatography. However both glucose variants, which only differ to which carbon the phosphate group is attached to, can be separated in HPLC isocratically on a reverse-phase mixed-mode anion-exchange Newcrom B column. What differentiates, the Newcrom B phase from other silica-based Analysis of glucose phosphate is important because glucose-6-phosphate is the product of the first step in glycolysis metabolic pathway and glucose-1-phosphate is the first step in glycogenolysis. Glucose-6-phosphate is converted to glucose-1-phosphate and vice versa by the phosphoglucomutase enzyme in biological systems.

Method Parameters

Mobile Phase	MeCN/H2O – 50/50%
Buffer	Formic Acid – 0.5%
Flow Rate	1.0 ml/min
Detection	ELSD, 40 °C MS- compatible mobile phase

Class of Compounds	Hydrophilic, Sugar
Analyzing Compounds	Glucose 6-Phosphate,Glucose 1- Phosphate

HPLC Column Used

Newcrom B, 4.6 x 150 mm, 5 µm, 100 A, dual ended

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