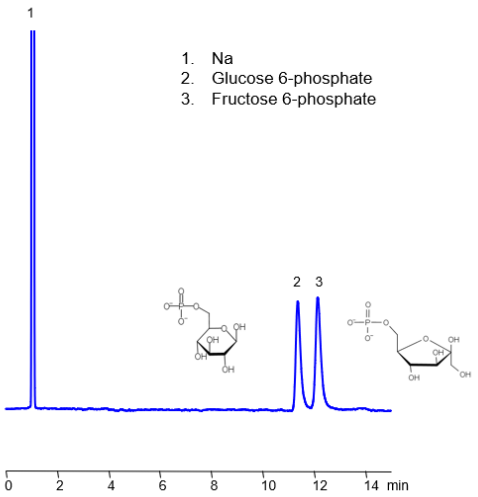
HPLC Method for Analysis of Glucose 6-phosphate and Fructose 6-phosphate on Newcrom B Column



Column:	Newcrom B
Column size:	4.6 × 150 mm, 5 µm, 100A
Column part number:	NB-46.150.0510
Mobile phase:	MeCN/H_2O – 50/50%
Buffer:	Formic Acid – 0.5%
Flow rate:	1.0 mL/min
Detection:	ELSD, 50C

Glucose 6-phosphate , also known as Robison ester , is a glucose sugar with the chemical formula C6H13O9P . It is a derivative of glucose that forms during cellular metabolism. It is also produced during the breakdown of glycogen polymers.

Glucose 6-phosphate is first formed by cells to ensure it does not diffuse out of the cell, and then through the process of glycolysis, it's isomerized into Fructose 6-phosphate .

Fructose 6-phosphate , known as Neuberg ester , is a derivatives of fructose that forms during cellular metabolism with the chemical formula C6H13O9P . It's alternate name comes from the biochemist, Carl Neuberg, who discovered that the compound was produced during hydrolysis of fructose 2,6-biphosphate.

These 2 phosphorylated sugars can be retained, separated, and analyzed on a mixed-mode Newcrom B column with a mobile phase consisting of water, Acetonitrile (MeCN), and Formic acid (FA). This analytical method can be analyzed via any evaporative detector, including ELSD, CAD, and ESI-MS with high resolution and peak symmetry.

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Method Parameters

Column	Newcrom B, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN – 50%
Buffer	Formic Acid – 0.5%
Flow Rate	1.0 mL/min
Detection	ELSD, 50C

Quelle: https://sielc.com/hplc-method-of-glucose-fructose-6-phosphate