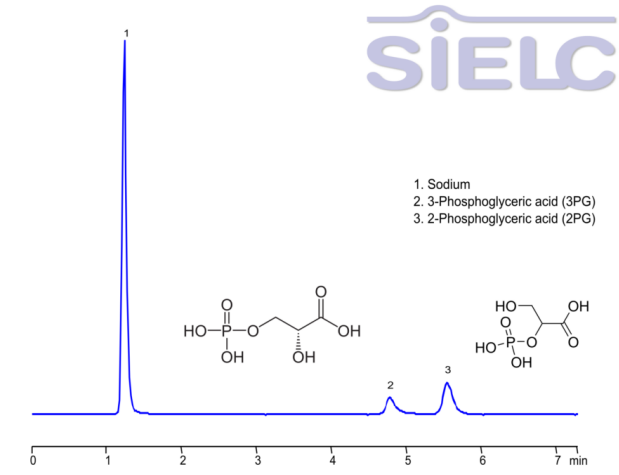
ELSD HPLC Method for Analysis of 3-Phosphoglyceric acid (3PG) and 2-Phosphoglyceric acid (2PG) on Newcrom B Column



Column:	Newcrom B
Column size:	4.6× 150 mm, 5 µm
Column part number:	NB-46.150.0510
Mobile phase:	MeCN/H_2O - 50/50%
Buffer:	Formic acid - 5.0%
Flow rate	1.0 ml/min
Detection:	ELSD
Sample:	1 mg/ml
Diluent:	MeCN/H2O - 50/50%

Separation type: Liquid Chromatography Mixed-mode SIELC Technologies

3-Phosphoglyceric acid (3PG) and 2-Phosphoglyceric acid (2PG) are both intermediates in the glycolytic pathway and the Calvin cycle.

These compounds are crucial for energy metabolism and biosynthesis in various organisms, including plants, animals, and microorganisms. Understanding their roles helps elucidate metabolic pathways like glycolysis and the Calvin cycle, essential for energy production and carbon fixation.

3-Phosphoglyceric acid (3PG) , 2-Phosphoglyceric acid (2PG) can be retained, separated and analyzed using a Newcrom B mixed-mode stationary phase column. The analysis employs an isocratic method with a simple mobile phase comprising water, acetonitrile (MeCN), and formic acid as a buffer. This method allows for detection using ELSD.

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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 – 5%
Flow Rate	1.0 mL/min
Detection	ELSD, the nebulizer and evaporator temperatures 50°C, with a gas flow rate of 1.6 Standard Liters per Minute (SLM) Sample: 1 mg/ml in MeCN/H2O-50/50%
Sample	1 mg/mL

Quelle: https://sielc.com/hplc-method-2pg-3pg