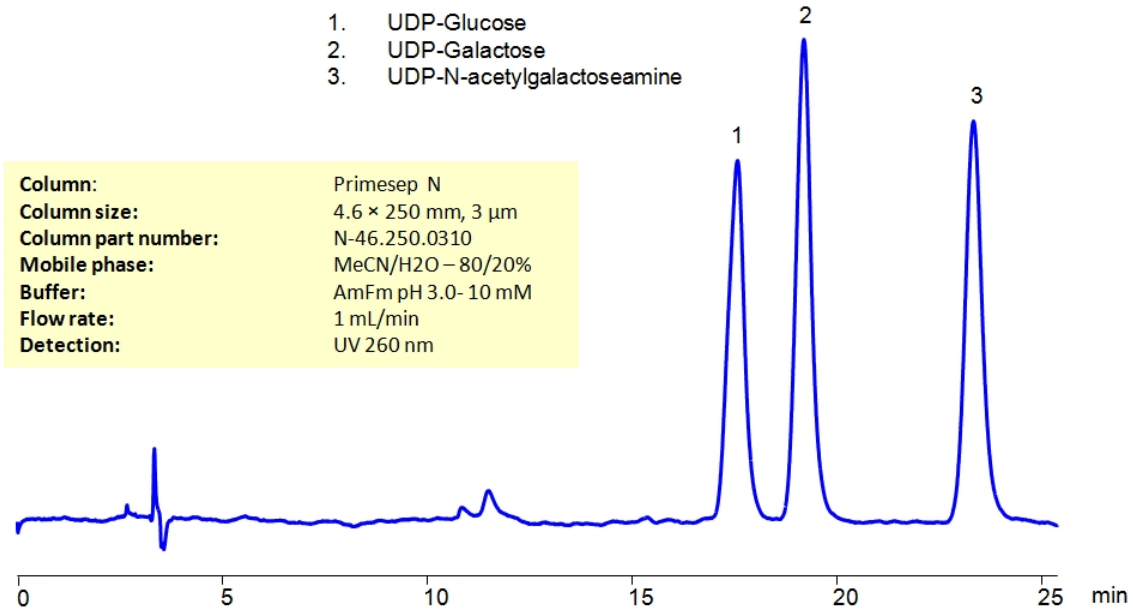
HPLC Separation of Uridine Sugar Diphospates on Primesep N Column



High Performance Liquid Chromatography (HPLC) Method for Analysis of Gadolinium-DOTA

Uridine sugar diphospates are a class of complex nucleotide sugars that are integral to metabolic processes in the cell. Uridine diphosphate galactose (UDP-Galactose), Uridine diphosphate glucose (UDP-Glucose), and uridine diphosphate N-acetylglucosamine (UDP-N-acetylgalactoseamine or UDP-GlcNAc) are some of the most well-known nucleotide sugars.

Uridine Diphosphate Glucose (UDP-glucose) is an an important nucleotide sugar with the chemical formula C15H24N2O17P2 . It is involved in metabolic processes in the cell. It is a precursor to glycogen, UDP-galactose, and UDP-glucuronic acid, as well as other polysacchrides and glycosphingolipids.

Uridine Diphosphate Galactose (UDP-galactose) is an intermediary formed in the biosynthesis of polysaccharides with the chemical formula C15H24N2O17P2 . It is important in glycolysis, which is a metabolic pathway that converts glucose into pyruvate.

These three uridine sugar diphosphate compounds can be detected in the low UV regime. Using a Primesep N normal-phase column and a mobile phase consisting of water and acetonitrile (MeCN) with an ammonium formate (AmFm) buffer, UDP-galactose, UDP-glucose, and UDP-GIcNAc can be retained, separated, and analyzed. This analysis method can be UV detected at 260 nm.

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Method Parameters

Column	Primesep N, 4.6 x 250 mm, 3 µm, 100 Å, dual ended
Mobile Phase	MeCN – 80%
Buffer	Ammonium formate pH 3.0 – 10 mM
Flow Rate	1.0 mL/min
Detection	UV 260 nm

Quelle: https://sielc.com/hplc-separation-of-uridine-sugar-diphospates-on-primesep-n-column