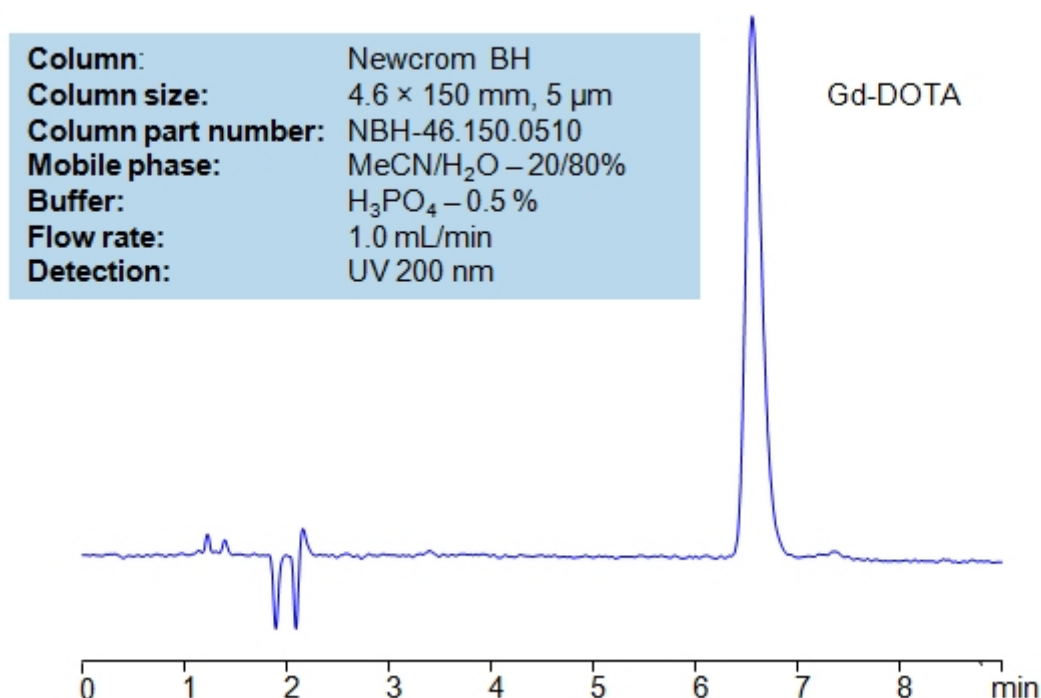


HPLC Method For Analysis Of Gadolinium-DOTA on Newcrom BH Column

<https://sielc.com/hplc-method-for-analysis-of-gadolinium-dota>

Chromatogram



Description

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

Gadolinium-DOTA , or known Gadoteric acid , is a well-known contrast agent with the chemical formula $C_{16}H_{24}GdN_4O_8$. It is used primarily for for imaging of (often leaky) blood vessels, the brain, and spine. It's composed of dodecane tetraacetic acid, or DOTA, with a Gadolinium III cation in the center. Due to its unique structure, this acidic compound has paramagnetic properties; when exposed to a magnetic field, it develops a magnetic moment, which can be utilized for magnetism-based imaging like MRI and NMR. Gadolinium-DOTA acts as a signal amplifier, thus appearing brighter under MRI scans and highlighting the tissues that have absorbed it. In its salt form (with meglumine), it crosses the blood-brain barrier and allows for imaging of the brain and other areas of the nervous system. Due to its paramagnetic properties, Gadolinium-DOTA fluoresces; it excites at 274 nm and emits light at 312 nm. Gadolinium-DOTA can be retained and analyzed using the Newcrom BH stationary phase column. The analysis utilizes an isocratic method with a simple mobile phase consisting of water and acetonitrile (MeCN) with a phosphoric acid buffer. Detection is performed using UV.

Method Parameters

Mobile Phase	MeCN/H ₂ O – 20/80%
Buffer	H ₃ PO ₄ – 0.5%
Flow Rate	1.0 ml/min
Detection	UV, 200 nm

Class of Compounds	Acid
Analyzing Compounds	Gadolinium-DOTA

HPLC Column Used

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

[Order this column at hplc-shop.de →](https://www.hplc-shop.de)