

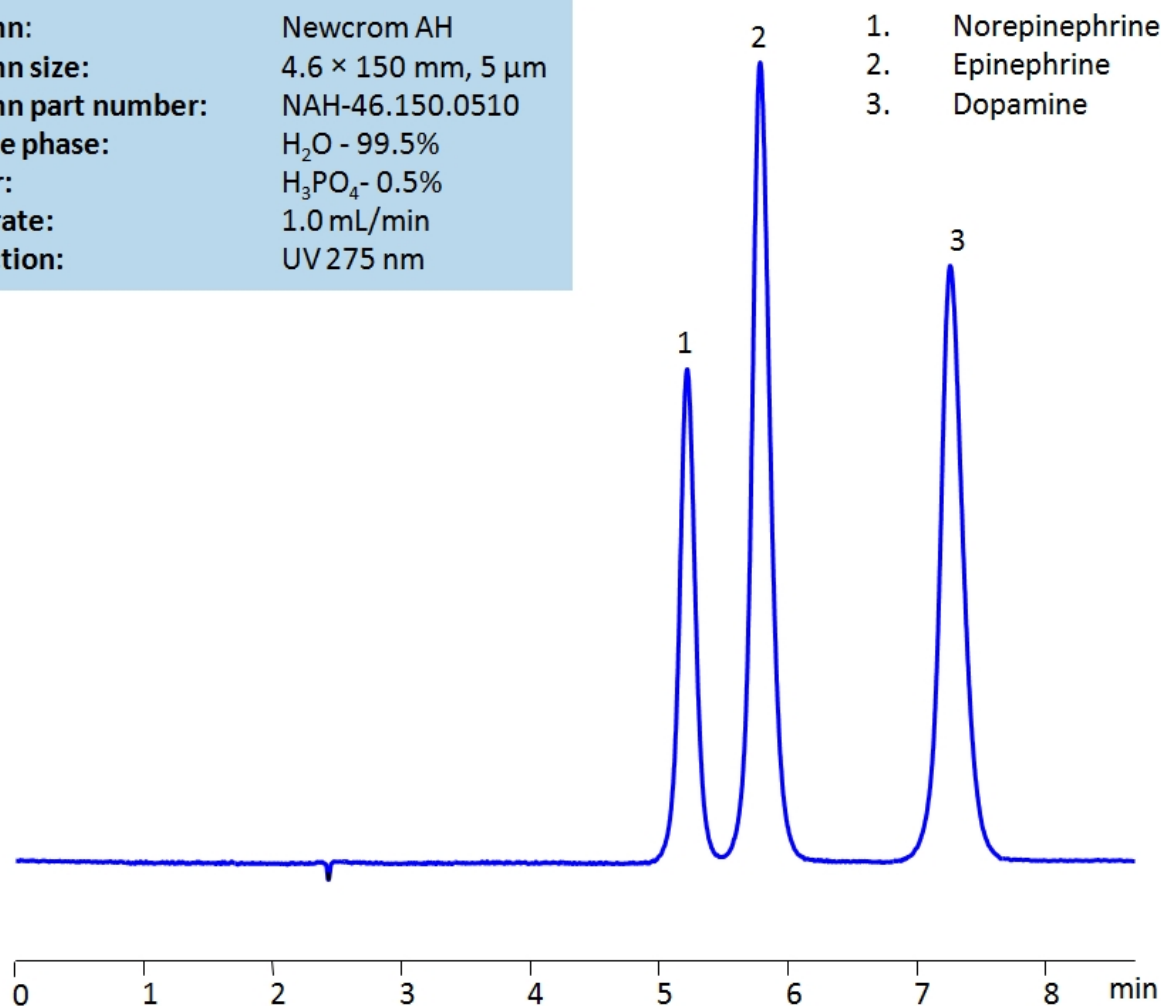
# HPLC Separation of Catecholamines on Newcrom AH Column

<https://sielc.com/hplc-separation-of-catecholamines-on-newcrom-ah-column>

## Chromatogram

**Column:** Newcrom AH  
**Column size:** 4.6 × 150 mm, 5 µm  
**Column part number:** NAH-46.150.0510  
**Mobile phase:** H<sub>2</sub>O - 99.5%  
**Buffer:** H<sub>3</sub>PO<sub>4</sub> - 0.5%  
**Flow rate:** 1.0 mL/min  
**Detection:** UV 275 nm

1. Norepinephrine
2. Epinephrine
3. Dopamine



## Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of Dopamine , Epinephrine , Norepinephrine .

Catecholamines are neurotransmitters that generate the 'fight-or-flight' response in the body. The 3 main catecholamines are epinephrine (also known as adrenaline ), norepinephrine , and dopamine , and they are produced by the adrenal glands.

Norepinephrine , also known as noradrenaline and noradrenalin, is a catecholamine with the chemical formula C<sub>8</sub>H<sub>11</sub>NO<sub>3</sub> . It functions as a hormone, neurotransmitter, and neuromodulator responsible for improving alertness, focus, memory, and regulating mood. You can find detailed UV spectra of Norepinephrine and information about its various lambda maxima by visiting the following link.

Epinephrine , also known as adrenaline or adrenalin, is a hormone and medication with the chemical formula C<sub>9</sub>H<sub>13</sub>NO<sub>3</sub> . As a hormone, it is involved in regulating involuntary operations of nearly all internal organs. As a medication, it is used to treat allergic reaction anaphylaxis and cardiac arrest. When other treatments are not effective, it is occasionally used to treat asthma. You can find detailed UV spectra of Epinephrine and information about its various lambda maxima by visiting the following link.

Dopamine is a neurotransmitter with the chemical formula  $C_8H_{11}NO_2$ . It is released during pleasurable activities, reinforcing those behaviors, and motivating people to continue seeking them out. Dopamine influences the release of other hormones. A deficiency of it can influence movement and lead to conditions like Parkinson's disease. You can find detailed UV spectra of Dopamine and information about its various lambda maxima by visiting the following link.

Dopamine, Epinephrine, Norepinephrine can be detected in the low UV regime. Using a Newcrom AH mixed-mode column and a mobile phase consisting of almost entirely water with either a phosphoric ( $H_3PO_4$ ) acid or ammonium formate (AmFm) buffer, the catecholamines can be retained, separated, and measured. This analysis method can be UV detected at 275 nm with high resolution. The latter mobile phase (utilizing AmFm) is compatible with Mass Spectrometry.

#### Method Parameters

<b>Mobile Phase</b>	H2O
<b>Buffer</b>	$H_3PO_4$ or AmFm pH 3.0
<b>Flow Rate</b>	1.0 ml/min
<b>Detection</b>	UV, 275 nm
<b>Class of Compounds</b>	Drug, Acid, Hydrophilic, Ionizable, Hormone
<b>Analyzing Compounds</b>	Dopamine, Epinephrine, Norepinephrine

#### HPLC Column Used

**Newcrom AH, 4.6 x 150 mm, 5  $\mu$ m, 100 A, dual ended**

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