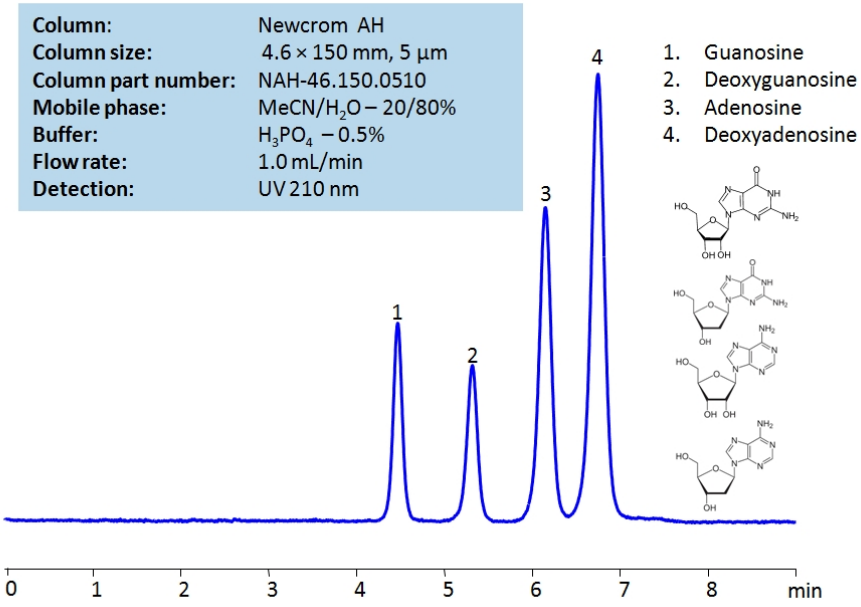
HPLC Separation of Guanosine, Deoxyguanosine, Adenosine, Deoxyadenosine on Newcrom AH Column



High Performance Liquid Chromatography (HPLC) Method for Analysis of Adenosine , Guanosine , Deoxyguanosine , Deoxyadenosine .

Guanosine is a purine nucleoside with the chemical formula C10H13N5O5 . It can be phosphorylated into many other forms, which play vital roles in biochemical possesses like synthesis of nucleic acids, proteins, photosynthesis, and more. It is also required for RNA splicing.

Deoxyguanosine is a deoxyribonucleoside with the chemical formula C10H13N5O4 . It is a vital part of what makes up DNA.

Adenosine is a key building block of energy-carrying molecules with the chemical formula C10H13N5O4 . It has a variety of other uses, including being a inhibitory neurotransmitter which helps with sleep and acting as a blood flow regulator. Medicinally, it is used as treatment for supraventricular tachycardia (SVT). You can find detailed UV spectra of Adenosine and information about its various lambda maxima by visiting the following link.

Deoxyadenosine is a deoxyribonucleoside with the chemical formula C10H13N5O3 . It is a derivative of adenosine. High presence of it can kill T lymphocytes and kill those cells, leading to adenosine deaminase severe combined immunodeficiency disease, also known as ADA-SCID.

Adenosine , Guanosine , Deoxyguanosine , Deoxyadenosine are the building blocks for DNA and RNA as well as other roles in biomechanical processes such as signal transduction. By using a Newcrom AH mixed-mode column with a cation-exchange mechanism, nucleosides: guanosine, deoxyguanosine, adenosine, and deoxyadenosine, can be baseline separated in a short time using an isocratic method with

a simple mobile phase of water, acetonitrile (MeCN, ACN), and H3PO4as a buffer. UV detection at 210 nm.

Method Parameters

Column	Newcrom AH, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN/H2O – 20/80%
Buffer	H3PO4 – 0.5%
Flow Rate	1.0 mL/min
Detection	UV, 210 nm

Quelle: https://sielc.com/hplc-separation-of-guanosine-deoxyguanosine-adenosine-deoxyademosine