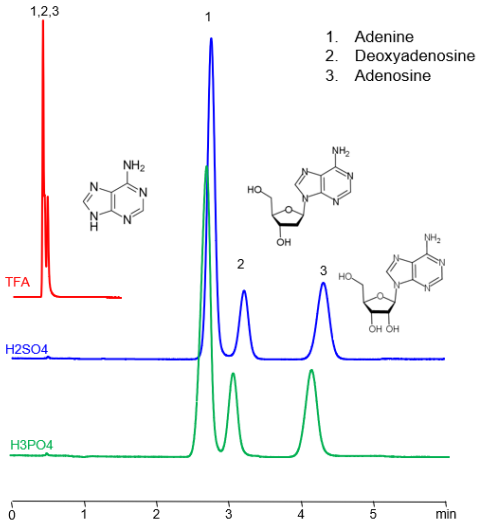
HPLC Method for Separation of Adenine, Deoxyadenosine and Adenosine on BIST B+ Column



Column:	BIST B+
Column size:	4.6 × 50 mm, 5 µm
Column part number:	TBP-46.50.0510
Mobile phase:	MeCN – 85%
Buffer:	0.2%
Flow rate:	1,0 mL/min
Detection:	UV 260 nm

Adenine , also noted as A and Ade , has the chemical formula C5H5N5 . Besides DNA and RNA, Adenine can also be found in Adenosine triphosphate (ATP), which is a nucleotide triphosphate that provides energy in cells required for bodily functions. In DNA, it partners with Thymine via two hydrogen bonds, while in RNA it bonds to Uracil for protein synthesis.

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 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.

Adenine , Deoxyadenosine , Adenosine can be retained and analyzed using the BIST B+ stationary phase column. The analysis utilizes an isocratic method with a simple mobile phase consisting of water and acetonitrile (MeCN) with a sulfuric acid buffer. Detection is performed using UV.

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Method Parameters

Column	BIST B+, 4.6 x 50 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN – 85%
Buffer	H2SO4 – 0.2%
Flow Rate	1.0 mL/min
Detection	UV 260 nm

Quelle: https://sielc.com/hplc-method-of-adenine-deoxyadenosine-and-adenosine