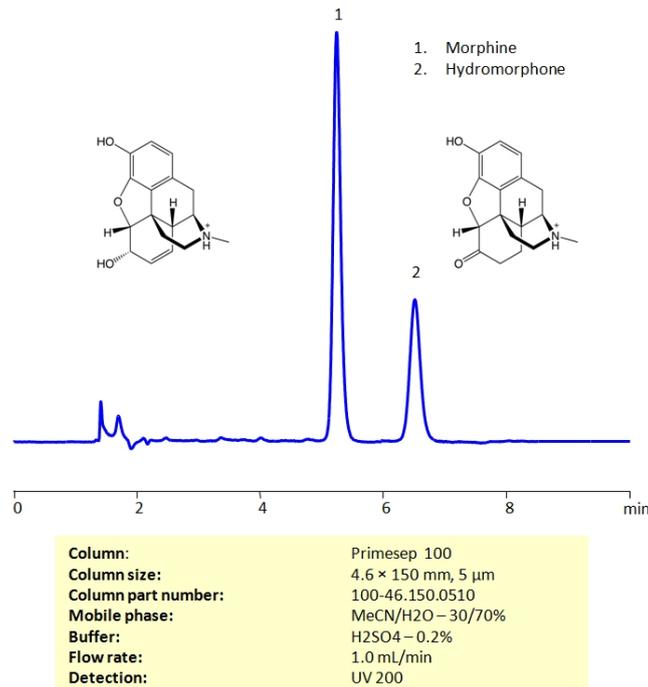


HPLC Separation of Morphine and Hydromorphone on Primesep 100 Column



High Performance Liquid Chromatography (HPLC) Method for Analysis Morphine and Hydromorphone

Morphine is an opioid medication with the chemical formula C₁₇H₁₉NO₃. It works by blocking pain signals from traveling along the nerves to the brain. In certain countries, it is used in opiate substitution therapy for people with an opioid addiction. History of Morphine dates back to the ancient times, but was first recorded as discovered in the early 19th century, and it rose quickly in popularity due to its addictive nature. In 1914, it became a controlled substance in the US, requiring a prescription to possess.

Hydromorphone is an opioid medication with the chemical formula C₁₇H₁₉NO₃. It is a semisynthetic derivative of morphine that also works as a pain medication. Just like morphine, it is a controlled substance and is incredibly addictive. It is considered more powerful than its parent compound.

Morphine and Hydromorphone can be retained and separated on the Primesep 100 mixed-mode column using an isocratic analytical method with a simple mobile phase of water, acetonitrile (MeCN, ACN), and sulphuric acid (H₂SO₄) buffer. The analysis method can be UV detected at 200 nm.

Method Parameters

Column	Primesep 100, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN/H ₂ O – 30/70%
Buffer	H ₂ SO ₄ – 0.2%
Flow Rate	1.0 mL/min
Detection	UV 200 nm

Quelle: <https://sielc.com/hplc-separation-of-morphine-and-hydromorphone>