HPLC- MS Method for Analysis of Ketamine on Primesep 100 Column
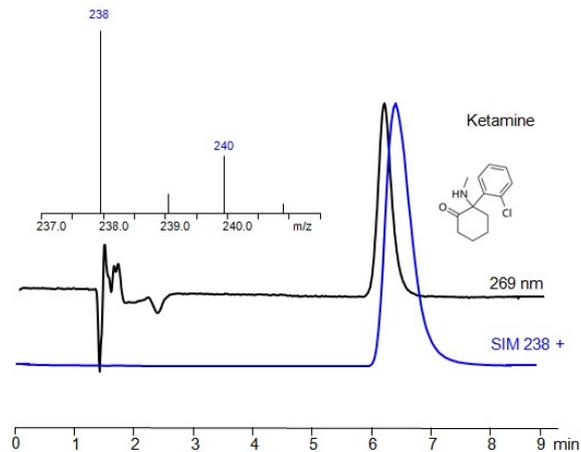
Column:	Primesep 100
Column size:	2.1 × 100 mm, 5 µm
Column part number:	100-21.100.0510
Mobile phase:	MeCN/H_2O – 80/20%
Buffer:	Ammonium formate pH 3.0 – 20 mM
Flow rate:	0.2 mL/min
Detection:	UV 269 nm, SIM 238 +

Ketamine is a medication primarily used for induction and maintenance of anesthesia. It also has analgesic and sedative properties.

Ketamine is classified as an arylcyclohexylamine. Chemically, it is known as (RS)-2-(2-chlorophenyl)-2-(methylamino)cyclohexanone.

Ketamine is used primarily as an anesthetic and analgesic in both human and veterinary medicine. It has a unique mechanism of action, acting primarily as an antagonist of the N-methyl-D-aspartate (NMDA) receptor, which is involved in pain transmission and synaptic plasticity.

Beyond its primary medical use, ketamine has also been investigated for its rapid-acting antidepressant effects and is used in certain treatment-resistant cases of depression.

Due to its potential for misuse and the hallucinogenic effects it can produce at sub-anesthetic doses, ketamine is also classified as a controlled substance in many countries.

Ketamine can be retained, and analyzed on a Primesep 100 mixed-mode stationary phase column using an isocratic analytical method with a simple mobile phase of water, Acetonitrile (MeCN), and a ammonium format as a buffer. This analysis method can be detected using UV at 269 nm, an Evaporative Light Scattering Detector (ELSD), or any other evaporative detection method (CAD, ESI-MS)

Method Parameters

Column	Primesep 100, 2.1 x 100 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN – 80%,
Buffer	Ammonium Formate pH 3.0-20 mM
Flow Rate	0.2 mL/min
Detection	UV, 269 nm, SIM238 +

Quelle: https://sielc.com/hplc-method-for-analysis-of-ketamine-ms