

Analysis of Reserpine by Mass Detector

Chromaster 5610 MS Detector is a mass detector with new concept, designed for LC users, and it is different from conventional mass spectrometers. This time, reserpine was quantitatively analyzed as a model sample. Reserpine is a component analyzed as a standard sample by LC-MS. The calibration curve generated based on the SIM chromatograms showed a good linearity.



5610 MS Detector

LC-MS Analysis of Reserpine

Analytical Conditions

Table 1 Conditions for MS Detector Setting

Ionization method	ESI
Ionization mode	Positive
Ionization voltage	2500 V
Measurement mode	SIM (m/z 609.3)

Table 2 Conditions for HPLC Setting

Column	HITACHI LaChrom C18 (5 μ m) 4.6 mm I.D. x 150 mm
Mobile phase	CH ₃ CN / H ₂ O / HCOOH = 30 / 70 / 0.1
Flow rate	1.0 mL/min (250:1 split)
Column temperature	25°C
Detection wavelength	UV 270 nm
Injection vol.	20 μ L

LC-MS Analysis

Reserpine was dissolved in methanol. Figure 1 shows the results of reserpine (1 mg/L) analysed by UV and mass detectors. The $[M+H]^+$ ion peak at m/z 609.3 was detected in the mass spectrum. In a conventional HPLC system, the flow channel is split for the connection with a mass detector. In the SIM chromatogram of reserpine, the sensitivity was found to be equivalent to that obtained by UV detection.

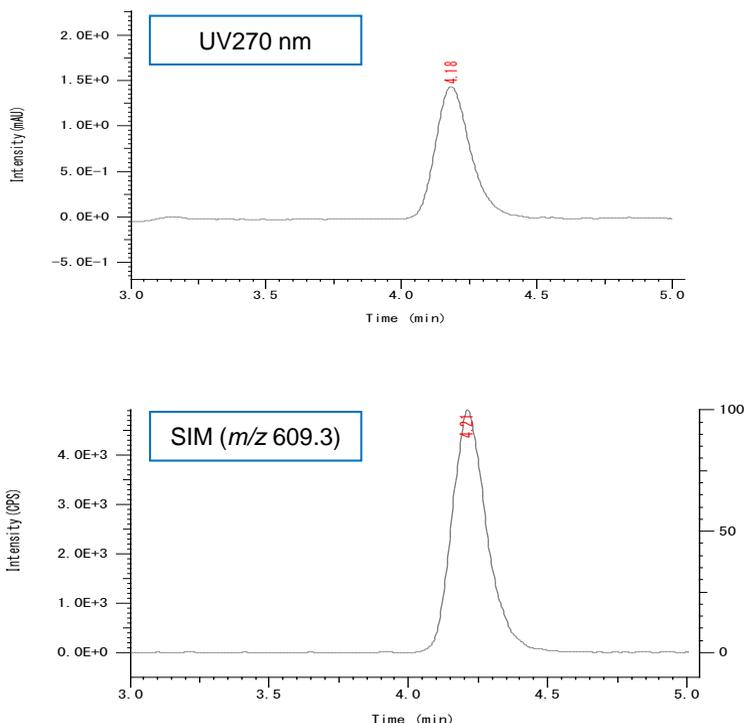


Figure 1 Chromatogram of Reserpine

Figure 2 shows the calibration curve of reserpine based on the SIM chromatograms. A good linearity was obtained over the concentration range of 0.01-100 mg/L.

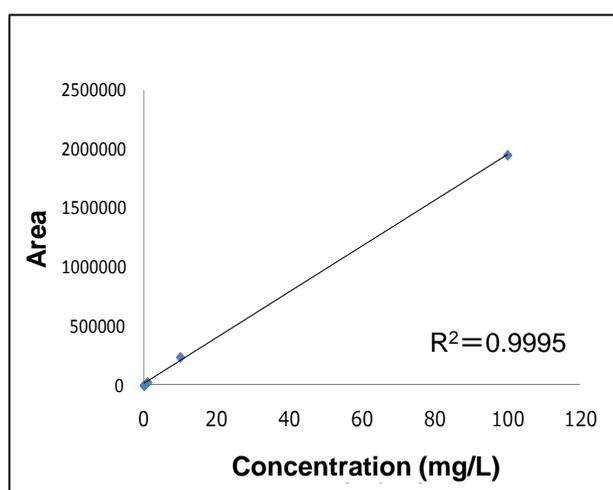


Figure 2 Calibration Curve Based on SIM Chromatograms

<Main system configuration> 5110 Pump, 5210 Autosampler, 5310 Column Oven, 5420 UV-VIS Detector, 5610 MS Detector

NOTE: These data are an example of measurement; the individual values cannot be guaranteed.