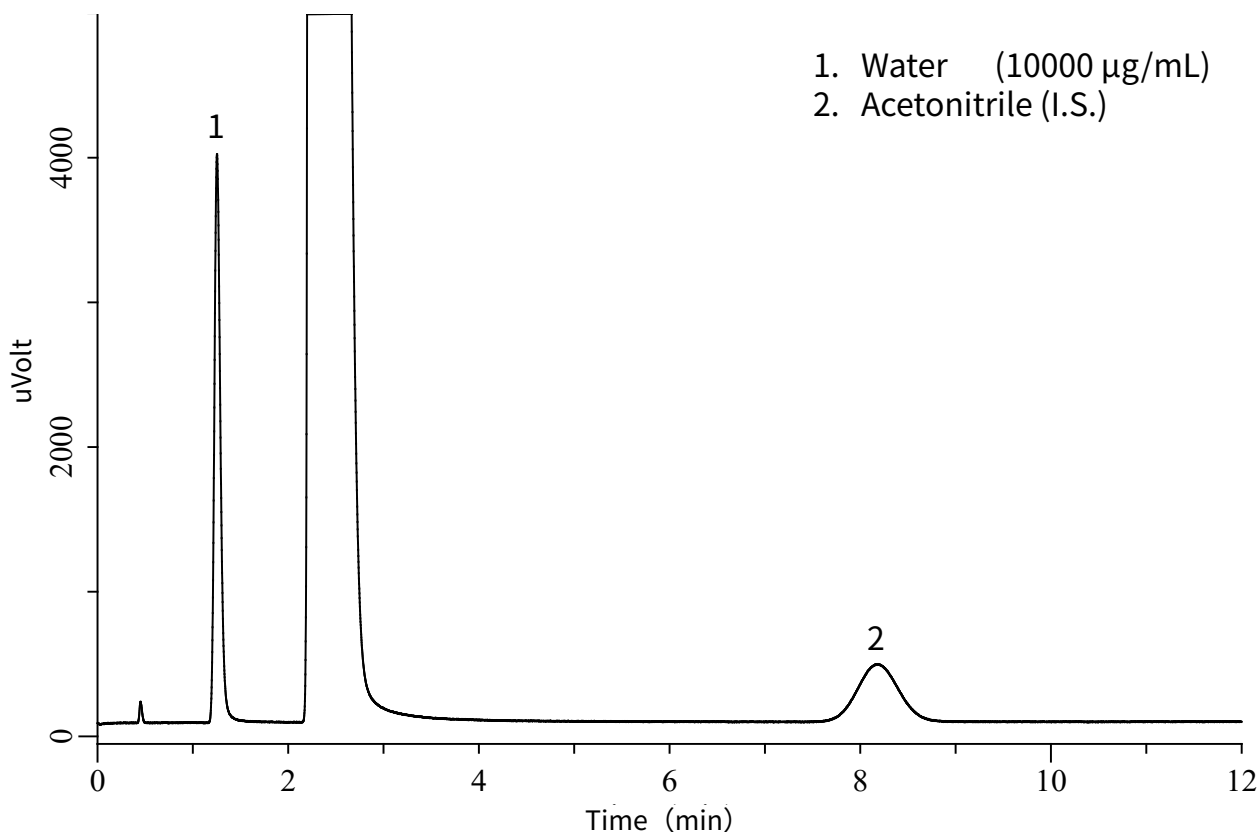


Water Testing of Panipenem- with Reference to the Japanese Pharmacopoeia 16th Edition

Panipenem is an antibiotic that is active against a variety of bacteria, including *Streptococcus pneumoniae*, *Escherichia coli*, and *Pseudomonas aeruginosa*. Indications include sepsis, pneumonia, osteomyelitis, and sinusitis.

In this application, a water test as described in the 16th edition of the Japanese Pharmacopoeia was performed using a packed column. Excellent results were achieved in terms of both separation and reproducibility for water and acetonitrile in methanol.

Example: measurement of standard



Measurement conditions

System : GC - TCD
Column : Porapak Q 80/100
Glass 2 m x 3 mm I.D.
Col. Temp. : 125 °C
Carrier Gas : He 200 kPa

Injection : Direct
200 °C
Injection Vol. : 1 μL
Detection : TCD 100 mA
100 °C
Sample : Standard
Analytes in Methanol

Measurement

Requirements for System Suitability

1. Water, methanol and an internal standard (acetonitrile) were eluted in this order with the resolution between water and the internal standard being not less than 10.
2. With 6 repeat injections, the relative standard deviation of the ratio of the peak area of water to internal standard is not more than 5.0 %.

**Our results****Resolution :15.29****Relative standard deviation: 0.98 % (see Table 1)****Relative standard deviation**

Table 1. System repeatability test results

Frequency	①Water	②Internal standard	①/②
1	17520	11313	1.549
2	17166	11008	1.559
3	17968	11515	1.560
4	17447	11137	1.567
5	16755	10986	1.525
6	17449	11168	1.562
Mean	17384	11188	1.554
Standard deviation	403	199	0.015
Relative standard deviation (%)	2.32	1.78	0.98

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