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The high-performance liquid chromatography (HPLC) method for vancomycin and meropenem in joint fluid

Vancomycin

The chromatographic system employed a one-dimensional C18 column (3.5 × 25 mm, 5 µm; Demeter, China), an intermediate SCX column (3.0 × 10 mm, 5 µm), and a 2D SCB column (4.6 × 125 mm, 5 µm). The mobile phase for the first dimension was composed of methanol:acetonitrile:50 mmol/l ammonium dihydrogen phosphate aqueous solution in a ratio of 8:1:1 (V:V:V), while the mobile phase for the second dimension consisted of acetonitrile:isopropanol:60 mmol/l diamminophosphate aqueous solution at a ratio of 7:1:80 (V:V:V). The flow rate was set at 1.2 ml/min for pump A and 0.6 ml/min for pump C, with a column temperature of 45°C.

Meropenem

The one-dimensional chromatography column used was a C18 (4.6 × 50 mm, 5 µm), and the two-dimensional column was a phenyl-hexyl (4.6 × 200 mm, 5 µm). The mobile phase for the first dimension was methanol:15 mmol/l ammonium dihydrogen phosphate aqueous solution at a ratio of 1:5 (V:V), and for the second dimension it was acetonitrile:isopropanol:20 mmol/l ammonium dihydrogen phosphate aqueous solution at a ratio of 7:1:70 (V:V:V). The flow rate was set at 1.2 ml/min for pump A and 0.8 ml/min for pump C, with a column temperature of 40°C.