

# Antibiotics in Serum/Plasma

## HPLC Assay

- > Simple to perform
- > Covers important and clinically relevant antibiotics
- > Stable calibrators and controls
- > First commercial CE-IVD assay for HPLC

### Specifications

Limit of quantification:	0.5–2.2 mg/l
Linearity:	up to 60–400 mg/l
Recovery:	91–104 %
Intraassay:	CV = 0.5–1.6 %
Interassay:	CV = 2.5–5.5 %
Analysis time:	13 min (Group 1) 5 min (Group 2)

### Pre-Analytic Treatment

Specimens: serum or plasma  
Stability: Detailed information can be obtained from the instruction manual.

### Sample Preparation

- Pipette 100 µl sample into a 1.5 ml reaction vial.
- Add 20 µl Priming Solution, mix briefly (vortex).
- Add 200 µl Internal Standard, mix 1 min (vortex), centrifuge 5 min.
- Transfer 100 µl supernatant into auto-sampler vial equipped with 400 µl micro-insert.
- Add 100 µl Dilution Buffer, mix briefly (vortex).
- Inject 5 µl (group 1) or 10 µl (group 2) into HPLC system.

### HPLC Parameters

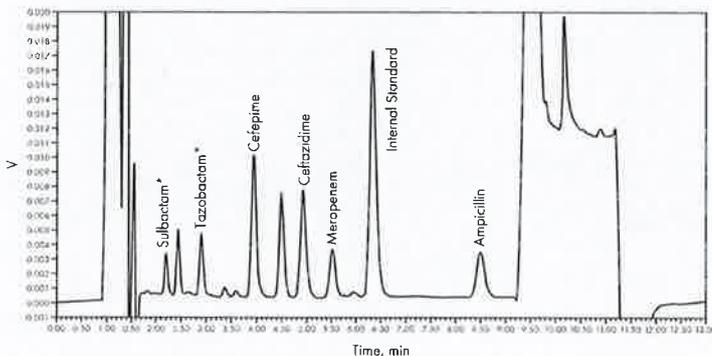
Binary HPLC gradient system with coolable injector, coolable column oven and UV detector.

Injection volume:	5 µl (Group 1) 10 µl (Group 2)
Column temperature:	22 °C
Autosampler temperature:	≤ 10 °C
Flow rate:	1 ml/min
Gradient:	binary (Group 1) isocratic (Group 2)
Detection:	UV Detector
Wavelengths:	0–5.9 min 290 nm, then 210 nm (Group 1), 252 nm (Group 2)

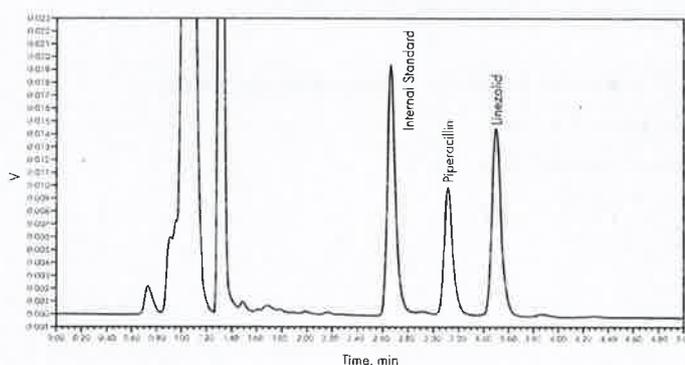
### 6 Antibiotics – 2 Groups – 1 Analytical Column – 1 Sample Preparation

Group 1: Ampicillin, Cefepime, Ceftazidime, Meropenem, Sulbactam\*, Tazobactam\*

Group 2: Linezolid, Piperacillin



\* Qualitative information on these analytes can be obtained, but data are not CE-IVD compliant.



The assay Antibiotics in Serum/Plasma is an in vitro diagnostic product for the use in clinical laboratories. It is used for the quantitative determination of ampicillin, cefepime, ceftazidime, linezolid, meropenem and piperacillin in human serum and plasma samples for monitoring patients' blood levels of these antibiotics. The calibrators and controls also include sulbactam\* and tazobactam\* for obtaining qualitative data (customer validation required).

The HPLC determination with subsequent UV detection is done in two groups, the first run via a mobile phase gradient, the second run isocratically. Two internal standards and stable matrix products ensure precise quantification. The additionally included Priming Solution increases sample stability notably.

## Ordering Information

These products are not available in all countries

Order no.	Product
61000	Antibiotics in Serum/Plasma by HPLC Ampicillin, Cefepime, Ceftazidime, Linezolid, Meropenem, Piperacillin, Sulbactam*, Tazobactam* For 100 determinations
<b>Components available separately:</b>	
61001	Mobile Phase A, 750 ml
61002	Mobile Phase B, 950 ml
61004	Internal Standard Mix, 20 ml
61005	Dilution Buffer, 10 ml
61012	Priming Solution, 2 ml
33006	Reaction Vials, transparent, 100 pcs.
<b>Startup Accessories:</b>	
61100	HPLC Column, equilibrated, with test chromatogram, 1 pc.
15070	Stainless Steel Prefilter Housing, 1 pc.
15071	Stainless Steel Prefilter, 0.5 µm, 5 pcs.
18001	Precolumn Cartridge Holder 4/10, 1 pc.
18061	Precolumn Cartridge 4/10, 1 pc.
J0404	Autosampler Vials, amber glass, 1.5 ml, 100 pcs.
J0406	Crimp Caps, rubber/PTFE septa, 11 mm, 100 pcs.
J0505	Micro-inserts for autosampler vials, clear glass, flat bottom, 0.4 ml, 100 pcs.
<b>Chromsystems Calibrators and Controls for Antibiotics in Serum/Plasma (lyoph.):</b>	
61003	Antibiotics Plasma Calibration Standard, 5 x 1 ml
61028	3PLUS1® Multilevel Plasma Calibrator Set Antibiotics, 4 x 1 ml
0183	Antibiotics Plasma Control, Level I, 5 x 1 ml
0184	Antibiotics Plasma Control, Level II, 5 x 1 ml

