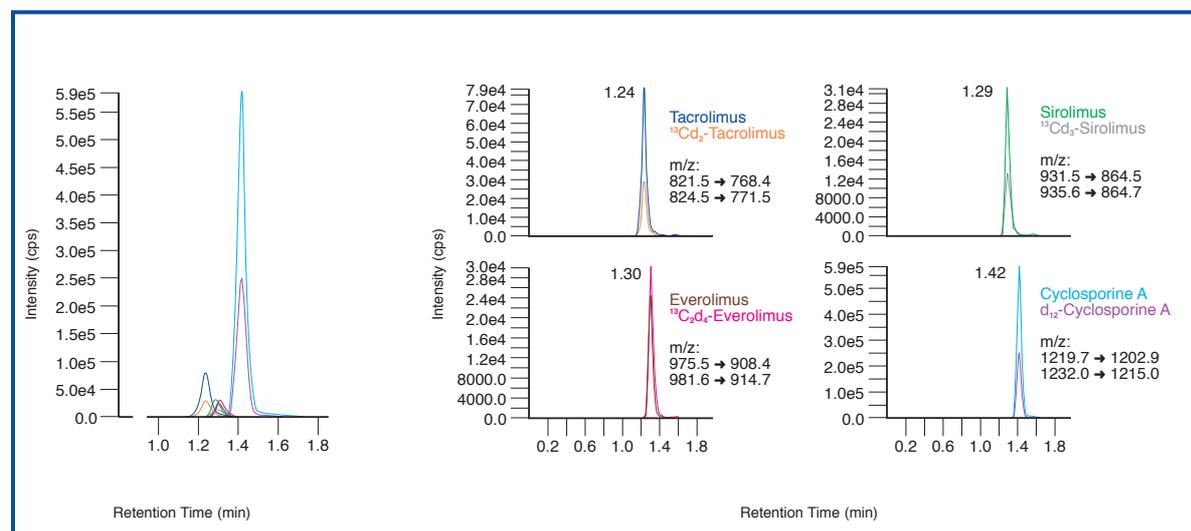


## Therapeutic Drug Monitoring by LC-MS/MS

# ClinMass® Immunosuppressants in Whole Blood, *advanced* – On-Line Analysis

Chromatogram (left) and mass traces (right) of the ClinCal® Whole Blood Calibrator (order no. 9933), level 4



This ClinMass® Complete Kit is an advancement of our reliable complete kit (order no. MS1000) for the therapeutic drug monitoring of cyclosporine A, tacrolimus, sirolimus and everolimus. The sample analysis is performed on-line within a 2 min injection interval. For analysis a new internal standard containing the isotope labelled analytes (d<sub>12</sub>-cyclosporine A, <sup>13</sup>Cd<sub>2</sub>-tacrolimus, <sup>13</sup>Cd<sub>5</sub>-sirolimus and <sup>13</sup>C<sub>2</sub>d<sub>4</sub>-everolimus) is available. A 4-Level and a 7-Level ClinCal® Whole Blood Calibrator Set are provided for precise calibration and measurement. The calibration range may be optionally extended by use of an additional high calibration point. Quality control is performed with ClinChek® Whole Blood Controls in five different levels.

- Fully automated on-line method
- Internal standard with isotope labelled analytes
- Two multi level calibrator sets available
- Calibration range optionally extensible
- Whole blood controls available in five levels

## LC-MS/MS Parameters

### LC-Parameters

Pump 1:	SPE-Buffer (0.1 - 2.5 ml/min)
Pump 2:	Mobile Phase (0.5 - 1.0 ml/min)
Injection volume:	50 µl
Injection interval:	2 min
Switching valve:	Automatic switching valve, 6-port/3-channel
Column heater:	60 °C

### MS-Parameters

Ion-Source:	ESI positive
MS/MS-Mode:	MRM

## Sample pretreatment

### Precipitation:

200 µl Precipitant P	20 µl Internal Standard IS	100 µl whole blood (calibrator, control, patient)
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1. mix and incubate  
(ambient temperature)
  2. mix and centrifuge

### On-Line Analysis:

Inject 50 µl of the supernatant

## Ordering Information

Order No.	Description	Quantity
<b>MS1100</b>	ClinMass® Complete Kit, <i>advanced</i> , for Immunosuppressants in Whole Blood for 400 assays	1 pce.
<b>Contents (order no. MS1100):</b>		
<b>MS1005</b>	Autosampler Washing Solution	1000 ml
<b>MS1009</b>	SPE-Buffer	1000 ml; within the kit: 2 x order no. MS1009
<b>MS1010</b>	Mobile Phase	800 ml
<b>MS1412</b>	IS Internal Standard, lyophil.	3 ml; within the kit: 3 x order no. MS1412
<b>MS1020</b>	Sample Pretreatment Vials	100 pcs.; within the kit: 4 x order no. MS1020
<b>MS1021</b>	P Precipitant Manual	80 ml
<b>Additional Components:</b>		
<b>MS1006</b>	Reagent MP	8 ml
<b>MS1014</b>	Optimisation Mix 1, lyophil.	2 ml
<b>MS1115</b>	Optimisation Mix 2, lyophil.	2 ml
<b>5013</b>	Whole Blood Calibrator, lyophil. (single point)	5 x 2 ml
<b>9028</b>	Whole Blood Calibrator, lyophil. (additional level for order nos. 9033 and 9933)	2 x 2 ml
<b>9033</b>	Whole Blood Calibrator Set, lyophil. (Level 0 - 3)	4 x 1 x 2 ml
<b>9933</b>	Whole Blood Calibrator Set, lyophil. (Level 0 - 6)	7 x 1 x 2 ml
<b>Start Accessories:</b>		
<b>MS1030</b>	Analytical Column with test chromatogram	1 pce.
<b>MS1031</b>	SPE-Column	1 pce.
<b>MS1032</b>	Guard Column Holder incl. 1 Guard Column	1 pce.
<b>MS1033</b>	Guard Column	5 pcs.
<b>FK7400</b>	Inline-Filter (stainless steel sieve, free of dead volume)	1 pce.
<b>Accessories:</b>		
<b>FK1102</b>	Switching valve Sykam (6-port/3-channel incl. electr. drive, PEEK)	1 pce.
<b>FK7330</b>	Endfittings	2 pcs.
<b>FK7340</b>	Sealings and sieves	4 pcs. each
<b>FK7350</b>	Endstoppers	2 pcs.
<b>ClinChek® Controls:</b>		
<b>8830</b>	Whole Blood Control, lyophil., Level I	5 x 2 ml
<b>8831</b>	Whole Blood Control, lyophil., Level II	5 x 2 ml
<b>8832</b>	Whole Blood Control, lyophil., Level III	5 x 2 ml
<b>8833</b>	Whole Blood Control, lyophil., Level I, II, III	3 x 2 x 2 ml
<b>8903</b>	Whole Blood Control, lyophil., Level IV, V	2 x 2 x 2 ml

## RECIPE

CHEMICALS + INSTRUMENTS GmbH  
Dessauerstraße 3 · D-80992 Munich/Germany  
Tel.: +49 / 89 / 54 70 81 - 0 · Fax: - 11  
Internet: www.recipe.de · e-mail: info@recipe.de

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ISO 13485