

Assay Notes

Cascadion SM Immunosuppressants Panel

The Thermo Scientific™ Cascadion™ SM Clinical Analyzer is an easy-to-use, fully automated analyzer designed to run Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS) testing in the clinical laboratory with minimal hands-on requirements. The Cascadion™ SM Immunosuppressants Panel offers easy, reliable testing for immunosuppressant drugs.

The Cascadion SM Immunosuppressants Panel allows cost-efficient simultaneous testing of one or more of the drugs Cyclosporin A, Tacrolimus, Everolimus, and Sirolimus from one sample aspiration. Complete assay kits provide results that are comparable across multiple Cascadion SM Clinical Analyzers, and offer minimal lot-to-lot variation.

The Immunosuppressants Panel offers established gold standard LC-MS/MS technology to the routine clinical lab

	Cyclosporin A	Tacrolimus	Everolimus	Sirolimus
Analytical measuring range	8.5 – 920 ng/ml	0.85 – 34.5 ng/ml	0.85 – 34.5 ng/ml	0.85 – 34.5 ng/ml
Between-day precision (CV)	1.4 - 2.8 %	1.4 - 2.1 %	0.0 -2.4 %	1.0 - 1.2 %
Method comparison*	1.02x -1.55 ng/ml R=0.99 n=102	1.10x -0.24 ng/ml R=0.98 n=107	0.98x +0.17 ng/ml R=0.98 n=106	1.38x -0.17 ng/ml R=0.91 n=107



*Human whole blood patient samples, ranging from approximately 1.0 ng/mL to 30 ng/mL for tacrolimus, sirolimus and everolimus; and from 12.1 ng/mL to 885.0 ng/mL for cyclosporin A, were tested with the Cascadion SM Immunosuppressants Panel on the Cascadion SM Clinical Analyzer and the results compared to results from the same samples tested on an LC-MS/MS analyzer using a different method and reagents. Note that there is no standard reference for ISD testing.

LC-MS/MS is the recognized reference technology for clinical chemistry. It offers superior specificity without interference from drug metabolites and other intrinsic substances such as Biotin and Rheumatoid Factors.

The Cascadion SM Clinical Analyzer provides traceability from the whole-blood primary sample tube to automated result reporting. Because no pre-analytical steps are necessary, the potential for human error is minimized. The analyzer supports LIS connectivity so that all results are automatically reported directly to the patient file. This provides physicians with timely, accurate results to assist in patient care.

Benefits

- No pretreatment required
- Automated sampling from primary collection tubes
- All assay materials provided ready to use by Thermo Fisher Scientific
- No interference from metabolites

The assay maximizes accuracy by measuring only the drugs ordered for the sample and by excluding inactive metabolites.



Ordering information

Product	Size	Cat. No.
Cascadion SM Immunosuppressants Panel		
Cascadion SM Immunosuppressants Internal Standard	8 x 29 mL	10018777
Cascadion SM Immunosuppressants Panel Calibrator Set	6 x 5 mL	10018772
Cascadion SM Immunosuppressants Panel Control 1	6 x 5 mL	10018773
Cascadion SM Immunosuppressants Panel Control 2	6 x 5 mL	10018774
Cascadion SM Immunosuppressants Panel Control 3	6 x 5 mL	10018775
Cascadion SM Quick Connect Cartridge H	2 pcs/box	992200

Thermo Fisher Scientific Oy:

Ratastie 2, FI-01620 Vantaa, FINLAND
Tel. +358 10 329 200

Find out more at thermofisher.com/cascadion

Non-interfering compounds

Compound	Concentration
Bilirubin & Bilirubin Conjugated	0.60 mg/mL
Biotin	3.5 µg/mL
Cholesterol	5 mg/mL
Creatinine	150 µg/mL
Hematocrit	15% - 60%
Human Albumin	100 mg/mL
Erythromycin	138 µg/mL
Fluconazole	25.5 µg/mL
Lidocaine	15 µg/mL
Prednisolone	1.2 µg/mL
Prednisone	99 ng/mL
Human anti-mouse antibodies	Normal Human Level
Human Gamma-Globulin	93.5 mg/mL
Rheumatoid Factor	1350 IU/mL
Triglycerides	15 mg/mL
Uric Acid	235 µg/mL
Vitamin B12	1.0 ng/mL
Rifampin	48 µg/mL
Sulfasalazine	75 µg/mL
Tobramycin	33 µg/mL
Leflunomide	126 µg/mL
Mycophenolic acid	42 µg/mL

Tested substances showing a <10% bias were designated as non-interfering.

