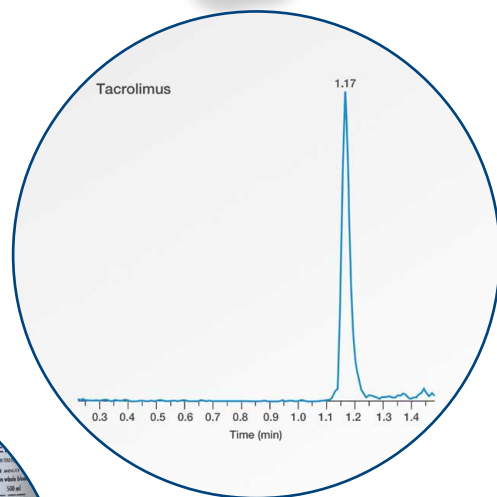
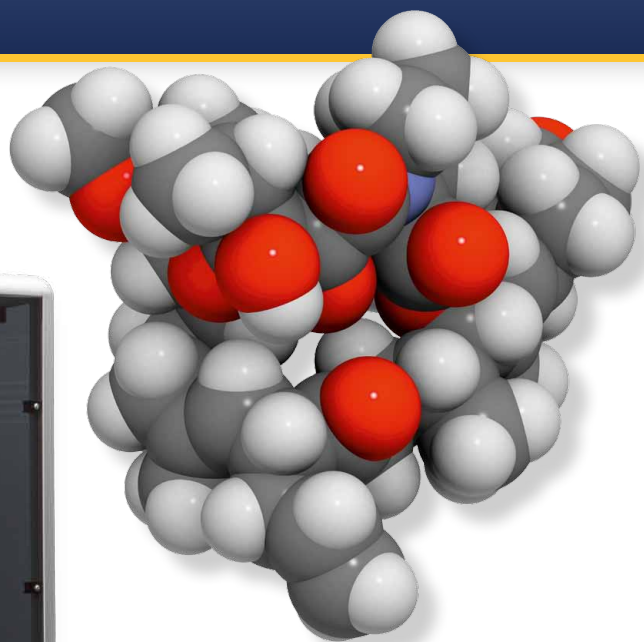


MassSTAR

Your workhorse for sample preparation



CHROMSYSTEMS®

HAMILTON 

Advance your Workflow!

CE-IVD certified automation solution

- ▶ CE-IVD certified workflow including validated protocols for immunosuppressant and vitamin D testing plus dedicated liquid handling system
- ▶ Comprehensively validated and proven **MassTox**[®] Immunosuppressants and **MassChrom**[®] 25-OH-Vitamin D3/D2 kits
- ▶ Full automation of whole sample preparation including precipitation and filtration
- ▶ Capacity of up to 288 samples including controls

Ease of use

- ▶ Optimized automated processing of all samples
- ▶ Clear installation process containing IQ, OQ, PQ and support
- ▶ GUI and loading dialogues to support the user
- ▶ Automatically generated input file for all common LC-MS/MS systems

Full audit trail

- ▶ Tracking of operator
- ▶ Reading of barcodes on sample tubes and plates using Autoload
- ▶ Clot detection by using Total Aspiration & Dispense Monitoring (TADM)
- ▶ Monitoring and tracking plate transfer steps



Immunosuppressants Testing

Immunosuppressants suppress the activity of the immune system and prevent rejection following transplantation. Therapeutic drug monitoring of these drugs is indispensable due to the narrow therapeutic window. The most common immunosuppressants are Cyclosporin A, Tacrolimus, Sirolimus and Everolimus.

Hamilton and Chromsystems have developed MassSTAR that automates the sample preparation of the Chromsystems' **MassTox**[®] Immunosuppressant kit to analyse them by LC-MS/MS. MassSTAR offers a complete CE-IVD validated workflow solution with maximum walk away time.

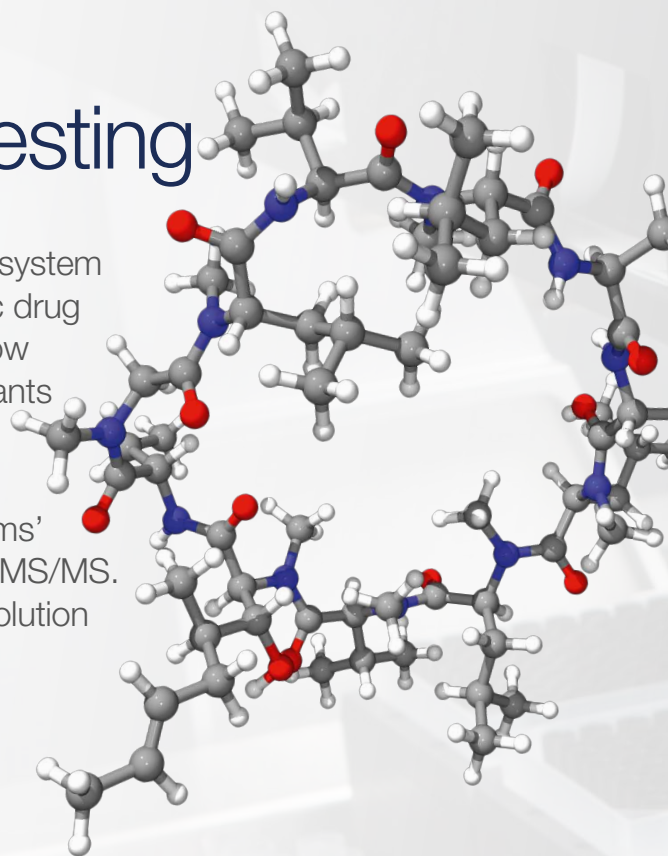
► Maximum number of samples

288 samples per run (incl. 7 calibrators and 12 controls)

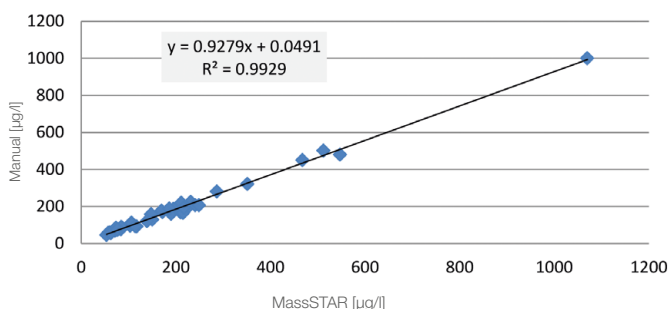
► Run time

96 samples (incl. 7 calibrators and 4 controls): ~1h 30min

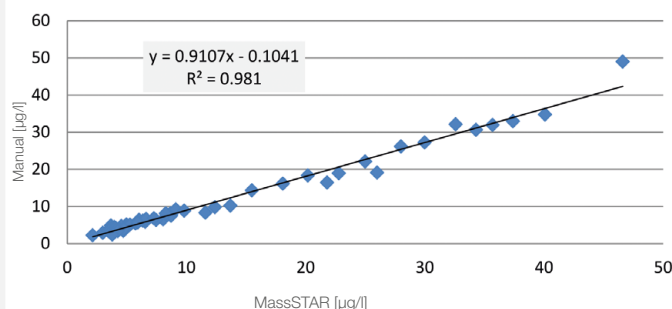
288 samples (incl. 7 calibrators and 12 controls): ~4h 30min



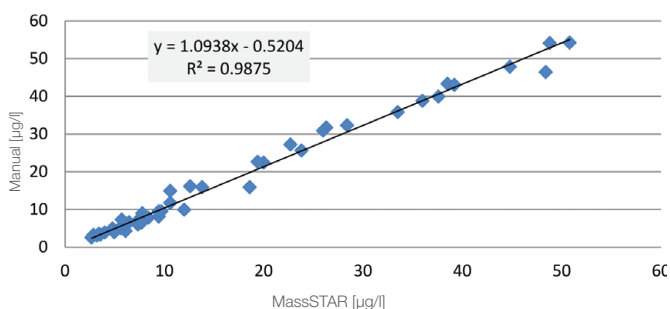
Cyclosporin A (N=47)



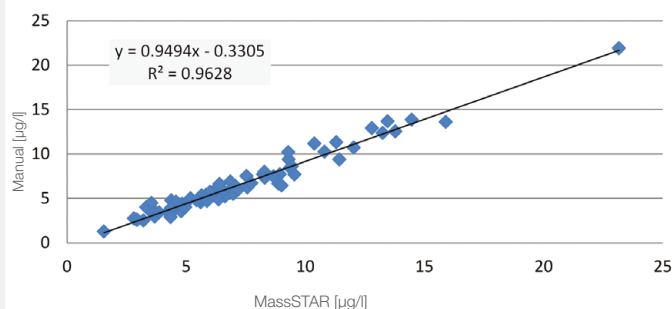
Everolimus (N=56)



Sirolimus (N=50)



Tacrolimus (N=76)



Vitamin D Testing

Vitamin D plays an important role for a number of diseases, such as osteoporosis, osteopenia, and is discussed for cardio-vascular disease and certain types of cancer.

The growing importance of a sufficient Vitamin D supply is therefore leading to an increasing number of samples in the diagnostic laboratory.

Hamilton in cooperation with Chromsystems have developed a comprehensively validated and fully automated workflow solution for the sample preparation for mass spectrometry, enabling laboratories to cope with increased Vitamin D volumes.

The solution consists of Chromsystems' **MassChrom**[®] 25-OH-Vitamin D3/D2 kits together with MassSTAR, which represents a complete CE-IVD validated solution with maximum walk away time.

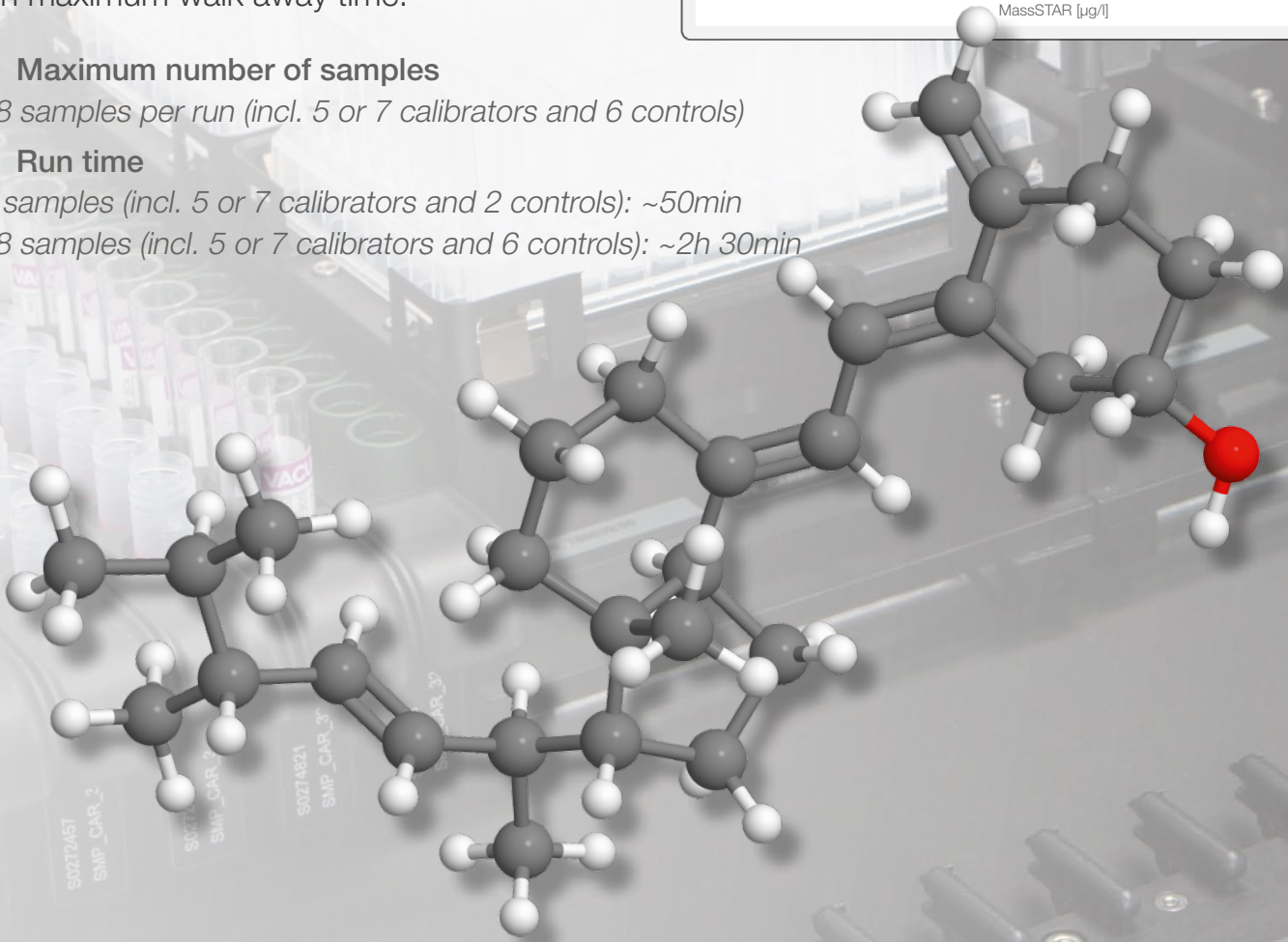
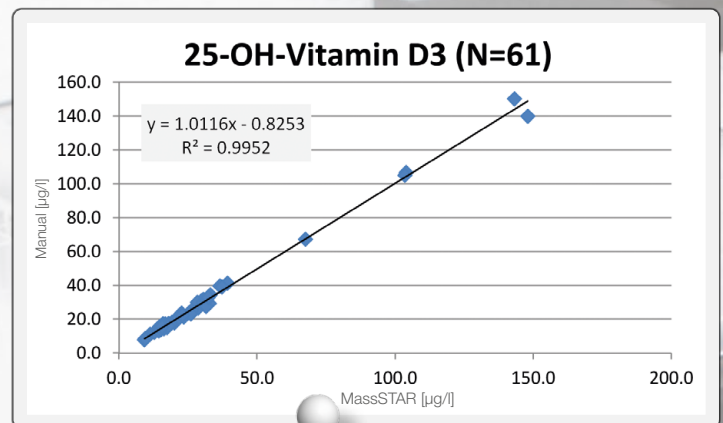
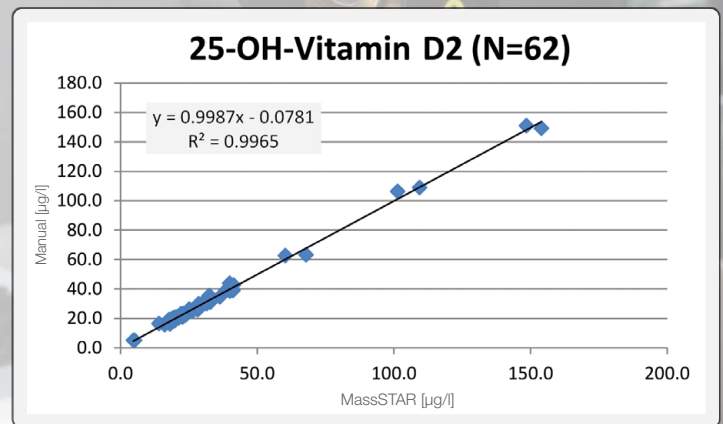
► Maximum number of samples

288 samples per run (incl. 5 or 7 calibrators and 6 controls)

► Run time

96 samples (incl. 5 or 7 calibrators and 2 controls): ~50min

288 samples (incl. 5 or 7 calibrators and 6 controls): ~2h 30min



INSTRUMENTS SPECIFICATIONS

SYSTEM

Intended use	Sample preparation for mass spectrometry based diagnostic assays
System description	STARlet IVD Autoload iSWAP arm 4 1ml channels centrifuge integration at the right
System dimensions	1390.7mm x 904.7mm x 787.7mm (1007.7mm with Autoload)
Weight Ca.	170kg
PC (included)	Intel Core 2 Duo E8400 (3GHz,1333MHz,6MB), 2048 MB RAM, 2x250GB hard disk RAID 1, Microsoft Windows 7, 6 USB and 2 RS232 circuit points; or better
Communication	Pipetting Unit: USB
Data transfer	Peer-to-Peer connection
Nominal Voltage	115VAC/230VAC ($\pm 10\%$ of the nominal voltage)
Frequency	50Hz/60Hz $\pm 5\%$
Operating environment	15 - 30°C, indoor use only
Altitude	up to 2000m above sea level

(detailed pipetting specifications can be found in STAR Line brochure)

UPGRADE PACKAGES

MassSTAR can be used with the CE-IVD methods and specific carriers as needed. The system is extendable with additional method upgrade packages and Chromsystems reagent kits.

CE-IVD Methods Upgrade packages

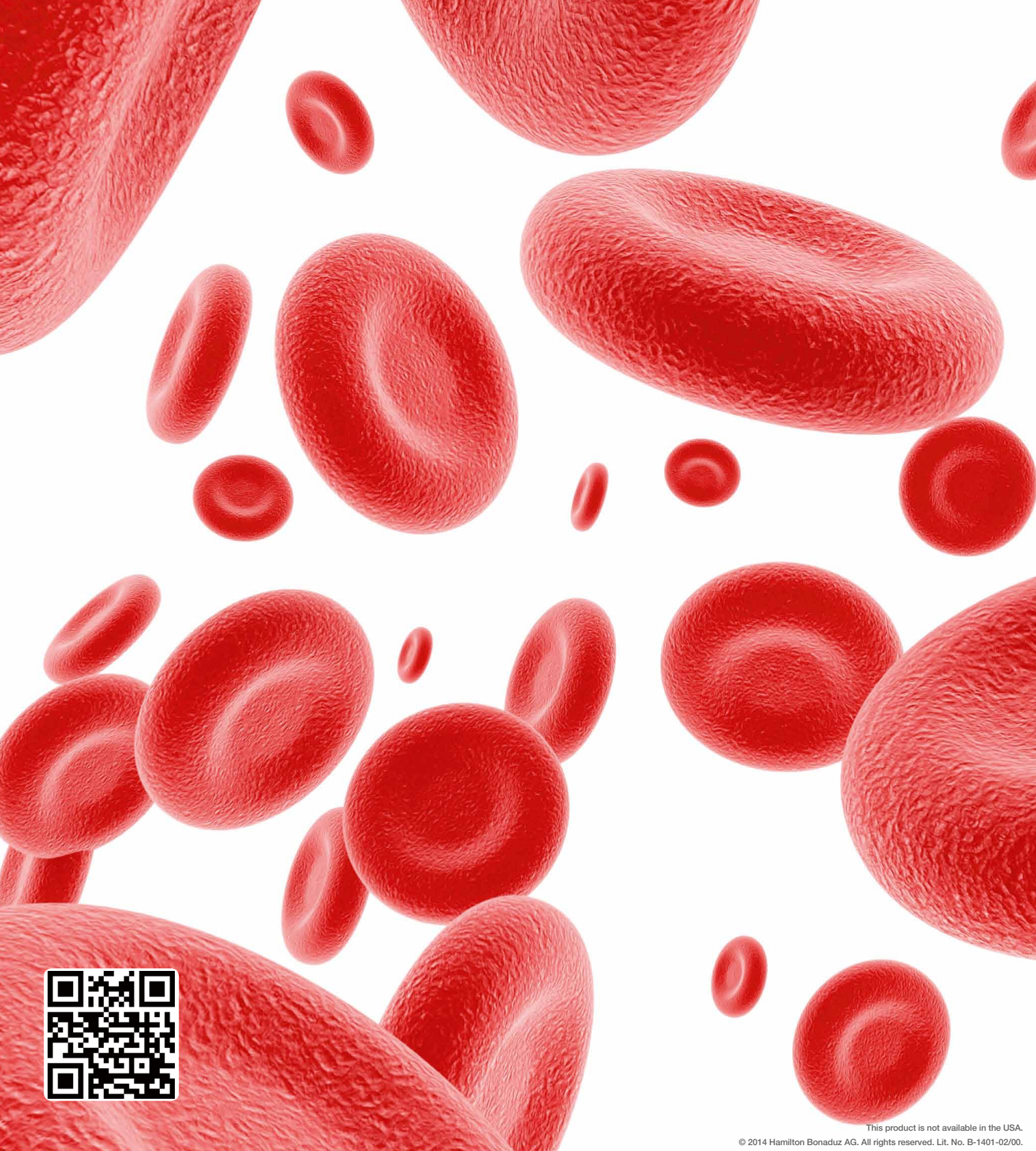
Chromsystems MassTox [®] Immunosuppressant CE-IVD	PN 806173
Chromsystems MassChrom [®] 25-OH-Vitamin D3/D2 CE-IVD	PN 806174

Chromsystems reagent kits

MassTox [®] Immunosuppressants	PN 93900/1200/F
MassChrom [®] 25-OH-Vitamin D3/D2	PN 62000/1000/F

BIOTECH VERSION

In addition to the IVD version, a biotech version is available for general laboratory use. It combines the flexibility of the standard STARline system with the validated hardware of MassSTAR including the centrifuge integration at an attractive price. VENUS THREE software allows easy and flexible method programming to adapt and customize the system with a variety of protocols and exactly to your needs.



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