

# Detect **Viruses** at less than 10 I.U./ml – **Impossible?**

## Try starting from **Large Volumes!**

Automated nucleic acid isolation using the **chemagic Magnetic Separation Module I** and the magnetic particle based **chematic Kits** provide an unique platform of sample preparation for downstream testing. This automation allows direct handling of 10 ml plasma or serum samples without any intermediary centrifugation or alternative concentration step. DNA- and RNA-based viruses are prepared simultaneously using only one kit.



10 ml  
Sample

- > Automated
- > No centrifugation
- > Highly sensitive
- > Fast; 120 preps (10 ml) in 8 h
- > Reliably reproducible
- > Robust
- > Simultaneous extraction of viral DNA and RNA



100 µl  
Eluate

Automated Extraction

### Evaluation Studies using 9.6 ml plasma pools

WHO international standards for HAV, HBV and Parvo B19 were serially diluted with human EDTA plasma. The automated handling of the resulting pools employed the **chemagic Viral10k Kit special** in combination with the **chemagic Magnetic Separation Module I**.

A probit analysis of the results revealed the minimal virus concentrations detectable with 95 % probability (see table).

|                              | I.U. / ml Pool |
|------------------------------|----------------|
| <b>HAV<sup>1</sup></b>       | <b>2.7</b>     |
| <b>HBV<sup>2</sup></b>       | <b>6.7</b>     |
| <b>Parvo B19<sup>1</sup></b> | <b>9.1</b>     |

<sup>1</sup> Data kindly provided by **DRK-Blutspendedienst West gGmbH, Zentrallabor Hagen**. Eight replicates were tested for 3 dilution series using 6 dilutions to give a total of 24 test results for each dilution. **HAV** Reference Material: 1st WHO NIBSC 00/560; Detection: *RealArt™* HAV LC RT PCR Kit (artus GmbH, Hamburg); LightCycler II Instrument (Roche Diagnostics, Penzberg)

**Parvo B19** Reference Material: 1st WHO NIBSC 99/800; Detection: *RealArt™* ParvoB19 LC PCR Kit (artus GmbH, Hamburg); LightCycler II Instrument (Roche Diagnostics, Penzberg)

<sup>2</sup> Data kindly provided by **artus GmbH, Hamburg**. Eight replicates were tested using 6 dilutions. **HBV** Reference Material: 1st WHO NIBSC 97/746; Detection: *RealArt™* HBV TM PCR Kit (artus GmbH, Hamburg); ABI PRISM 7700 SDS (Applied Biosystems)

# chemagic Magnetic Separation Module I

## Automated DNA - Separation

based on proprietary M-PVA Magnetic Bead technology

Your complete solution for DNA /RNA-preps from blood, tissue, bacteria, food, plants ...

- > PCR-product purification > genotyping
- > virus detection > GMO-testing > etc.



### 96 Rod Head



sample volume

10 to 400 µl



up to 10 ml

formats

96 deep well plate  
(e.g. 2 ml)



e.g. Falcon® tubes

disposable tips

**only one specific disposable tip  
per sample per complete separation**

processing time

19 min. for 96 samples  
100 µl whole blood



40 min. for 12 samples  
10 ml whole blood

throughput

up to 4.000 samples/day



up to 150 samples/day



96 Rod Head



12 Rod Head

Any further questions?

**chemagen technical support**

Fon +49(0)2401 - 80 55 01

Mail [support@chemagen.com](mailto:support@chemagen.com)