NAxtra™ nucleic acid extraction kit

CE IVD certified for extraction of viral RNA

Lybe SCIENTIFIC

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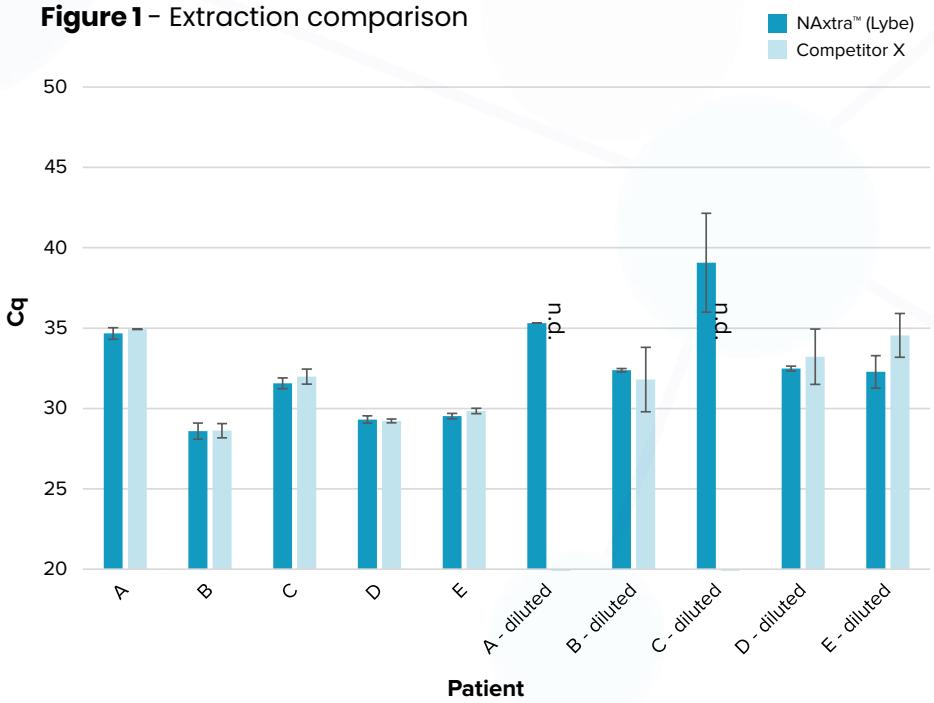
The NAxtra™ nucleic acid extraction kit is a magnetic bead-based technology intended for viral RNA extraction from human respiratory nasopharyngeal and/ or oropharyngeal swab samples. The NAxtra™ nucleic acid extraction kit and corresponding protocols have been implemented on several automation platforms including King Fisher™ Flex, King Fisher™ Duo, TECAN Fluent® 1080, Hamilton Microlab STAR and BIOMEK i7. The kit has been validated for SARS-CoV-2 specific diagnostic workflows with an excellent diagnotsic sensitivity and a limit of detection between 1-3 copies.

The kit should be used for isolation and purification of viral RNA preparing clinical samples for downstream qualitative diagnostics and analysis like for example PCR. The kit is intended for use by qualified and trained clinical laboratory personnel specifically instructed and trained in magnetic bead based nucleic acid purification and in vitro diagnostic procedures. The kit may be combined with sample collection devices and downstream assays of your choice*.

Excellent diagnostic sensitivity – Competitor comparison

Viral RNA from 5 SARS-CoV-2 positive samples (triplicates) was extracted with the NAxtra™ nucleic acid extraction kit and a kit from Competitor X using King Fisher™ Flex in standard protocols of 22 minute (Competitor X) and 15 minute (Lybe Scientific) respectively. Viral RNA was quantified by qRT-PCR with SARS-CoV-2 specific primers and PerfeCTa® qPCR ToughMix® (QuantaBio). The NAxtra™ nucleic acid extraction kit performed equally well (5/5) in the undiluted samples and better (4/5) in the samples diluted 1:8 when compared to Competitor X. For two of the diluted samples extracted with Competitor X the Cq could not be determined (n.d.). These findings demonstrate excellent diagnostic sensitivity, especially in low-titer samples (Figure 1).

Figure 1 - Extraction comparison



Manual and automated extractions
Protocol options for both manual and automated extractions.

Fast extraction
Fast extraction of nucleic acid using automated liquid handing robots (<15 min).

Proteinase K not needed
No need for proteinase K.

Carrier RNA not needed
No need for carrier RNA.

Sample volume
Sample volume of 100-200 µl.

Elution volume
Elution volume of 50-100 µl.

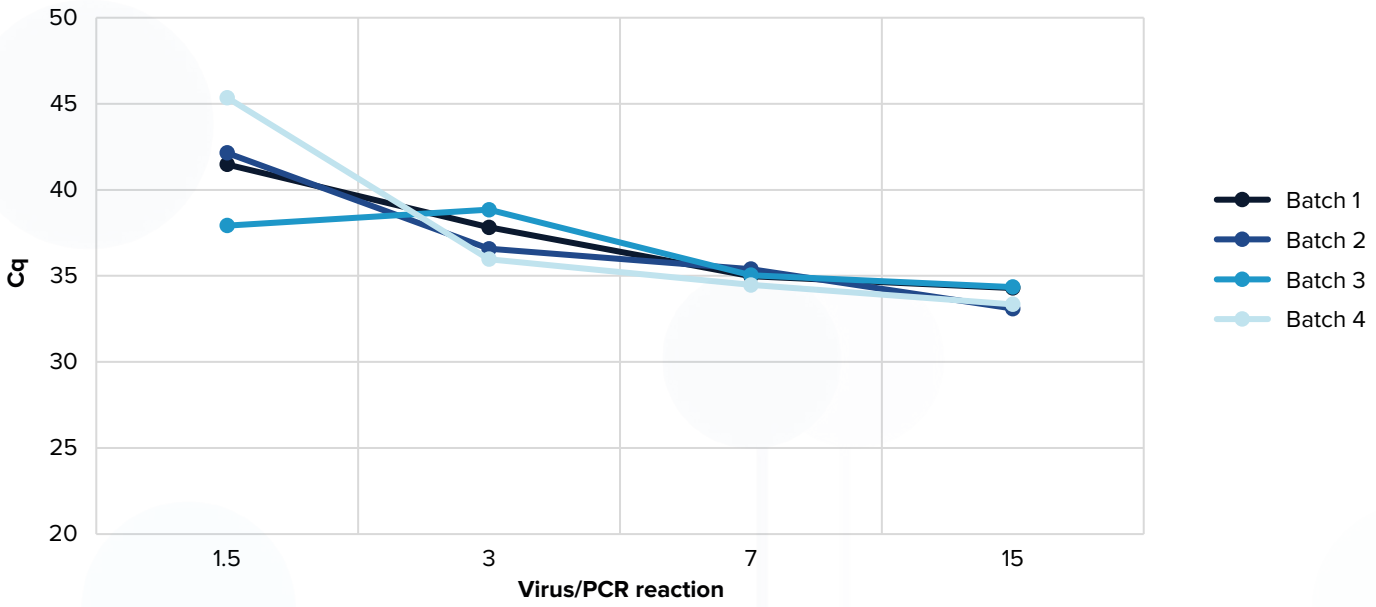
Attractive price
Highly attractive pricing.

* It is the sole responsibility of the user to validate the performance in combination with a particular downstream assay and / or automation device.

Limit of detection – Vircell and Qnostics

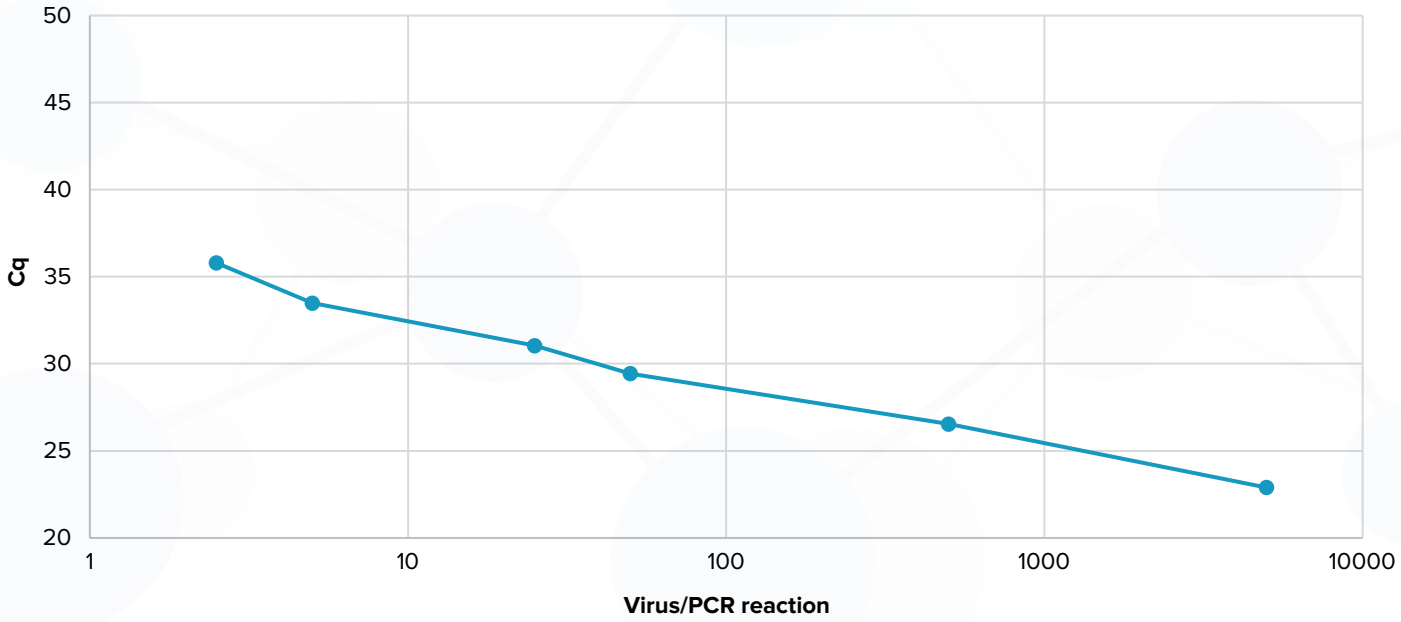
A dilution series of SARS-CoV-2 RNA controls (AMPLIRUN ® SARS-CoV-2 RNA CONTROL, vircell micro-biologists) were extracted using four different batches of the NAxtra™ nucleic acid extraction kit. The extraction was done using a 15 min protocol on a King Fisher™ Flex automation system. Viral RNA was quantified by qRT-PCR with SARS-CoV-2 specific primers and PerfeCTa® qPCR ToughMix® (QuantaBio). Viral RNA was detected in a linear and consistent manner down to 2-3 RNA copies (Figure 2).

Figure 2 - Vircell



Similarly, quantitative analysis of viral RNA extraction using NAxtra™ nucleic acid extraction kit on commercial SARS CoV-2 Molecular Q Panel (Qnostics) showed reliable detection down to 2-3 RNA copies (Figure 3).

Figure 3 - Qnostics



To summarize, NAxtra™ nucleic acid extraction kit demonstrate reliable extraction of viral RNA in a linear and consistent manner down to 2-3 copies of RNA in this experimental setup.

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