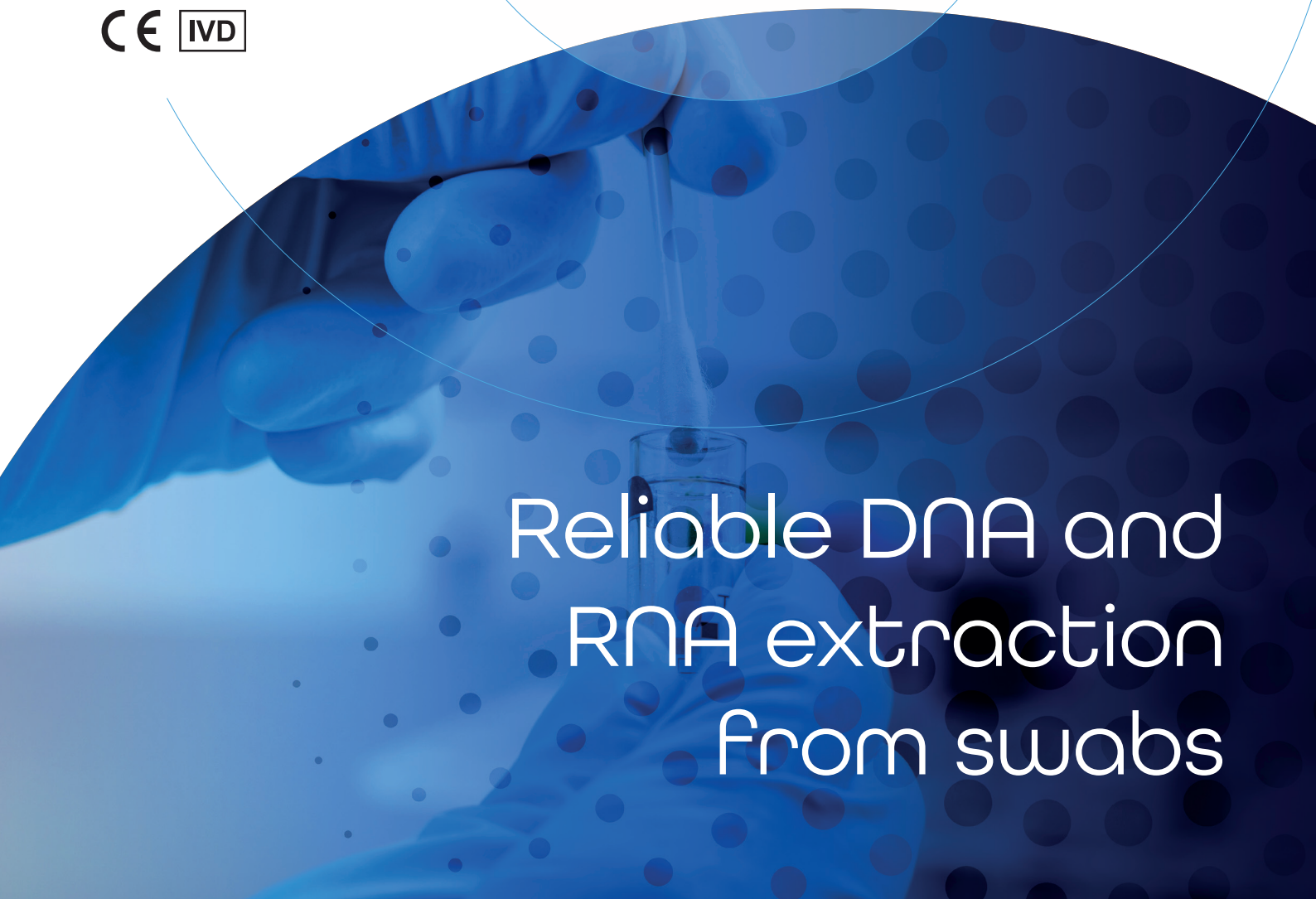
Clean NA

Clean Quick Viral DNA/RNA

For In Vitro Diagnostic Use

CE IVD



Reliable DNA and RNA extraction from swabs

Our solution for the start of your respiratory virus workflow

If we learned one thing from the COVID-19 pandemic, it is the fact that the world requires quick and dependable methods for identifying pathogens. Timely detection of emerging pathogens allows for the implementation of suitable preventive measures. Moreover, in the case of an infected patient, prompt identification of the pathogen is crucial to deliver the correct treatment.

Our Clean Quick Viral DNA/RNA is the solution for extraction of viral DNA and RNA from nasopharyngeal or oropharyngeal swab samples. The reagent is compatible with swabs preserved in an inactivating viral transport medium. With its CE-IVD marking and efficient protocol, the Clean Quick Viral DNA/RNA serves as an ideal starting point for virus identification workflows.

Benefits:

- **Easy automation**
- **For use in diagnostic procedures (CE-IVD)**
- **Fast and efficient**
- **Fit for downstream (q)PCR**

Application

The Clean Quick Viral DNA/RNA can be used for the extraction of respiratory DNA and/or RNA viruses from nasopharyngeal or oropharyngeal swab samples. Examples of viruses are Adeno virus, RSV, Influenza A and SARS-CoV-2. Extracted viral DNA and/or RNA is suitable to be used directly in downstream detection methods based on (q)PCR, the method of choice for most diagnostic laboratories.

Proof of principle

To show that the Clean Quick Viral DNA/RNA can be used for both viral DNA and RNA extraction, a dilution series of 4 different viruses was made and spiked in negative swab samples in inactivating viral transport medium (Inactive Blue®). Extractions were performed on 200 µl input sample with both the Clean Quick Viral DNA/RNA on the CleanXtract 96 (CleanNA) and an equivalent kit and instrument from company C. After extraction of the nucleic acids, a qPCR was carried out.

Workflow

The extraction process begins by adding the swab sample in viral transport medium to Clean Quick Viral DNA/RNA. Magnetic particles present in the reagent bind DNA and RNA, and a magnetic separation device separates the complex from the solution. Following three ethanol washes to remove contaminants, purified DNA and/or RNA is eluted from the magnetic particles using nuclease-free water or a low ionic strength buffer.

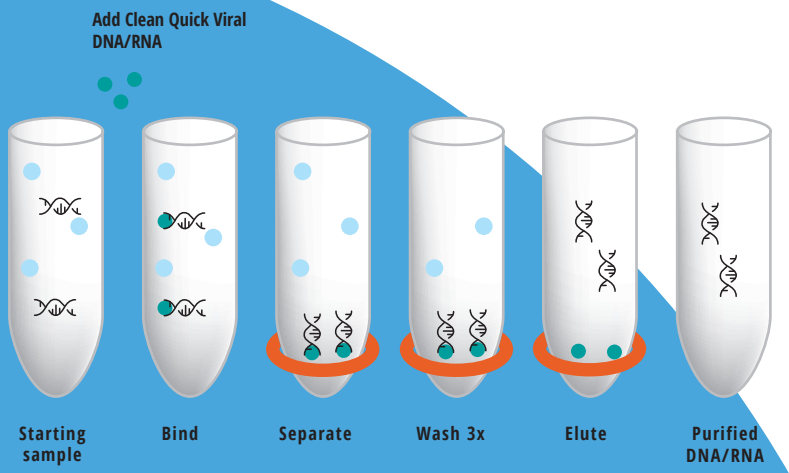


Figure 1 displays the qPCR results of DNA extracted from swabs spiked with Adeno virus, which is a DNA virus. In Figure 2,3, 4 the qPCR results of the RNA extracted from swabs spiked with RNA viruses, respectively Influenza A, RSV, and two different gene targets of SARS-CoV-2, are shown. The qPCR results of the Clean Quick Viral DNA/RNA extracted samples are comparable to the samples extracted with Company C' setup.

FIGURE 1. qPCR results of Adenovirus DNA extracted with the Clean Quick Viral DNA/RNA on the CleanXtract 96 and the extraction method of Company C.

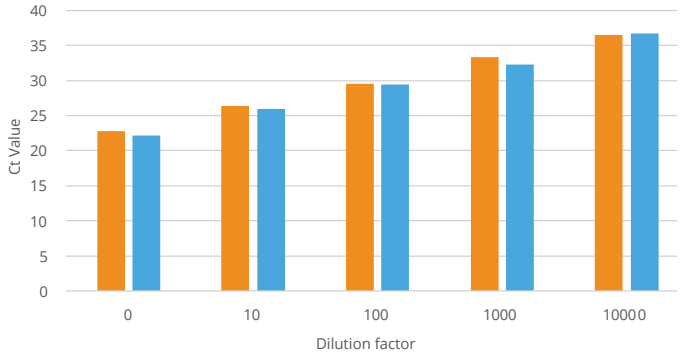


FIGURE 2. qPCR results of Influenza A RNA extracted with the Clean Quick Viral DNA/RNA on the CleanXtract 96 and the extraction method of Company C.

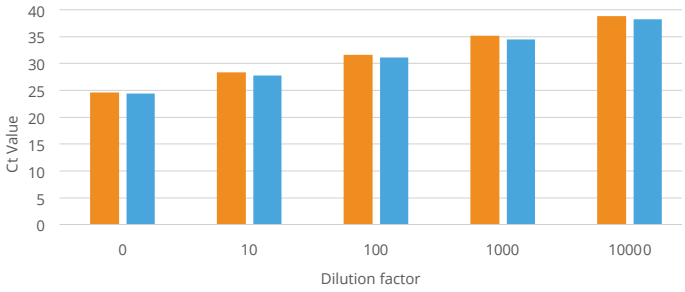


FIGURE 3. qPCR results of RSV RNA extracted with the Clean Quick Viral DNA/RNA on the CleanXtract 96 and the extraction method of Company C.

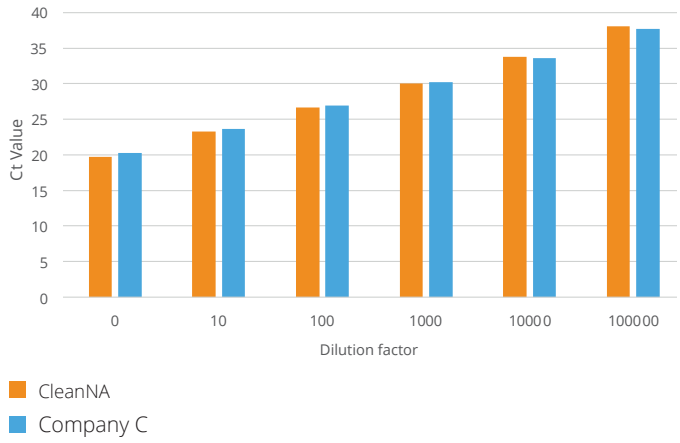
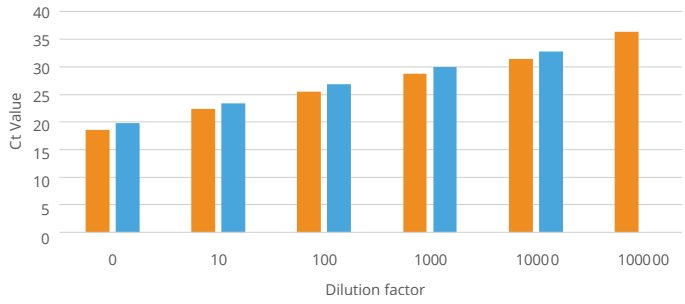
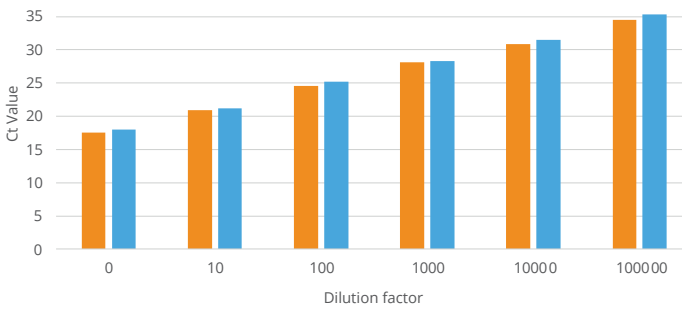


FIGURE 4 A & B. qPCR results of SARS-CoV-2 RNA (N-gene and ORF1ab) extracted with the Clean Quick Viral DNA/RNA on the CleanXtract 96 and the extraction method of Company C.

A: N-gene



B: ORF1ab



In another experiment, one of our customers extracted nucleic acids from clinical swab samples of patients that were suspected to be positive on SARS-CoV-2. Two 96-well plates were prepared with the same clinical samples. One plate was used as input for NA extraction with the Clean Quick Viral DNA/RNA and the other one with the established method in the lab, the Clean Viral RNA Swab Kit. Both extractions were performed on the CleanXtract 96.

A qPCR targeting the E-gene of SARS-CoV-2 was performed on the extracted samples and the results of both 96-well plates were compared, see Figure 5. With both extraction methods, the same samples are found to be positive.

FIGURE 5. qPCR results of two 96-well plates that show correlation between the extraction with Clean Viral RNA Swab Kit and Clean Quick Viral DNA/RNA (CE-IVD). PCR target was the E-gene of SARS-CoV-2.

	A		B		C		D		E		F		G		H	
	CVRS	CQV	CVRS	CQV	CVRS	CQV	CVRS	CQV	CVRS	CQV	CVRS	CQV	CVRS	CQV	CVRS	CQV
1	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
2	NEG	NEG	POS	POS	NEG	NEG	NEG	NEG	POS	POS	NEG	NEG	NEG	NEG	NEG	NEG
3	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
4	NEG	NEG	NEG	NEG	POS	POS	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
5	NEG	NEG	NEG	NEG	POS	POS	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
6	POS	POS	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
7	NEG	NEG	POS	POS	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
8	POS	POS	NEG	NEG	NEG	NEG	POS	POS	NEG	NEG	NEG	NEG	POS	POS	NEG	NEG
9	NEG	NEG	NEG	NEG	POS	POS	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG
10	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	POS	POS	NEG	NEG
11	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	POS	POS
12	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	POS	POS	NEG	NEG

CVRS= Clean Viral RNA Swab Kit CQV= Clean Quick Viral DNA/RNA (CE-IVD)

About CleanNA

CleanNA is a Dutch manufacturer of magnetic bead-based nucleic acid extraction kits. We produce our reagents according to our EN-ISO 13485 certified quality management system and our kits are easy to automate on general liquid handling systems. CleanNA's product portfolio includes kits for extraction from a range of sample types, both for research and diagnostic procedures.

ISO 13485 BUREAU VERITAS Certification

Our quality management system is certified to EN-ISO 13485 by Bureau Veritas

Contact

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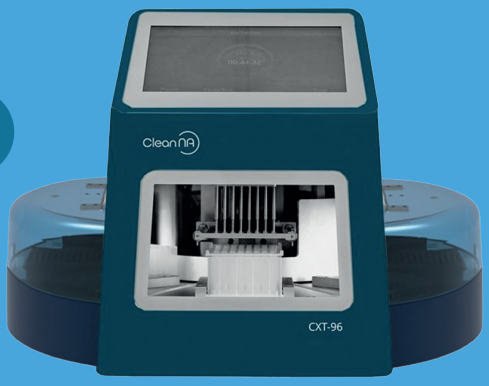
Ready to order?

Order via your local distributor or contact us via our details below.

Order info

Product	Volume	Preps	Part Number
Clean Quick Viral DNA/RNA	50 mL	138	CQV-DR0050
Clean Quick Viral DNA/RNA	500 mL	1388	CQV-DR0500



Automation of the Clean Quick Viral DNA/RNA procedure is possible on our CleanXtract 96 nucleic acid extraction instrument. Scan the QR code for more information.

The Clean Quick Viral DNA/RNA is distributed by: