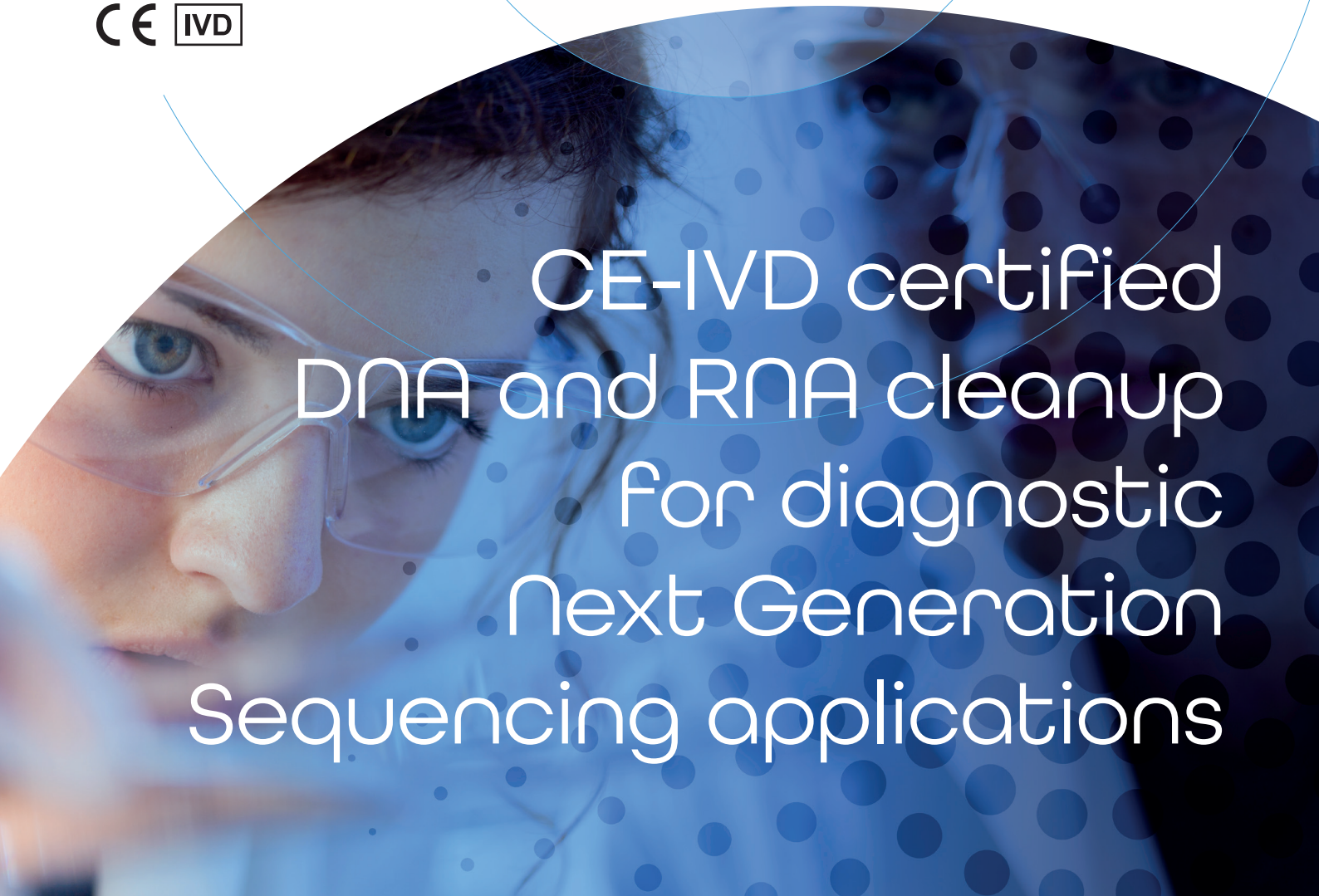




CleanNGS Dx

For In Vitro Diagnostic Use

CE 

A circular inset image showing a close-up of a scientist's face wearing safety goggles, looking intently at a task. The background of the entire page is a light blue with a pattern of darker blue dots of varying sizes.

CE-IVD certified
DNA and RNA cleanup
for diagnostic
Next Generation
Sequencing applications

Diagnostic Precision to your NGS Libraries






Next Generation Sequencing (NGS) has revolutionized molecular diagnostics with its capacity of massive parallel sequencing of DNA or RNA fragments to detect clinically important genomic variants and mutations. A critical step in generating high-quality NGS data is the preparation of pure DNA or RNA of specific lengths. To support this, we offer CleanNGS Dx for library cleanup and size selection, ensuring the highest levels of precision and consistency in your diagnostic workflows.

Our special buffer formula ensures optimal size selection for NGS libraries, and the high-quality magnetic beads allow faster separations and better RNA/DNA recovery. CleanNGS Dx is produced RNase free, which makes it an ideal solution for all downstream RNA or DNA NGS experiments.

Application

CleanNGS Dx is suited for cleanup in between NGS library preparation steps, or post library preparation for size selection, in diagnostic workflows.

Benefits:

-  Easy automation
-  DNA and RNA
-  Suitable for PCR/NGS
-  Fast and efficient
-  For use in diagnostic workflow

Proof of principle

Figure 1 shows overview of CleanNGS Dx size selection capabilities by alteration of the CleanNGS Dx volume versus sample volume ratio.

Sheared human genomic gDNA was used as input and two different double-size selections (1,00/0,70 and 0,85/0,56) were performed to compare CleanNGS Dx, Competitor A and Competitor S, showing in figure 2. The results show CleanNGS Dx performs identical to Competitor A as well as Competitor S. CleanNGS Dx provides consistent size selection results and efficiently excludes fragments above and below the target cutoff regions.

Analysis for figure 1 and 2 has been conducted using the Agilent Fragment Analyzer 5200 and HS NGS Fragment Kit.

FIGURE 1. Average DNA fragment size after double-size selection using various CleanNGS Dx ratios.

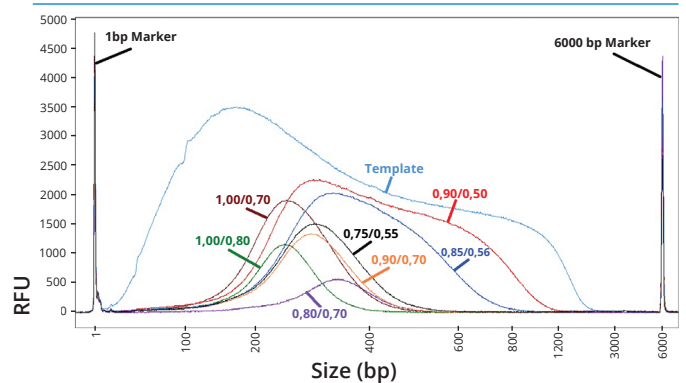
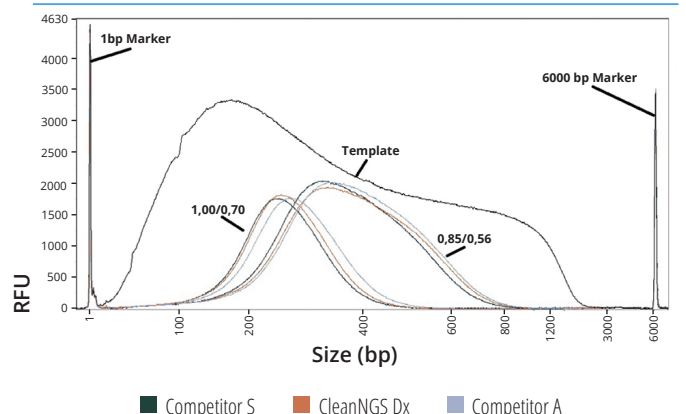
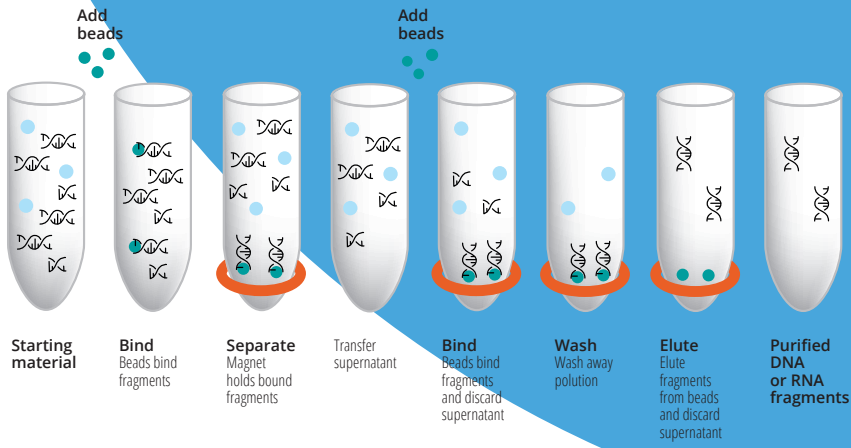


FIGURE 2. Average DNA fragment size after double-size selection.



Workflow



For double-size selection, we first add CleanNGS Dx reagent with magnetic beads in a certain volume ratio. Separate the large DNA or RNA fragments from the solution with a magnetic plate and add more CleanNGS Dx reagent to the supernatant to clean up the small DNA fragments and inhibitors. After two washing steps, the purified DNA or RNA is eluted.

CleanNGS Dx and two other commercially available kits (I and A) were used for purification and double-size selection in a Nextera DNA Flex Library Prep. The generated DNA libraries were sequenced using an Illumina MiSeq instrument and the quality scores of the Read 1 and Read 2 traces were determined. Figure 3 shows equal performance for CleanNGS Dx versus the competitor products.

50 µL of sheared genomic DNA was purified using a 1,8x ratio of CleanNGS Dx and compared to competitor A. After purification the recovery was determined versus the unpurified sample material. Figure 4 shows CleanNGS Dx has an outstanding recovery above 90%.

10 uL of Total RNA control was purified using CleanNGS Dx using a 1,8x sample volume ratio. The recovered RNA compared to the unpurified Total RNA control using the Agilent Fragment Analyzer to determine the RNA Integrity Number (RIN). Figure 5 shows the values of the purified versus unpurified sample indicate no degradation of the RNA during purification and therefore CleanNGS Dx delivers superior RNA quality for downstream applications.

FIGURE 3. Average Sequencing Quality score determined of both Read 1 and Read 2 on all Illumina MiSeq instrument.

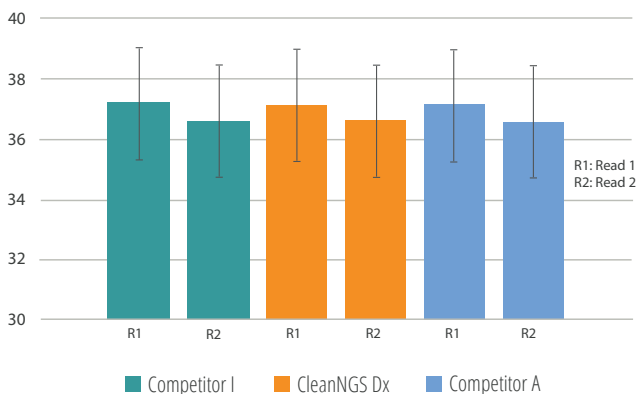


FIGURE 4. Recovery percentage after single-size selection purification determined by dsDNA fluorescence assay. (N=48)

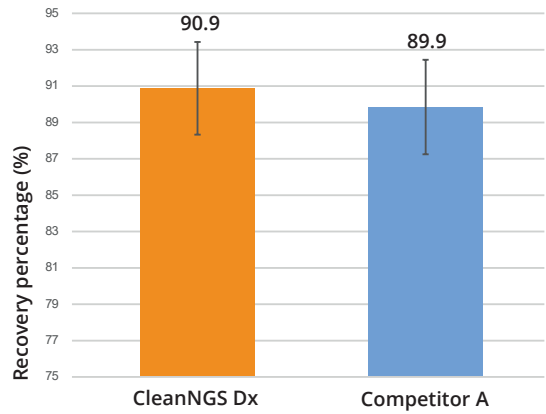
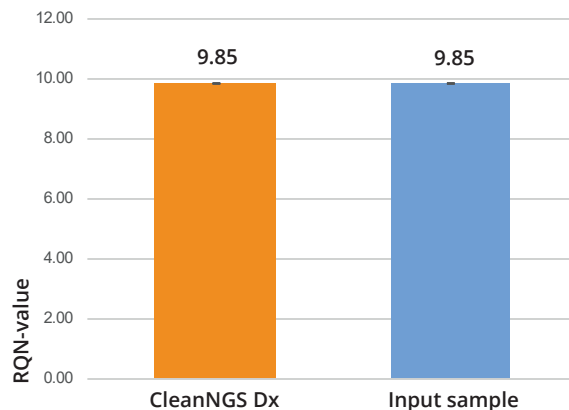


FIGURE 5. RNA Quality Number determined after purification of total RNA, using the Agilent fragment analyzer.




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.



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

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www.cleanna.com

Ready to order?

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

Order info

Product	Preps	Part Number
CleanNGS Dx 50ml	2,777	CNGSDx-0050
CleanNGS Dx 500ml	22,777	CNGSDx-0500

Product	Pack size	Part Number
Clean Magnet Plate 96 Well	1 Plate	CMAG-96-RN50

CleanNGS Dx is distributed by: