

Automated DNA Isolation

Automated Nucleic Acid Isolation from 200 μ l Clinical Sample Material



The isolation of high-quality nucleic acids from whole blood and plasma sample types suitable for your downstream clinical application presents a key bottleneck. High recovery rates, nucleic acid quantity, purity, and degradation directly impact the ability to generate quality results from your testing.

PerkinElmer's chemagic™ instrumentation and kits offer reliable solutions for this challenge by providing

- DNA isolation directly from human whole blood or plasma samples, no need for additional treatment on primary samples prior to extraction
- Ready to use DNA in high yields and purity
- Fast processing times – 96 samples in < 60 min.
- Long DNA fragments – up to 200 kb suitable for NGS
- High recovery rates
- Autonomous system regarding downstream assays

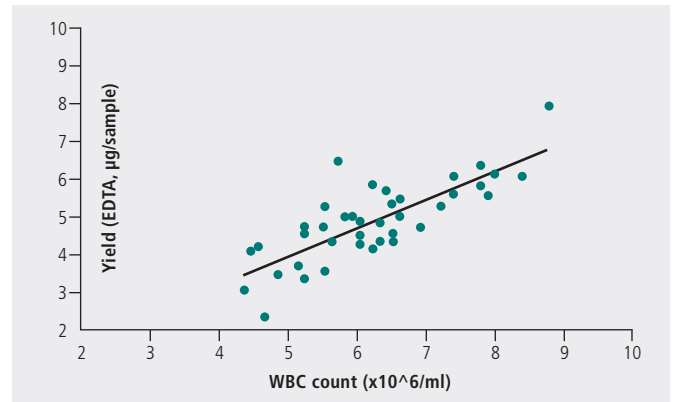


Fig. 1: The DNA yield (EDTA tubes, 41 specimens) from 200 μ l sample volume. White blood cell counts of healthy donors were determined and were in the range 4.3 - 8.8 x 10⁶ cells/ml.

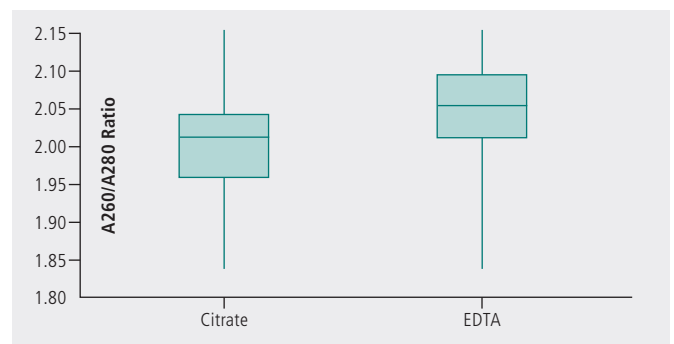


Fig. 2: Purity of the isolated DNA (Absorbance ratio A260/A280) of 41 Citrate and EDTA specimens

Performance Characteristics of the chemagic™ DNA CS200 Kit

Tab. 1: Descriptive statistics. DNA isolation results performed with the chemagic DNA CS200 Kit and the chemagic 360-D instrument using whole blood samples from healthy donors. Note: The DNA yield is also effected by the sample dilution caused by the used sample tube (the volume of preservative is different in EDTA and citrate sample tubes).

Product Number	Product Name	Sample Size Type	N	Median Yield	Mean Yield	Minimum Yield	Maximum Yield
3207-0010	chemagic DNA CS200 Kit	200 µl whole blood (EDTA)	41	5.1 µg	5.2 µg	2.8 µg	7.9 µg
		200 µl whole blood (Citrate)	41	4.6 µg	4.6 µg	3.0 µg	6.6 µg

Your Tool for Automated Nucleic Acid Isolation from Low Volume Clinical Sample Material

Based on PerkinElmer patented magnetic bead technology the **chemagic™ 360-D instrument** represents the ideal solution for nucleic acid isolation from **200 µl blood and plasma** samples, in clinical diagnostic market segments.

Experience the revolutionary compact benchtop design of our newly developed, CE IVD marked, FDA-listed chemagic 360-D instrument. Based on the well established chemagen Technology, the system offers reliable nucleic acid isolation solution for your high throughput sample processing needs. Equipped with the intuitive **chemagic QA Software** and the **chemagic Dispenser 360 unit** the systems allows LIMS-compatible bar code reading/sample tracking and automated buffer filling for all volume applications.



chemagic™ 360-D instrument

Europe: For in vitro diagnostic use. The chemagic 360-D instrument meets the requirements of the In Vitro Diagnostic Medical Device Directive (98/79/EC). The CE IVD-registered chemagic 360-D instrument is for distribution and use in specific European countries only.

USA: For in vitro diagnostic use. The chemagic 360-D instrument is FDA listed and if used in combination with chemagic kits indicated for use with the chemagic 360-D instrument, is intended for applications described in the respective kit insert.

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Key features

- Sample volumes from 10 µl - 400 µl
- High throughput, 1 - 96 samples/run
- Bar code reading/sample tracking
- LIMS compatible log files
- Revolutionary compact benchtop design (80 x 80 x 90 cm)

Order Information

Product Number	Product Name
2024-0010	chemagic 360-D instrument
CMG-370	chemagic 360, 96 Rod Head Set

Magnetic Separation

The magnetic separation is based on the use of metal rods that are lowered into a process solution (A). To collect beads from the solution, the rods are magnetized. Pellets form at the tips of the rods, and the rods are withdrawn from the solution with the pelleted beads attached. Resuspension into the next process solution, for example, wash or elution buffer, is achieved by switching off the magnetism while rotating the rods (B). This normally difficult step is thus performed quickly and thoroughly, resulting in isolation products with high yields and purities.

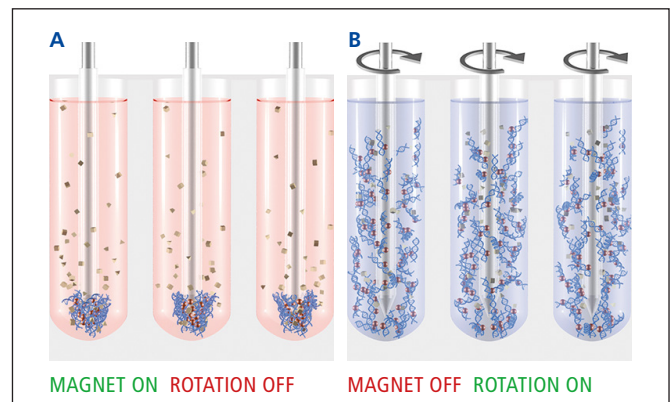


Fig. 3: Magnetic separation technology.

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