PAXgene™

Blood DNA System

An efficient, standardized system for blood collection, transport, and DNA purification

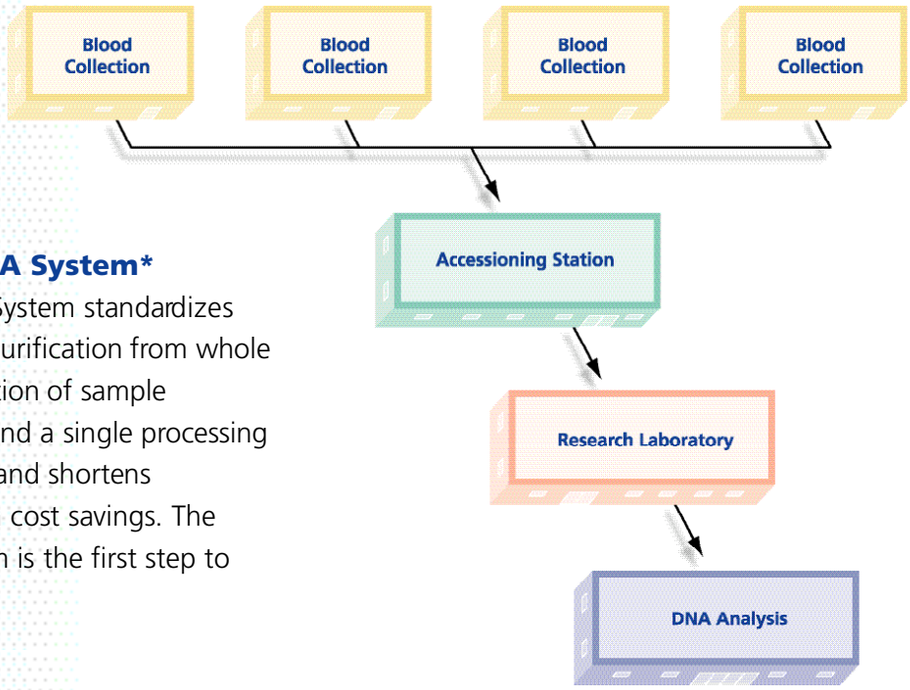
PreAnalytiX™

A QIAGEN / BD Company

Yesterday: Variability in primary blood samples often creates problems in downstream DNA purification.

Today:

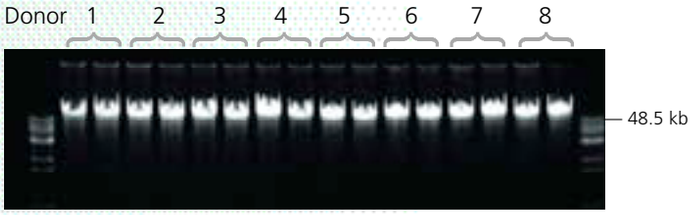
The PAXgene Blood DNA System standardizes and stream



The PAXgene Blood DNA System*

The PAXgene™ Blood DNA System standardizes blood collection and DNA purification from whole blood samples. The integration of sample collection and purification and a single processing tube streamlines workflow and shortens processing time, resulting in cost savings. The PAXgene Blood DNA System is the first step to consistent, reliable results.

Consistent quality: sample to sample



8 donors, 2 replicates, 300 ng gDNA per lane

Clinical research studies often require sample collection at multiple geographic sites under a wide range of conditions. Sample collection and DNA purification methods can also vary, reducing efficiency, preventing standardization, and increasing costs. Use of the PAXgene Blood DNA System minimizes the variables associated with sample collection and DNA purification of large numbers of samples in a multi-center study.

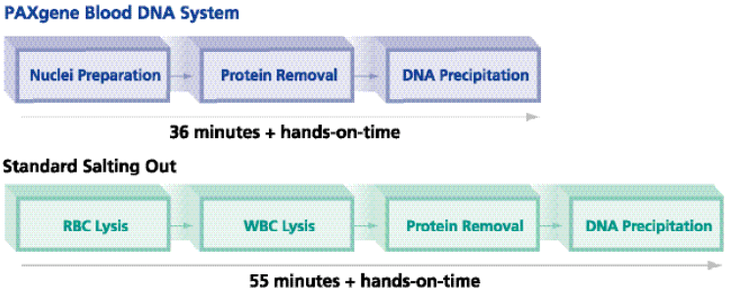
* For research use only. Not for use in diagnostic procedures.

lines workflow.

Standardization – The PAXgene Blood DNA System is comprised of two integrated components: PAXgene Blood DNA Tubes and the PAXgene Blood DNA Kit. PAXgene Blood DNA Tubes are the first blood collection tubes dedicated for DNA purification. Blood collection and sample processing are integrated into a single standardized system, reducing the risk of sample mix-up and cross-contamination. The DNA purification procedure is streamlined to rapidly achieve reproducible yields of high-quality DNA from each sample.

Blood collection – Blood samples are drawn directly into PAXgene Blood DNA Tubes via standard phlebotomy technique. These tubes, based on proven BD Vacutainer™ technology, contain a proprietary additive that provides buffering conditions optimized for subsequent cell lysis and DNA purification. Whole blood DNA stored in PAXgene DNA Tubes is stable for 14 days at room temperature or for 28 days at 2–8°C*. For long-term storage, freezing samples at –70°C to –80°C is recommended.

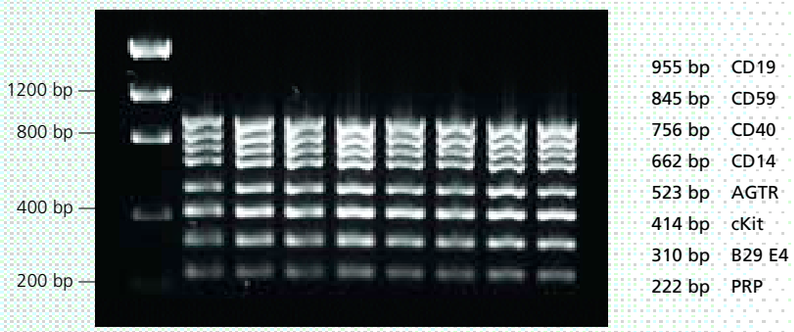
DNA purification – The optimized protocol for DNA purification is a single-tube procedure and uses prefilled processing tubes, eliminating the risk of sample mix-up during purification. The process requires only 1 hour for complete processing of eight blood samples, which is approximately 25% faster than standard salting-out methods. Use of the PAXgene Blood DNA System results in high yields of pure, high-molecular-weight DNA that performs well in many different downstream applications.



* The information for storage at 2–8°C is based on studies performed using small numbers of samples, and cannot be guaranteed to be statistically valid.

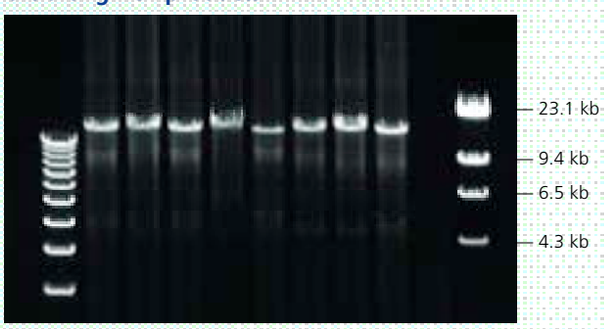
High-quality DNA, ready to use in a wide range of downstream

Multiplex amplification of single copy genes



8 donors, 250 ng gDNA as template

Amplification of ultralong PCR products



15 kb human coagulation factor IX gene fragment
8 donors, 250 ng gDNA as template

Optimize results

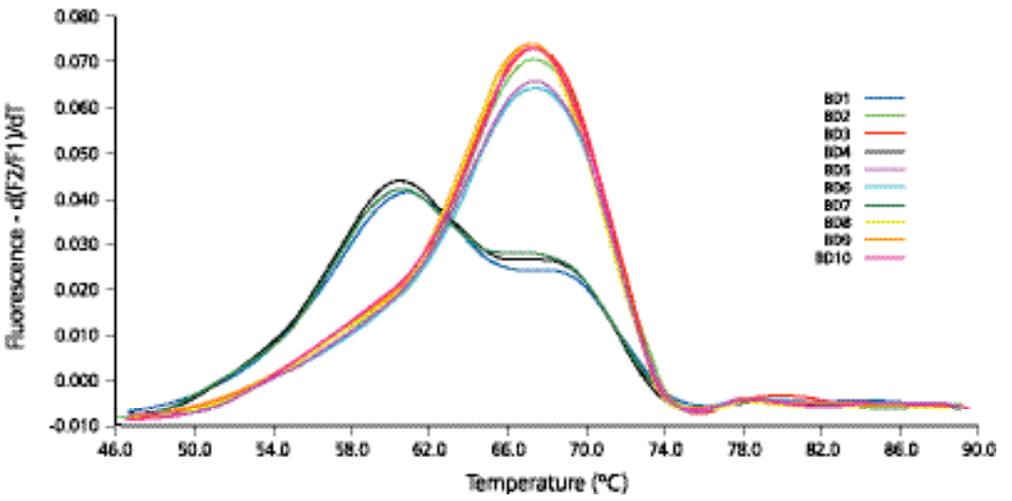
Reliable, reproducible results are especially important for clinical research applications such as marker validation, drug development, and epidemiological studies. The ability to store blood samples for weeks or months allows for batch processing, minimizing inter-assay variation. The high purity of the final DNA ensures reliable results in downstream applications.

Enhanced PCR assays

DNA purified using the PAXgene Blood DNA System performs well in a wide range of enzymatic assays including, but not limited to, PCR. The high purity and high molecular weight of the DNA improve results in challenging procedures such as multiplex and long-range PCR.

applications.

LightCycler melting curve analysis



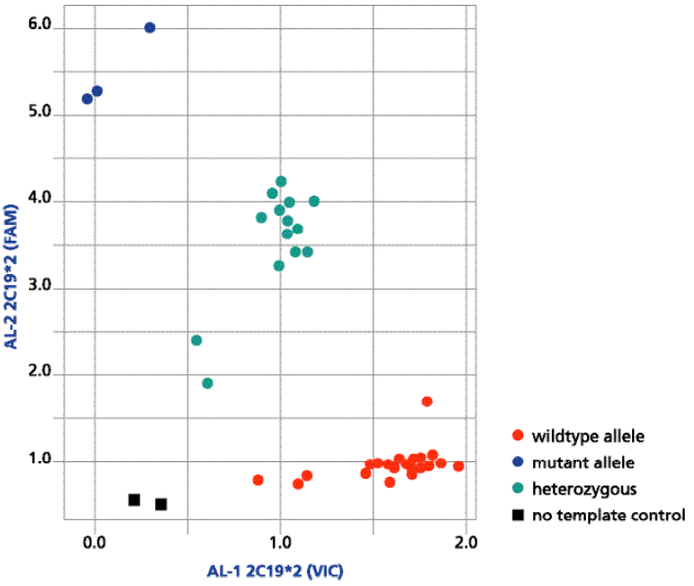
TNF-α/G-308A

Data kindly provided by H. Fernandes, UMDNJ, NJ, USA.

Reliable SNP genotyping

Single nucleotide polymorphisms (SNPs) are found approximately every 500–1000 base pairs in the human genome. They are valuable predictive markers in genetic mapping studies and drug development. DNA purified using the PAXgene Blood DNA System is well suited for SNP analysis. It is compatible with commonly used fluorescence-based technologies, such as TaqMan® and LightCycler® technology, as well as mass spectrometry-based systems. The DNA can also be used in mitochondrial genome analysis.

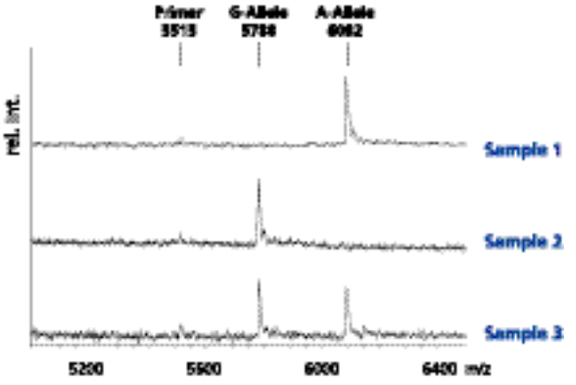
TaqMan analysis



Cytochrome P450, CYP2C19

Data kindly provided by A. Pahl, Institute for Pharmacology, University of Erlangen, Germany.

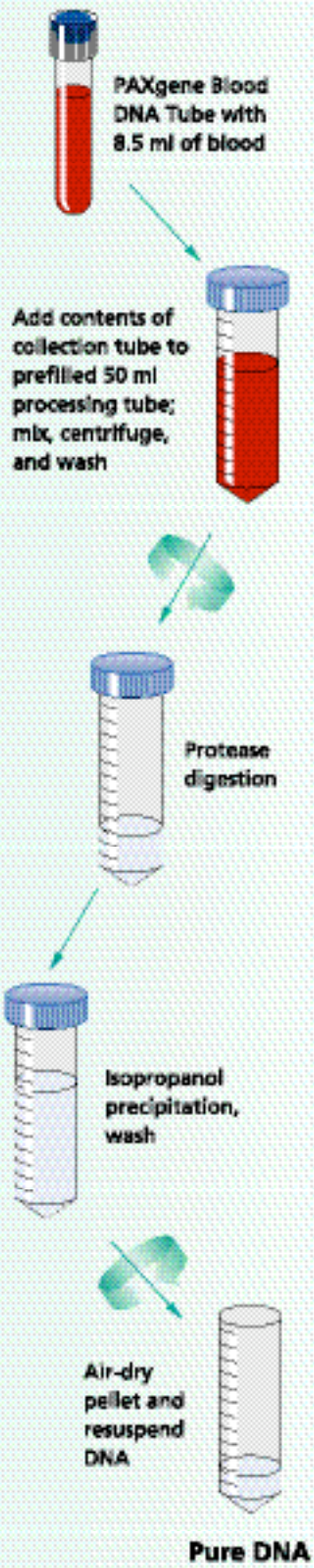
Masscode™ analysis



Cytochrome P450, CYP2C19

Data kindly provided by A. Huminy and C.M. Becker, Institute for Biochemistry, University of Erlangen, Germany.

The PAXgene Blood DNA System integrates and standardizes workflow

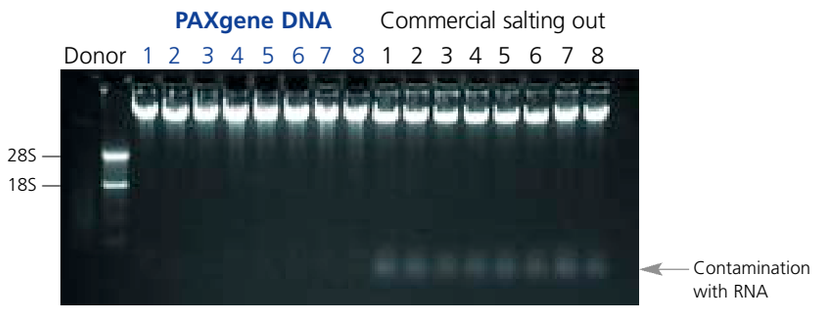


Reliable, reproducible yields.

High-quality DNA

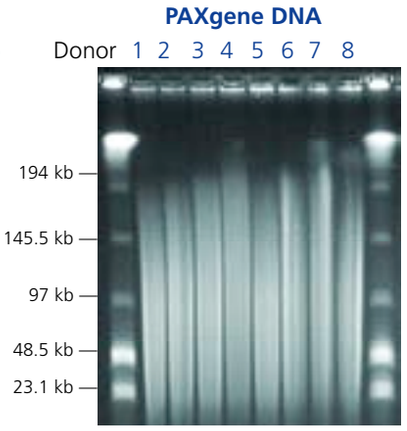
DNA purified using the PAXgene Blood DNA System has an A_{260}/A_{280} ratio of 1.7–1.9. Fragments are up to 200 kb in size, with lengths of 50–150 kb predominating. Average DNA yields are 150–500 µg, depending on the number of nucleated cells present in the blood sample. Purified DNA is free of RNA contamination, and performs well in a wide range of applications, such as restriction analysis, Southern blotting, and PCR.

No detectable RNA contamination



Formamide gel, ~10 µg DNA per lane

High-molecular-weight DNA



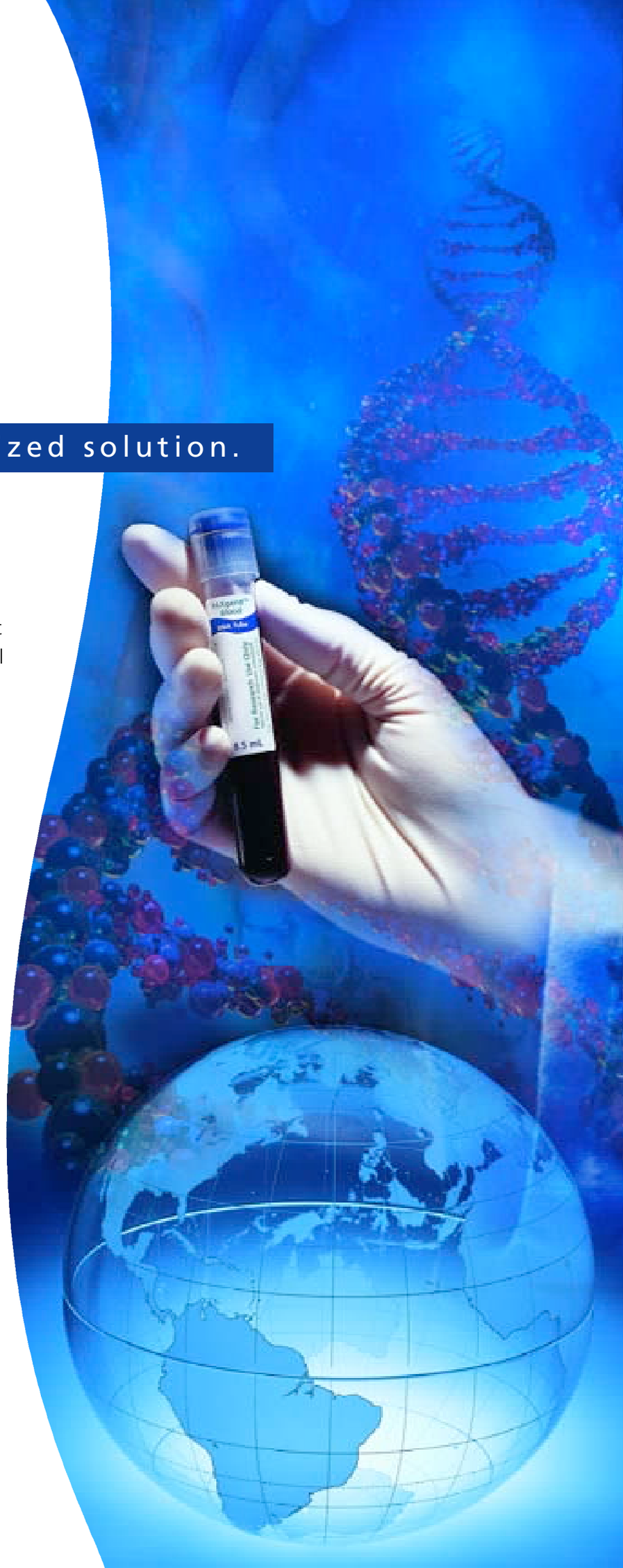
Pulsed-field gel electrophoresis
8 donors, 800 ng DNA per lane

An efficient, standardized solution.

Minimize preanalytical variability

Using non-standardized methods for blood collection and DNA purification may distort comparisons of samples collected from different sites in multicenter trials. It also increases overall costs due to non-optimal workflow. The PAXgene Blood DNA System provides an integrated and standardized system for blood collection and DNA purification. The high-quality DNA isolated using the PAXgene Blood DNA System performs well in a wide range of downstream applications, such as those used in pharmacogenomics and epidemiological studies, or it can be archived for future analysis.

Using the system for clinical trials leads to collection of more reliable data, as well as providing convenient and safe sample handling. Discover how to streamline your clinical research with the PAXgene Blood DNA System!



Ordering Information

PAXgene Blood DNA Tubes (100)*

100 Blood collection tubes

To be used in conjunction with the PAXgene Blood DNA Kit (25).

761115 – North America
761105 – Japan
761125 – Other countries

PAXgene Blood DNA Kit (25)*

Processing tubes and buffers for 25 preparations

To be used in conjunction with the PAXgene Blood DNA Tubes.

761133 – Worldwide

PAXgene Blood DNA Validation Kit (10)*

10 Blood collection tubes, processing tubes, and buffers for 10 preparations

761132 – Worldwide

Accessory items (ordered from BD)

BD Vacutainer™ Safety-Lok™ Blood Collection Set

21G ¾ inch needle, 12 inch tubing with luer adapter (50/box – 200/case)

367281 – North America
367286 – Other countries

BD Vacutainer™ Eclipse™ Blood Collection Needle

21G 1.25 inch needle with luer adapter (48/box – 480/case)

368607 – North America
368609 – Other countries

BD Vacutainer™ Standard Needle Holder

Needle holder for 16 mm diameter PAXgene™ Tube (1000/case)

364888 – Worldwide

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PAXgene products distributed by QIAGEN and its distributors:

Australia
Tel: 03.9489.3666
Fax: 03.9489.3888

Canada
Tel: 888.387.2381
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Tel: 03.5547.0811
Fax: 03.5547.0818

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Fax: 061.319.30.33

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www.PreAnalytiX.com

PreAnalytiX™
A QIAGEN / BD Company

Pioneering integrated systems to standardize the collection, stabilization, and purification of RNA and DNA

PreAnalytiX GmbH
Hombrechtikon, Switzerland