PreAnalytiX
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High-Throughput DNA Purification Using the PAXgene™ Blood DNA System

Human whole blood samples from 12 donors (8 samples per donor, 96 samples in total) were drawn into PAXgene™ Blood DNA Tubes and stored for 24 hours at 2–8ºC. All blood samples were processed in parallel using the PAXgene Blood DNA Kit following the recommendations listed in the technical note *Supplementary Protocol for Manual, High-Throughput Genomic DNA Purification Using the PAXgene Blood DNA System*. The purification time for 96 samples was 3.5 hours.

The yield and purity of DNA samples were analyzed by measuring absorbance at 260 and 280 nm (Figure 1). The average DNA yield from 96 samples was 305 µg (Figure 1B). The coefficient of variation (C_V) with regard to yield was calculated for each donor; the values obtained were between 2.3% and 10.1%. DNA purity was high in all samples, with an average A_{260}/A_{280} ratio of 1.91 (Figure 1A).

The purified DNA was analyzed by agarose gel electrophoresis and by PCR amplification of a 1.1 kb fragment of the human single-copy gene Hugl. Agarose gel analysis showed that DNA samples ran quantitatively above a 23 kb marker band (Figure 2). In addition, a 1.1 kb fragment of the human single copy gene Hugl was amplified (Figure 3).

Conclusion: High-quality, highly concentrated genomic DNA can be isolated from 96 samples in 3.5 hours using the PAXgene Blood DNA System tailored for high-throughput purification.

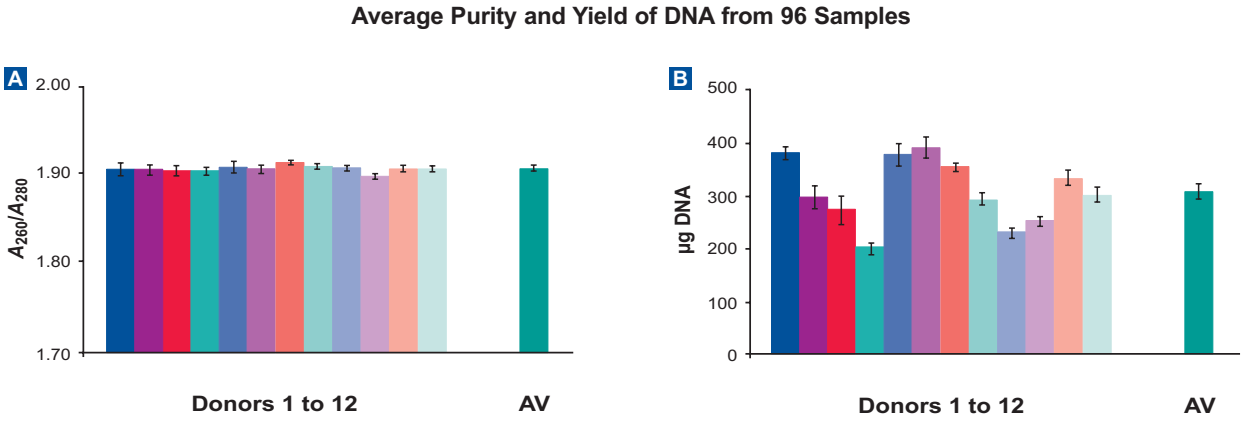

Figure 1. **A** *Average purity and* **B** *average yield of 96 DNA samples purified in parallel from whole blood samples from 12 healthy donors, 8 samples per donor.* ***AV****: Average.* ***Note****: DNA samples from donors 1 to 3 were used in subsequent experiments shown in Figures 2 and 3.*

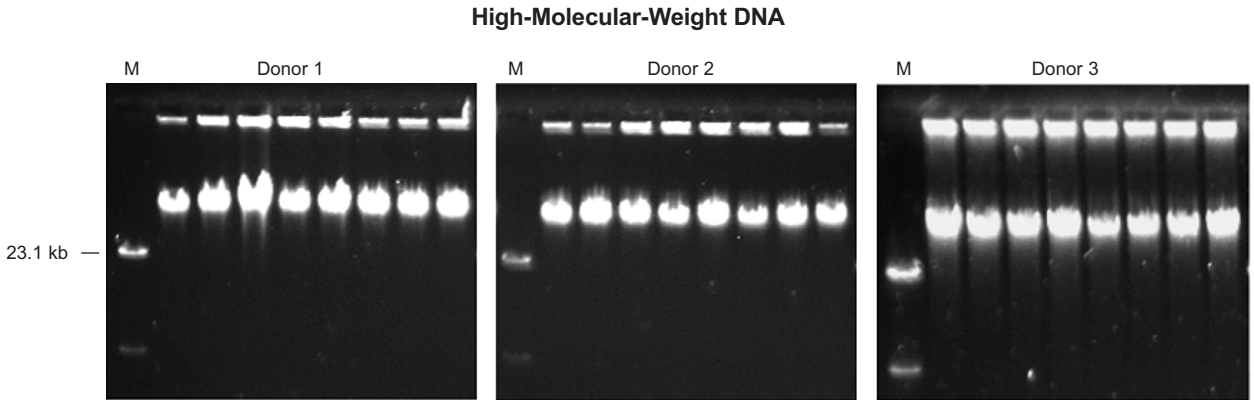

Figure 2. *Agarose gel analysis of 400 ng DNA (0.5% agarose gel, 1x TAE buffer, 23 V, 16 h; for optimal separation of high-molecular-weight DNA) purified from blood samples from 3 donors (8 samples per donor)* ***M****: Marker.*

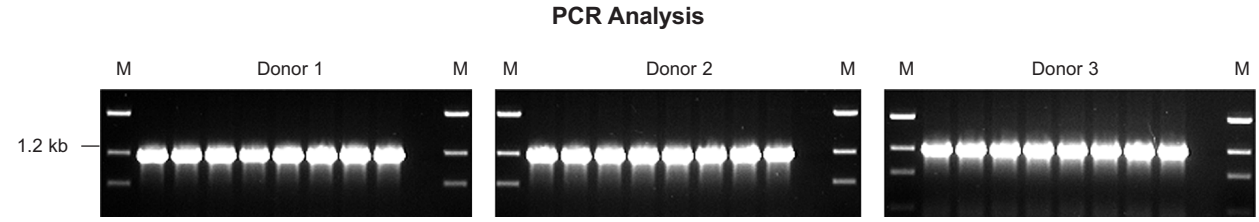

Figure 3: *Amplification of a 1.1 kb fragment of the single-copy gene Hugl. DNA was purified from blood samples from 3 donors (8 samples per donor).* ***M****: Marker.* ***Note****: The same donors were used to generate samples for both Figures 2 and 3.*