Gentra Puregene® Kits

For archive-quality genomic DNA from a wide variety of samples

Gentra Puregene Kits provide all the reagents necessary for purification of archive-quality DNA from a wide range of sample types (Table 1). The scalable purification procedure of the kits allows large-volume samples to be purified for use as long-term references, which is particularly useful when sample sources are not always available.

Gentra Puregene Kits provide:

- Archive-quality DNA for long-term storage
- Reproducible DNA purification from a wide range of sample types
- A complete solution for sample-to-storage purification
- Scalable purification procedure

Archive-quality DNA

An ongoing stability study of archived DNA has shown that high-molecular-weight (100–200 kb) DNA purified using Gentra Puregene Kits can be stored for at least 18 years without degradation (Figure 1). The scalable purification procedure allows large sample volumes to be conveniently handled. The combination of large-scale preparation and archive-quality DNA is highly suited for applications such as genetic research, biobanking, and clinical trials that require long-term references from sample sources of limited availability or for samples that must be used anonymously.

Table 1. Typical DNA yields from a range of sample types

Sample type and size yields	Range of expected (µg)	Average yield (µg)
Whole blood, 1 ml (7 x 10^6 white cells)	16–50	35
Buccal swabs, 1 swab	0.2–2	1
Body fluids, 1 ml	2–50	25
Cultured cells, 1–2 x 10^6 cells	5–10	7
Solid animal tissue, 10 mg	5–100	50
Yeast, 1 ml culture	3–6	4.5
Gram-negative bacteria, 0.5 ml culture	10–35	25
Gram-positive bacteria, 0.5 ml culture	1–10	8

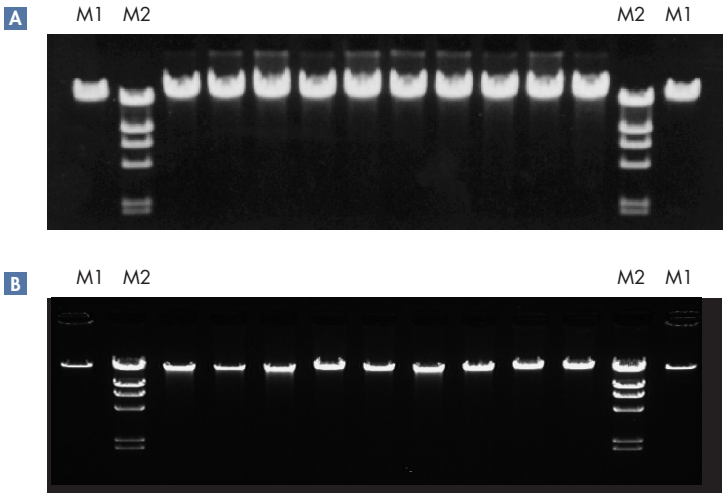
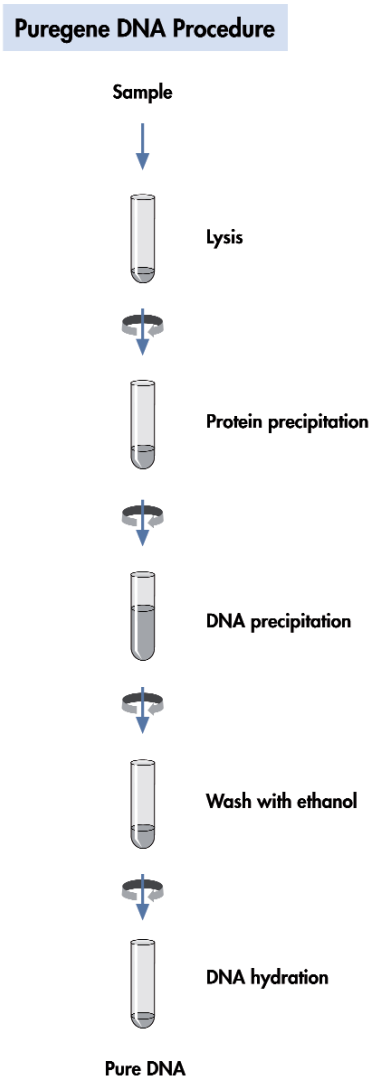


Figure 1. Archive-quality DNA. DNA was purified from replicate whole blood samples using the Gentra Puregene Blood Kit. A Purified DNA was analyzed by agarose gel electrophoresis immediately after purification and B after storage for 18 years at 4°C. **M1**: Uncut Lambda DNA; **M2**: Lambda *Hin*dIII marker.



Convenient, flexible procedure

The simple Puregene procedure uses a modified salting-out precipitation method for purification of DNA (see flowchart). No mixing or dilution of solutions is necessary and hands-on time is minimized. The procedure provides convenient stopping points that allow safe, temporary storage of partially purified samples.

Wide range of sample types

Protocols are available for purification of DNA from:

- Whole blood (treated with EDTA/citrate/heparin)
- Buffy coat
- Bone marrow
- Buccal cells
- Body fluids
- Cultured cells
- Tissue
- Mouse tail
- Yeast
- Bacteria

This flexibility simplifies projects involving different kinds of samples (e.g., blood and other samples), taken from the same individual.

Highly stable DNA suitable for archiving

Purification of DNA that is free of inhibitors of downstream applications and other contaminants that could result in DNA degradation is a prerequisite for long-term DNA archiving. The Puregene procedure provides high-quality, large fragment length DNA from a wide range of sample types (Figures 2–5).

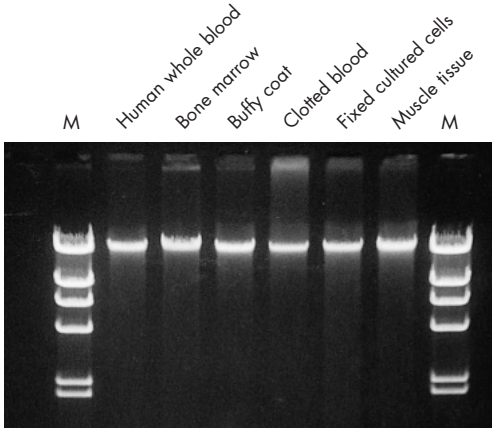


Figure 2. High-molecular-weight DNA. DNA was purified using Gentra Puregene Kits and analyzed by agarose gel electrophoresis on a 0.7% gel. **M**: Markers.

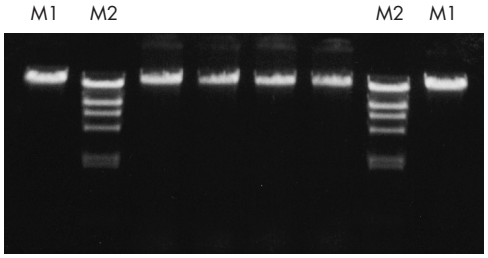


Figure 3. High-molecular-weight DNA from mouse tails. DNA was purified from mouse tails using the Gentra Puregene Mouse Tail Kit. Purified DNA (100 ng) was analyzed by agarose gel electrophoresis. **M1**: Uncut Lambda DNA; **M2**: Lambda *Hin*dIII markers.

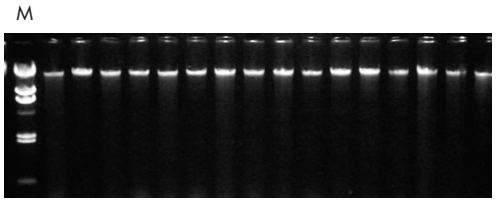


Figure 4. Purification from buccal cells in mouthwash. DNA was purified from buccal cells in mouthwash from 16 donors using the Gentra Puregene Buccal Cell Kit. Purified DNA was analyzed by agarose gel electrophoresis. **M**: Lambda *Hin*dIII marker.

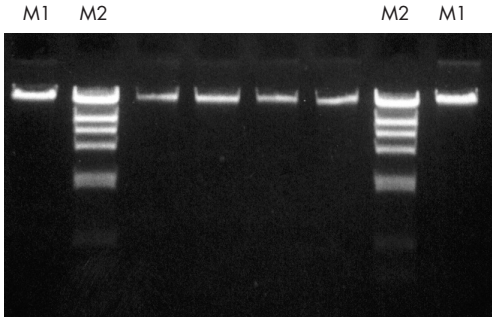


Figure 5. High-molecular-weight DNA from yeast. DNA was purified from yeast cultures using the Gentra Puregene Yeast/Bact. Kit. Purified DNA (100 ng) was analyzed by agarose gel electrophoresis. **M1**: Uncut Lambda DNA; **M2**: Lambda *Hin*dIII marker. Purified DNA exhibited the expected molecular weight.

High performance in sensitive downstream applications

Purity of DNA has a significant effect on the accuracy of results obtained in downstream applications. Sensitive downstream applications, such as PCR, demand the use of DNA of the highest quality and molecular weight for reliable results. Proven Gentra Puregene Kits remove contaminants and enzyme inhibitors enabling purification of high-quality DNA. Purified DNA is ready to use and performs well in sensitive downstream applications including PCR (Figure 6) and restriction digestion (Figure 7).

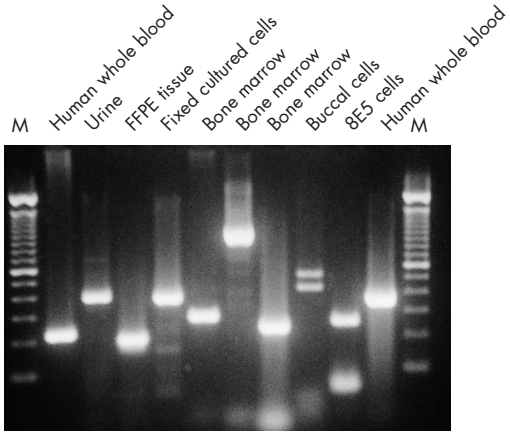


Figure 6. High PCR performance from a wide range of sample sources. DNA was purified from various samples using Gentra Puregene Kits. Purified DNA (10 ng) was used in PCR amplification with primers for a variety of genes. PCR products were analyzed by agarose gel electrophoresis on a 2% agarose gel. **M**: Markers. PCR products of the expected sizes were obtained.

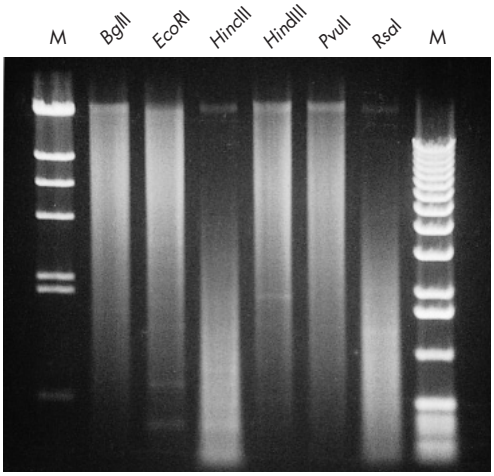


Figure 7. Efficient restriction endonuclease digestion. DNA was purified from whole blood samples using the Gentra Puregene Blood Kit. Purified DNA was digested with 2 units enzyme per µg DNA for 2 hours at 37°C. Restriction digestion reactions were analyzed by agarose gel electrophoresis on a 0.6% agarose gel. **M**: Markers.

Ordering Information

Product	Contents	Cat. no.
Gentra Puregene Blood Kits* — for purification of archive-quality DNA from whole blood and bone marrow		
Gentra Puregene Blood Kit (3 ml)	For 3 ml blood: RBC Lysis Solution, RNase A Solution, and Reagents	158422
Gentra Puregene Blood Kit Plus (1000 ml)	For 1000 ml blood: RBC Lysis Solution, RNase A Solution, and Reagents	158489
Gentra Puregene Cell Kits — for purification of archive-quality DNA from cell cultures and cell suspensions		
Gentra Puregene Cell Kit (2 x 10^7)	For 2 x 10^7 cells: RNase A Solution and Reagents	158722
Gentra Puregene Cell Kit (6.7 x 10^9)	For 6.7 x 10^9 cells: RNase A Solution and Reagents	158388
Gentra Puregene Tissue Kits* — for purification of archive-quality DNA from tissue		
Gentra Puregene Tissue Kit (100 mg)	For 100 mg tissue: RNase A Solution, Puregene Proteinase K, and Reagents	158622
Gentra Puregene Tissue Kit (33 g)	For 33 g tissue: RNase A Solution, Puregene Proteinase K, and Reagents	158689
Gentra Puregene Mouse Tail Kits — for purification of archive-quality DNA from mouse tails		
Gentra Puregene Mouse Tail Kit (100 mg)	For 100 mg mouse tails: Puregene Proteinase K and Reagents	158222
Gentra Puregene Mouse Tail Kit (4 g)	For 4 g mouse tails: Puregene Proteinase K and Reagents	158267

* Additional kit sizes are available; please inquire.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

Visit www.qiagen.com/goto/Puregene for information about archive-quality DNA preparation!

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