

QIAamp® UCP Pathogen kits

For purification of pathogen nucleic acids

The QIAamp UCP PurePathogen Blood Kit and QIAamp UCP Pathogen Mini Kit simplify purification of pathogen nucleic acids and microbial DNA using ultraclean production (UCP) reagents and consumables. The QIAamp UCP PurePathogen Blood Kit enables simultaneous purification of bacterial, fungal, viral, and free-circulating nucleic acids from up to 8 ml whole blood, while the QIAamp UCP Pathogen Mini Kit (Figure 1) enables microbial DNA purification from various sample types, such as: whole blood, swabs, cultures, and body fluids.

The QIAamp UCP Pathogen kits provide:

- Purification of cell-bound pathogen and free-circulating nucleic acids
- Ultraclean production (UCP) reagents and consumables
- Efficient mechanical disruption of microbial cells

Efficient lysis of microbial cells

QIAGEN provides QIAamp UCP Pathogen Kits for reliable purification of nucleic acids from whole blood or DNA from a variety of sample types. In order to provide efficient lysis of bacteria, yeast, or other fungi, the kits are used in combination with Pathogen Lysis Tubes. These tubes provide efficient lysis of microbial cells with a mechanical bead beating step. The QIAamp UCP PurePathogen Blood Kit comes with Pathogen Lysis Tubes L (included). Accessories for the QIAamp UCP Pathogen Mini Kit include Pathogen Lysis Tubes with bead types S or L.

Efficient purification of nucleic acids

The QIAamp UCP PurePathogen Blood Kit enables purification of bacterial, fungal, viral, and free-circulating nucleic acids by parallel depletion of human DNA. The kit uses starting samples of up to 8 ml blood with low elution volumes to allow maximum concentration of pathogen nucleic acids (Figure 2). The QIAamp UCP PurePathogen Kit provides reliable purification at different pathogen titers (Figure 3).



Figure 1. QIAamp UCP Pathogen Mini Kit with buffers.

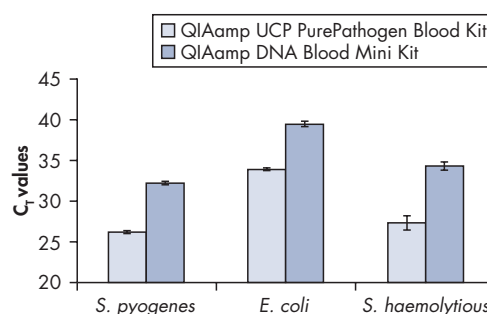


Figure 2. High yield of microbial DNA through efficient cell lysis and large input volumes. Human whole blood was spiked with 1.0E+04 CFU/ml of *Streptococcus pyogenes*, *Staphylococcus haemolyticus*, and *Escherichia coli* cells. Pathogen DNA was purified using either the QIAamp UCP PurePathogen Blood Kit (8 ml sample) or the QIAamp DNA Blood Mini Kit (0.5 ml whole blood sample). Eluted DNA was quantified with species-specific in-house real-time PCR assays.



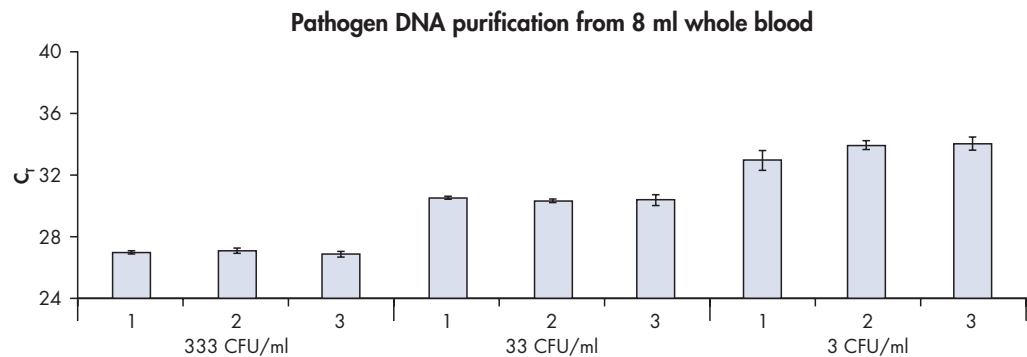


Figure 3. Pathogen DNA Purification from 8 ml whole blood using the QIAamp UCP PurePathogen Blood Kit. EDTA-treated human whole blood was spiked with *Escherichia coli* standard material at three different titers: 333, 33, and 3 CFU/ml blood. DNA was purified in three replicates from 8 ml blood of each titer, following the QIAamp UCP PurePathogen Blood protocol, then eluted with 120 µl. Each eluate was analyzed in duplicate, using an in-house real-time PCR assay specific for *E. coli*.

The QIAamp UCP PurePathogen Blood Kit allows the purification of bacterial, fungal, viral, and free-circulating nucleic acids from whole blood, with parallel depletion of human DNA. Contaminants are washed away during 3 wash steps for inhibitor-free purification (Figure 4). The kit provides mechanical and chemical fungal and bacterial lysis, as well as purification of viral nucleic acids and free-circulating nucleic acids.

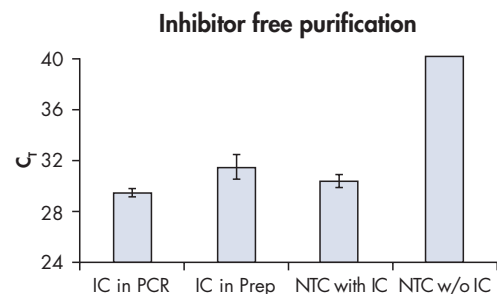


Figure 4. Inhibitor-free purification. DNA from 8 ml blood was purified in three replicates following the QIAamp UCP PurePathogen Blood protocol and eluted in 120 µl. The internal control (IC) was either added to the sample (IC in Prep) or added to the eluate. Each eluate was analyzed using the QuantiFast® Pathogen PCR + IC Kit. Shown are the C_t values for the internal control signal.

Simplified sample preparation for microbial DNA purification

The QIAamp UCP Pathogen Mini Kit enables purification of microbial DNA from various sample materials, such as whole blood, swabs, cultures, and body fluids. The kit uses tailored pretreatment protocols with sample prep protocols, including mechanical disruption using Pathogen Lysis Tubes for efficient lysis of cells of Gram-positive and Gram-negative bacteria, as well as yeast, and other fungi.

The QIAamp UCP Pathogen Mini Kit, when used with Pathogen Lysis Tubes, enables efficient cell lysis, with high yields of microbial DNA (Figure 5). Using the QIAvac 24 Plus with the QIAamp UCP Pathogen Mini Kit enables starting samples of up to 400 µl and flexible elution volumes from 50 µl to 200 µl. Samples may be processed simultaneously, providing pure nucleic acids in less than 2 hours per sample. Ultraclean production reagents and consumables provide high-quality purified DNA for your downstream assays, even when run without sample controls (Figure 6).

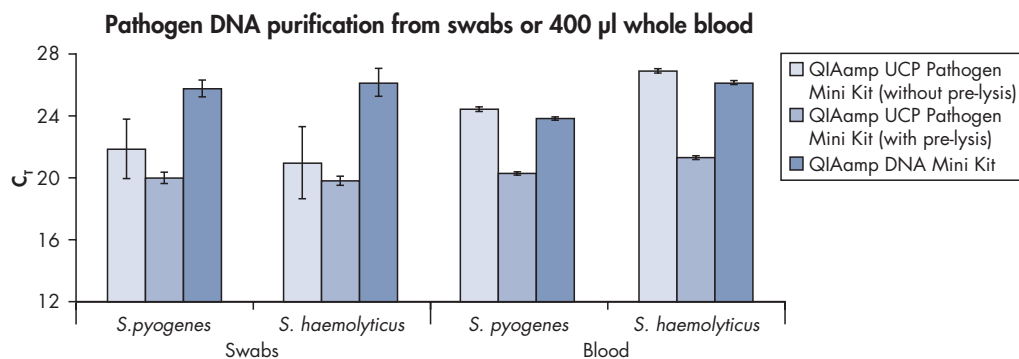


Figure 5. High yield of microbial DNA through efficient cell lysis. Cotton swabs or whole blood were spiked with a mixture of *Streptococcus pyogenes* and *Staphylococcus haemolyticus* cells. Pathogen DNA was purified using either QIAamp DNA Mini Kit (400 µl sample), the QIAamp UCP Pathogen Mini Kit (400 µl sample) alone, or the QIAamp UCP Pathogen Mini Kit in combination with Pathogen Lysis Tubes (S for swabs and L for blood). The purified DNA was quantified with species-specific in-house real-time PCR assays.

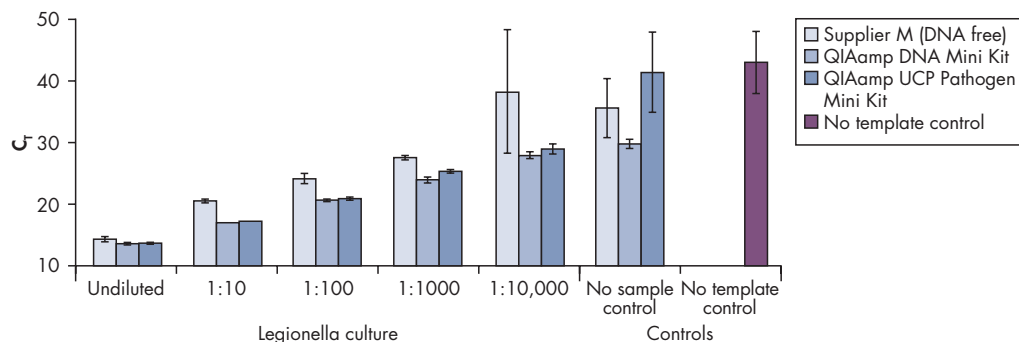


Figure 6. Purification of *Legionella* DNA from culture. DNA from a serial dilution of an overnight culture of *Legionella pneumophila* was purified using either the QIAamp UCP Pathogen Mini Kit, the QIAamp DNA Mini Kit, or a kit from a supplier. In addition a “No Sample Control” was processed. All eluates were analyzed using a real-time PCR assay targeting *Legionella* DNA.

Wide range of applications

Ultraclean production (UCP) kits are free of potential contaminating DNA and therefore eliminate the risk of false-positive results. Pathogen DNA purified using the QIAamp UCP Pathogen Mini Kit or the QIAamp UCP PurePathogen Blood Kit is ready for use in various downstream reactions.

Ordering Information

Product	Contents	Cat. no.
QIAamp UCP PurePathogen Blood Kit	For 10 preps: QIAamp UCP Mini Columns, Pathogen Lysis Tubes L, Tube Extenders (20 ml), Proteinase K, Buffers, VacConnectors, and Collection Tubes (1.5 ml and 2 ml)	50112
QIAamp UCP Pathogen Mini Kit (50)*	For 50 preps: 50 QIAamp UCP Mini Columns, Collection Tubes, Tube Extenders, Elution Tubes, and Buffers	50214
Accessories		
Tissuelyser LT	Bead mill; requires Tissuelyser LT Adapter, 12-tube	85600
Pathogen Lysis Tubes S	50 Pathogen Lysis Tubes and 1 vial Reagent DX	19091
Pathogen Lysis Tubes L	50 Pathogen Lysis Tubes and 1 vial Reagent DX	19092

* QIAamp UCP Pathogen Mini Kit does not include the Pathogen Lysis Tubes (L and S). Pathogen Lysis Tubes are sold separately.

The QIAamp UCP PurePathogen Blood Kit and the QIAamp UCP Pathogen Mini Kit are intended for molecular biology applications. These products are not intended for the diagnosis, prevention, or treatment of a disease. The QIAamp UCP PurePathogen Blood Kit and the QIAamp UCP Pathogen Mini Kit are not for use in detecting fungal nucleic acid by PCR and hybridization.

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.

Go to www.qiagen.com/mc/qiaampucp/default.aspx to learn more!

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