January 2020

DNeasy® PowerWater® Kit Handbook

For the isolation of genomic DNA from filtered water samples, including turbid water

Sample to Insight

QIAGEN

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Kit Contents

DNeasy PowerWater Kit	**(50)**	**(100)**
Catalog no.	**14900-50-NF**	**14900-100-NF**
Number of preps	**50**	**100**
MB Spin Columns	50	2 x 50
PowerWater DNA Bead Tubes	50	2 x 50
Solution PW1	55 ml	2 x 55 ml
Solution IRS	15 ml	2 x 15 ml
Solution PW3	2 x 18 ml	2 x 36 ml
Solution PW4	2 x 24 ml	3 x 24 ml
Ethanol	2 x 30 ml	3 x 30 ml
Solution EB	9 ml	2 x 9 ml
Collection Tubes (2 ml)	5 x 50	10 x 50
Quick-Start Protocol	1	1

Storage

The DNeasy PowerWater Kit reagents and components can be stored at room temperature (15–25°C) until the expiration date printed on the box label.

Intended Use

All DNeasy products are intended for molecular biology applications. These products are not intended for the diagnosis, prevention or treatment of a disease.

QIAcube® Connect is designed to perform fully automated purification of nucleic acids and proteins in molecular biology applications. The system is intended for use by professional users trained in molecular biological techniques and the operation of QIAcube Connect.

All due care and attention should be exercised in the handling of the products. We recommend all users of QIAGEN® products to adhere to the NIH guidelines that have been developed for recombinant DNA experiments, or to other applicable guidelines.

Safety Information

When working with chemicals, always wear a suitable lab coat, disposable gloves and protective goggles. For more information, please consult the appropriate safety data sheets (SDSs). These are available online in convenient and compact PDF format at **www.qiagen.com/safety** where you can find, view and print the SDS for each QIAGEN kit and kit component.

Warning: Solutions PW3, PW4 and ethanol are flammable.

WARNING: Do not use bleach to clean the inside of the QIAvac® 24 Plus Manifold.

CAUTION 	**DO NOT add bleach or acidic solutions to directly to the sample preparation waste**

Solution PW1 and Solution PW3 contain guanidine salts, which can form highly reactive compounds when combined with bleach. If liquid containing these buffers is spilt, clean with a suitable laboratory detergent and water. If the spilt liquid contains potentially infectious agents, clean the affected area first with laboratory detergent and water, and then with 1% (v/v) sodium hypochlorite.

Quality Control

In accordance with QIAGEN's ISO-certified Quality Management System, each lot of DNeasy PowerWater Kits is tested against predetermined specifications to ensure consistent product quality.

Introduction

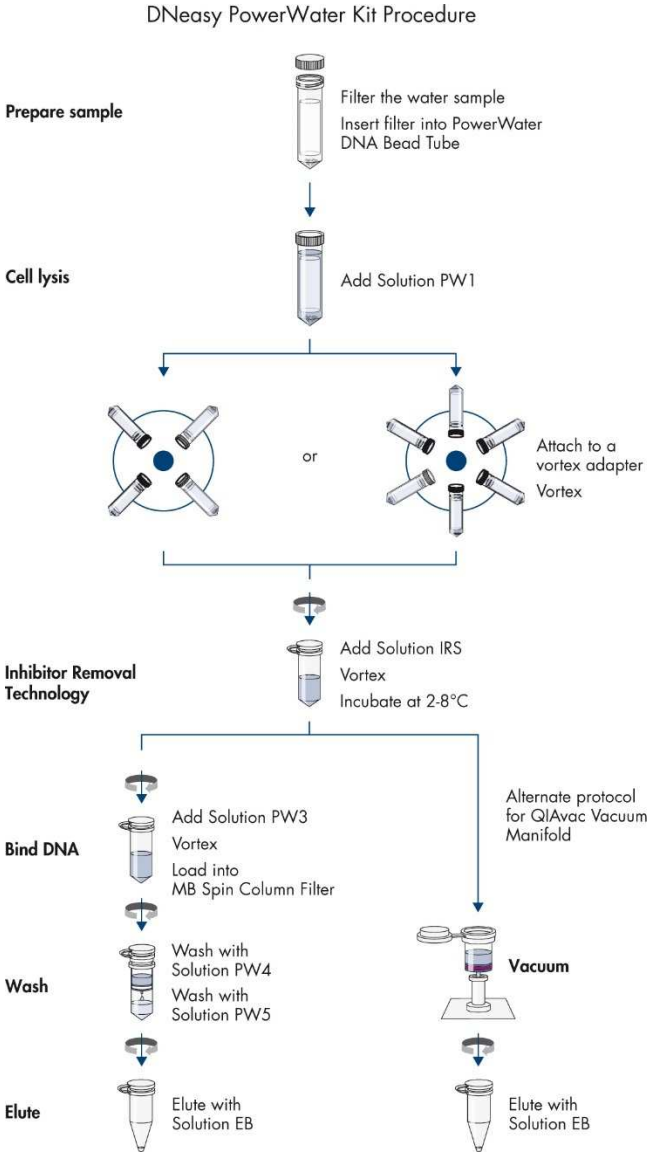
The DNeasy PowerWater Kit can isolate genomic DNA from a variety of filtered water samples. Utilizing our Inhibitor Removal Technology® (IRT), even water containing heavy amounts of contaminants can be processed to provide DNA of high quality and yield. The DNeasy PowerWater Kit can isolate DNA equally well from any commonly used type of filter membrane. Purified DNA is ready to use in a final elution volume of 100 µl.

Principle and procedure

The DNeasy PowerWater Kit starts with the filtration of a water sample onto a filter membrane. Filter membranes may be user supplied (see section on Equipment and Reagents to Be Supplied by User for recommendations). The membrane is then added to our special 5 ml bead beating tube containing a unique bead mix. Rapid and thorough lysis occurs through vortexing in a specially formulated lysis buffer that enhances the isolation of microorganisms from filter membranes. After the protein and inhibitor removal steps, total genomic DNA is captured on an MB Spin Column. High-quality DNA is then washed and eluted from the MB Spin Column membrane for use in downstream applications including PCR and qPCR.

High-throughput options

We offer a vacuum-based protocol for faster processing without centrifugation for the DNA-binding and column-washing steps using MB Spin Columns. The QIAvac 24 Plus Manifold allows for processing of up to 24 MB Spin Column preps at a time.


DNeasy PowerWater Kit Procedure
Prepare sample
Filter the water sample
Insert filter into PowerWater DNA Bead Tube
Cell lysis
Add Solution PW1
or
Attach to a vortex adapter
Vortex
Inhibitor Removal Technology
Add Solution IRS
Vortex
Incubate at 2-8°C
Alternate protocol for QIAvac Vacuum Manifold
Bind DNA
Add Solution PW3
Vortex
Load into MB Spin Column Filter
Wash
Wash with Solution PW4
Wash with Solution PW5
Vacuum
Elute
Elute with Solution EB
Elute with Solution EB

Automated purification of DNA on QIAcube Instruments

Purification of DNA can be fully automated on QIAcube Connect or the classic QIAcube. The innovative QIAcube instruments use advanced technology to process QIAGEN spin columns, enabling seamless integration of automated, low-throughput sample prep into your laboratory workflow. Sample preparation using QIAcube instruments follows the same steps as the manual procedure (i.e., lyse, bind, wash and elute), enabling you to continue using the DNeasy PowerWater Kit for purification of high-quality DNA.

QIAcube instruments are preinstalled with protocols for purification of plasmid DNA, genomic DNA, RNA, viral nucleic acids and proteins, plus DNA and RNA cleanup. The range of protocols available is continually expanding, and additional QIAGEN protocols can be downloaded free of charge at **www.qiagen.com/qiacubeprotocols**.

QIAcube Connect.

Equipment and Reagents to Be Supplied by User

When working with chemicals, always wear a suitable lab coat, disposable gloves and protective goggles. For more information, consult the appropriate safety data sheets (SDSs) available from the product supplier.

- Centrifuge for 15 ml tubes (≤ 4000 x *g*)
- Disposable/reusable filter funnels
- Filter membranes (if using a reusable filter funnel)
- Microcentrifuge (13,000 x *g*)
- Pipettors
- Vortex-Genie® 2 Vortex
- Vortex Adapter (cat # 13000-V1-5 or 13000-V1-15)
- **Recommended:** Pall Laboratory MicroFunnel Disposable Filter Funnels (0.22 µm or 0.45 µm) (VWR cat. no. 28143-542 or 55095-060, respectively)

Protocol: Experienced User

Important points before starting

- Solution PW1 must be warmed at 55°C for 5–10 minutes to dissolve precipitates prior to use. Solution PW1 should be used while still warm.
- If Solution PW3 has precipitated, heat at 55°C for 5–10 minutes to dissolve precipitate.
- Shake to mix Solution PW4 before use.
- Perform all centrifugation steps at room temperature (15–25°C).

Procedure

1. Filter water samples using a filter funnel attached to a vacuum source. The volume of water filtered will depend on the microbial load and turbidity of the water sample.
   Note: Please see Appendix A: Types of water samples.
2. If using a reusable filter funnel, remove the upper portion of the apparatus.
3. Using two sets of sterile forceps, pick up the white filter membrane at opposite edges and roll the filter into a cylinder with the top side facing inward.
   Note: Do not tightly roll or fold the filter membrane.
4. Insert the filter into a 5 ml PowerWater DNA Bead Tube.
5. Add 1 ml of Solution PW1 to the PowerWater DNA Bead Tube.
   Note: For samples containing organisms that are difficult to lyse (e.g. fungi, algae) an additional heating step can be included. See Alternative Lysis Methods in the Troubleshooting Guide.
6. Secure the tube horizontally to a Vortex Adapter (cat. no. 13000-V1-5/13000-V1-15).
7. Vortex at maximum speed for 5 min. Centrifuge the tubes ≤4000 x *g* for 1 min. (This centrifugation step is optional if a centrifuge with a 15 ml tube rotor is not available, but will result in minor loss of supernatant).

8. Transfer the supernatant to a clean 2 ml Collection Tube (provided). Draw up the supernatant using a 1 ml pipette tip by placing it down into the beads.
   Note: Placing the pipette tip down into the beads is required. Pipette until you have removed all the supernatant. Expect to recover 600–650 µl of supernatant.
9. Centrifuge at 13,000 x *g* for 1 min.
10. Avoiding the pellet, transfer the supernatant to a clean 2 ml Collection Tube (provided).
11. Add 200 µl of Solution IRS and vortex briefly to mix. Incubate at 2–8°C for 5 min.
12. Centrifuge the tubes at 13,000 x *g* for 1 min.
13. Avoiding the pellet, transfer the supernatant to a clean 2 ml Collection Tube (provided).
14. Add 650 µl of Solution PW3 and vortex briefly to mix.
15. Load 650 µl of supernatant onto an MB Spin Column. Centrifuge at 13,000 x *g* for 1 min. Discard the flow-through. Repeat until all the supernatant has been processed.
16. Place the MB Spin Column Filter into a clean 2 ml Collection Tube (provided).
17. Add 650 µl of Solution PW4 (shake before use). Centrifuge at 13,000 x *g* for 1 min.
18. Discard the flow-through and add 650 µl of ethanol (provided) and centrifuge at 13,000 x *g* for 1 min.
19. Discard the flow-through and centrifuge again at 13,000 x *g* for 2 min.
20. Place the MB Spin Column into a clean 2 ml Collection Tube (provided).
21. Add 100 µl of Solution EB to the center of the white filter membrane.
22. Centrifuge at 13,000 x *g* for 1 min.
23. Discard the MB Spin Column. The DNA is now ready for downstream applications.
    Note: We recommend storing DNA frozen (–90°C to –15°C) as Solution EB does not contain EDTA. To concentrate DNA, see the Troubleshooting Guide.

Protocol: Detailed

Important points before starting

- Solution PW1 must be warmed at 55°C for 5–10 minutes to dissolve precipitates prior to use. Solution PW1 should be used while still warm.
- If Solution PW3 has precipitated, heat at 55°C for 5–10 minutes to dissolve precipitate.
- Shake to mix Solution PW4 before use.
- Perform all centrifugation steps at room temperature (15–25°C).

Procedure

1. Filter water samples using a filter funnel attached to a vacuum source. The volume of water filtered will depend on the microbial load and turbidity of the water sample.
   Note: Please see Appendix A: Types of water samples. A reusable or disposable filter funnel is attached to a vacuum filtration system. Microorganisms are trapped on top of and within the filter membrane.
2. If using a reusable filter funnel, remove the upper portion of the apparatus.
3. Using two sets of sterile forceps, pick up the white filter membrane at opposite edges and roll the filter into a cylinder with the top side facing inward.
   Note: Do not tightly roll or fold the filter membrane.
4. Insert the filter into a 5 ml PowerWater DNA Bead Tube.
   Note: Loosely rolling and inserting the filter membrane into the PowerWater Bead Tube allows for efficient bead beating and homogenization in proceeding steps.

5. Add 1 ml of Solution PW1 to the PowerWater DNA Bead Tube.
   Note: For samples containing organisms that are difficult to lyse (e.g. fungi, algae) an additional heating step can be included. See Alternative Lysis Methods in the Troubleshooting Guide. Solution PW1 is a strong lysing reagent that includes a detergent to help break cell walls and will remove non-DNA organic and inorganic material. It is also part of the patented Inhibitor Removal Technology (IRT). When cold, this solution will form a white precipitate in the bottle. Heating to 55°C will dissolve the components without harm. Solution PW1 should be used while it is still warm.
6. Secure the tube horizontally to a Vortex Adapter (cat. no. 13000-V1-15/13000-V1-5).
7. Vortex at maximum speed for 5 min. Centrifuge the tubes ≤4000 x g for 1 min. (This centrifugation step is optional if a centrifuge with a 15 ml tube rotor is not available, but will result in minor loss of supernatant).
   Note: The mechanical action of bead beating will break apart the surface of the filter membrane that contains trapped cells and aids in cell lysis. Use of the Vortex Adapter will maximize homogenization by holding the tubes at equal distances and angles from the center of rotation. Avoid using tape, which can become loose and result in reduced homogenization efficiency.
8. Transfer the supernatant to a clean 2 ml Collection Tube (provided). Draw up the supernatant using a 1 ml pipette tip by placing it down into the beads.
   Note: Placing the pipette tip down into the beads is required. Pipette until you have removed all the supernatant. Expect to recover 600–650 µl of supernatant. The supernatant is separated and removed from the filter membrane and beads at this step.
9. Centrifuge at 13,000 x *g* for 1 min.
   Note: Any remaining beads, proteins and cell debris are removed at this step. This step is important for removal of any remaining contaminating non-DNA organic and inorganic matter that may reduce DNA purity and inhibit downstream DNA applications.
10. Avoiding the pellet, transfer the supernatant to a clean 2 ml Collection Tube (provided).

11. Add 200 µl of Solution IRS and vortex briefly to mix. Incubate at 2–8°C for 5 min.
    Note: Solution IRS is a part of the IRT and is the second reagent to remove additional non-DNA organic and inorganic material including humic acid, cell debris and proteins. It is important to remove organic and inorganic contaminants that may reduce DNA purity and inhibit downstream DNA applications.
12. Centrifuge the tubes at 13,000 x *g* for 1 min.
13. Avoiding the pellet, transfer the supernatant to a clean 2 ml Collection Tube (provided).
    Note: The pellet at this point contains additional non-DNA organic and inorganic material. For best DNA yields and quality, avoid transferring any of the pellet.
14. Add 650 µl of Solution PW3 and vortex briefly to mix.
    Note: Solution PW3 is a high concentration salt solution. Since DNA binds tightly to silica at high salt concentrations, this will adjust the DNA solution salt concentration to allow binding of the DNA, but not non-DNA organic and inorganic material that may still be present at low levels, to the MB Spin Column.
15. Load 650 µl of supernatant onto a MB Spin Column. Centrifuge at 13,000 x *g* for 1 min. Discard the flow-through. Repeat until all the supernatant has been processed.
    Note: DNA is selectively bound to the silica membrane in the MB Spin Column basket and the flow-through containing non-DNA components is discarded.
16. Place the MB Spin Column Filter into a clean 2 ml Collection Tube (provided).
    Note: Due to the high concentration of salt in solution PW3, it is important to place the MB Spin Column basket into a clean 2 ml Collection Tube to aid in the subsequent wash steps and improve DNA purity and yield.
17. Add 650 µl of Solution PW4 (shake before use). Centrifuge at 13,000 x g for 1 min.
    Note: Solution PW4 is an alcohol-based wash solution used to further clean the DNA that is bound to the silica filter membrane in the MB Spin Column. This wash solution removes residual salt and other contaminants while allowing the DNA to stay bound to the silica membrane.

18. Discard the flow-through and add 650 µl of ethanol (provided) and centrifuge at 13,000 x *g* for 1 min.
    Note: Ethanol ensures complete removal of Solution PW4, which will result in higher DNA purity and yield.
19. Discard the flow-through and centrifuge again at 13,000 x *g* for 2 min.
    Note: The second spin removes residual ethanol. It is critical to remove all traces of ethanol because it can interfere with many downstream applications, such as PCR, restriction digests and gel electrophoresis.
20. Place the MB Spin Column into a clean 2 ml Collection Tube (provided).
21. Add 100 µl of Solution EB to the center of the white filter membrane.
    Note: Placing Solution EB in the center of the small white membrane will make sure the entire membrane is wet. This will result in a more efficient and complete release of DNA from the silica MB Spin Column membrane. As Solution EB passes through the silica membrane, the DNA that was bound in the presence of high salt is selectively released by Solution EB (10 mM Tris) which does not contain salt.
    Alternatively, sterile DNA-free PCR-grade water may be used for DNA elution from the silica MB Spin Column membrane at this step. Solution EB contains no EDTA. If DNA degradation is a concern, sterile TE may also be used instead of EB for elution of DNA from the MB Spin Column.
22. Centrifuge at 13,000 x *g* for 1 min.
23. Discard the MB Spin Column. The DNA is now ready for downstream applications.
    Note: We recommend storing DNA frozen (–90°C to –15°C) as Solution EB does not contain EDTA. To concentrate DNA, see the Troubleshooting Guide.

Protocol: QIAvac 24 Plus Vacuum Manifold

Important points before starting

- Solution PW1 must be warmed at 55°C for 5–10 minutes to dissolve precipitates prior to use. Solution PW1 should be used while still warm.
- If Solution PW3 has precipitated, heat at 55°C for 5–10 minutes to dissolve precipitate.
- Shake to mix Solution PW4 before use.
- For each sample lysate, use one MB Spin Column. Keep the MB Spin Column in the attached 2 ml Collection Tube and continue using the Collection Tube as an MB Spin Column holder until needed for the vacuum manifold protocol.
- Label each Collection Tube top and MB Spin Column to maintain sample identity. If the MB Spin Column becomes clogged during the vacuum procedure, switch to the centrifugation protocol.
- 100% ethanol will be needed for step 8 of this protocol.

Procedure

1. Connect the QIAvac 24 Plus to the vacuum source using the QIAvac Connecting System (for more details, refer to the *QIAvac 24 Plus Handbook*, Appendix A, page 16).
2. Insert a VacValve into each Luer slot of the QIAvac 24 Plus that is to be used. Close unused Luer slots with Luer plugs or close the inserted VacValve.
3. Insert a VacConnector into each VacValve. Perform this step directly before starting the purification to avoid exposure of VacConnectors to potential contaminants in the air.
4. Place an MB Spin Column into each VacConnector on the manifold.
5. Transfer 650 µl of prepared sample lysate (after step 14 of the centrifugation protocol) to an MB Spin Column.
6. Turn on the vacuum source and open the VacValve of the port. Hold the tube in place when opening the VacValve to keep the spin filter steady. Allow the lysate to pass through the MB Spin Column completely.

7. After the lysate has passed through the column completely, load again with 650 µl of lysate. Continue until all the lysate has been loaded onto the MB Spin column. Close the VacValve of that port.
   Note: If the MB Spin Columns are filtering slowly, close the ports to samples that have completed filtering to increase the pressure to the other columns.
8. Add 800 µl of 100% ethanol to completely fill the MB Spin Column. Open the VacValve while holding the column steady. Allow the ethanol to pass through the column completely. Close the VacValve.
9. Shake to mix Solution PW4. Add 650 µl of Solution PW4 to each MB Spin Column. Open the VacValve and apply a vacuum until Solution PW4 has passed through the column completely. Continue to pull a vacuum for another minute to dry the membrane. Close each port.
10. Add 650 µl of ethanol to each MB Spin Column. Open the VacValve and apply a vacuum until ethanol has passed through the column completely. Continue to pull a vacuum for another minute to dry the membrane. Close each port.
11. Turn off the vacuum source and open an unused port to vent the manifold. If all 20 ports are in use, break the vacuum at the source. Make certain that all vacuum pressure is released before performing the next step. It is important to turn off the vacuum at the source to prevent backflow into the columns.
12. Remove the MB Spin Column and place in the original labeled 2 ml Collection Tube. Place into the centrifuge and spin at 13,000 x *g* for 2 min to completely dry the membrane.
13. Transfer the MB Spin Column into a new 2 ml Collection Tube and add 100 µl of Solution EB to the center of the white filter membrane. Alternatively, sterile DNA-free PCR-grade water (cat. no. 17000-10) may be used.
14. Centrifuge at 13,000 x *g* for 1 min at room temperature (15–25°C).
15. Discard the MB Spin Column. The DNA is now ready for downstream applications.
    Note: We recommend storing DNA frozen (–90°C to –15°C) as Solution EB does not contain EDTA. To concentrate DNA, see the Troubleshooting Guide.

Troubleshooting Guide

This troubleshooting guide may be helpful in solving any problems that may arise. For more information, see also the Frequently Asked Questions page at our Technical Support Center: **www.qiagen.com/FAQ/FAQList.aspx**. The scientists in QIAGEN Technical Services are always happy to answer any questions you may have about either the information and/or protocols in this handbook or sample and assay technologies. For contact information, visit **www.qiagen.com**.

		Comments and suggestions
Sample processing		
a)	Filter membrane selection	We recommend Pall Laboratory MicroFunnel Disposable Filter Funnels (0.22 µm or 0.45 µm) (VWR cat. no. 28143-542 or 55095-060, respectively). The 0.22 µm filter membrane consists of polyether sulfone, while the 0.45 µm filter membrane consists of cellulose acetate. Some filter membranes may bind and concentrate inhibitors. To reduce the likelihood of this occurring, filter membrane types may need to be evaluated prior to use.
b)	Solution PW1is not warmed prior to use	Continue with the protocol. You will still obtain DNA, but the yields may not be optimal.
c)	A centrifuge with a 15 ml tube rotor is not available at Step 7	Centrifugation at this step helps separate the supernatant from the filter membrane, which aids in the recovery of as much of the supernatant as possible. If a centrifuge is not available, this step can be skipped with some minor loss of supernatant.

		Comments and suggestions
DNA		
a)	DNA has low $A_{260/230}$ ratios	$A_{260/230}$ readings are one measure of DNA purity. For samples with low biomass, which would lead to low DNA yields (<20 ng/µl), this ratio may fall below 1.5. However, this ratio is not an indicator of amplification ability or DNA integrity. Ethanol precipitation followed by resuspension in a smaller volume to concentrate the DNA may help to improve the $A_{260/230}$ ratio.
b)	Concentrating eluted DNA	The final volume of eluted DNA will be 100 µl. The DNA may be concentrated by adding 5 µl of 3 M NaCl and inverting 3–5 times to mix. Next, add 200 µl of 100% cold ethanol and invert 3–5 times to mix. Centrifuge at 10,000 x g for 5 minutes at room temperature (15–25°C). Decant all liquid. Briefly dry residual ethanol in a speed vac or ambient air. Avoid over-drying the pellet or resuspension may be difficult. Resuspend precipitated DNA in desired volume of 10 mM Tris (Solution EB).
c)	DNA floats out of a well when loading a gel	This usually occurs because residual ethanol remains in the final sample. To ensure complete drying of the membrane after adding ethanol, centrifuge the MB Spin Column in a clean 2ml Collection Tube for an additional minute. Ethanol precipitation (described in "Concentrating eluted DNA") is the best way to remove residual ethanol. If you live in a humid climate, you may experience increased difficulty drying the membrane in the centrifuge. Increase the centrifugation time at step 19 by another minute or until no visible moisture remains on the membrane.
d)	Storing DNA	DNA is eluted in Solution EB (10 mM Tris) and must be stored at –90°C to –15°C to prevent degradation. DNA can be eluted in TE without loss, but the EDTA may inhibit downstream reactions, such as PCR and automated sequencing.

		Comments and suggestions
Alternative lysis methods		
a)	Sample contains organisms that are difficult to lyse (fungi, algae)	Heating can aid the lysis of some organisms (fungi, algae). After adding Solution PW1 (Step 5 of the protocol), heat the sample at 65°C for10 min. Resume protocol from step 6.

Appendix A: Types of water samples

This appendix describes types of water sample and how to effectively process them.

Clear water samples

Larger volumes of clear water can be processed because there is less chance of filter clogging. Potable drinking water will generally allow for very high volumes depending on the quality and particulate count. In most cases, 100 ml to 10 liters can be processed, although some users report processing even higher volumes.

Turbid water samples

Turbid samples with high levels of suspended solids or sediments will tend to clog filters with smaller pore sizes (0.22 µm). Use of 0.45 µm filters is recommended for these types of samples. (See section on Equipment and Reagents to Be Supplied by User).

Prior to filtering, samples can be stored in a container to allow suspended solids to settle out. For samples where settling does not occur or is not desired, a method involving stacking filters with larger pore sizes on top of the filter membrane of the desired pore size is recommended. A common set-up is to stack a sterile 1 µm filter. This layering will filter out large debris and allow the smaller micron filter to trap microorganisms. The layered filter system can be washed with sterile water or sterile phosphate buffer to knock down some of the trapped microorganisms on the larger pore size filters. Although this is not completely efficient, it will increase the overall yield of microbial DNA.

Appendix B: Expected DNA yields

DNA yields will vary depending on the type of water, sample location and time of year. Examples of expected yields are provided as a reference. Due to diversity of water sample types, yields may fall outside of the examples provided.

Table 1. Water sample types

Type of water sample	Sample volume (ml)	DNA yield (ng/µl)
Saltwater bay	100	40–72
Freshwater lake	100	15–25
Lagoon	20–100	3–38
Ocean coastal	100	3–11
Sewage influent	50	95
Treated effluent	50	18

Ordering Information

Product	Contents	Cat. no.
DNeasy PowerWater Kit (50)	For the isolation of genomic DNA from filtered water samples, including turbid water	14900-50-NF
DNeasy PowerWater Kit (100)	For the isolation of genomic DNA from filtered water samples, including turbid water	14900-100-NF
Related Products		
QIAcube Connect — for fully automated nucleic acid extraction with QIAGEN spin-column kits		
QIAcube Connect*	Instrument, connectivity package, 1-year warranty on parts and labor	Inquire
Starter Pack, QIAcube	Filter-tips, 200 µl (1024), 1000 µl filter-tips (1024), 30 ml reagent bottles (12), rotor adapters (240), elution tubes (240), rotor adapter holder	990395
RNeasy® PowerWater Kit (50)	For the isolation of total RNA from filtered water samples, including turbid water	14700-50-NF
DNeasy PowerWater Sterivex Kit (50)	For the isolation of genomic DNA from all filtered water sample types collected with Sterivex filter units	14600-50-NF
Vortex Adapter for 6 (5 & 15 ml) tubes	For vortexing 5 and 15 ml tubes using the Vortex-Genie® 2 Vortex.	13000-V1-5

Vortex Adapter for 4 (15 ml) tubes	For vortexing 1.7, 2, 5, 15 and 50 ml tubes using the Vortex-Genie 2 Vortex.	13000-V1-15
QIAvac 24 Plus	Vacuum manifold for processing 1–24 spin columns; includes QIAvac 24 Plus Vacuum Manifold, Luer Plugs and Quick Couplings	19413

* All QIAcube Connect instruments are provided with a region-specific connectivity package, including tablet and equipment necessary to connect to the local network. Further, QIAGEN offers comprehensive instrument service products, including service agreements, installation, introductory training and preventive subscription. Contact your local sales representative to learn about your options.

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.

Document Revision History

Date	Changes
January 2020	Updated text, ordering information and intended use for QIAcube Connect. Deleted reference to a video.

Notes

Notes

Limited License Agreement for DNeasy PowerWater Kit

Use of this product signifies the agreement of any purchaser or user of the product to the following terms:

1. The product may be used solely in accordance with the protocols provided with the product and this handbook and for use with components contained in the kit only. QIAGEN grants no license under any of its intellectual property to use or incorporate the enclosed components of this kit with any components not included within this kit except as described in the protocols provided with the product, this handbook, and additional protocols available at www.qiagen.com. Some of these additional protocols have been provided by QIAGEN users for QIAGEN users. These protocols have not been thoroughly tested or optimized by QIAGEN. QIAGEN neither guarantees them nor warrants that they do not infringe the rights of third-parties.
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3. This kit and its components are licensed for one-time use and may not be reused, refurbished, or resold.
4. QIAGEN specifically disclaims any other licenses, expressed or implied other than those expressly stated.
5. The purchaser and user of the kit agree not to take or permit anyone else to take any steps that could lead to or facilitate any acts prohibited above. QIAGEN may enforce the prohibitions of this Limited License Agreement in any Court, and shall recover all its investigative and Court costs, including attorney fees, in any action to enforce this Limited License Agreement or any of its intellectual property rights relating to the kit and/or its components.

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