April 2026

EZ2® DNA Investigator® Sep&Prep Kit Handbook

For automated processing of sexual assault samples and sperm cell DNA preparation using the EZ2 Connect Fx instrument

Sample to Insight

Table of Contents

Kit Contents 4
Shipping and Storage 5
Intended Use 6
Safety Information 7
Quality Control 8
Introduction 9
- Principle of the procedure 9
- Description of protocols 11

Equipment and Reagents to Be Supplied by User 12
Important Notes 13
- Starting material 13
- Sample output 13
- Precipitate in the reagent cartridge 13
- Equilibrating reagent cartridges 13
- EZ2 Connect Fx reagent cartridges 14
- EZ2 Connect Fx Tip Racks 15
- Worktable 15
- Operation of EZ2 Connect Fx 16

Pretreatment Protocol for Sexual Assault Samples 18
- Important points before starting 18
- Thing to do before starting 18
- Procedure 18

Sample Separation and Preparation: Sep&Prep Protocol 20
- Important points before starting 20
- Things to do before starting 20
- Procedure 21

DNA Purification: Non-Sperm Fraction 25
- Procedure 25

Troubleshooting Guide 26
Ordering Information 30
Document Revision History 32

Kit Contents

EZ2 DNA Investigator Sep&Prep Kit Catalog no. No. of preps	 952134 48
Reagent Cartridge, Sep&Prep*	48
Disposable Tip Holders	50
Disposable Filter-Tips	50
Sample Tubes (2 mL)	50
Elution Tubes (1.5 mL)	50
Microtubes without cap (1.5 mL)	50
D-Tubes	50
QIAshredder	50
Reagent UI	1 mL
Lysis Buffer	24 mL
Elution Buffer	7 mL
Nuclease-free Water†	3 x 1.9 mL
Proteinase K	2 mL
Q-Card§	1

* Contains guanidine salts. Not compatible with disinfectants containing bleach. See "Safety Information" on page 7.

† Other than stated on the label, the Nuclease-free Water does not need to be stored at –15°C to –30°C.

§ The information encoded in the barcode on the Q-Card is needed for reagent data tracking on EZ2 Connect Fx.

Shipping and Storage

EZ2 DNA Investigator Sep&Prep Kit (cat. no. 952134) should be stored at room temperature (15– 25°C). The Elution Buffer should be stored at 2– 8°C. Do not freeze the reagent cartridges. Other than stated on the label, the Nuclease-free Water does not need to be stored at –15°C to –30°C; it can be stored at room temperature or at 4–7°C. The reagent cartridge and Reagent UI must be stored protected from the light. Under these conditions, the components are stable until the expiration date indicated on the kit.

Intended Use

EZ2 DNA Investigator Sep&Prep Kit is intended for molecular biology applications in forensics, human identity, and paternity testing. EZ2 DNA Investigator Sep&Prep Kit is intended to be used with EZ2 Connect Fx instrument (cat. no. 9003220). This product is neither intended for the diagnosis, prevention, or treatment of a disease, nor has it been validated for such use either alone or in combination with other products. 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 components.

CAUTION

DO NOT add bleach or acidic solutions directly to the sample-preparation waste.

Buffers in the reagent cartridges contain guanidine hydrochloride/guanidine thiocyanate, which can form highly reactive compounds when combined with bleach.

If liquid containing these buffers is spilt, clean with 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. If liquid containing potentially infectious agents is spilt on EZ2 Connect Fx instrument, clean the affected area first with laboratory detergent and water, and then with 1% (v/v) sodium hypochlorite, followed by water.

Quality Control

In accordance with QIAGEN's ISO-certified Quality Management System, each lot of EZ2 DNA Investigator Sep&Prep Kit is tested against predetermined specifications to ensure consistent product quality. Functional QC testing ensures that the EZ2 DNA Investigator Sep&Prep Kit meets the high standards required by forensic scientists. EZ2 DNA Investigator Sep&Prep Kit meets ISO 18385 requirements.

Introduction

Sexual assault samples are commonly comprised of a mixture of non-sperm and sperm cells from multiple individuals. EZ2 DNA Investigator Sep&Prep Kit is based on the principle of differential extraction, which uses the different properties of sperm cells and all other cells that occur in sexual assault samples. This enables the generation of individual profiles of the perpetrator from whom the sperm cells originated. EZ2 DNA Investigator Sep&Prep Kit contains all required reagents and labware to separate the non-sperm fraction from the sperm fraction and automate the purification of sperm-derived genomic DNA on EZ2 Connect Fx instrument. Magnetic-particle technology provides high-quality DNA from the sperm fraction that is suitable for direct use in downstream applications such as quantitative real-time PCR, STR analysis, or NGS applications. EZ2 Connect Fx instrument performs all steps of the sample separation and preparation procedure. Up to 24 samples can be processed in a single run.

Principle of the procedure

EZ2 Connect Fx provides fully automated separation of the non-sperm fraction from the sperm fraction and preparation of sperm-derived genomic DNA using silica-coated magnetic particles. Magnetic-particle technology eliminates tedious centrifugation steps, and the easy-to-use instrument allows purification of 1–24 samples in a single run. The sperm-derived male DNA is then efficiently washed and eluted in the user's choice of volumes between 50 µL and 100 µL.

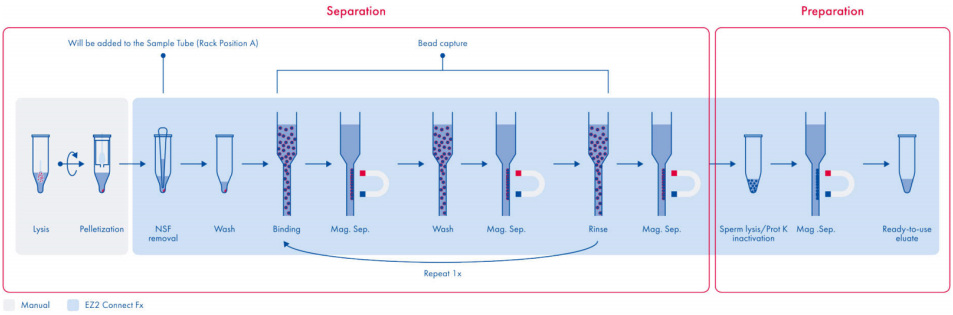
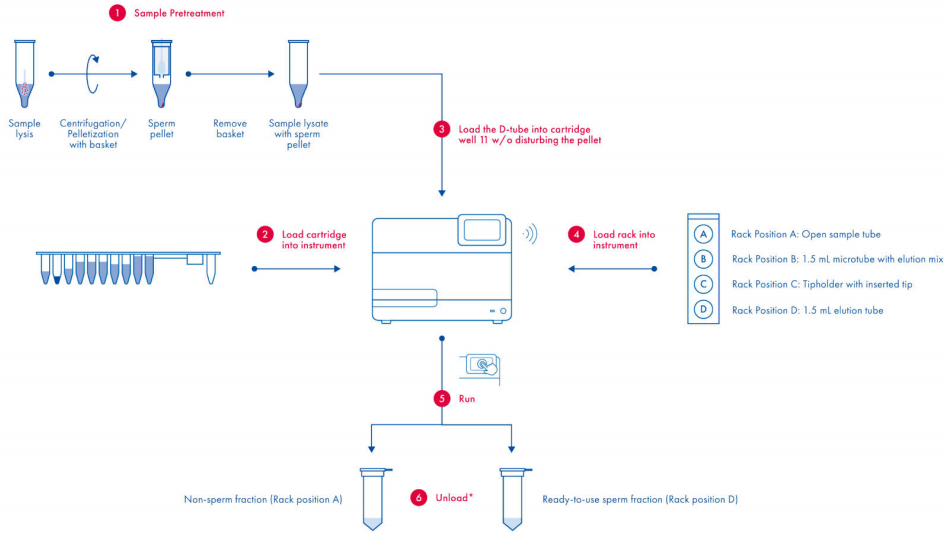


Figure 1. Sep&Prep procedure. NSF: non-sperm fraction. **Mag. Sep.**: magnetic separation.



*Alternatively, keep the non-sperm fraction in rack position A, reload EZ2 Connect Fx instrument with Investigator cartridges from EZ1&2 DNA Investigator Kit (cat. no. 952034), and then purify the DNA (see protocol on page 25).

Figure 2. Overview of the Sep&Prep workflow.

Description of protocols

This handbook contains 2 types of protocols.

- The pretreatment protocol details the differential lysis prior to sample processing on EZ2 Connect Fx instrument.
- The separation and preparation protocol describes setting up EZ2 Connect Fx instrument and starting a fully automated run.

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.

- Thermal mixer with 2 mL adapter
- Vortexer
- Pipettes and pipette tips (to prevent cross-contamination, we strongly recommend the use of pipette tips with aerosol barriers)
- Microcentrifuge
- Centrifuge capable of 15,000 rpm
- DNA- and DNase-free tube that holds about 5 mL (e.g., 5 mL Tubes, graduated, flat-base, cat. no. 990552) or 10 mL liquid for Master Mix setup
- DNA- and DNase-free 1.5 or 2 mL tube to dilute Reagent UI and Proteinase K

Important Notes

Starting material

This handbook contains the protocol for processing solid sexual assault samples containing a combination of non-sperm cells and sperm cells including but not limited to post-coital swabs, vaginal or buccal swabs with semen, sperm samples mixed with different cell types, and ejaculate on fabrics.

Sample output

This handbook includes the protocol for processing sexual assault samples with EZ2 DNA Investigator Sep&Prep Kit automated on EZ2 Connect Fx instrument. Sperm fractions from rack position D are ready to be used for downstream PCR without further purification steps needed. The non-sperm fraction (NSF) is available from rack position A and still needs to be purified. We recommend the use of EZ1&2® DNA Investigator Kit (cat. no. 952034) or any other sample purification technology.

Precipitate in the reagent cartridge

The buffer in well 1 (the well nearest to the front of EZ2 Connect Fx instrument when the reagent cartridge is loaded) and well 3 of the reagent cartridge may form a precipitate upon storage. If necessary, redissolve by mild agitation at 37°C and then equilibrate at room temperature.

Equilibrating reagent cartridges

If reagent cartridges have been stored at 2–8°C, these must be equilibrated to operating temperature (18–30°C) before use. Place the reagent cartridge into a shaker–incubator and incubate at 30–40°C with mild agitation for at least 2 hours before use. If precipitates are

visible at the bottom of the wells, redissolve by incubating at 30–40°C with mild agitation for an additional 2 hours. Do not use the reagent cartridges if the precipitates do not redissolve.

EZ2 Connect Fx reagent cartridges

The reagents for purification of sperm fraction from sexual assault samples are contained in a single reagent cartridge (Figure 3). Each well of the cartridge contains a particular reagent, such as magnetic particles, binding buffer, or wash buffer. Details on preparation of these positions are displayed during the run setup on the LED screen of EZ2 Connect Fx.

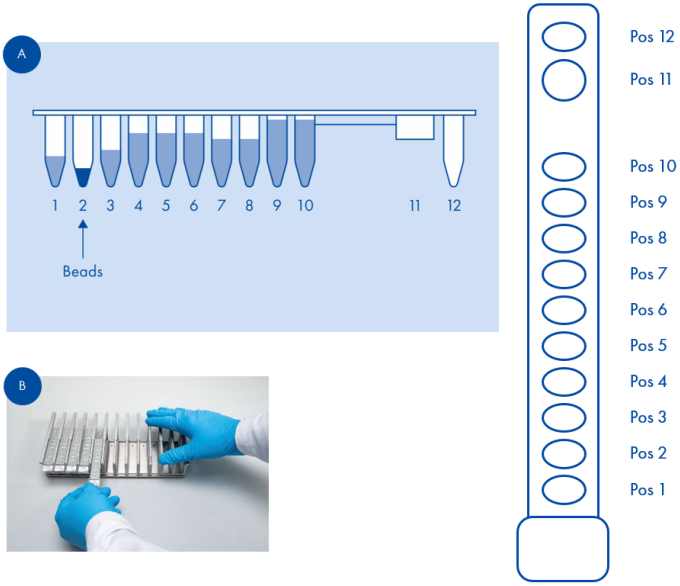


Figure 3. Ease of worktable setup using reagent cartridges. **(A)** A sealed, pre-filled reagent cartridge. **(B)** Loading reagent cartridges into the cartridge rack. The cartridge rack itself is labeled with an arrow to indicate the direction in which reagent cartridges must be loaded.

EZ2 Connect Fx Tip Racks

EZ2 Connect Fx comes with 2 different types of Tip Racks. One is compatible with screw cap tubes, and one is compatible with flip-cap tubes. EZ2 DNA Investigator Sep&Prep is compatible with the standard rack for screw cap tubes only. EZ2 Connect Fx Tip Racks hold tips inserted into tip holders and tubes for samples or elution (Figure 4). Details on how to equip the Tip Racks are displayed during the run setup on the LED display of EZ2 Connect Fx.

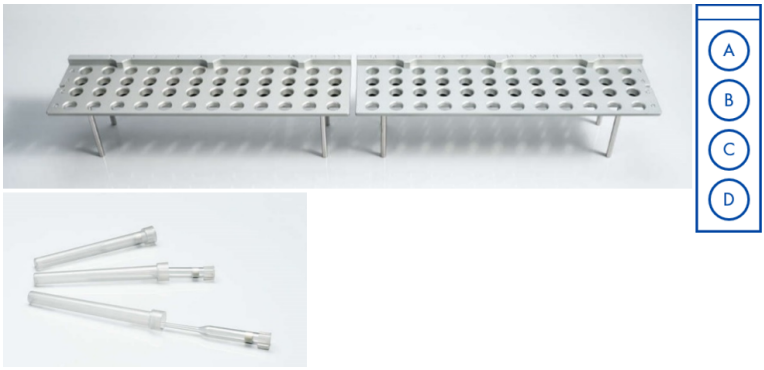


Figure 4. EZ2 Connect Fx Tip Racks, tip holders, and filter-tips.

Worktable

The worktable of EZ2 Connect Fx instrument is where the user loads cartridges and Tip Racks (Figure 5).

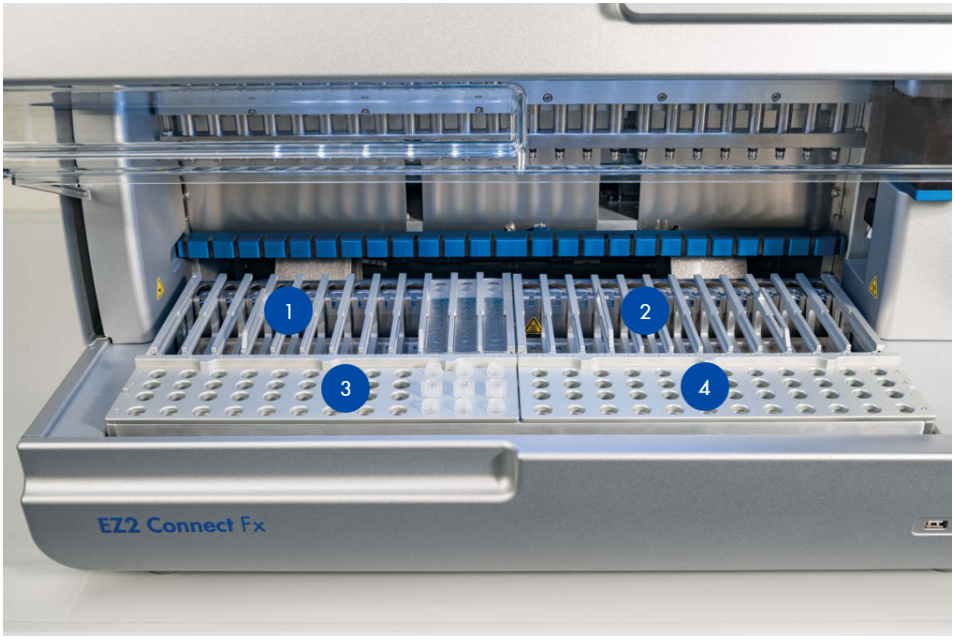


Figure 5. EZ2 Connect Fx Worktable. (1) EZ2 Connect Cartridge Rack – left. **(2)** EZ2 Connect Cartridge Rack – right. **(3)** EZ2 Connect Tip Rack – left. **(4)** EZ2 Connect Tip Rack – right.

Operation of EZ2 Connect Fx

EZ2 Connect Fx provides various features to support the sample preparation workflow. These include functions for remote access via QIAsphere®, data input via barcode reading, load check, data storage and transfer, report generation, and guided instrument maintenance.

EZ2 Connect Fx has pre-installed protocols that are used with EZ2 DNA Investigator Sep&Prep Kit to separate sperm cells from non-sperm cell fraction and prepare the sperm-derived DNA. The non-sperm fraction can be prepared using the Large Volume RT protocol with EZ1&2 DNA Investigator Kit. The instrument's touchscreen display allows the user to easily select protocols. The intuitive user interface of the software guides the user through the run setup process, which

includes selecting variable parameters. The display also shows protocol status during the automated purification procedure.

The aspiration and dispensation of samples and reagents and the separation of magnetic particles are performed by the 24-channel pipette head. If required by the protocol, the temperature of the liquids is controlled by the heating system.

For more information about these features, refer to *EZ2 Connect and EZ2 Connect Fx User Manual* (**www.qiagen.com/HB-2908**).

Pretreatment Protocol for Sexual Assault Samples

This protocol is designed for the differential lysis of non-sperm cells from various types of solid sexual assault samples mixtures prior to automated separation of sperm cells and preparation of sperm-derived DNA on EZ2 Connect Fx.

Important points before starting

- This protocol is for solid sample materials only (e.g., swabs).
- Before beginning the procedure, read “Important Notes” on page 13.
- If D-Tubes are labeled with a sticky label, check if they fit into well 11 of the cartridge. Otherwise, the D-Tube will not fit inside EZ2 Connect Fx instrument properly. If the D-Tubes do not fit, the label has to be removed before loading onto the instrument.

Thing to do before starting

- Heat a thermal mixer with a 2 mL tube adapter to 56°C for the Proteinase K digest in step 4.

Procedure

1. Prepare the collection material (swabs, fabric cuttings, etc.) for further processing. For swabs, cut off the swab head directly over the applicator.

   Note: The solid collection material has to fit inside the QIAshredder later in the process.

2. Put the collection material inside a D-Tube.

Note: If D-Tubes are labeled with a sticker, check if they fit into the well. See "Important points before starting" on the previous page.

3. Add 475 µL of Lysis Buffer and 25 µL of Proteinase K. Close the D-Tube. Make sure that the D-Tube is closed properly.

   Note: Preparation of a master mix of Lysis Buffer and Proteinase K is recommended.

4. Incubate in a thermal shaker for 1 h at 56°C set to 900 rpm. During this incubation step, start with the preparation of EZ2 Connect Fx instrument (see the "Procedure" section of "Sample Separation and Preparation: Sep&Prep Protocol" starting on the next page).

5. Take the D-Tube out of the thermal shaker.

6. Centrifuge the D-Tube briefly to remove drops from inside the cap.

7. Open the D-Tube. Carefully cut off the lid from the lower hinge.

   Note: Cut the hinge as close to the reaction vessel as possible.

8. Transfer the collection material (swab or fabric) from the D-Tube with a tweezer to a QIAshredder and plug the basket back into the same D-Tube. Close the QIAshredder cap.

9. Centrifuge for 5 min at 21,000 × *g* (15,000 rpm). This will lead to pelletization of non-lysed components. Proceed to step 10 immediately.

   Note: The pellet may not be visible.

10. Remove the QIAshredder including sample material from the D-Tube without disturbing the pellet.

11. Continue immediately with step 14 of "Sample Separation and Purification: Sep&Prep Protocol" on page 22.

Sample Separation and Preparation: Sep&Prep Protocol

This protocol is designed for separation of the non-sperm fraction from the sperm pellet and isolation of sperm-derived DNA from various sexual assault samples that have been pretreated as described before. The protocol describes the simple procedure for setting up EZ2 Connect Fx instrument and starting a run.

Important points before starting

- If using EZ2 DNA Investigator Sep&Prep Kit for the first time, read "Important Notes" on page 13.
- The reagent cartridges contain guanidine salts and are not compatible with disinfecting reagents containing bleach. Consult the safety information on page 7.
- Perform all steps of the protocol at room temperature (15–25°C). Work quickly during the setup procedure.

Things to do before starting

- If reagent cartridges have been stored at 2–8°C, equilibrate to operating temperature before use. See "Equilibrating Reagent Cartridges" on page 13.
- The Lysis Buffer in the reagent cartridge may form a precipitate during storage. If necessary, redissolve by warming at 37°C, and then place at room temperature (15–25°C).
- Remove any solid material from the sample tube.
- Dilute 5 µL of Reagent UI with 495 µL of Nuclease-free Water in a clean DNA- or DNase-free tube to obtain a 1:100 Reagent UI dilution. Pipet slowly for accuracy. Use the

recommended dilution and do not pipet less than 5 µL for accuracy. The dilution is stable for 5 days at room temperature away from light.

Procedure

1. Turn on EZ2 Connect Fx instrument.
2. Log in to your user account.
3. Select the **Setup** icon on the toolbar and select **DNA Applications**.
4. Select **EZ2 DNA Investigator Sep&Prep Kit** and select **Next**.
5. Select **Sep&Prep Protocol** and select **Next**.
6. Select the Elution Volume (50 µL or 100 µL) from the drop-down menu. Select **Next**.
7. Select the sample positions and select **Next**.
8. Enter the sample IDs or select **Generate missing sample IDs**. Select **Next**.
9. Prepare the Elution Mix according to Table 1 using a clean DNA- or DNase-free tube that holds about 5 mL liquid. At first, dilute Reagent UI 1:100 using the provided Nuclease-free Water. Also dilute Proteinase K 1:10 using the provided Nuclease-free Water.

   Note: As some loss of reagents can occur during transfers, prepare the mix with additional reactions included (e.g., prepare for x + 1 reactions if x is from 8 to 15 reactions, and x + 2 for 16–24 reactions.

Table 1. Preparation of the Elution Mix

Component	Volume (µL) per reaction
Elution Buffer	132
1:100 Reagent UI dilution	4.5
1:10 Proteinase K dilution	5
Nuclease-free Water	78.5
Total volume	**220**

Note: If a high concentration of DNA is expected and the eluate will be diluted before STR analysis, the Proteinase K can be used without dilution. If the expected concentration is unknown, use the 1:10 dilution of Proteinase K.

10. For each sample, aliquot 220 µL of the freshly prepared Elution Mix into the 1.5 mL Microtube.
11. Prepare EZ2 Connect Standard Tip Rack according to the description and labels on the instrument (position labels are engraved on the EZ2 Connect Tip Rack):

    Standard Tip Rack

    - Position A: Opened 2 mL empty Sample Tube
    - Position B: 1.5 mL Microtube with 220 µL of freshly prepared Elution Mix
    - Position C: Tip holder with inserted tip
    - Position D: Opened 1.5 mL empty Elution Tube
12. Load EZ2 DNA Investigator Sep&Prep reagent cartridges into respective positions of the EZ2 Connect Cartridge Rack as selected in step 7.
13. Open the instrument hood. Place the loaded cartridge rack carefully into EZ2 Connect Fx instrument.

14. Load the D-Tube into well 11 of EZ2 DNA Investigator Sep&Prep cartridge without disturbing the pellet. Select **Next**.

    Note: Make sure to push the D-Tube completely down into the heat block well.

    Note: The orientation of the tube/pellet does not affect the subsequent process.

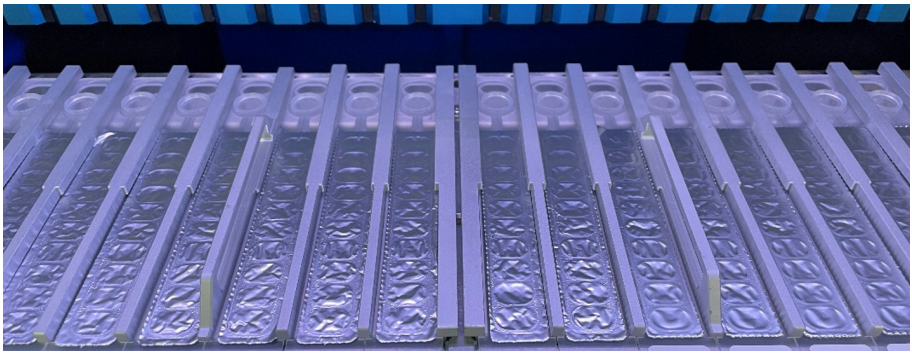


Figure 6. Loaded cartridge rack. Investigator Sep&Prep cartridges and D-Tubes are properly loaded into EZ2 Connect cartridge rack.

15. Place the loaded EZ2 Connect Standard Tip Rack into EZ2 Connect Fx instrument and close the hood.
16. Start the run according to the instructions on the instrument display. Remaining time to finish the run will be displayed on the screen.

    Note: A load check is possible, but the position of D-Tube from well 11 is not included.

17. The display will show "Protocol finished" when the run is completed. Select **Finish**.
18. Open the instrument hood.
19. Remove the Elution Tube in rack in position D, which contains the purified nucleic acid, and close the tube using the provided cap. If not done yet, label the Elution Tube. The Elution Tube in position D contains the sperm-derived DNA and can be used directly for

PCR or stored at 2–8°C for up to 2 years, or at –30°C to –15°C for storage periods longer than 2 years.

20. The Sample Tube from rack position A holds the NSF.

    - Remove and close the Sample Tube and store for sample processing at a later time-point. The NSF is stable for 4 weeks when stored at 4–8°C, or 6 months when stored at –20°C.
    - Alternatively, immediately process the NSF with the EZ1&2 DNA Investigator Kit (see "DNA Purification: Non-Sperm Fraction" on the facing page) for purification.

21. Discard the used tips, tip holders, the Microtubes with the remaining Elution Mix in position B, and the used cartridges including the liquid waste.

    Optional: Follow on-screen instructions for UV decontamination of worktable surfaces.

22. Perform regular maintenance after each run. Press **Finish** to return to the home screen.

DNA Purification: Non-Sperm Fraction

DNA lysate from the non-sperm fraction (NSF) has been collected in the Sample Tube in rack position A. For sample purification, it can be immediately processed with the EZ1&2 DNA Investigator Kit. Alternatively, it can be stored at 4–8°C for 4 weeks, or at –20°C for 6 months for sample processing at a later time-point.

Procedure

1. For purification, get out all plastics from rack positions B, C, and D, as well as the used Sep&Prep cartridge. Proceed immediately with the purification of the non-sperm fraction from the Sample Tube in position A.
2. Purify the epithelial fraction using "DNA Purification: Large Volume Protocol RT" described in *EZ1&2 DNA Investigator Kit Handbook* (**qiagen.com/HB-2984**) using EZ1&2 DNA Investigator Kit. Use 50 µL as elution volume. Elute in Buffer TE.

Troubleshooting Guide

This troubleshooting guide may be helpful in solving any problems that may arise. For more information, visit **www.qiagen.com/FAQ/FAQList.aspx** for Frequently Asked Questions at our Technical Support Center (for contact information, visit **www.qiagen.com**).

	Comments and suggestions
General handling	
Error message in instrument display	Refer to the user manual supplied with your EZ2 Connect Fx instrument.
Reagent cartridge handling	
a) Magnetic particles not completely resuspended	Ensure that you invert the reagent cartridges several times to resuspend the magnetic particles.
b) Insufficient reagent aspirated	After inverting the reagent cartridges to resuspend the magnetic particles, ensure that you tap the cartridges to deposit the reagents at the bottom of the wells.
c) Varying pipette volumes	To ensure pipetting accuracy, it is important that buffer volumes in the reagent cartridges are correct and that the filter tips fit optimally to the tip adapter. Ensure that samples are thoroughly mixed and that reagent cartridges have not passed their expiry date. Perform regular maintenance as described in the instrument user manual. Regularly check the fit of the filter tips as described in the user manual.
d) Precipitates in cartridges and buffers	Make sure the extraction room is not too cold; temperatures at around 23–24°C may help to prevent precipitation. Do a careful visual inspection of the cartridges. Warm the cartridges. Have Lysis Buffer pre-warmed immediately before adding to the sample lysate. Check for crystallization. Do not warm the entire Lysis Buffer bottle, but pre-warm the required aliquots at 56°C. Warm the sample lysate in the incubator. If excessive precipitate or gelatinous substance is observed after the addition of Lysis Buffer, warm the lysate to 56°C until no precipitate can be observed. When using the Lysis Buffer, ensure that the buffer is warm and that no precipitates are present.

	Comments and suggestions
Hardware	
a) EZ2 Connect Fx instrument stops	Make sure to press the D-Tube down completely into cartridge well 11 (see step 14 of "Sample Separation and Preparation: Sep&Prep Protocol" on page 23). Make sure to cut the hinge as close to the reaction vessel as possible.
b) D-Tube does not fit into cartridge well 11	Label the D-Tube with a thin tag or use a pen.
Handling	
a) Use of liquid sample (e.g., mouth wash, semen)	Do not add liquid sample to the Lysis Buffer. Liquid sample should always be centrifuged to create a sperm cell pellet. Remove supernatant, leaving approximately 50 µL of residual volume. Add 475 µL Lysis Buffer and 25 µL Proteinase K and mix by vortexing. Transfer entire volume to D-Tube and proceed with the pretreatment protocol step 4.
b) Prolonged incubation in lysis buffer	Sample must be incubated for a minimum of 1 hour. Incubation up to 2 hours delivers identical results. Incubation up to 19 hours is possible, but may lead to minimal DNA yield loss.
c) Skip use of QIAshredder Basket for pelletization	For solid samples, it is not recommended to perform pelletization without the QIAshredder, because it would lead to a loss in sperm cells and lowers the DNA yield.
d) Incubation in lysis buffer within QIAshredder Basket	The QIAshredder is not compatible for the lysis step, since the Lysis Buffer will leak during lysis. This will result in reduced performance and yield.
e) Difficulties to load and remove D-Tube with QIAshredder from centrifuge	Depending on the centrifuge and number of samples processed at once, there might be difficulties loading or removing the D-Tube with QIAshredder in or from the centrifuge. In this case, use every second slot of the centrifuge. Always remove the D-Tube with QIAshredder by lifting both items together on their rims.
f) Sperm pellet disturbed during D-Tube handling	Spin down again for 5 minutes at 21,000 × g (15,000 rpm) for pelletization before transferring D-Tube onto EZ2 Connect Fx instrument.
g) The Reagent UI was exposed to light	Do not use. Reagent UI can be purchased separately (cat. no. 77900).

	Comments and suggestions
h) The Reagent UI was used undiluted for the Elution Mix	Samples from the sperm fraction are inhibited. They can be rescued by cleaning up with a QIAamp DNA Investigator Kit (see "Appendix B: Cleanup of DNA" on *QIAamp DNA Investigator Handbook*). However, the total yield will be reduced by around 50%.
i) The undiluted Proteinase K was used for the Elution Mix	Depending on the STR assay used in downstream analysis, sperm fraction eluates may show nonspecific artifacts.
j) Elution Buffer wasn't properly stored according to recommendations	The Elution Buffer should be stored at 2–8°C upon arrival. Shipping and short-term storage at ambient temperature does not affect the yield.
k) There is waste present in the tip holder	The sperm pellet is washed once after removal of the non-sperm fraction. This wash is wasted in the tip holder. The waste can be disposed of with regular laboratory waste.
Downstream applications	
a) Insufficient DNA used in downstream applications	If possible, repeat the downstream application using more eluate.
b) Excess DNA used in downstream applications	Excess DNA can overload STR amplifications. Quantify the purified human DNA by real-time PCR-based methods.
c) Sperm fraction eluates show inhibition	Make sure to properly dilute and store Reagent UI (see step 9 of "Sample Purification: Sep&Prep Protocol" on page 21). Typically, eluates are free from any inhibitors. In rare cases, inhibitors might get carried over. If possible, lower the sample volume used for amplification, or purify the eluate with a purification kit (e.g., EZ1&2 DNA Investigator Kit).
d) Reduced elution volume from previous EZ2 Connect Fx run using EZ1&2 DNA Investigator Kit	When starting a run to process non-sperm or any other samples with the EZ1&2 DNA Investigator Kit shortly after an Investigator Sep&Prep run, the heating block of EZ2 Connect Fx is still at high temperature. This may cause increased evaporation of elution buffer, which is transferred to the heating position after a protocol is started, resulting in slightly lower eluate volumes. If this is observed, wait until the heating block has cooled to a lower temperature. Note that the elution buffer is heated to 65°C during a run. Thus, cooling to lower temperatures is not required.

	Comments and suggestions
e) Sperm fraction eluates show artifacts	Concentrating the sperm fraction eluate is strongly discouraged because it can negatively affect compatibility with downstream STR assays. Depending on the STR assay used in downstream analysis, sperm fraction eluates may show nonspecific artifacts if the Proteinase K from the Elution Mix was not diluted correctly.

Ordering Information

Product	Contents	Cat. no.
EZ2 DNA Investigator Sep&Prep Kit (48)	For 48 preps: Reagent Cartridges (Sep&Prep), Disposable Filter-Tips and Tip-Holders, Tubes, QIAshredder, Reagent UI, Lysis Buffer, Elution Buffer, Proteinase K, and Nuclease-free Water	952134
EZ1&2 DNA Investigator Kit (48)	For 48 preps: Reagent Cartridges (Investigator), Disposable, Filter-Tips and Tip Holders, Sample Tubes, Elution Tubes, Buffers, and Reagents	952034
EZ2 Connect Fx	Robotic instrument for automated purification of nucleic acids from up to 24 samples, 1 year warranty on parts and labor	9003220
HID-related products		
Investigator Quantiplex Pro Kit (200)	For use on Applied Biosystems® Real-Time Systems: Quantiplex Pro Reaction Mix, Quantiplex Pro Primer Mix, Male Control DNA M1, QuantiTect® Nucleic Acid Dilution Buffer	387216
Investigator Quantiplex Pro FLX Kit (576)	For use on Applied Biosystems Real-Time Systems: 6x single blistered 96-well optical PCR plates with Master Mix, Male Control DNA M1, and QuantiTect Nucleic Acid Dilution Buffer	387516
Investigator Quantiplex Pro RGQ Kit (200)	For use on QIAGEN Rotor-Gene Q Real-Time Systems: Quantiplex Pro RGQ Reaction Mix, Quantiplex Pro RGQ Primer Mix, Male Control DNA M1, QuantiTect Nucleic Acid Dilution Buffer	387316
Investigator 24plex QS Kit (100)*	Primer Mix, Fast Reaction Mix 2.0, Control DNA, allelic ladder, DNA Size Standard, and Nuclease-free Water	382415
Investigator 26plex QS Kit (100)*	Primer Mix, Fast Reaction Mix 3.0, Control DNA, allelic ladder, and Nuclease-free Water	382615
Investigator ESSplex SE QS Kit (100)*	Primer Mix, Fast Reaction Mix 2.0, Control DNA, allelic ladder, DNA size standard, and Nuclease-free Water	381575
Investigator Argus X-12 QS Kit (25)*	Primer Mix, Fast Reaction Mix 2.0, Control DNA, allelic ladder, DNA size standard, and Nuclease-free Water	383223
Investigator Argus Y-28 QS Kit (100)*	Primer Mix, Fast Reaction Mix 3.0, Control DNA, allelic ladder, DNA size standard, and Nuclease-free Water	383625

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Document Revision History

Date	Description
08/2025	Initial release
11/2025	Corrected component volumes in Table 1. Updated “Troubleshooting Guide”.
04/2026	Removed mentions of D-Tube Caps. Added protocol step 7 to cut the lid from D-Tube in “Pretreatment Protocol for Sexual Assault Samples”. Revised protocol step for preparation of the Elution Mix and Table 1. Updated “Troubleshooting Guide”.

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