INSTRUCTION MANUAL

Monarch® Mag Cell-free DNA (cfDNA) Extraction Kit

NEB #T4070V/S

20/100 preps

Version 1.0 01/26

Table of Contents

Kit Contents and Storage

Component	NEB #	Application/Usage	T4070V 20 preps	T4070S 100 preps	Storage Temperature
Monarch StabiLyse™ DNA/RNA Buffer	T2111	Sample digestion	63 ml	210 ml	15-25°C
Monarch Buffer BX	T2041	Binding buffer	20 ml	122 ml	15-25°C
Monarch Buffer BY	T1121	Wash 1 concentrate	8 ml	36 ml	15-25°C
Monarch Buffer WZ	T1115	Wash 2 and 3 concentrate (5X)	12 ml	50 ml	15-25°C
Monarch Mag Beads M2	T4105	Magnetic beads for nucleic acid purification	2.2 ml	9 ml	4°C after opening
Proteinase K, Molecular Biology Grade	P8200	Protein digestion	1 ml	1 ml (x4)	-20°C after opening
Nuclease-free Water	B1500	Elution	14 ml	25 ml	15-25°C

Storage Recommendation

- **Monarch Mag Beads M2** should be stored at 4°C after opening.
- **Proteinase K** should be stored at -20°C after opening.
- All buffers should be stored at room temperature.
- Always keep reagent bottles tightly closed.
- See individual component labels for specific storage guidance.

Intended Use

The Monarch Mag Cell-free DNA (cfDNA) Extraction Kit is developed for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Safety Information

- Monarch StabiLyse DNA/RNA Buffer, Monarch Buffer BX and Monarch Buffer BY contain guanidine salts, which can form highly reactive compounds when combined with bleach. Do not add bleach or acidic solutions directly to the buffers or sample preparation waste.
- For more information regarding the composition of buffers, please consult the Safety Data Sheets available on our website: www.neb.com/T4070.
- Proper laboratory safety practices should be employed using this kit, including the use of lab coats, gloves, and eye protection.

Quality Control

To help ensure consistent quality and performance, each lot of this kit is tested for predetermined quality control and functional specifications.

Introduction

The Monarch Mag Cell-free DNA (cfDNA) Extraction Kit is designed for efficient and reproducible isolation of circulating cell-free DNA (cfDNA) from biofluids.The silica-coated magnetic beads, combined with the optimized buffer chemistry, ensure efficient binding and recovery of cfDNA that is ready for downstream applications. When integrated with NEB's sequencing and amplification applications, our cfDNA extraction solution enables streamlined workflows from biological sample to signal. Flexible by design, the kit supports both manual and automated workflows, and can be readily scaled to accommodate different sample input volumes.

Features of this kit include:

- **High Performance:** Recover cell-free DNA in the typical size range (150-300 bp), and as low as 50 bp.
- **Reproducibility:** Obtain consistent results for sample types with challenging biological variability.
- **Scalability:** Easily adapt to different sample input volumes.
- **Concentrated output:** Elute in low elution volumes without the need for additional concentration steps that lead to yield loss.
- **Application ready:** Achieve streamlined sample-to-result workflows by integrating with NEB's sequencing and amplification solutions.

Sustainability and Recycling Information

Monarch DNA and RNA Purification kits are designed for sustainability and performance. Learn more about Monarch sustainability at www.neb.com/monarchsustainability.

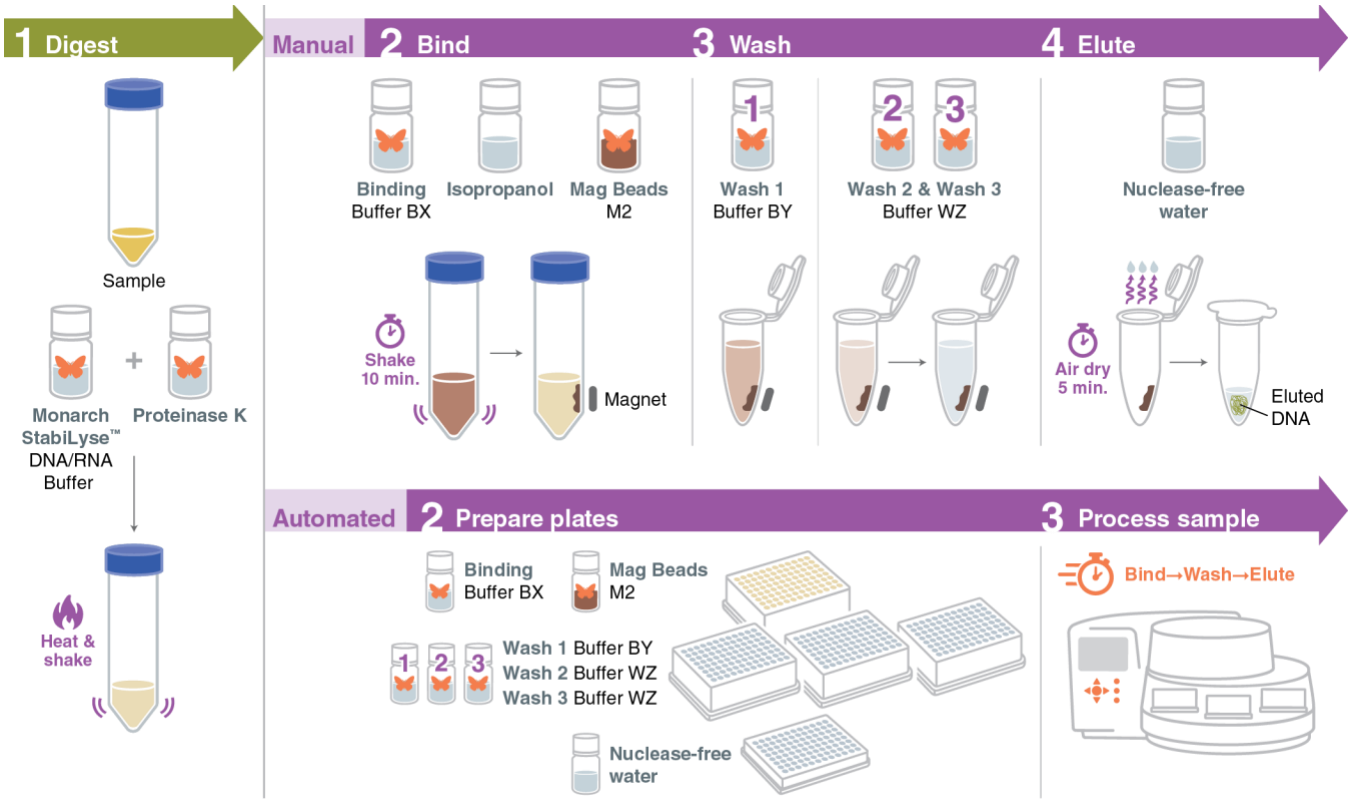
- **Sustainable performance**: Monarch kits use significantly less plastic in spin columns, buffer bottles, and other plastic components than leading alternatives. Magnetic bead formats provide a low-plastic option compared to traditional spin columns.
- **Flexible purchasing options:** Monarch kit components such as magnetic beads, spin columns, and buffers are available individually to suit your workflow needs.
- **Same performance, design and formulations:** Standalone products are the same components and formulations that are included in complete kits.
- **Streamlined packaging:** Monarch kits come in sturdy, right-sized reusable boxes and include quick protocol cards for easy reference.
- **Sustainable and recyclable packaging**: Monarch kits are printed with minimal ink using eco-friendly practices and renewable energy. Kit boxes, inserts and paper materials use recycled and recyclable paper.

Help keep Monarch sustainable by recycling after using. Learn more on how to recycle Monarch boxes and kit components at www.neb.com/monarchrecycling.

Background

The Monarch Mag Cell-free DNA (cfDNA) Extraction Kit is a solution for reproducible extraction of circulating cell-free DNA. In a typical workflow, plasma obtained from processing whole blood is first subjected to sample digestion using the Monarch StabiLyse DNA/RNA Buffer and Proteinase K. This step digests contaminating proteins and ensures efficient recovery of cfDNA. After the plasma digestion is complete, the addition of Monarch Buffer BX, isopropanol and silica-coated magnetic beads creates optimal conditions for DNA to bind to the magnetic beads, while undesirable impurities remain in the supernatant. Following a magnetic separation, the supernatant is discarded and the magnetic beads are washed using prepared Monarch Buffer BY and Monarch Buffer WZ. The cfDNA is then eluted using Nuclease-free Water at a low elution volume allowing for a concentrated output without the need for additional rebinding and concentration steps. The extracted cfDNA is application-ready and seamlessly integrates with NEB's library prep and amplification workflows. Our scalable extraction process enables flexibility in sample volume and promotes efficient reagent use.

Figure 1: Workflow for Monarch Mag Cell-free DNA (cfDNA) Extraction Kit



Properties

Purification Format	Magnetic beads
Compatible Platform	Manual or automated
Intended Application	Cell-free DNA extraction from liquid samples
Sample Type Compatibility	Plasma and urine (evaluated); cerebrospinal fluid (CSF) (suitable)
Elution Volume	As low as 15 µl, depending on sample input volume
Compatible Downstream Applications	cfDNA library prep and sequencing for mutation detection, detecting methylation signatures, and amplification methods including digital PCR

Important notes before you begin

Cell-free DNA detection

Cell-free DNA (cfDNA, ccfDNA, ctDNA) is an intrinsically challenging analyte to detect and characterize due to the fragmented nature, low concentration of DNA and high sample-to-sample variability. Our workflow enables efficient recovery of cell-free DNA by providing a reproducible extraction solution with low elution volume that minimizes loss, eliminating the need for additional concentration steps. Downstream integration with NEB's library prep and amplification platforms enables improved detection in end-to-end workflows.

Sample collection

Sample collection and preservation play a crucial role in cell-free DNA yield and recovery. Sample collection tubes and collection processes should be chosen carefully to stabilize cell-free nucleic acids and minimize contamination by cellular DNA. The tube manufacturer's instructions for sample collection and storage should be followed. Our kit is compatible with several different collection tubes including standard anticoagulant tubes such as EDTA and sodium citrate, as well as preservative-containing tubes such as those offered by Zymo®, Streck®, Norgen and PAXgene®.

DNA size recovered

The sample collection method used may impact the size range of recovered DNA, and should be chosen appropriately for the intended application. The standard protocol of this kit enables efficient extraction of all sizes, including as low as 50 bp. If enhanced recovery of <100 bp fragments is required, a protocol modification is provided on the product web page for targeted recovery of ultrashort fragments (<100 bp).

Procedure Notes

Sample types

This extraction kit has been evaluated for plasma and urine samples. Other suitable sample types include cerebrospinal fluid (CSF).

Sample handling and storage

During sample collection, follow the tube manufacturer's instructions for best practices in sample draw and storage to preserve the cell-free DNA fraction and minimize the cellular DNA release. If not using plasma for cfDNA extraction immediately upon blood processing, freeze the plasma at -20°C or -80°C.

Storing and handling of Monarch Mag Beads M2

Store Monarch Mag Beads M2 at 4°C after first use. For optimal performance, Monarch Mag Beads M2 should be equilibrated to room temperature before use. Importantly, the beads should be thoroughly vortexed right before dispensing into the sample.

Binding of cfDNA to beads

DNA binds to magnetic beads through interactions with the bead surface in the presence of the binding buffer (Monarch Buffer BX) and isopropanol. At this stage, the sample-binding mix needs to be mixed for 10 minutes to ensure efficient binding of cfDNA. A thermal mixer, shaker or an end-over-end mixer is recommended.
If preferred, a binding mix of Monarch Buffer BX, Isopropanol, and Monarch Mag Beads M2 can be made for use within a day.

Bead drying

Following the final wash, beads should be dried thoroughly to remove residual ethanol. Optimally dried beads appear shiny and uniformly dark, while over-dried beads appear cracked or matte light brown. Avoid over-drying the beads. A drying time of 5 minutes is recommended with the tubes on the magnet and tube caps open.

Elution

At the elution step, DNA is released from the magnetic beads using nuclease-free water. Vigorous mixing on a thermal mixer or a vortexer is recommended to ensure complete release of DNA into the water. Elution volumes may be adjusted based on the desired DNA concentration. Use caution to not disturb the bead pellet when removing the eluate from the tube. It is normal to lose 1-2 µl when transferring the final elution into a new tube. For automated workflows, adjust minimum elution volumes according to the specifications and requirements of the system being used.

General Guidelines for Monarch Mag Cell-free DNA (cfDNA) Extraction Kit

- Sample collection and preservation play a crucial role in yield and recovery. Choose sample collection tubes that are most suitable for your application and follow the manufacturer's protocols for storage.
- Ensure that the Monarch Mag Beads M2 have reached room temperature before use.
- Ensure that the Monarch Mag Beads M2 are thoroughly mixed immediately before transferring to sample tube.
- Prior to use, prepare Monarch Buffer BY and Monarch Buffer WZ according to instructions provided.
- Perform all steps at room temperature unless specifically indicated otherwise.
- Review Total Sample Binding Mix volume provided in Table 1, ahead of starting the protocol to make the appropriate choice of extraction tube, as this varies by the sample input volume.

Equipment and Reagents Required & Supplied by the User

Equipment

- Magnetic separation racks compatible with the tubes used (50 ml conical tube, 1.5 ml microfuge tube).
- Tube racks.
- Benchtop thermal mixer or a shaker incubator with appropriate tube adaptor (such as 50 ml conical tube).
- Serological pipette controller.

Reagents/supplies

- Isopropanol (≥ 99%).
- Ethanol (≥ 95%).
- RNase-free 1.5 ml microfuge tubes, LoBind or non-stick recommended.
- 50 ml conical tubes.
- Serological pipettes (10 ml, 25 ml)
- Micropipettors and tips.

Buffer Preparation Guide

- Monarch Buffer BY and Monarch Buffer WZ are provided as concentrates. Prior to use, prepare the buffers using the instructions below:

	Application	NEB #T4070V (20 prep-kit)	NEB #T4070S (100 prep-kit)	Buffer standalone purchased separately
Monarch Buffer BY	Wash 1	Add in the supplied bottle: 1. 4 ml Nuclease-free Water 2. 12 ml Isopropanol	Add in the supplied bottle: 1. 18 ml Nuclease-free Water 2. 54 ml Isopropanol	To a user-supplied 50 ml conical tube, add: 1. 10 ml Buffer BY (NEB #T1121L) 2. 5 ml Nuclease-free Water 3. 15 ml Isopropanol This makes 30 ml ready-to-use buffer. For larger or smaller volume needs, scale the components proportionally.
Monarch Buffer WZ	Wash 2 & Wash 3	Add 48 ml of ethanol into the supplied buffer bottle	Add 200 ml of ethanol into the supplied buffer bottle	Add 104 ml of ethanol into the supplied buffer bottle (NEB #T1115L)

- Monarch StabiLyse DNA/RNA Buffer and Monarch Buffer BX are provided at 1x concentration; no additional preparation is needed.
- Always keep all buffer bottles tightly closed when not in use.
- Store kit components at the recommended storage conditions on component labels and in the product manual.

Protocol for Manual Extraction of cfDNA Using the Monarch Mag Cell-free DNA (cfDNA) Extraction Kit

This product's scalability supports varying sample input volumes.**The step-wise protocol below describes the procedure when using 2 ml sample input.** If using a different sample volume as the starting point, refer to the table below to determine volumes of reagents accordingly.

Table 1. Volumes of reagents required based on extraction input volume. Choose an appropriately sized tube to accommodate the Total Sample Binding Mix.

	For 1 ml sample	For 2 ml sample	For 3 ml sample	For 4 ml sample
Monarch StabiLyse DNA/RNA Buffer	1 ml	2 ml	3 ml	4 ml
Proteinase K	20 µl	40 µl	60 µl	80 µl
Monarch Buffer BX	0.5 ml	1 ml	1.5 ml	2 ml
Isopropanol	0.5 ml	1 ml	1.5 ml	2 ml
Monarch Mag Beads M2*	30 µl	60 µl	90 µl	120 µl
Total Sample Binding Mix Volume	3.05 ml	6.1 ml	9.15 ml	12.2 ml
Wash 1, Wash 2 and Wash 3	1 ml	1 ml	1 ml	1 ml
Elution	15-100 µl	20-100 µl	40-100 µl	50-100 µl

**equilibrated to room temperature*

Procedure for 2 ml sample input

Perform all steps at room temperature unless specified otherwise

Sample processing

1. Process whole blood collected in blood collection tubes according to tube manufacturer's instructions to separate plasma.
2. Transfer 2 mL of plasma into a clean, RNase-free tube large enough to hold the total binding mix volume specified above. A 50 ml conical tube is recommended for 2 ml or 4 ml samples.

Sample digestion

3. Add 2 ml **Monarch StabiLyse DNA/RNA Buffer** to the tube containing 2 ml plasma.
4. Add 40 µl **Proteinase K** to the sample tube.
5. Invert the tube 5 times to ensure the contents are mixed well.
6. Incubate the tube on a thermal mixer for 30 minutes at 56°C with shaking at 1,000 rpm.
7. Cool the tube on ice for 5 minutes.

Bead binding

8. Add 1 ml **Monarch Buffer BX** to the digested plasma sample.
9. Add 1 ml **Isopropanol** to the sample.
10. Add 60 µl **well-vortexed, Monarch Mag Beads M2** to the sample.
    Optionally, a binding mix of Monarch Buffer BX, Isopropanol, and Monarch Mag Beads M2 can be made for use within a day. Mix well before adding to the sample tube.
11. Invert the sample tube 5 times to mix.
12. Mix the tube on a thermomixer for 10 minutes at room temperature with shaking at 1,000 rpm.
13. Place the tube on a compatible magnetic separation rack for 5 minutes.
14. Remove the supernatant and discard.
15. Remove the tube from the magnetic rack.

Wash #1

16. Add 1 ml **Wash 1 (Monarch Buffer BY)** to the sample. Pipette the mixture well to ensure beads are resuspended completely.
17. Transfer the bead/Wash1 suspension to a clean 1.5 ml microfuge tube. Do not discard the 50 ml sample tube yet.
18. Place the 1.5 ml microfuge tubes containing the sample on a compatible magnetic separation rack for 2 minutes.
    Optionally, if some residual beads remain in the 50 ml sample tube from Step #16, remove the supernatant from the 1.5 ml tube after 1 minute of its magnetization, add it to the 50 ml tube, rinse to collect any residual beads and dispense the suspension back into the 1.5 ml tube for further 1 minute magnetization.
19. Remove the supernatant from the 1.5 ml sample tube and discard.
20. Remove the tube from the magnetic rack.

Wash #2 and #3

21. Add 1 ml **Wash 2 (Monarch Buffer WZ)** to the sample. Pipette mix or vortex to resuspend the beads.
22. Spin the tubes briefly and place the tube on the magnetic rack for 1 minute.
23. Remove the supernatant and discard. Remove the tube from the magnetic rack.
24. Add 1 ml **Wash 3 (Monarch Buffer WZ)**. Pipette mix to resuspend the beads.
25. Transfer the sample into a new, clean 1.5 ml microfuge tube.
26. Place the tube on the magnetic rack for 1 minute.
27. Remove the supernatant and discard.

Bead drying and Elution

28. Briefly spin the tube and place on magnet again. Remove any residual supernatant using a low-volume pipette.
29. Air-dry the bead pellet for 5 minutes with the sample tube on the magnetic rack and tube caps open.
30. Add 20-100 µl **Nuclease-free Water** onto the beads. Pipette mix or vortex to ensure the beads are resuspended.
31. Mix the tube with vigorous shaking for 5 minutes (e.g., 1,500 rpm on a thermal mixer).
32. Place the tubes on a magnetic rack and let the beads separate for 5 minutes.
33. Carefully transfer the supernatant to a new 1.5 ml microfuge tube.
34. The supernatant contains cell-free DNA suitable for downstream applications.

For supplementary protocols including for enhanced recovery of ultrashort (<100 bp) fragments, please see the product webpage.

Protocol Guidance for Automated Extraction of cfDNA Using the Monarch Mag Cell-free DNA (cfDNA) Extraction Kit on KingFisher Flex

The KingFisher Flex is a benchtop automation instrument that enables high-throughput purification of nucleic acids. Using Thermo Scientific® BindIt® software installed on a connected computer, users can program the instrument to perform sample binding, wash and elution, informed by steps described in the manual protocol. Alternatively, the software file for MagMAX® cTNA KingFisher protocol for 2 ml can be used to run on the instrument.

Equipment

- KingFisher Flex Magnetic Particle Processor with 24 deep-well heads (Thermo Scientific, Catalog #5400640)
- KingFisher Flex 24 deep-well plate (Thermo Scientific, Catalog #95040480)
- KingFisher Flex 24 deep-well tip comb and plate (Thermo Scientific, Catalog #97002610)
- Serological pipette controller
- Benchtop thermal mixer or a shaker incubator with appropriate adaptors (plate, 50 ml conical tube, etc.)

Reagents/supplies

- Isopropanol (≥ 99%)
- Ethanol (≥ 95%)
- 50 ml conical tubes
- Serological pipettes (10 ml, 25 ml)
- Plate adhesive films

The protocol guidance outlines the extraction of cfDNA from 2 ml plasma samples using the Monarch Mag Cell-free DNA (cfDNA) Extraction Kit on a KingFisher Flex.

The design feature of KingFisher Flex 24 deep-well tip comb needs a minimum elution volume of 100 µl. 200 µl elution is recommended for maximum recovery. To concentrate the eluted cfDNA into smaller volumes, refer to the concentration protocol on the product webpage. For automated processing, sample, wash, elution plates, tip comb and tip comb plate, are loaded onto the instrument in the proper positions. Users then start the program, which has a run time of approximately 30 minutes.

Protocol

I: Prepare the KingFisher Flex instrument

1. Ensure all required equipment, reagents and supplies are ready.
2. Prepare Monarch Buffers BY and Monarch Buffer WZ for Wash 1, Wash 2 and Wash 3 according to the Buffer Preparation Guide on page 7.
3. Load the MagMAX cfTNA 2 ml or a suitable program on the KingFisher Flex instrument.

II: Prepare the Sample plate

Sample processing

1. Process whole blood collected in blood collection tubes according to the tube manufacturer's instructions to separate plasma.
2. Transfer 2 ml plasma into wells of a 24 deep-well plate.

Sample digestion

3. Add 2 ml **Monarch StabiLyse DNA/RNA Buffer** to each well containing 2 ml plasma.
4. Add 40 µl **Proteinase K** to the sample wells.
5. Seal the plate with an adhesive film.
6. Incubate the plate on a thermal mixer for 30 minutes at 56°C with shaking at 700 rpm. During the incubation, proceed to the preparation of the wash and elution plates.

III: Prepare Wash and Elution plates

1. Dispense 1 ml of prepared **Monarch Buffer BY** (Wash 1) into the wells of a new 24 deep-well plate. Seal with an adhesive film until ready to use.
2. Dispense 1 ml of prepared **Monarch Buffer WZ** into the wells of two 24 deep-well plates (Wash 2 and Wash 3). Seal with an adhesive film until ready to use.
3. Dispense at least 100 µl of **Nuclease-free Water** into the wells of a new 24 deep-well plate for elution. Seal with an adhesive film until ready to use.

IV: Add the Binding Mix to the Sample plate

1. After the Sample digestion is complete in step II, place the Sample plate on ice for 5 minutes.
2. Prepare the Binding Mix according to the table below. Ensure Monarch Mag Beads M2 are at room temperature and thoroughly mixed before using. Include overage as needed.

Binding Mix Component	**Volume per 2 ml plasma**
Monarch Buffer BX	1 ml
Isopropanol	1 ml
Monarch Mag Beads M2	60 µl

Alternatively, these components can be added individually into the wells of the Sample plate.

3. Briefly vortex and invert the Binding Mix to ensure it is well-mixed.
4. Dispense 2.06 ml of the Binding Mix into the wells of the Sample plate.
5. Seal the plate with an adhesive film until ready to use.

V: Load the instrument and start run

1. Carefully remove adhesive film from the Sample, Wash 1, Wash 2, Wash 3 and Elution plates.
2. Start the program.
3. Follow the prompts to load the plate and tip comb into the appropriate positions on the KingFisher Flex turntable.
4. Run the program.
5. Upon completion of the run, seal the elution plate with adhesive film and place on ice for immediate use or at –20°C for storage.

Plate position	**1**	**2**	**3**	**4**	**5**	**6**
Plate type	24 deep-well	24 deep-well	24 deep-well	24 deep-well	24 deep-well	24 well tip comb and plate
Plate identification	Sample plate	Wash 1	Wash 2	Wash 3	Elution	N/A
Plate contents	Sample+Binding Mix	Prepared Monarch Buffer BY	Prepared Monarch Buffer WZ	Prepared Monarch Buffer WZ	Nuclease-free Water	N/A

Cell-free DNA Quantitation and Downstream Analysis

Due to the low concentration of cell-free DNA circulating in biofluids, UV-vis spectrophotometric methods are not recommended for quantification. The concentration of the extracted cell-free DNA can instead be measured using a sensitive fluorometric method such as Qubit® 1X dsDNA High Sensitivity (HS) (Invitrogen®). It is important to note that a Qubit method will also measure contaminating genomic DNA, if present in the sample. Therefore, a complementary assessment of fragment sizes using an automated electrophoresis, such as Cell-free DNA ScreenTape® Analysis (Agilent®), is strongly recommended. Specific region settings im the TapeStation® software can be used to enable the qualitative and quantitative measurement of extraction yields.

The extracted cell-free DNA is application-ready and can be used in sequencing or amplification-based detection. For sequencing-based analysis, NEBNext library prep solutions are recommended. NEBNext Ultra II DNA Library prep uses up to 50 µl input volume allowing for flexibility in upstream extraction elution volumes and the optimized library prep protocol for cfDNA ensures high conversion efficiency.

Troubleshooting

Problem	Common Cause	Suggestions/Solutions
Lower cfDNA yield than expected	Incorrect reagent preparation or storage	Ensure all components are stored at the appropriate conditions for optimal performance. Monarch Mag Beads M2 are stored at 4°C, but should be allowed to warm to room temperature before use. Check the protocol to confirm that buffers have been properly prepared and that the correct volumes are used. Verify that the appropriate buffer is added at each step.
	Insufficient beads added	Ensure that the Monarch Mag Beads M2 solution is thoroughly mixed before addition to the sample. Because the beads settle quickly, inadequate mixing may result in dispensing fewer beads than required, reducing binding capacity and lowering DNA yield. Use low-retention pipette tips to avoid potential loss of beads on the tip walls.
	Insufficient binding	It is imperative to allow the sample to mix with the bead-binding mix for 10 minutes to create optimal conditions for cell-free DNA to bind to the beads.
	Beads not optimally dried	Beads should be dried for 5 minutes while the tubes remain on the magnetic rack with the tube caps open. Under-dried beads can lead to contaminant carryover and over-dried beads may lead to lower yield. Beads that are over-dried appear matte and light brown, often with visible surface cracks. Optimally dried beads appear shiny and uniformly dark.
	Incomplete elution	Thorough mixing of the beads with the Nuclease-free Water is essential for eluting DNA off the beads. Pipette mix well to ensure all beads are resuspended, then incubate for 5 minutes on a thermal mixer/shaker.
	Beads lost during prep	Use a strong magnet to ensure effective bead separation, and carefully remove the supernatant without disturbing the bead pellet, as any beads removed with the supernatant may result in DNA loss.
	Sample contains low levels of cfDNA	Sample collection processes and biological variability can result in inherently low cfDNA loads in the starting sample. Increasing sample input volume can help.
Magnetic bead carryover	Beads not magnetized sufficiently	During magnetic separation steps, ensure that the supernatant is clear and free of beads before removing it. Leave the tubes on the magnet for a minimum of 2 minutes at all magnetic separation steps.
	Improper pipette handling	When transferring the final elution to a new tube, be careful not to disturb the bead pellet.

For more troubleshooting and FAQs, please visit the product webpage or reach out to our technical support team at info@neb.com

Ordering Information

Monarch Mag Cell-free DNA (cfDNA) Extraction Kit

PRODUCT	NEB#
Monarch Mag Cell-free DNA (cfDNA) Extraction Kit	T4070
Kit components available individually	
Monarch Mag Beads M2	T4105
Monarch StabiLyse™ DNA/RNA Buffer	T2111
Monarch Buffer BX	T2041
Monarch Buffer BY	T1121
Monarch Buffer WZ	T1115

NEB Companion Products

PRODUCT	NEB#
NEBNext® Ultra™ II DNA Library Prep Kit for Illumina	E7645L
EpiMark® Methylated DNA Enrichment Kit	E2600S

Revision History

REVISION #	DESCRIPTION	DATE

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New England Biolabs, Inc., 240 County Road, Ipswich, MA 01938-2723 | T: (978) 927-5054 F: (978) 921-1350 US Orders (Toll-free): 1-800-632-5227 US Tech Support: 1-800-632-7799 | info@neb.com