EchoLUTION™ Tissue DNA 96 Kit

96-well plate kits

USER MANUAL

REF

010-102-002

010-102-008

010-102-108

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1. INTENDED PURPOSE

The BioEcho EchoLUTION Tissue DNA 96 Kit is intended for easy, rapid, and efficient genomic DNA (gDNA) extraction from mammalian tissue samples. The excellent yield and purity of tissue DNA obtained with the EchoLUTION Tissue DNA 96 Kit allows use in downstream applications without further processing.

The EchoLUTION Tissue DNA 96 Kit is intended for research use only.

2. EXPLANATION OF THE KIT

The EchoLUTION Tissue DNA 96 Kit is characterized by the EchoLUTION single-step purification technology and a lysis step. Together, these steps reduce the procedure to 50 minutes with consistent sensitivity compared to established methods.

The EchoLUTION Tissue DNA 96 Kit benefits are:

- Short processing time
- Fast lysis
- Few protocol steps
- High sample throughput with minor equipment and capital investment
- 70% less plastic waste
- Less toxic reagents

For further details about kit specifications, see Table 1.

Table 1: ***Kit specifications***

Specification	Description	
Sample input	Fresh and frozen tissues	
Sample condition	Fresh, frozen, or stabilized	
Tissue type	Generic	10 mg
	High DNA content (e g., spleen, liver, kidney)	5 mg
	Low DNA content (e. g., muscle, cartilage)	20 mg
Purified nucleic acid	Genomic DNA	
Elution volume	100 µL	
Expected yields	5–12 µg (depends on amount of starting material)	

2.1. *Single-step purification principle*

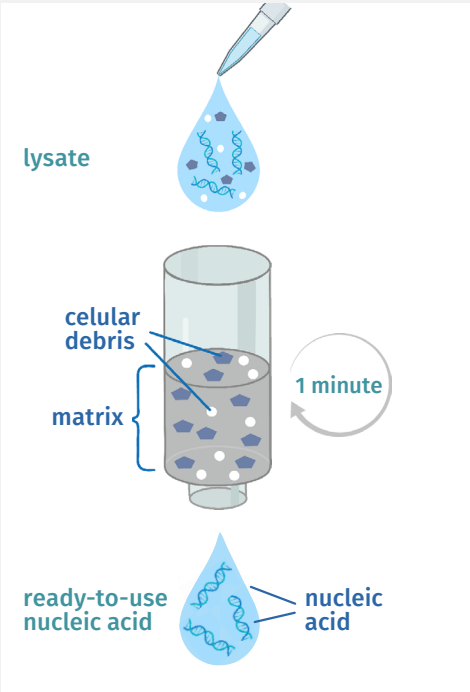
All BioEcho nucleic acid extraction kits are based on the EchoLUTION technology, which consists of tailored sample processing that includes lysis followed by single-step purification. The purification step works differently than conventional methods such as magnetic-bead and silica kits based on the bind–wash–elute method, and therefore needs only one centrifugation step.

The lysate is transferred to the Spin Column or Purification Plate.

In a one-minute centrifugation step, nucleic acids pass through the purification matrix without interaction.

Impurities are held back and, thereby completely removed.

The nucleic acids are in the flow-through and ready-to-use.



2.2. General comments

Comparison of the EchoLUTION technology to silica technologies– general aspects and handling

Using the EchoLUTION technology, nucleic acids are not bound to a membrane or magnetic beads and can migrate freely through the filter matrix. Unwanted components of the lysate are removed from the sample by remaining in the purification matrix.
The advantages of the EchoLUTION technology are:

1. No time-consuming washing steps
2. Easy handling
3. Reduced plastic waste

In contrast, silica technologies are based on the principle of concentration. Here, the nucleic acids present in the lysate bind to a silica surface (membrane, magnetic beads), while unwanted cell components are removed by repeated washing with chaotropic and alcohol-containing wash buffers. Eventually, the nucleic acids are eluted with an aqueous buffer in the desired volume. Due to the repeated washing steps, silica-based methods are time-consuming, labor-intensive and environmentally unfriendly.

Handling of purification matrix

The EchoLUTION purification matrix within the Purification Plate must be kept undamaged after the conditioning step to avoid short-circuit currents. Short-circuit currents result in the introduction of lysis components into the eluate and inadequate purification, which can lead to inhibition in downstream analysis. Therefore, when applying the lysate to the column **avoid touching the surface** of the filter matrix after conditioning and pipet **the sample very slowly (ideally dropwise)**.

To guarantee proper handling of the Purification Plate, be sure to use the recommended *g*-force centrifuge settings. Most centrifuges offer the choice between rpm and *g*-force (rcf); if rcf is not available, calculate the rpm corresponding to the required *g*-force using the calculator in the link or QR code below:

http://www.geneinfinity.org/sp/sp_rotor.html

For support on suitable centrifuges, please contact us.

Handling DNA

In general, cautious sterile microbiological practices should always be used when working with DNA. The most common sources of contamination are dust and hands, as they can hold bacteria and molds. Therefore, pay attention to what you're doing and always wear gloves while handling reagents and samples. Replace gloves regularly and keep tubes closed when possible.

Bench surfaces, laboratory equipment (e.g., pipets and electrophoresis tanks) and non-disposable plasticware can be decontaminated using general laboratory reagents. Plasticware can be decontaminated with commercially available DNase removing solutions.

It is recommended to store purified DNA in a tightly-capped tube at 2–8 °C for 24 hours or at –20 °C for long-term storage.

Input material

Best results are obtained with fresh material or material that has been immediately frozen after sampling and stored at –20 °C. Repeated freezing and thawing of samples should be avoided, since this leads to reduced DNA fragment size. Stabilized tissue samples (e.g., with BioEcho PurifyLater Tissue Stabilizer; product number: 030-002-100) can be stored in a refrigerator, according to the manufacturer's instructions.
In general, be aware that the use of low-quality starting material leads to reduced length and yield of purified DNA.

Lysing and homogenizing starting material

The efficient lysis and homogenization of the starting material is critical for successful extraction of DNA from tissues.

Correct lysis of the tissue is important to release all the DNA contained in the sample. Incomplete lysis results in drastically reduced DNA yields. Make sure to cut your tissue into small pieces to ensure the best lysis conditions. After completing the lysis as described in the protocol, check the sample for visible clumps. If clumps remain in the sample, prolong the incubation time. For difficult samples, incubation overnight is possible.

The homogenization of the sample is very important to reduce the viscosity of the lysates and to ensure precise handling and pipetting. Clumps remaining in the lysate can lead to reduced DNA yield and handling issues.

3. MATERIALS

3.1. Materials provided

Table 2: ***Content of EchoLUTION Tissue DNA 96 Kits***

Product number	010-102-002	010-102-008	010-102-108
Product name	**EchoLUTION Tissue DNA 96 Kit (2 x 96)**	**EchoLUTION Tissue DNA 96 Kit (8 x 96)**	**EchoLUTION Tissue DNA 96 Core Kit (8 x 96)**
Reactions	192	768	768
Lysis Buffer Tissue DNA (LB)	10 mL	3 x 40 mL	3 x 40 mL
TurboLyse Protease Tissue DNA (P)	1.2 mL	2 x 2.5 mL	2 x 2.5 mL
RNase Tissue (R)	200 µL	800 µL	–
Clearing Solution Tissue DNA (CS)	3 mL	12 mL	12 mL
Low-TE Buffer (T)	Blank only	Blank only	Blank only
Lysis Plate Type 2	2 plates	8 plates	–
Purification Plate Type 1	2 plates	8 plates	8 plates
Elution Plate Type 1	2 plates	8 plates	–
Adhesive Foil	2 foils	8 foils	8 foils
Sealing Foil	2 foils	8 foils	–

3.2 Materials required but not provided

A. Conditioning Plate

The Conditioning Plate is necessary to remove the matrix storage buffer of the Purification Plate. The Conditioning Plate can be re-used up to 20 times and needs to be ordered separately. To purchase this item, use the product number 060-001-002 or 060-001-008, depending on the number of plates required.

B. Conical centrifugation tubes

These tubes are required for the preparation of master mixes.

C. Multichannel reagent reservoir

The reservoir is necessary for pipetting of prepared master mixes using multichannel pipettes.

D. Plates for counterbalance in centrifuge

In case an odd number of plates is processed, prepare an additional plate stack to ensure the centrifuge is balanced and fill the wells with the appropriate amount of water.

3.3 Laboratory equipment needed

A. Plate centrifuge

For the procedure, plate centrifuges with the following specifications are mandatory:

- Standardized Society for Biomolecular Screening (SBS) format
- Capable of at least 1,000 x *g*
- At leaset 5 cm clearance for plate holder height
- Swing-out rotor

B. Pipetting equipment

Pipetting can be performed using a single-channel pipette as well as a multi-channel pipette for 200 µL up to 1,000 µL.
For transfer of lysate to the Purification Plate the usage of wide bore tips is recommended.

C. Thermal shaker for plates

A heat shaker is used for the lysis step. It needs to reach up to 80 °C and shaking at 1,400 rpm (e.g., Eppendorf® C Thermomixer). Alternatively, you can use a heating block or heat chamber.

D. Vortex mixer

A vortex mixer is required for mixture of solutions.

E. Ceramic blade scalpel

BioEcho offers a scalpel suitable for cutting tissue material. This product can be ordered under the product number 050-002-001.

4. STORAGE AND STABILITY

4.1. Kit and reagents

- The EchoLUTION Tissue DNA 96 Kit is shipped at ambient temperature.
- Upon kit arrival, the Enzyme Box and Purification Plates should be stored at 2–8 °C. The other kit components are stable at room temperature (15–25 °C) for at least one year.

4.2. Sample collection

In general, be aware that the use of low-quality starting material leads to DNA fragmentation and reduced yield of purified DNA.

Make sure to adjust starting material weight according to protocol requirements, as stated in Table 1 “Kit specifications” and section 2 “Explanation of the kit”.

A. Handling frozen tissues for DNA extraction

The best extraction results are obtained with fresh samples. If samples cannot be processed freshly, freeze tissue immediately and store at –20 °C. Avoid freezing and thawing the samples repeatedly, as this can affect DNA integrity. When processing frozen samples, cut the frozen samples into small pieces, and proceed immediately with extraction protocol step 2.

B. Handling stabilized tissues for DNA extraction

Stabilized tissue samples (e.g., with BioEcho PurifyLater Tissue Stabilizer; product number: 030-002-100) can be stored in a refrigerator according to manufacturer’s instructions. Make sure to rinse the tissue samples briefly with water to remove traces of stabilization solution, as they can interfere with kit performance. After rinsing, cut the samples into small pieces, and proceed immediately with extraction protocol step 2.

4.3. Storage and stability of purified nucleic acids

It is recommended to store purified DNA in a tightly capped tube at 2–8 °C for a maximum of 24 hours or at –20 °C for long-term storage.

5. WARNINGS AND SAFETY INSTRUCTIONS

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please refer to the instructions supplied with our safety data sheets (SDS). Please contact us for the SDS.

Table3: ***Warnings and safety instructions***

Component	Hazardous component	GHS symbol	Hazard statements	Precautionary statements	Additional statement
Lysis Buffer Tissue DNA (LB)	Anionic detergent in solution	 Danger	H315; H318	P261; P280 P305+P351+P388	–
TurboLyse Protease Tissue DNA (P)	Microbial protease in solution	 Danger	H315, H317; H319; H334; H335	P101; P102; P103; P261; P280 P305+P351+P388 P342+P311 P405; P501	–
Clearing Solution Tissue DNA (CS)	Strontium chloride	 Danger	H315; H319; H335	P261; P280 P305+P351+P388	–

Hazard Statements

H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H319: Causes serious eye irritation.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335: May cause respiratory irritation.

Precautionary statements

P101: If medical advice is needed, have product, container label or MSDS at hand.
P102: Keep out of reach of children.
P103: Read label and MSDS before use.
P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305+ P351+P388: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P405: Store locked up.
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

6. DISPOSAL

Please follow local regulations regarding the collection and disposal of hazardous waste. Contact your waste disposal company to obtain information on laboratory waste disposal (waste code number 16 05 06). For further information, please refer to the instructions supplied with our SDS. Please contact us for the SDS.

Dispose of biological samples as biohazardous waste and all remaining liquid waste generated during the purification procedure according to local regulations.

A. Purification Plates and other components

No special measures for disposal are necessary. Components that have come into contact with potentially infectious material should be autoclaved. Used components may retain some buffer residues, and should be disposed of according to local /regional/national/international regulations.

The storage buffer of the Purification Plates collected in the Conditioning Plate during the conditioning step can be disposed of in the sink or on a tissue.

7. PROTOCOL

This protocol has been developed to purify genomic DNA from fresh, frozen, and stabilized mammalian tissue samples, including DNA-rich samples (e. g., spleen, liver, kidney) and lipid-rich tissues (e.g., brain, fat), using the EchoLUTION Tissue DNA 96 Kit.

This is not a silica-based kit. Please read the instructions carefully before starting!

Preparation before starting:

- Pre-heat the thermal shaker to 60 °C.
- Set plate centrifuge to 1,000 x *g*.

IMPORTANT NOTE: *Choose x g (RCF), NOT RPM, unless stated otherwise.*

1. Preparation of tissue samples

a) Fresh tissue

- Cut the tissue sample into small pieces.
- Transfer tissue sample to the bottom of each well of the Lysis Plate while the plate is cooled on ice (or cooling block) to avoid DNA degradation during sample loading.

b) Frozen tissue

- Cut the frozen tissue sample into small pieces.
- Transfer tissue sample to the bottom of each well of the Lysis Plate while the plate is cooled on ice (or cooling block) to avoid DNA degradation during sample loading.

c) Stabilized tissue

- Rinse tissue samples briefly with water to remove traces of stabilization solution.
- Cut the tissue sample into small pieces.
- Transfer tissue sample to the bottom of each well of the Lysis Plate while the plate is cooled on ice (or cooling block) to avoid DNA degradation during sample loading.

NOTES:

- *If possible, cut tissue into small pieces to ensure best lysis conditions.*
- *Make sure you use no more than the maximum sample amount stated in section 2, Table 1.*

2. *Lysis of tissue samples*

- Prepare enough lysis master mix for the number of reactions with 20 % excess volume in a suitable vessel, and then transfer to the Lysis Plate. Each tissue sample requires 130 µL Lysis Buffer Tissue DNA (LB) and 5 µL TurboLyse Protease Tissue DNA (P).

Table 4: ***Lysis master mix***

Number of samples	**1**	**96 (+20%)**	**Your calculation**
Lysis Buffer Tissue DNA (LB)	130 µL	15,000 µL	
TurboLyse Protease Tissue DNA (P)	5 µL	600 µL	
Final volume	135 µL	15,600 µL	

- Seal the Lysis Plate tightly with the Adhesive Foil.
- Place the Lysis Plate in the thermal shaker and incubate at 60 °C for 30 minutes with shaking at 1,400 rpm.
- Incubate samples at 80 °C for 10 minutes with constant shaking at 1,400 rpm.
- Allow the plate to cool to room temperature for 5 minutes before proceeding with step 4.

NOTES:

- *During incubation, proceed with step 3 "Preparation of Purification Plate".*
- *The lysis time can vary (from 15 minute to overnight), depending on the tissue type. Make sure to cut the tissue into small pieces to speed up the process. After incubation, check to see if cellular debris is present, and prolong incubation time if needed. Cellular debris do not interfere with the purification process, but can lower the DNA yield, as not all DNA is released from the tissue.*
- *Ideally, incubating samples should be shaken at 1,400 rpm; using a lower rpm might require a longer incubation.*

3. *Preparation of Purification Plate*

- Detach first the lower and then the upper foil from the Purification Plate. Please keep the plates in a horizontal position while removing the foils, as the wells contain liquid.
- Place the Purification Plate on top of the Conditioning Plate (not provided, product number 060-001-002 or 060-001-008).
- Centrifuge plate stack 1 minute at 1,000 x *g*, discard flow-through.
- Place the Purification Plate on top of the Elution Plate.

NOTE:

- *The centrifuge rotor should be capable of holding plate sandwiches that have a height of 5 cm. Conditioning Plates can be reused.*
- *If the Purification Plate was not shipped or stored upright, the resin may stick to the upper foil. In this case, shake plate until the resin is removed from upper foil.*
- *Make sure the foil is completely removed from the bottom.*

4. DNA purification

- After cooling the samples to room temperature, remove the Adhesive Foil from the incubated Lysis Plate, add 15 µL Clearing Solution Tissue DNA (CS) to each well of the Lysis Plate and mix by pipetting up and down.
- Optional: Add 1 µL RNase Tissue (R) with the Clearing Solution Tissue DNA (CS) to each sample, mix by pipetting up and down and incubate for 2 minutes at room temperature to remove traces of RNA.

- Centrifuge the Lysis Plate for 3 minutes at full speed.
- Transfer up to 100 µL supernatant to the Purification Plate.
  IMPORTANT NOTE: *Pipet slowly, drop-by-drop, and vertically onto the middle of the wells to not destroy the matrix surface (use an 8-channel pipette or robot). Do not touch the matrix surface with the pipette tip during sample loading.*

- Centrifuge the Purification Plate on top of the Elution Plate for 1 minute at 1,000 x *g*.
- Purified DNA is in the flow-through and ready-to-use.

The eluted DNA can be used immediately or stored at 2–8 °C or, for long-term storage, at –20 °C.

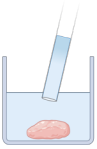
IMPORTANT NOTE: *For spectrophotometric analysis, use the Low-TE Buffer (T) supplied with the kit as a blank.*

7.1. Quick protocol EchoLUTION Tissue DNA 96 Kit

IMPORTANT NOTE: *Please use the quick protocol only after you have read and understood the complete user manual.*

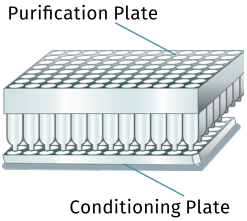
1. – 2. Sample preparation and lysis

- Transfer tissue to Lysis Plate.
- Add 130 µL LB and 5 µL P.
- Seal plate with Adhesive Foil.
- Incubate at 60 °C for 30 min, 1,400 rpm.
- Incubate at 80 °C for 10 min, 1,400 rpm.
- Cool down.



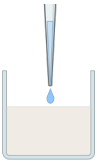
3. Purification Plate preparation

- Detach first lower and then upper foil from Purification Plate.
- Place Purification Plate on top of Conditioning Plate.
- Centrifuge and discard flow-through.
- Place Purification Plate on top of Elution Plate.

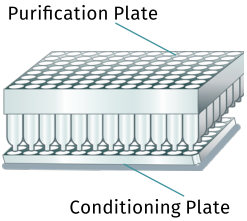


4. DNA purification

- Add 15 µL CS and mix.
- Optional: Add 1 µL RNase with the CS, mix and incubate for 2 min at RT.
- Centrifuge for 3 min at max. speed.



- Transfer 100 µL lysate. Pipet slowly, drop-by-drop onto the middle of the column without touching the matrix.
- Centrifuge 1 min at 1,000 x *g*.
- Purified DNA is in the flow-through.



8. QUALITY CONTROL

Following the BioEcho Quality Management System, each lot of the EchoLUTION Tissue DNA 96 Kit is tested against predetermined specifications to ensure consistent product quality.

9. TROUBLESHOOTING

Observation	Comments and suggestions
DNA yield and concentration is low	**The tissue type used had low DNA content** Some tissues have very low DNA yield. Also, poor storage conditions can lead to variations in DNA content as well degradation of genomic DNA. **Sample input** Always use the correct weight for sample input to ensure appropriate experimental conditions. Increased amount of tissue will compromise the purity of the extracted DNA. Matrix overloading can lead to a milky eluate and carryover of debris. **Incomplete sample disruption** Insufficient sample disruption and homogenization lead to inefficient sample lysis and low DNA content. Please make sure to cut your tissue samples into small pieces to ensure best lysis conditions. **Insufficient sample lysis** Incomplete lysis of tissue samples can lower the DNA yield, as not all DNA is released from the tissue. TurboLyse Protease Tissue DNA (P) needs to be stored at 2–8 °C. If TurboLyse Protease Tissue DNA (P) was stored at higher temperatures for a prolonged time, repeat the procedure using new samples and fresh TurboLyse Protease Tissue DNA Mix (product number: 010-122-001 or 010-122-020). Depending on the tissue type, the lysis time can vary from 15 minutes to overnight. Check the sample during the incubation to see if cellular debris are present and prolong the incubation if needed. Be sure to check the incubation regularly as too long digestion can decrease the DNA yield.

DNA yield and concentration is low (continuation)	Some tissues, such as spleen, liver, and kidney, are easy to lyse. Tissues that are harder to lyse, such as muscle tissues, fatty tissues, and cartilage, need longer incubation. **Loading of the Purification Plate** The correct loading of the Purification Plate is crucial for experimental outcome. Pipet slowly, drop-by-drop, and vertically onto the middle of each well to not destroy the matrix surface. Do not touch the matrix surface with the pipette tip during sample loading. **Centrifuge settings** Most centrifuges offer the choice between rpm and *g*-force (rcf); if rcf is not available, calculate the rpm, see section 2.2. Always make sure to use the correct time mentioned in the protocol to avoid insufficient passage through the matrix bed.
A_{260}/A_{280} and A_{260}/A_{230} values are low	**Wrong blank in measurements** Use the supplied Low-TE Buffer (T) as the blank for photometric measurements. **Sample input** Always use the correct amount of tissue to ensure appropriate experimental conditions. Do not load more than 100 µL into one well of the Purification Plate. Depending on the sample material, the matrix can be loaded with 75–100 µL. Overloading the column will compromise the sample purity.
Degraded DNA	**Incorrect storage of samples** Prolonged storage time can lead to DNA degradation. Best results are obtained with fresh material or material that has been immediately frozen and stored at –20 °C. Repeated freezing and thawing of samples should be avoided, as this leads to reduced DNA fragment size.

Degraded DNA (continuation)	Stabilized tissue samples (e.g., using BioEcho PurifyLater Tissue Stabilizer; product number: 030-002-100) can be stored in a refrigerator according to manufacturer instructions. Be sure to check the lysis incubation regularly as too long digestion can decrease the DNA quality. **Contamination with nucleases** Even though the materials and solutions shipped in the kit are nuclease-free, nucleases can be introduced when handling the samples. Check all equipment, including pipettes, pipette tips, microcentrifuge tubes, etc., for contamination, and use the appropriate precautions throughout the whole extraction procedure. See section 2.2 for detailed instructions.
Eluate contains RNA residues	**Optimal RNase procedure not used** Although RNase digestion is not necessary for most tissue samples, certain tissues contain high enough RNA content that an additional RNase digestion step is necessary to eliminate it. In these cases, prepare a master mix with RNase Tissue (R) and Clearing Solution Tissue DNA (CS) in step 4 “DNA purification” of the protocol. If RNA is still present in the sample after digestion, prolong the incubation period.
Poor performance in downstream experiments	**Tilted matrix** A tilted matrix bed can lead to inappropriate sample flow through and, therefore, insufficient time for interaction of the sample with the matrix surface. This reduced interaction can lead to poor extraction performance. Purification Plates should be stored in an upright position, as mentioned on the labels. **Loading of the Purification Plate** The correct loading of the Purification Plate is crucial for experimental outcome. Pipet slowly, drop-by-drop, into the middle of the well to not destroy the matrix surface. Do not touch the matrix bed with the pipette tip during sample loading.

Poor performance in downstream experiments (continuation)	**Centrifuge settings** Most centrifuges offer the choice of rpm and *g*-force (rcf); if rcf is not available, calculate the rpm, see section 2.2. Always make sure to use the correct time mentioned in the protocol to avoid insufficient passage through the matrix bed.
Occurrence of cross-contamination	**Contaminated pipettes** The use of contaminated pipettes can lead to cross-contamination. It is recommended to use separate sets of pipettes for sample preparation and for PCR preparation, and these pipettes should be cleaned thoroughly at regular intervals. It is also recommended to use filter tips for all pipetting steps involving samples. **Handling of samples** Throughout the whole procedure cautious sterile microbiological practices are recommended. Pay attention and wear gloves while handling reagents and samples. The use of pipette tips with filters is recommended.
Flow-through is missing or volume to low	**Inappropriate handling of the Purification Plate** When the Purification Plate is sealed during centrifugation, a vacuum can be generated. Make sure the foils at the top and the bottom of the plate are completely removed. Make sure the centrifuge speed is adjusted to 1000 x *g*. Always make sure to follow the steps in the protocol, and see section 2.2 for further handling instructions. **Centrifuge settings** Most centrifuges offer the choice between rpm and *g*-force (rcf); if rcf is not available, calculate the rpm, see section 2.2. Always make sure to use the correct time mentioned in the protocol to avoid insufficient passage through the matrix bed.

For questions and further troubleshooting, please contact us!

10. LIMITATIONS OF USE

Limitations regarding EchoLUTION Tissue DNA 96 Kit are listed below.

- Strict compliance with the user manual is required for DNA purification. Following good laboratory practices is crucial for the successful use of the product. Appropriate handling of the reagents is essential to avoid contamination and impurities.
- The DNA yield varies and is dependent on several factors including the technique of the person taking the sample.
- The proof of principle for the EchoLUTION Tissue DNA 96 Kit was evaluated and confirmed using state-of-the-art PCR. Performance parameters are highly dependent on the quality of sample collection.
- This EchoLUTION Tissue DNA 96 Kit is for research use only.

11. SYMBOLS

The following table describes the symbols that appear on the labeling of the EchoLUTION Tissue DNA 96 Kit products and in this user manual.

Table 5: ***EchoLUTION Tissue DNA 96 Kit symbols***

Symbols	Description
	Manufacturer
	For research use only
	Product number
	Batch code
	Contains sufficient for < n > reactions
	Temperature limitation
	Do not re-use
	Expiration date
	Consult instructions for use

WE ARE INTERESTED IN YOUR EXPERIENCE WITH BIOECHO PRODUCTS!

With questions or suggestions or for further troubleshooting, please contact us.

Visit our website and shop for further information, tutorials, and application notes.

This user manual can be found in our shop on the corresponding product page.

Interested in publishing an application note with us? Please get in touch!

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