Troubleshooting guide

Problem	Causes	Comments and suggestions
Physical damage of the kit	Upside down during transportation may cause beads to stick with sealing film	Spin down the 'Cartridge' by hand before open it.
	Sealing film is detached and reagent is spilled to other wells due to improper storage temperature	Spin down by hand and measure reagent volume with eyes. If reagent volumes are insufficient, extraction efficiency may decrease. Do not use it and contact customer service immediately.
	Broken 'Cartridge'	Broken 'Cartridge' may lead to unfavorable result. Do not use it and contact customer service immediately.
Inappropriate specimen condition	Specimen condition is not favorable due to inappropriate storage condition (ex. coagulation)	Perform vortex and pipetting of specimen. If sample is still coagulated, add a bit of PBS or distilled water and vortex again.
	Specimen condition is not favorable due to inappropriate storage condition (ex. stored in room temperature)	Increase sample volume up to 300 µl, if extraction efficiency is low.
Abnormal extraction	Too much beads left in Elution buffer	If the total nucleic acid density is within the normal range, proceed with the eluted solution. In the case of low total nucleic acid density, transfer the eluted solution to a 1.5 ml tube and centrifuge before use.
	Eluted total nucleic acid should not appear transparent or sticky	Refer to 'Inappropriate specimen condition' part of trouble shooting if specimen condition is unfavorable, perform extraction again. If the specimen condition and total nucleic acid density are favorable, proceed with the extracted total nucleic acid. In cases where the specimen condition is favorable but the total nucleic acid density is unfavorable, transfer the eluted solution to 1.5 ml tube and centrifuge before use. If the result remains unfavorable, dilute it with distilled water before use.

Warnings and precautions

- Intended for research use only.
- Read and follow the manual before using the product.
- Use extracted nucleic acid as soon as possible, if not, keep it at -70°C for long-term storage.
- Be cautious of contaminants such as microorganisms after opening the product.
- Be sure to wear personal protective equipment such as gloves and goggles when using this product and wash hands after handling specimens and reagents.
- Be mindful of contamination with DNase during product use.
- Store the product at the specified storage temperature and do not use it past its expiration date.
- Read and follow the IFU for the nucleic acid extraction device (AllEx®64 Automated Nucleic Acid Extraction System) used with this product.
- The reagents in this product contain irritants, do not dispose of them with bleach or acids.
- This product is a single use and should not be reused.

* Any serious incident involving the device is reported to the relevant competent authority in the country where the manufacturer, user and patient are located.

Storage conditions

- Temperature : Room temperature (15~25˚C)
- Humidity : 20~80%

Symbol	Used for	Symbol	Used for
LOT	Batch number		Manufacturer
REF	Catalogue number		Do not re-use
	Consult instructions for use		Date of manufacture
	Caution		Expiry date
	Temperature limit		

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2024.06
www.geneall.com

Ver 1.1

GeneAll®

Store at room temperature (15~25°C)
Expiration date : 18 months after manufacture

AllEx®
Rice DNA Kit (Single Cartridge/Plate Cartridge)

Description

The AllEx® Rice DNA Kit is designed for the easy and rapid genomic DNA extraction from white rice sample in combination with AllEx®64 system. Nucleic acid extraction protocols for rice samples are designed to be optimized for Single Cartridge which can extract up to 8 sample, and Plate Cartridge can extract 16 sample at once. The cartridge of this kit contains the essential reagents used by experimenter to conveniently extract nucleic acids.

Intended use

The AllEx® Rice DNA Kit provides fast and easy methods for the purification of genomic DNA from rice and other grain samples using AllEx®64 Automated Nucleic Acid Extraction System.
The extracted DNA is of excellent quality and suitable for most downstream applications including PCR, qPCR, NGS, and other molecular diagnostic testing.

Kit contents

Components	Quantity	
	949-048 (Single Cartridge)	949-096 (Plate Cartridge)
Number of Preparation	48 preps/kit	96 preps/kit
Reagents pre-filled cartridge	6 pks	6 pks
AllEx® Strip (6 pcs/pk)	4 pks	2 pks
Buffer SQ1 30 ml	1 ea	2 ea
RNase A (20 mg/ml)	1 ea	2 ea
Nuclease-free water 1 ml	1 ea	2 ea


Single Cartridge


Single Cartridge Adaptor


Combination of 8-well Single Cartridge and Adaptor

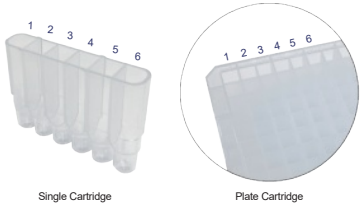
- Reagents pre-filled cartridge (Single Cartridge)
- The Single Cartridge Adaptor holds up to 8 Cartridges and users may choose to use 4 Adaptors to extract 32 samples in a single run


Plate Cartridge


AllEx® Strip

- Reagents pre-filled cartridge (Plate Cartridge)
- AllEx® Strip

Brief workflow



Single Cartridge Plate Cartridge

1. Lysis buffer
2. Washing buffer I
3. Washing buffer II
4. Washing buffer III + bead
   [Note] If particles are not visible in well 4, shake down the cartridge to dislodge particles that may have adhered to the seal material before removing the seal.
5. Elution buffer
6. Washing buffer IV

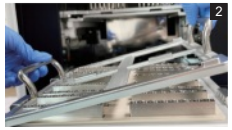
- Single Cartridge is specially designed for low to medium throughput and allows for the processing of flexible sample numbers in multiples of samples. The use of individual Single Cartridge avoids the sealing of unused wells of a Plate Cartridge when processing less than 16 samples.
- Plate Cartridge is capable of extracting 16 samples as single extraction requires 6 consequent wells. 6 consequent wells are aligned horizontally and each well contains specific reagents for extraction. Both kits can be used with same hardware allowing users to switch between the two methods according to the requirements in sample throughput. First well contains lysis buffer which destroy cell membranes and elute DNA with magnetic beads.
- Magnetic bead may be damaged if stored with lysis buffer, hence it is located in the fourth well until the extraction begins and moves to first well by AllEx®64 once initiated. Second, third, fourth and sixth well contain washing buffer I, II, III, IV in order to remove unwanted cell component and buffers. Elution buffer in fifth well detaches DNA from magnetic beads and completes extraction process.

Protocol

A. White rice

1. Disruption 1 grain of white rice using TissueLyzer II (Frequency 30, 30 sec).
   * If LN2 is not available, perform additional disruption until sample totally ground.
2. Add 350 µl of Buffer SQ1 and Vortex.
3. Incubate at 37°C 10 min.
4. Centrifuge at 13,000 rpm (≥10,000 x g), 4°C for 5 min.
5. Dispense 200 µl of the supernatant to 1st (7th) well.
6. Dispense 10 µl of RNase A to 3rd (9th) well.

Preparation of 'Cassette'



1. Prepare the 'Cassette'.
2. If the 'Cassette' is inside the system, tap **'Cassette Loader Move Front'** icon to detach 'Cassette' from the 'Cassette Loader'.

Preparation of Single Cartridge

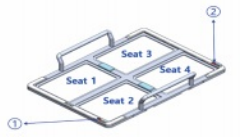

1. Cut the Single Cartridge as required.
2. Insert the 'Cartridge' into the 'Adaptor' and remove the sealing film.
3. Follow the protocol for starting sample type.

Preparation of Plate Cartridge

1. Remove the sealing film.
2. Follow the protocol for starting sample type.

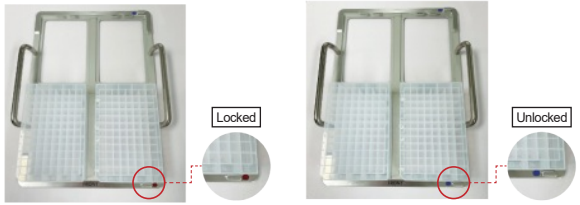
System run

1. Unlock the Seat 1 and 2 Lock Switch and the Seat 3 and 4 Lock Switch of the 'Cassette' .These switches are located on the sides of the 'Cassette'.

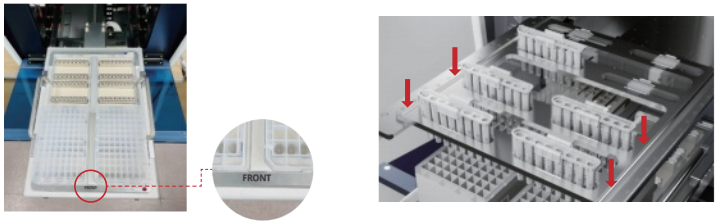


① Seat 1 and 2 Lock Switch
② Seat 3 and 4 Lock Switch

2. Install the 'Cartridge' from Seat 1 of the 'Cassette'. If there is more than one 'Cartridge', install Seats 2, 3, and 4 in that order.
3. **[Note!]** Once all the 'Cartridges' are installed, Lock the Lock Switch.



4. Load the 'Cassette' into the 'Cassette Loader' in the correct position until it clicks.The 'FRONT' of the 'Cassette' should face forward.



5. Tap the 'Sample ID' icon to open the sample data screen. Tap the appropriate number corresponding to the sample quantity and save.
6. **[Note!]** Tap the 'Strip Loader' icon to move the' Strip Loader' forward. The Strip Loading Guide will be displayed on the screen. Ensure that you insert the strip in the correct position as indicated by the Strip Loading Guide.
7. Tap the 'Strip Loader Move Home' icon to return the 'Strip Loader' to its original position.
8. Tap the 'Cassette Loader Move Home' icon to return the 'Cassette Loader' to its original position.
9. Select the protocol and tap the 'Okay' icon to run.

End of run

1. Tap the **'Cassette Loader Move Front'** icon to move 'Cassette Loader' forward and open the front door.
2. Tap the **'Strip Loader'** icon to move 'Strip Loader' forward and remove the used 'Strip'.
3. Hold up the handle of 'Cassette' up with both hands to detach it from the 'Cassette Loader'.
4. Tap the **'Cassette Loader Move Home'** icon to return the 'Cassette Loader' to its original position.
5. Regular UV sterilization eliminates bacteria and virus, minimizing internal pollution within the system. Before/after the extraction, remove the 'Cartridge' and 'Strip', and then press. The sterilization will continue for 10 min.