

## Manual

# MagnifiQ™ 16 CiTi Converter DNA Methylation instant kit

Kit of reagents for bisulfite conversion and a prefilled 96 deep-well plate for automated, magnetic purification of converted DNA in the 16 samples per plate format. Contains ready-to-use, reagent-filled plates and all necessary consumables.

| catalog #    | size          | compatible devices * |
|--------------|---------------|----------------------|
| 027A-16U-64  | 64 reactions  | Auto-Pure 32A        |
| 027A-16V-64  | 64 reactions  | Auto-Pure Mini       |
| 027A-16U-256 | 256 reactions | Auto-Pure 32A        |
| 027A-16V-256 | 256 reactions | Auto-Pure Mini       |

**\* Compatible devices**

The kit has been tested with specific Allsheng brand isolation devices. This does not preclude it from working with other devices. If your device is not listed, please contact us at [info@aabiot.com](mailto:info@aabiot.com).

For research use only.

**Guarantee**

A&A Biotechnology provides a guarantee on this product.

The company does not guarantee the correct performance of this kit in the event of:

- not adhering to the supplied protocol
- use of not recommended equipment or materials
- use of other reagents than recommended or which are not a component of the product
- use of expired or improperly stored product or its components

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## Advantages

- High-throughput, complete conversion of GC-rich DNA.
- Minimized DNA degradation and loss during treatment.
- Eluted, ultra-pure DNA is ideal for use in molecular analyses.
- MagnifiQ™ 16 CiTi Converter DNA Methylation instant kit does not require initial preparation of buffers. Just add samples to the plate and get purified material within approximately 40 minutes.

## Specification

|                         |                          |
|-------------------------|--------------------------|
| protocol time           | ~40 min                  |
| sample type             | bisulfite converted DNA  |
| sample size             | 150 µl                   |
| elution volume          | 40 µl                    |
| elution solution        | ultrapure water          |
| binding capacity        | 30 µg DNA                |
| downstream applications | sequencing, qPCR, RT-PCR |

## Description

**MagnifiQ™ 16 CiTi Converter DNA Methylation instant kit** is designed for bisulfite conversion and purification of converted DNA for high-throughput methylation analysis. The kits have been designed to provide complete conversion of unmethylated cytosines and to minimize template degradation and loss of DNA during treatment and clean-up. Purification method uses **MagnifiQ™** automatic magnetic technology.

The **MagnifiQ™** product series is based on the automated isolation of nucleic acids with use of magnetic beads. This method significantly shortens working time and reduces risk of mistake in comparison to manual methods.

## Contents

| component                  | 027A-16U-64 |            | 027A-16U-256 |            | storage   |
|----------------------------|-------------|------------|--------------|------------|-----------|
|                            | quantity    | cat #      | quantity     | cat #      |           |
| XP-C - extraction plate    | 4 pcs       | K-P96U22XC | 16 pcs       | K-P96U22XC | 15–25 °C  |
| C/T conversion reagent     | 8 pcs       | K-C/T-1    | 32 pcs       | K-C/T-1    | 15–25 °C  |
| D dilution solution        | 2 ml        | K-D-2      | 8 ml         | K-D-8      | 15–25 °C  |
| DS desulphonation solution | 15 ml       | K-DS-15    | 60 ml        | K-DS-60    | 15–25 °C  |
| ultrapure water            | 10 ml       | K-WUP-10   | 40 ml        | K-WUP-40   | -20–25 °C |
| tip comb 8                 | 4 x 2 pcs   | K-C8U-2    | 16 x 2 pcs   | K-C8U-2    | 15–25 °C  |
| protective film            | 4 pcs       | K-MQF-4    | 16 pcs       | K-MQF-16   | 15–25 °C  |

| component                  | 027A-16V-64 |            | 027A-16V-256 |            | storage   |
|----------------------------|-------------|------------|--------------|------------|-----------|
|                            | quantity    | cat #      | quantity     | cat #      |           |
| XP-C - extraction plate    | 4 pcs       | K-P96V22XC | 16 pcs       | K-P96V22XC | 15–25 °C  |
| C/T conversion reagent     | 8 pcs       | K-C/T-1    | 32 pcs       | K-C/T-1    | 15–25 °C  |
| D dilution solution        | 2 ml        | K-D-2      | 8 ml         | K-D-8      | 15–25 °C  |
| DS desulphonation solution | 15 ml       | K-DS-15    | 60 ml        | K-DS-60    | 15–25 °C  |
| ultrapure water            | 10 ml       | K-WUP-10   | 40 ml        | K-WUP-40   | -20–25 °C |
| tip comb 8                 | 4 x 2 pcs   | K-C8U-2    | 16 x 2 pcs   | K-C8U-2    | 15–25 °C  |
| protective film            | 4 pcs       | K-MQF-4    | 16 pcs       | K-MQF-16   | 15–25 °C  |

## Additional equipment and reagents

### Necessary

- 1.5 ml Eppendorf tubes
- automated pipette
- pipette tips
- vortex
- microcentrifuge
- thermoblock

## Important notes

- C/T conversion reagent is supplied as a solid crystalline at an amber tube and it is light sensitive! For best results, C/T conversion reagent should be used immediately following preparation.
- The XP-C plate is pre-filled with reagents, except for the DS desulphonation solution. Before proceeding with the magnetic purification of converted DNA, distribute DS desulphonation solution into XP-C plate.

## Preparation of C/T conversion reagent

1. Add **750 µl** of ultrapure water and **210 µl** of **D** dilution solution to the tubes with C/T conversion reagent.

2. Mix by vortexing or shaking for **10 min** at **room temp.**

**Note.** Each tube of C/T conversion reagent is designed for 10 separate DNA treatments.

**Note.** C/T conversion reagent solution can be stored: overnight at room temp., up to one week at 4 °C, up to one month at -20 °C.

## Protocol of DNA conversion

The conversion reaction can process a sample containing **500 pg-2 µg** of DNA. For optimal results, the amount of input DNA should be contained within a range of **200-500 ng**.

1. Add sterile water to DNA samples up to a total volume of **50 µl**.  
Add **100 µl** of C/T conversion reagent to each sample and mix by pipetting.

**Attention.** No vortexing.


2. Incubate the samples in the dark for **10 min** at **98 °C** and then **2.5 h** at **64 °C**.

3. Incubate samples for **10 min** on ice (**0-4 °C**).

**Note.** Samples can be stored at 4 °C for up to 20 hours.

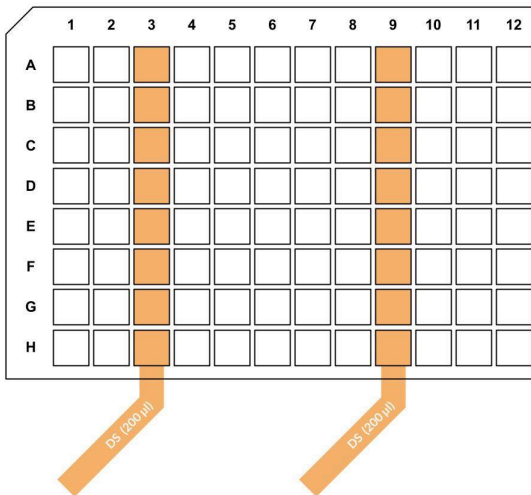
# Protocol

## Protocol files

| device                   | protocol name | protocol file  | installation  |
|--------------------------|---------------|--|---|
| Auto-Pure Mini           | MQ-CIT-MI     | <a href="http://aabiotech.com/protocols/magnifiq/MI/MQ-CIT-MI.txt">aabiotech.com/protocols/magnifiq/MI/MQ-CIT-MI.txt</a>     | <ol style="list-style-type: none"> <li>1. Create folder "items" on a USB drive and copy the protocol file to it.</li> <li>2. Insert the USB drive into a USB slot in the device.</li> <li>3. On a device screen, go to Settings &gt; System &gt; Transfer &gt; Import.</li> <li>4. Select the protocol and tap "Import".</li> </ol> |
| Auto-Pure Mini (QR code) | MQ-CIT-MI     |   | <ol style="list-style-type: none"> <li>1. On a device screen, go to Run &gt; ☰ &gt; ☰</li> <li>2. Scan the QR code with the device's scanner.</li> </ol>  |
| Auto-Pure 32A            | MQ-CIT-32A    | <a href="http://aabiotech.com/protocols/magnifiq/32A/MQ-CIT-32A.txt">aabiotech.com/protocols/magnifiq/32A/MQ-CIT-32A.txt</a> | <ol style="list-style-type: none"> <li>1. Create folder "items" on a USB drive and copy the protocol file to it.</li> <li>2. Insert the USB drive into a USB slot in the device.</li> <li>3. On a device screen, go to Settings &gt; Im.&amp;Export &gt; Import.</li> <li>4. Select the protocol and tap "Import".</li> </ol>       |
| Auto-Pure S32            | MQ_CIT_S32    | <a href="http://aabiotech.com/protocols/magnifiq/S32/MQ_CIT_S32.txt">aabiotech.com/protocols/magnifiq/S32/MQ_CIT_S32.txt</a> | <ol style="list-style-type: none"> <li>1. Create folder "im_export_protocols" on a USB drive and copy the protocol file to it.</li> <li>2. Insert the USB drive into a USB slot in the device.</li> <li>3. On a device screen, go to Protocols &gt; Import.</li> <li>4. Select the protocol and tap "Import".</li> </ol>            |

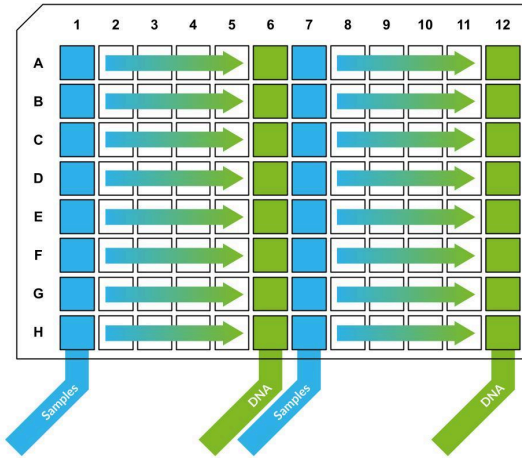
## Protocol of purification of converted DNA

- Carefully centrifuge the **XP-C** plate for **1 min** at **2000 RPM**.
- Remove the foil from the **XP-C** plate.
- Add **200 µl** of **DS** desulphonation solution to each well in columns **3** and **9** of the **XP-C** plate. Distribute **DS** desulphonation solution into **XP-C** plate as shown in the diagram below:



- Add **150 µl** of samples to the wells in columns **1** and **7** of the **XP-C** plate.
- Place one or two **XP-C** plates in the extraction device.
- Place the appropriate number of **tip combs 8** in the extraction device.
- Run the protocol on your device.
- After the program is over, remove the combs and then remove **XP-C** plate from the extraction device and seal it with **protective film**. The purified DNA is located in columns **6** and **12**.

**Note.** For longer storage of extracted material, transfer it from the plate to appropriate tubes and store at 4 °C.





# Safety information



**DANGER**

## XP-C - extraction plate

H302 Harmful if swallowed.  
 H315+H319 Causes skin irritation, serious eye irritation.  
 H225 Highly flammable liquid and vapour  
 H336 May cause drowsiness or dizziness  
 P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 P261 Avoid breathing vapors.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



**WARNING**

## C/T conversion reagent

H302 Harmful if swallowed.  
 H319 Causes eye irritation.  
 P264 Wash skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P301+P312 If swallowed: Call a Poison Center/doctor if you feel unwell.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337+P313 If eye irritation persists: Get medical advice/ attention.



**DANGER**

## D dilution solution

H290 Corrosive to metals.  
 H314 Causes serious eye irritation.  
 P260 Do not breathe dust.  
 P280 Wear protective gloves / protective clothing / eye protection / face protection.  
 P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
 P304+P340+P310 If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a Poison Center / doctor.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a Poison Center or doctor / physician.



**DANGER**

## DS desulphonation solution

H225 Highly flammable liquid and vapour.  
 H290 Corrosive to metals.  
 H314+H319 Causes serious eye and skin irritation.  
 H336 May cause drowsiness or dizziness.  
 P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
 P261 Avoid breathing vapours.  
 P280 Wear protective gloves / protective clothing / eye protection / face protection.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a Poison Center or doctor / physician.







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