

## DATA SHEET

Versions: 01

Revision date: 27/11/2023

### 1. Identification

Product name: cDNA Synthesis Kit

Reactions: 50 rxns

Cat. No.: PRA-CDNA50

### 2. Description

Considering that RNA is unstable at high temperatures, it must be converted to DNA for use in some techniques, such as PCR. The cDNA synthesis kit contains all the necessary components to convert total RNA or mRNA into cDNA. The current kit is designed and produced using the Reverse Transcriptase enzyme. This enzyme is engineered and expressed to be resistant to high temperatures and lacks RNase H properties. On the other hand, this kit is convenient for consumers and can be used with minimal sampling.

### 3. Kit Contents

Component	Cat. no	Quantity
cDNA Master Mix (2 vials)	PRA-cDM	350 $\mu$ l
Random Hexamer	PRA-RANDOMH	50 $\mu$ l
Oligo dT	PRA-OLIGO	50 $\mu$ l
Beta-Actin primer	PRA-BAP	10 $\mu$ l

### 4. Storage specifications

The components of cDNA kits can be stored at -20 °C .



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### 5. Applications

All molecular biology applications, such as:

PCR

RNA-Seq.

### 6. Assay Procedure

cDNA Synthesis:

For cDNA synthesis, add the following to the RNase/DNase-free microtube:

Template RNA: 5  $\mu$ L (recommended)

Oligo dT or Random hexamer: 1  $\mu$ L

cDNA Master mix: 14  $\mu$ L

Total: Up to 20  $\mu$ L

RNA between 5 ng and 5  $\mu$ g can be used. After adding the above, first mix a little and then run the following temperature program:

Temperature	Time
25°C	10 minutes
47°C	60 minutes
95°C	5 minutes

To check the accuracy of the kit during PCR, use the beta-actin primer in the kit as a positive control. To perform PCR, run 1 microliter of primer in the PCR mixture with the following temperature program:



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### PCR:

Cycle	Temperature	Time
1	95°C	5 minutes
35	95°C	20 seconds
1	60°C	25 seconds

The temperature program is based on the use of Master Biosystem PCR master mix.

### 7. Safety

While the solutions used in the kit are not harmful to humans, it is advisable to avoid direct contact with them.

### 8. Quality Certifications

### 9. Further information

This product is developed, designed, and sold exclusively for research purposes. It has not been tested for diagnostic or drug development purposes, nor is it suitable for administration to humans or animals.

#### NOTE

All products have been produced by Karmania Pars Gene company in Rafsanjan.

