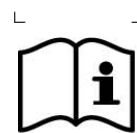


## ePure STD DNA Extraction kit

### Instructions for Use (Handbook)



E2007



Version: 1.0



48

**For *in vitro* diagnostic use**



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Read and follow these Instructions for Use prior to using this product. The latest revision of this document can be found at [www.ecolidx.com](http://www.ecolidx.com)

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## Intended Use

The ePure STD DNA Extraction Kit provides a complete set of reagents and consumables for the automated purification of STDs (sexually transmitted diseases) DNA and HPV DNA from cervical swab and transfer medium, urine and seminal liquid, with ePure system.

The product is intended to be used by professional users, such as technicians and physicians who are trained in molecular biology techniques.

## Introduction

Product Name	ePure STD DNA Extraction Kit
Catalogue Number	E2007
Product Overview	<p>The ePure HPV DNA Extraction Kit is designed for the extraction of STD DNA (e.g. <i>Chlamydia trachomatis</i>, <i>Neisseria gonorrhoeae</i>) from swabs, urine, seminal liquid. Kit is designed also for HPV DNA extraction from cervical swab and transfer medium.</p> <p>The unique magnetic beads technology enables purification of high-quality nucleic acids that are free of proteins, nucleases, and other impurities. Purified nucleic acids are ready for direct use in downstream applications such as sequencing, genotyping, qPCR, ddPCR and NGS assays.</p>
Applicable Instrument Model	ePure
Display Protocol Name on The Instrument	2007 HPV DNA
Processing Time	ePure 45 minutes

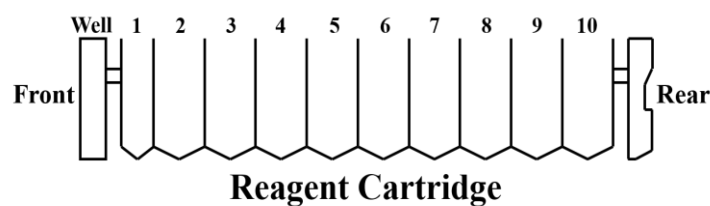
# Kit Contents and Storage

Shipping and Storage	The Kit is shipped at room temperature. Upon receipt, store the Kit at room temperature. All Kit components are stable when stored properly until the expiration date shown on the kit box.	
Kit Content	The components supplied in the Kit are listed below. Sufficient reagents are supplied to perform 48 purifications.	
	Contents	Amount
	<b>1</b> Reagent Cartridge	48 pcs (6x8)
	<b>2</b> Reaction Chamber	48 pcs (6x8)
	<b>3</b> Tip Holder	48 pcs (6x8)
	<b>4</b> Piercing Pin	50 pcs
	<b>5</b> Filter tip	50 pcs
	<b>6</b> Sample Tube (2 mL)	50 pcs
	<b>7</b> Elution Tube (1.5 mL)	50 pcs
	BL4 Buffer (25 mL)	1 pc
	Barcode sticker (on request)	50 pcs

Reagent  
Cartridge  
Contents

Each Reagent Cartridge has 10 positions with 10 sealed well.  
Positions 1-10 contain wells filled reagents for this protocol

Reagent	Well No.
Proteinase K Solution	1
Lysis Buffer 2A	2
Binding Buffer 1	3
Magnetic Bead Solution	4
Washing Buffer 1	5
Washing Buffer A	6
Washing Buffer B	7
Elution Buffer 1	8
Elution Buffer 2	9
Empty	10



## Materials Required Not Provided

The following general laboratory equipment and consumables are required to perform the Kit. All laboratory equipment should be installed, calibrated, operated, and maintained according to the manufacturer's recommendations. The following tables display required and special equipment along with the list of consumables.

Item
ePure instrument
1.5 or 2.0 mL micro-centrifuge tubes
Pipettes and filter tips
Phosphate-buffered saline (PBS, may be required for diluting samples)
Optional: Plastic consumables, DNase-free RNase A (to minimize RNA content)

## Warnings and Precautions

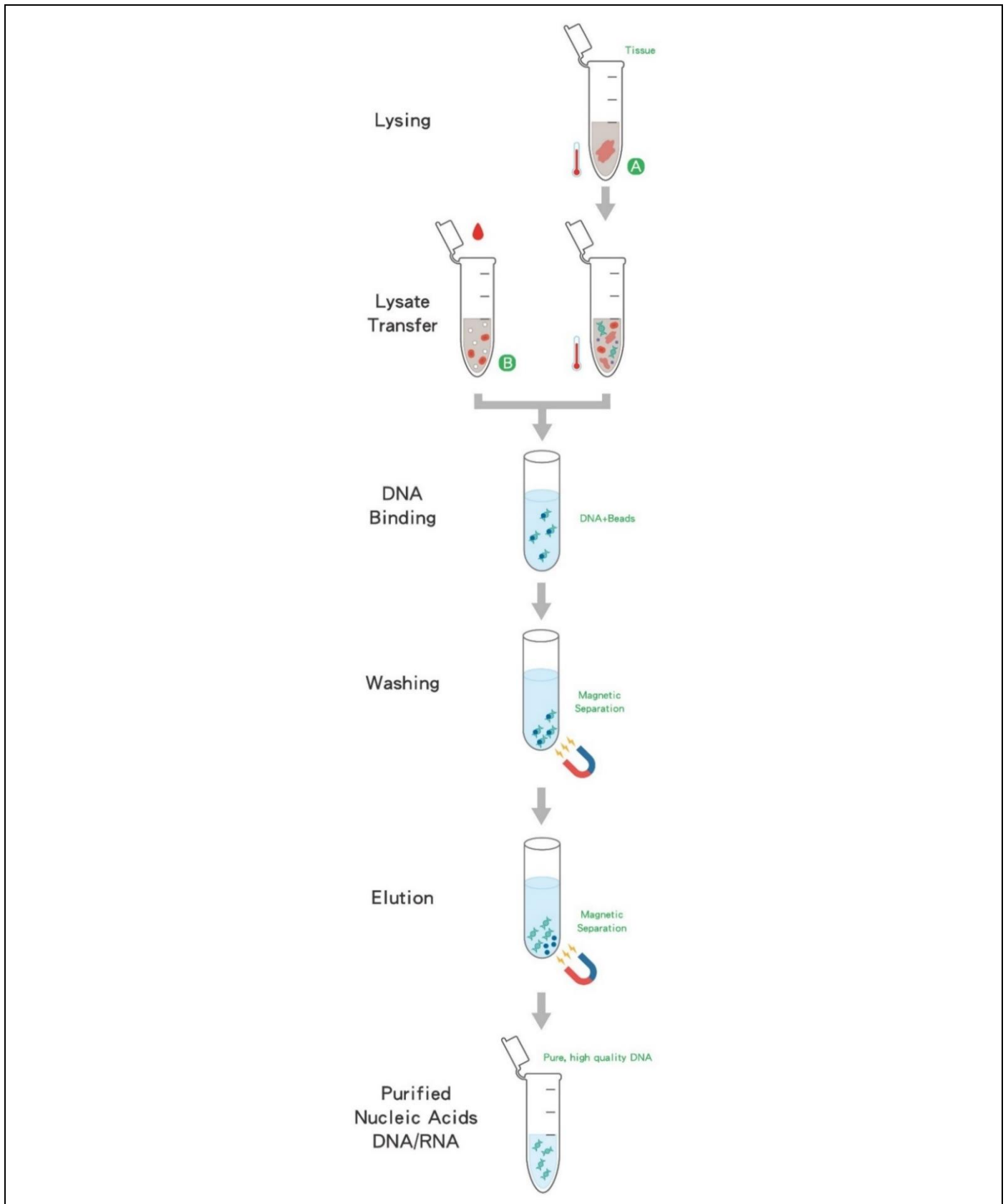
For *in vitro* diagnostic use only. Read all the instructions carefully before using the kit. Use of this product should be limited to trained personnel in the techniques of DNA purification. Strict compliance with the user manual is required for optimal results. Attention should be paid to expiration dates printed on the box and labels of all components. Do not use a kit after its expiration date.

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate safety data sheets (MSDSs, download at [www.ecolidx.com](http://www.ecolidx.com)).



CAUTION: DO NOT add bleach or acidic solutions directly to the sample preparation waste.

# Purification Principle



- A** Transfer sample to extraction directly.
- B** Perform certain pretreatment process before extraction.

# Before Starting

## Preparation of sample materials

The purification procedure is optimized for the use of 100-400 µl Cervical cells collected by cervical brush or genital swab, seminal liquid, pretreated urine or other cell-free body fluid samples.

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Urine	<ol style="list-style-type: none"><li>Collect 10-20 ml of first-catch urine in a sterile container.</li><li>Centrifuge for 30 min at 3000 x g. Carefully discard the supernatant and leave about 200 µl of solution.</li><li>Resuspend the sediment. Use the suspension for the DNA extraction.</li></ol>
Seminal liquid	<ol style="list-style-type: none"><li>maintain semen for 40 minutes in darkness until liquefaction.</li></ol>
In liquid-based preservation solution  e.g., Hologic Thinprep PreservCyt®, BD Surepath™	<ol style="list-style-type: none"><li>Transfer the sample amount recommended in <b>Table</b> to a 1.5 ml microcentrifuge tube.</li><li>Centrifuge the tube at 1,000 x g for 5 minutes.</li><li>Discard the supernatant.</li><li>Resuspend the pellet with 220 µl BL4 Buffer.</li><li>Incubate the mixture at room temperature for 5 minutes.</li><li>Vortex for 5 seconds.</li><li>Transfer 200 µl supernatant into Sample Tube.</li></ol>
In other STM preservation solution  e.g., QIAGEN DNA PAP, HybriBio cell preservation solution	<ol style="list-style-type: none"><li>Add the same amount of BL4 Buffer directly to the preservation solution (BL4: STM = 1: 1).</li><li>Incubate the mixture at room temperature for 5-10 minutes.</li><li>Vortex for 5 seconds.</li><li>Transfer 100-400 µl supernatant into Sample Tube.</li></ol>

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### Note:

Cervical cell samples are collected with a cervical brush or genital swab in a liquid-based medium\* (e.g., ThinPrep system, SurePath system, etc.) or other liquid Specimen Transport Medium (STM) preservation solution (e.g., QIAGEN DNA PAP Cervical sampler, Roche Cobas® PCR Cell Collection Media, HybriBio cell preservation solution, etc.). \*The liquid-based media are formulated for cellular preservation and used in liquid-based cytology (LBC) samples for cytological and molecular diagnosis.

For non-liquid media, it is recommended to add **BL4 Buffer** for retention.

Samples should be sent to 4-30°C for extraction immediately after collection. Storage conditions depend on the preservation solution.

For "signal amplification" detection, the target DNA will not be amplified. A sufficient number of samples must be collected.

The sticky mucus is common in cervical specimens, adding BL4 Buffer before processing will help sample liquefaction and nucleic acid extraction.

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The suggested starting material and elution volume ranged for each nucleic acid extraction.

**Table:**

Sample type	Starting material per sample	Elution Volume
Cervical Swab	100-400 µl	50-200 µl
Transfer medium		

## Procedure of ePure System Procedure

### Workflow of ePure operation

**Place the cartridge and plastic consumables on the ePure instrument**



**Select the protocol and setup the condition**



**Follow onscreen message for worktable setup**



**Start the protocol**



**Collect elution product \***



**UV decontamination**


\* Output the bench record (option)

Note: Perform all steps at room temperature (20-25°C) unless otherwise notified.




# Purification Protocol

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<b>1</b>	Turn on the Instrument	a. Turn ON the power switch - and wait for the screen to turn ON. b. Login and show the Home Page.
<b>2</b>	Load new Consumable(s) and Cartridge(s)	a. Open the door and remove the sample rack from the instrument. b. Open the Tip-Holder Lid. c. Load <b>1</b> Reagent Cartridge, and all plastic disposables ( <b>2</b> Reaction Chamber, <b>3</b> Tip Holder, <b>4</b> Piercing Pins, <b>5</b> Filtered Tips and other components if present in the kit intended to use). d. Close the Tip-Holder Lid. e. Paste the Barcode sticker on the Elution Tubes (optional). f. Place <b>6</b> Sample Tubes and <b>7</b> Elution Tubes into the Sample Rack.
<b>3</b>	Transfer samples into instrument	a. Transfer appropriate volume of sample into sample tubes on sample rack. b. Put back the sample rack into the instrument and Close the door.
<b>4</b>	Program Set up	a. Select the appropriate protocol program on the instrument. Press <b>NEXT</b> . b. Select an appropriate Sample Volume / Elution Volume and press <b>NEXT</b> . c. Press the number button to select the right Sample Numbers. d. Scan / Edit each primary Sample ID directly. After finished, Press <b>NEXT</b> . e. Scan / Edit each Elution Tube ID directly. After finished, Press <b>NEXT</b> . f. Scan Reagent Cartridge Barcode. Press <b>NEXT</b> . <i>*If the cartridge expired, the next step cannot be performed.</i> g. Follow the instructions on screen to double-check the operating steps being completed before running the program. Press <b>NEXT</b> .
<b>5</b>	Start Extraction	a. Check " <b>PROGRAM CONFIRMATION</b> " on screen. b. Press " <b>START</b> " to start the experiment. Instrument will run the protocol program automatically until whole process is completed. c. At the end of the run (approximately <b>45 minutes</b> ), instrument alarms briefly and the screen indicates " <b>PROGRAM FINISH</b> ". d. If you do not re-run the experiment, press the function button "  <b>HOME</b> " to exit the experiment mode.
<b>6</b>	Collect the Elution tubes	a. Open the instrument door. b. Collect the elution tubes containing the purified nucleic acids.

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- c. The purified nucleic acids are ready for immediate use. Store the purified nucleic acids at 4°C (short-term, less than 10 days) or aliquot and store at -70°C (long-term) before performing downstream analysis.
  - d. Discard the used cartridges, all plastic consumables into biohazard waste. **\*Do not reuse the cartridges.**
  - e. If you do not continue to use the instrument, return the sample rack back into the instrument, close the instrument door, and press the  **POWER** function button to enter sleep mode. If the instrument will not be used for a long time, turn off the power switch.
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## Troubleshooting

This table is helpful for solving common problems. If you need other technical support, please contact [ecoli@ecolidx.com](mailto:ecoli@ecolidx.com) or contact your distributor.

Problem	Possible Cause	Comments and suggestions
Poor DNA quality or yield	Deterioration or contamination of reagents.	Please ensure that the kit reagents are still in the effective using period before use. Discard any kit reagent that shows discoloration or evidence of microbial contamination.
	Kit stored under non-optimal conditions	Store kit at 15-25°C at all time after arrival. If either reagent or buffer precipitate upon shipping in cold weather or during long-term storage, dissolve precipitates by gently warming and stirring solution. Please do not freeze the Reagent Cartridges.
	Insufficient sample input	DNA yield depends on the sample type and the number of nucleated cells in the sample. Please proportionally adjust the total input amount of sample to increase the DNA yield.
	Too much of elution buffer was used	The elution volume can be reduced proportionally.
	The eluate of final product(s) is not enough.	Please collect issue information and provide it to your Support Representative / Technical Support as soon as possible.

Clogging issue	Too much sample material was used.	Decrease the input amount of sample material or dilute your sample.
No results in downstream analysis	No signal / The PCR was inhibited.	Using appropriate controls for analysis. Check the positive control, negative control, water (NTC) and internal control to clarify the possible causes.
Instrument malfunction / abnormal sound	Abnormal consumables: 1. Deformed filter tip 2. Deformed reaction chamber 3. Deformed Tip holder	Please replace the batch with normal consumables.
	Abnormal action of instrument: 1. Inaccurate correction value 2. Spare parts or components damaged	Please collect issue information (videos and pictures) and provide it to your Support Representative / Technical Support as soon as possible to calibrate or replace any other damaged or worn parts.

## Related Products

Product Name	Cat. no.
ePure Blood DNA Extraction kit	E2001
ePure Blood DNA Extraction kit 1200	E2002
ePure Viral Nucleic Acid Extraction Kit	E2003
ePure Tissue DNA Extraction Kit	E2004
ePure Bacterial DNA Extraction Kit	E2006
ePure HPV DNA Extraction Kit	E2007
ePure TB DNA Extraction Kit	E2008
ePure FFPE DNA Extraction Kit	E2009
ePure Forensic DNA Extraction Kit	E2010
ePure Viral Pathogen DNA Extraction Kit B	E2012
ePure Plant DNA Extraction Kit	E2014
ePure Total RNA Extraction Kit	E2015
ePure cfDNA Extraction Kit Plus	E2024
ePure cfDNA Extraction Kit LV	E2025

## Limited Product Warranty

Ecoli Dx is committed to provide customers with high-quality products and services. Our goal is to ensure that every customer is 100 % satisfied with our products and services. If you have any question or concerns, contact our Technical Support Representatives.

Ecoli Dx guarantees the performance of all products according to the specifications stated in our product literature. The purchaser / user must determine the suitability of the product for his particular use. We reserve the right to change, alter, or modify any product to enhance its performance and design.

No warranty is granted for products beyond their listed expiration date. No warranty is applicable unless all product components are stored and used in accordance with instructions.

## Revision History

Version	Date	Description
1.0	14 Feb. 2022	New document release