



# SaMag Extraction kit User Manual

for use with **SaMag-12** and **SaMag-24** automated extraction systems  
from Sacace Biotechnologies

## ▪ SaMag STD DNA Extraction Kit (SM007)



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# SaMag STD DNA Extraction Kit

## NAME

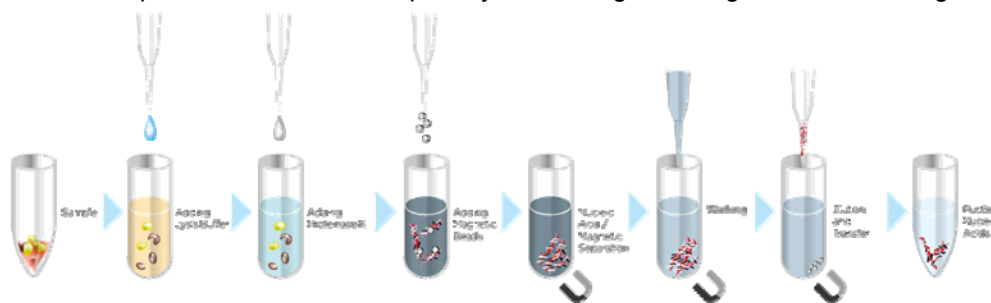
SaMag STD DNA Extraction Kit for urogenital samples

## INTENDED USE

SaMag STD Extraction Kit is designed to be used with SaMag-12/24 automatic nucleic acid extraction system for the extraction of STD DNA (for ex. Chlamydia trachomatis, Neisseria gonorrhoeae, Human Papilloma Virus...etc) from swabs, urine, seminal liquid.

## PRINCIPLE OF ASSAY

The extraction process consists of steps of lysis, binding, washing and elution as figure below.



The prepared nucleic acids are suitable for applications like qPCR, sequencing (NGS), Microarray, RFLP, Southern Blot or any kind of enzymatic manipulation.

## MATERIALS PROVIDED

- Reagent cartridge, 48 pcs (6x8);
- Reaction chamber, 48 pcs (2x 6x4);
- Tip holder, 48 pcs (2x 6x4);
- Filtered tip, 50 pcs (50x1);
- Piercing pin, 50 pcs (50x1);
- Sample tube (2 ml), 50 pcs (50x1);
- Elute tube (1,5 ml), 50 pcs (50x1);
- BL4 Buffer tube (1x25 ml);
- Barcode paper, 1 sheet;

Contains reagents for 48 tests.

## MATERIALS REQUIRED BUT NOT PROVIDED

- SaMag-12/24 Automatic Nucleic Acids Extraction System (Sacace Biotechnologies, Italy)
- Disposable gloves, powderless
- Micropipettes
- Biological cabinet

## PRODUCT USE LIMITATIONS

All reagents may exclusively be used in in vitro diagnostics. Use of this product should be limited to personnel trained in the techniques of DNA amplification. 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.

## REAGENT CARTRIDGE CONTENT



Well 1 Well 2 Well 3 Well 4 Well 5 Well 6 Well 7 Well 8 Well 9 Well 10

well-1	Proteinase K solution	40 $\mu$ l
well-2	Lysis Buffer 2	720 $\mu$ l
well-3	Binding Buffer 1	720 $\mu$ l
well-4	Magnetic Bead Solution	800 $\mu$ l
well-5	Washing Buffer 1	1000 $\mu$ l
well-6	Washing Buffer 2	1000 $\mu$ l
well-7	Washing Buffer 3	1000 $\mu$ l
well-8	Elution Buffer 1	1000 $\mu$ l
well-9	Elution Buffer 2	1000 $\mu$ l
well-10	Empty	

## STORAGE

SaMag STD Kit should be stored at room temperature (15-25°C). Do not freeze the reagent cartridges. The kits are stable under such conditions up to expiration date.

Store the purified DNA at 4 °C (short-term) or aliquot and store at -20°C or -70°C (long-term) before performing the downstream analysis.

## WARNINGS AND PRECAUTIONS

- Wear disposable gloves, laboratory coats and eye protection when handling specimens and reagents. Thoroughly wash hands afterward.
- Do not pipette by mouth.
- Do not eat, drink, smoke, apply cosmetics, or handle contact lenses in laboratory work areas.
- Do not use a kit after its expiration date.
- Dispose of all specimens and unused reagents in accordance with local regulations.
- Specimens should be considered potentially infectious and handled in biological cabinet in accordance with Biosafety Level 2 or other appropriate biosafety practices.
- Clean and disinfect all spills of specimens or reagents using a disinfectant such as 0,5% sodium hypochlorite, or other suitable disinfectant.
- Avoid contact of specimens and reagents with the skin, eyes and mucous membranes. If these solutions come into contact, rinse immediately with water and seek medical advice immediately.
- Material Safety Data Sheets (MSDS) are available on request.
- Use of this product should be limited to personnel trained in the techniques of DNA amplification.
- Workflow in the laboratory must proceed in a uni-directional manner, beginning in the Extraction Area and moving to the Amplification and Detection Area. Do not return samples, equipment and reagents in the area where you performed previous step.

## STARTING MATERIAL

The kit is designed for extraction of STD DNA from:

- *Cervical cells collected by cervical brush or genital swab*
  - *Urine sediment:* collect 10-20 ml of first-catch urine in a sterile container. Centrifuge for 30 min at 3000 x g, carefully discard the supernatant and leave about 200 µl of solution. Resuspend the sediment. Use the suspension for the DNA extraction.
  - *Seminal liquid:* maintain semen for 40 minutes in darkness until liquefaction.
  - For highly viscous samples, for liquid-based preservation solution (eg. Hologic Thinprep PreservCyt) and for other STM preservation solutions like Qiagen DNA PAP, adding buffer BL4 to the reservation is recommended (see below)
    - a. In liquid-based preservation solution (eg. Hologic Thinprep PreservCyt®, BD Surepath™) take the sample amount as the assay recommends, Centrifuge at 1000 x g. for 5min, Discard supernatant, Resuspend pellet in 220 µl BL4, Incubate at RT for 5 min, Vortex for 5 sec, Take 200 µl suspension for extraction.
    - b. In other preservation solutions (QIAGEN DNA PAP, HybriBio cell preservation solution), Add equal volume of BL4 directly to the preservation solution (BL4: preservation = 1:1) \*, Incubate at RT for 5-10 min, Vortex for 5 sec, Take 100-400 µl sample for extraction.
- \* The sticky mucus is common in cervical specimen, adding BL4 before processing will help sample liquefying and nucleic acid extraction

**NOTE: if you are using a custom Transport Medium which contains mucolytic agent and your sample is clear and liquid, you do not need to use buffer BL4.**

## PROTOCOL

To perform extraction start SaMag-12/24 instrument, open door(s) and follow steps indicated in SaMag user manual in chapter "Extraction".

1. Insert cartridge(s)
  - 2. Insert Reaction Chamber(s) \***
  3. Insert tip holder(s)
  4. Insert piercing pin(s)
  5. Insert filtered tip(s)
  6. Insert Sample Tube(s) in sample rack
  7. Insert 1,5 ml Elute tube(s) in sample rack, with open cap
  8. Under a safe biological cabinet load Sample(s) in Sample tube(s)
  9. If provided with the amplification kit, add Internal Control
  10. Transfer sample rack into SaMag instrument
  11. Close SaMag-12/24 door(s)
  12. Use the barcode to select STD DNA kit for Urogenital Samples Protocol, appropriate Starting Volume, Elution Volume (suggested values are 100 µl for sample volume, 100 µl for elution volume).
- 12 bis. In case of using SaMag-12 ver. 3.x EVO please use the touchscreen interface to select the STD Extraction kit (code 2007).**

**NOTE: In case of using SaMag-12 ver. 3.x EVO please select the 2 ml rack type in the touchscreen interface.**

DNA extracted with SaMag STD Extraction Kit is stable for up to one year when stored at -20°C, store it at -70°C or below for longer periods.

**\* ALWAYS REMEMBER TO INSERT REACTION CHAMBERS FOR ALL LOADED SAMPLES, OTHERWISE BUFFERS MAY SPILL OUT DAMAGING THE INSTRUMENT, AND IN THAT CASE SACACE BIOTECHNOLOGIES WILL NOT BE HELD RESPONSIBLE.**



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