

Instructions for Use

FraMiTrACR[®] AB

Centrifugal Ultrafilter



*pure***Milk**
ANALYTICAL

SARTORIUS

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1 Safety Instructions

The product is intended exclusively for use in accordance with these instructions. Any further use beyond this is considered improper.

The product may only be used for analytical purposes. Do not use the product for *in vitro* diagnostic (IVD) procedures or similar diagnostic procedures.

The product is intended for single use and must be disposed of after one use.

The product may only be used with the equipment and under the operating conditions described in these instructions. Failure to follow these instructions may have serious consequences, e.g. danger to individuals. Ensure that the information contained in these instructions is available to all individuals working with the product.

2 Storage Conditions

FraMiTrACR® centrifugal ultrafilters should be stored at room temperature. The devices should be used before the expiry date printed on the box.

3 Introduction

FraMiTrACR® centrifugal ultrafilters are disposable devices for the filtration of milk or milk-based samples prior to analysis of chemical residues.

These devices have a sample capacity of 4–15 mL and can be operated in a centrifuge with swing bucket or fixed angle rotors accepting standard conical bottom tubes.

The longitudinal membrane orientation and thin channel sample chamber provide optimum cross flow conditions. In a single spin, milk samples can typically be filtered to obtain 1–2 mL of milk serum in 10–30 minutes.

4 Equipment Required

Centrifuge with swing bucket or fixed angle (minimum 25°) rotor to fit 50 mL (30 mm diameter) conical bottom tubes.

Pasteur or air displacement (fixed or variable volume) pipettes for sample application and retrieval.

5 Operating Instructions

1. Fill sample chamber with up to the maximum volumes shown in table 1. Replace the screw cap and ensure it is fully seated.

Note: Do not use the device after the expiry date printed on the box.

Note: Do not use the device if it is damaged.

Note: Do not exceed the maximum device capacity.

2. Insert assembled device into centrifuge. When fixed angle rotors are used, insert the device into the rotor cavity/adaptor so that the printed volume graduations face upwards and outwards.

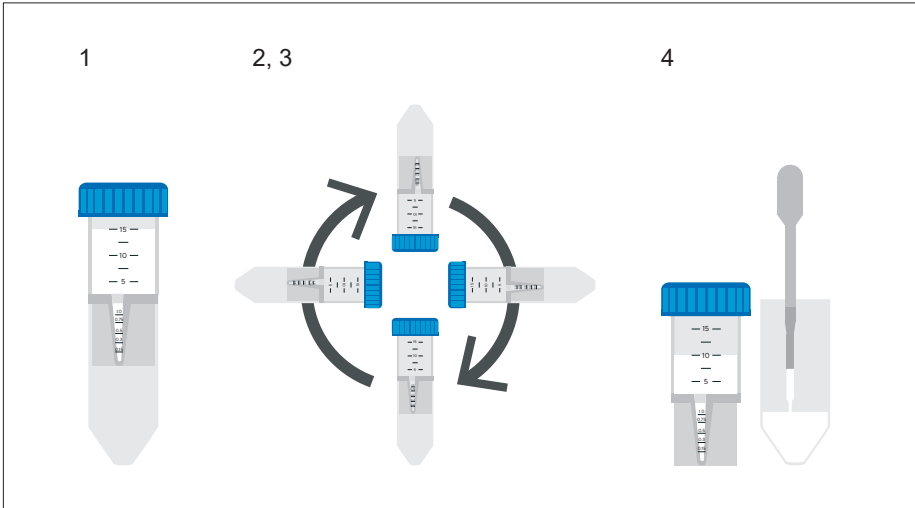
Note: Do not use in centrifuges with rotors that only accept round bottom tubes.

3. Centrifuge at speeds recommended in table 1.

Note: Do not exceed the maximum relative centrifugal force (RCF).

- Once the desired volume of serum is reached (see table 1 for a guide to filtration times), remove the sample chamber from the filtrate tube and recover the sample with a suitable pipette.

Note: After use, dispose of the product and packaging in accordance with local government regulations.



Schematic representation of the ultrafiltration process with FraMiTrACR®

For a full description of each step, see Chapter 5: Operating Instructions.

6 Specifications

Table 1: Technical Specifications

Device Capacity	
Swing bucket rotor	15 mL
Fixed angle rotor	12.5 mL
Dimensions	
Length x diameter	116 x 30 mm
Membrane area	3.9 cm ²
Hold up volume, membrane	< 20 µL
Materials of Construction	
Sample chamber	Polycarbonate
Filtrate tube	Polycarbonate
Screw cap	Polypropylene
Membrane	Regenerated cellulose
Operating Conditions	
Max. RCF, swing bucket rotor	3,000 <i>g</i>
Max. RCF, fixed angle rotor	6,000 <i>g</i>
Recommended centrifugation time	20–30 min
Typical serum volume recovered	1.5–2.0 mL

7 Analysis of Antibiotic Drug Residues

Research has shown that a wide range of antibiotic substances can be detected at or below MRL levels according to Commission Regulation (EU) No 37/2010, in milk serum obtained by filtration with FraMiTrACR® devices, using LC-MS/MS. Limits of quantification obtained – compared to the respective MRL concentration – typically range from 13–25% for Penicillins, from 4–100% for Cephalosporines, from 40–100% for Macrolides and Lincomycin, from 25–30% for Sulphonamides, from 40–60% for Tetracyclines, and from 40–50% for Quinolones.

Data for Aminoglycosides will be available soon. Initial trials show similar characteristics as for all other groups of antibiotic compounds.








8 Usage Tips

The rate of filtration is affected by several parameters, including type of sample and sample matrix, sample concentration, viscosity, centrifugal force, and processing temperature. Expect significantly longer spin times for samples with high fat content or with a solids content exceeding 5%. When operating at 4 °C, flow rates are approximately 1.5x slower than at 25 °C.

Membranes fitted to FraMiTrACR® concentrators contain trace amounts of glycerine. Should this interfere with analysis of the filtered sample, it can be removed by rinsing the maximum fill volume of buffer solution or deionized water through the concentrator. Decant the filtrate and concentrate before processing the sample. If you do not wish to use the pre-rinsed device immediately, store it at 4 °C with buffer or water covering the membrane surface. Do not allow the membrane to dry out.

Compatibility of FraMiTrACR® devices with substances other than milk or milk-based samples has not been tested.

9 Product Symbols

	Catalogue number
	Batch number
	Use-by date
Qty	Quantity
	Product is non-sterile
For Research use only	Only suitable for research purposes
	Do not re-use
	Consult instructions for use
	Temperature limits

10 Ordering Information

FraMiTrACR®	Pack Size	Order No.
AB: For the analysis of antibiotic drug residues	48	PMFMTAB-48

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The information and figures contained in these instructions correspond to the version date specified below.

Sartorius reserves the right to make changes to the technology, features, specifications and design of the product without notice.

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