

PRODUCT SHEET



M1 Sample Prep Kit for RNA

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M1 Sample Prep Kit for RNA

The Biomeme M1™ Sample Prep Kit for RNA is a mobile solution for the extraction of purified nucleic acids from a variety of different sample types including but not limited to small volume liquid samples.

This kit requires no lab equipment, refrigeration, electricity, incubation, alcohol precipitation or phenol chloroform extraction. Instead, it utilizes a filtration-based method in which nucleic acids selectively bind to the silica membrane inside Biomeme's proprietary M1 Sample Prep Columns. Subsequent washes through a sequence of specially formulated buffers yields purified nucleic acids upon elution.

Safety Warning: When working with our products, always wear appropriate personal protective equipment (PPE) (e.g. lab coat, disposable gloves with adequate chemical resistance, mouth/face protection, goggles, etc.). For more information, please review the product's safety data sheet(s) (SDS).

Kit Contents

CONTENTS	VOLUME
In Microcentrifuge Boxes	
Biomeme Lysis Buffer (BLB)	30x - 1.0 mL per red cap tube
Biomeme Protein Wash (BPW)	30x - 0.5 mL per orange cap tube
Biomeme Wash Buffer (BWB)	30x - 1.0 mL per yellow cap tube
Biomeme Drying Wash (BDW)*	30x - 1.0 - 2.0 mL per clear cap tube
Biomeme Elution Buffer (BEB)	30x - 0.5 mL per green cap tube
In Single-Use Foil Pouches	
Single-use 1 mL Syringes	30x
Biomeme Sample Prep Columns	30x
Packaged Individually	
Biomeme Drying Wash*	1x - 60 mL bottle
1 mL Transfer Pipette	5x

Note: The Biomeme Drying Wash (BDW) has the potential to lose volume during extended periods at high temperatures. Please check your tubes before heading out into the field! We have included a 60 mL bottle of additional BDW and 5x 1 mL transfer pipettes to top off the volume if they dip below 1 mL per tube.

Note: The RNA-BLB contains Carrier RNA (5 µg/mL). This will impact concentration absorption readings from spectrophotometry.

Technical Characteristics

SPECIFICATIONS	DIMENSIONS
Sample amount	Up to 0.5 mL of liquids
Sample type	Small volume liquid samples
Elution volume	0.5 mL
Time per prep	2-5 minutes

Sample Extraction Protocol

Samples are lysed by mixing in Biomeme Lysis Buffer (BLB). The lysed sample is then passed through the M1 sample prep column by use of the provided 1 mL luer lock syringe, binding RNA to the silica membrane inside of the column. Subsequent washes remove unwanted material and salts. Finally, purified nucleic acids are eluted off the column into the provided buffer.

Buffer comes pre-aliquoted in the provided colored cap tubes for field friendly transport and use.

The extraction method is designed to be completed in 7 easy steps:

1. Sample Collection
2. Lysis & Binding
3. Protein Wash
4. Salt Wash
5. Drying Wash
6. Air Dry
7. Elution

1. Sample Collection

- **For small volume liquid samples:** pipette 25-500 uL of your sample directly into the Biomeme Lysis Buffer (BLB), red cap tube. Invert tube 5-7 times to fully homogenize the sample. Recommended volumes are as follows:
 - Blood: 25 uL
 - Viral Transport Media: up to 500 uL

Note: The volume of sample required is user determined based on the relative abundance of target, sample type, and other factors.

Note: Biomeme Sample Prep is not compatible with RNAlater™ Stabilization Solution.



(Red)

2. Lysis & Binding (10 pumps)

- Twist to secure the sample prep column to the 1 mL luer lock syringe.
- Fully insert the M1 sample prep column tip into the bottom of the BLB, red cap tube.
- Draw the fluid all the way up the syringe and pump all the way back out. Repeat for a total of 10 pumps.
- Push out all fluid in the syringe into the BLB prior to beginning step 3.

Note: If the column starts to clog, you will experience an increase in pressure. Do not press harder as this will cause additional clogging. Instead, remove the tip of the M1 sample prep column from the BLB and gently pull back the plunger, wait a few seconds, and slowly push the plunger back down. You should notice some of the liquid discharge at the open end of the syringe. Repeat this process until all liquid has been discharged from the column then proceed to the next step.



3. Protein Wash (1 pump)

(Orange)

- Move the syringe with the attached M1 sample prep column to the BPW, orange cap tube.
- Draw BPW all the way up through the syringe and push out all of the fluid once assuring that no buffer remains in the syringe.



4. Salt Wash (1 pump)

(Yellow)

- Move the syringe with the attached M1 sample prep column to the BWB, yellow cap tube.
- Draw BWB all the way up through the syringe and push out all of the fluid once assuring that no buffer remains in the syringe.



5. Drying Wash (1 pump)

(Clear)

- Move the syringe with the attached M1 sample prep column to BDW, clear cap tube.
- Draw BDW all the way up through the syringe and push out all of the fluid once assuring that no buffer remains in the syringe.

6. Air Dry (20+ pumps)

- Draw air up through the syringe and quickly and vigorously pump back out. Instead of air drying into the open, we recommend reusing your open Biomeme M1 Sample Prep foil pouch to contain the spray
- Repeat pumping vigorously 20 or more times until the sample prep column appears dry and does not spray fluid droplets.



7. Elution (5 pumps)

(Green)

- After air drying, move the syringe with the attached M1 sample prep column to the BEB, green cap tube.
- Elute by drawing BEB all the way up through the syringe and pump back out for a total of 5 pumps.

Storage

All components of the The **Biomeme M1™ Sample Prep Kit for RNA** should be stored in a dry place, at room temperature (15-25°C). They are stable for 1 year under these conditions.

Note: *BPW (orange cap tube) may form a precipitate upon storage. Simply heat to 50°C or invert/gently shake the closed tube to re-suspend the solutions.*

Disclaimer

For Research Use Only. Not for use in human or veterinary diagnostics. The performance characteristics of this product have not been established.

Biomeme products may not be transferred to third parties, resold, modified for resale or used to manufacture commercial products or to provide a service to third parties without written approval of Biomeme, Inc.

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