

PRODUCT SHEET



# M1 Bulk Sample Prep Kit for DNA - High Concentration

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# M1 Bulk Sample Prep Kit for DNA – High Concentration

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The Biomeme M1™ Bulk Sample Prep Kit for DNA - High Concentration is designed to facilitate the optimization of our DNA extraction process to a Developer's desired sample type and use case. DNA purified with the kit is highly suited for real-time PCR applications.

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 produces purified nucleic acids upon elution in water.

This kit is designed to provide expert users with the tools required to experiment with Biomeme's novel nucleic acid extraction method. Developers should supply their own collected samples and lab supplies. According to the specific research interests of the Developer,

the Biomeme M1™ Bulk Sample Prep Kit can be customized to accommodate a variety of sample volumes, lysis conditions, elution volumes and more.

**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
<b>In Large Bottles</b>	
Biomeme Lysis Buffer (BLB)	1x - 35 mL
Biomeme Protein Wash (BPW)	1x - 35 mL
Biomeme Wash Buffer (BWB)	1x - 35 mL
Biomeme Drying Wash (BDW)	1x - 60 mL
Biomeme Elution Buffer (BEB)	1x - 35 mL
<b>In Single-Use Foil Pouches</b>	
Single-use 1 mL Syringes	30x
Biomeme Sample Prep Columns	30x

# Technical Characteristics

SPECIFICATIONS	DIMENSIONS
Sample amount	Up to 1 mL
Sample type	Determined by user
Elution volume	Adjustable by user
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 DNA 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.

The extraction method is designed to be completed in 7 easy steps. To begin, aliquot each buffer into separate tubes. Recommended starting volumes are as follows:

1. Sample Collection
2. Lysis & Binding: BLB (0.5 - 1 mL, adjustable by user)
3. Protein Wash: BPW (1 mL)
4. Salt Wash: BWB (1 mL)
5. Drying Wash: BDW (1 mL)
6. Air Dry
7. Elution: BEB (0.5 mL)

# 1. Sample Collection

- **1 mL of liquid samples (e.g. water, urine):** directly transfer 1 mL of the liquid samples into Biomeme Lysis Buffer (BLB).

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

# 2. Lysis & Binding (5-15 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 aliquot.
- Draw the fluid all the way up the syringe and pump all the way back out. Repeat for a total of 5-15 pumps.
- Push out all fluid in the syringe into the BLB aliquot 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 (2 pumps)**

- Move the syringe with the attached M1 sample prep column to the BPW aliquot.
- Draw BPW all the way up through the syringe and pump all the way back out twice. Assure that no buffer remains in the syringe prior to moving to step 4.

### **4. Salt Wash (1-2 pumps)**

- Move the syringe with the attached M1 sample prep column to the BWB aliquot.
- Draw BWB all the way up through the syringe and pump all the way back out 1-2 times. Assure that no buffer remains in the syringe prior to moving to step 5.

### **5. Drying Wash (1-2 pumps)**

- Move the syringe with the attached M1 sample prep column to BDW aliquot.
- Draw BDW all the way up through the syringe and pump all the way back out 1-2 times. Assure that no buffer remains in the syringe prior to moving to step 6.

## 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.

**Note:** If the above air dry step is insufficient for your needs, we recommend switching the M1 sample prep column to a new 20 mL syringe and doing 10 pumps of air. Then, switch the column back to a new 1 mL syringe and move to step 7.

## 7. Elution (3-7 pumps)

- After air drying, move the syringe with the attached M1 sample prep column to the BEB aliquot.
- Elute by drawing BEB all the way up through the syringe and pump back out for a total of 3-7 pumps.

# Storage

All components of the The **Biomeme M1™ Bulk Sample Prep Kit for DNA - High Concentration** should be stored in a dry place, at room temperature (15-30°C). They are stable for 1 year under these conditions.

***Note:** BLB or BPW 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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