Biomiga Inc.
The Inventor of EZgene™ and ViraTrap™ Systems

MgPure Saliva/Swab gDNA Isolation Kit

MD2518 REVISION 2.1

Contents

Kit Contents

Catalog#	MD2518-00	MD2518-01	MD2518-02
Preps	10	50	250
MgPure Beads	240 µL	1.2 mL	6 mL
Buffer TL	3 mL	15 mL	70 mL
Buffer BL	2.4 mL	12 mL	60 mL
Buffer KB	12 mL	60 mL	150 ml
DNA Wash Buffer*	3 mL	12 mL	54 mL
Elution Buffer	1.2 mL	10 mL	30 mL
Proteinase K	240 µL	1.2 mL	6 mL
User Manual	1	1	1

*Add 12 mL (MD2518-00) or 48 mL (MD2518-01) or 216 mL (MD2518-02) 96-100% ethanol to each DNA Wash Buffer bottle before use.
The **magnetic stand** needs to be purchased separately.

Introduction

Biomiga Saliva/ Swab gDNA Isolation Kit provides a fast and simple procedure for isolating genomic DNA from saliva and buccal swab. The genomic DNA extracted can be used in various applications in diagnostics.

Storage and Stability

Store Proteinase K and MgPure Beads at 4°C. All other materials can be stored at room temperature (15-25°C). The guaranteed shelf life is 12 months from the date of purchase.

Before Starting

Prepare all components and get all necessary materials ready by examining this user manual and become familiar with each step and pay special attention to the followings.

Materials not Supplied

- ✪ Sterile collection tubes, sterile microcentrifuge tubes
- ✪ Water bath (55°C)
- ✪ Isopropanol and ethanol
- ✪ magnetic stand

Protocol for genomic DNA Isolation

Fresh saliva samples

1. Prior to collection of saliva samples, the donor should rinse their mouth with a few milliliters of water for 10 seconds in order to remove any food particles that may be present. If food particles are present they may cause clogging of the column.

2. 10 minutes after rinsing, collect saliva by spitting into a sterile collection tube or vital (not provided). The amount of saliva collected should be at least 200 µL but no more than 2 mL.

3. Transfer 200 µL saliva to a sterile microcentrifuge tube.

4. Add **200 µL Buffer TL** and mix by vortexing for 1 min. Proceed to step 5.

Buccal swab

Dry swab: Add **200 µL** of PBS and **200 µL** of Buffer TL, mix well by vortexing for 1 min. Transfer 200 µL of the lysate to a sterile microcentrifuge tube. Proceed to step 5.

Swab in storage buffer**:** Transfer 200 µL of the sample into a sterile microcentrifuge tube. Proceed to step 5.

5. **Add 20 µL Proteinase K,** mix by vortexing and incubate at 55°C for 10 minutes.

6. Add **200 µL Buffer BL** to the saliva sample. Mix by vortexing and incubate at 55°C for 5 minutes.

7. Add **200 µL** isopropanol and mix by vortexing for 30 seconds.

8. Add **20 µL MgPure Beads** (vortex before use). Mix by vortexing and incubate at room temperature for 10 minutes, and mix once every 2 minutes.

9. Place the sample tube on a magnetic stand to magnetize the MgPure beads until the beads are

completely cleared from the solution. Remove the clear solution from the beads.

10. Take the sample tube off the magnetic stand and resuspend the beads with **500 µL Buffer KB**. Place the sample tube on the magnetic stand to magnetize the beads, remove the clear solution when the beads are completely cleared from the solution.

11. Take the sample tube off the magnetic stand and resuspend the beads with **500 µL DNA Wash Buffer**. Place the sample tube on the magnetic stand to magnetize the beads, remove the clear solution when the beads are completely cleared from the solution.

12. Air dry the sample for 5-10 minutes. Take the sample tube from the magnetic stand and resuspend the beads with **30-50 µL Elution Buffer**. Place the sample tube on the magnetic stand to magnetize the beads, transfer the clear solution to a sterile tube when the beads are completely cleared from the solution. Store the purified DNA at -20℃ or put on ice for downstream applications.

Problems	Possible Reasons	Suggested Improvements
The yield of genomic DNA is low	Beads over dry	If the MgPure beads A is too dry, re-clean the beads with 600 µL of 75% ethanol.
	The MgPure beads aggregates	The MgPure beads must be thoroughly resuspended before use.
	Incomplete lysis of cells	Increased Proteinase K incubation time at 55℃ may result in increased yields
	The DNA elution is incomplete	Perform an additional centrifugation of 2 minutes at 14,000 rpm to ensure that all the DNA is eluted.
	DNA concentration in the saliva sample being used is low	Some saliva samples contain very little DNA. This varies from individual to individual based on numerous variables. Increased proteinase K incubation time at 55℃ may result in increased yields.
DNA does not perform well in downstream applications	DNA was not washed with DNA Wash Buffer	Traces of salt from the binding step may remain in the sample if the column is not wash with DNA Wash Buffer. Salt may interfere with downstream applications, and thus must be washed from column.
	Ethanol carryover	Ensure that the dry spin after the column wash steps is performed, in order to remove traces of ethanol prior to elution. Ethanol is known to interfere with many downstream applications.
RNA is present in eluted DNA	RNA is coeluted with the DNA	Carry out a digestion with RNase A on the elution if the RNase present will interfere with downstream applications. Refer to manufacturer's instructions regarding amount of enzyme to use, optimal incubation time and temperature.

Limited Use and Warranty

This product is warranted to perform as described in its labeling and in BIOMIGA's literature when used in accordance with instructions. No other warranties of any kind, express or implied, including, without limitation, implied warranties of merchantability or fitness for a particular purpose, are provided by BIOMIGA. BIOMIGA's sole obligation and purchaser's exclusive remedy for breach of this warranty shall be, at the option of BIOMIGA, to replace the products, BIOMIGA shall have no liability for any direct, indirect, consequential, or incidental damage arising out of the use, the results of use, or the inability to use it product.

For technical support or learn more product information, please contact us at 858-603-3219 or visit our website at www.biomiga.com