Product Information

Nucleic Acid Preservation Buffer, Microbial DNA Free

Stabilizes and protects DNA and RNA

MBD0054

Product Description

Preservation of complex samples for meta-genetic and metabolomic analysis requires appropriate self-collecting and storage conditions. The collected samples should be easily and quickly sent to a research or laboratory facility to minimize genetic and metabolic profiles change which can lead to biases and errors in common processes during sample preparation and analysis, such as sample amplification, sequencing, and bioinformatics analyses. [1,2]

In addition, for microbiome studies, [4,5] complex samples such as fecal samples, require immediate freezing at −80 °C [3] for immediate isolation of DNA and RNA to prevent alteration to the microbiome profiles at room temperature.[6]

DNA and RNA preservation buffer provides a safe transport from the collection site to the laboratory. It can be used as an effective preserving agent and protects complex samples at 25 °C until future analysis.

DNA and RNA preservation buffer is an easy-to-use reagent and immediately inhibits the activity of nucleases. The product is free of detectable levels of prokaryotic (16S) and eukaryotic DNA (18S) tested by 35 cycles of PCR amplification.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store this product at room temperature.

Composition

- 5.3M $(NH_4)_2SO_4$
- 19mM EDTA
- 24mM Na-Citrate tribasic dihydrate

Preparation Instructions

Upon collection of the sample add 1-2 volumes of **Nucleic Acid Preservation buffer, microbial DNA free** (MBD0054). The sample can be stored for 6-10 days at room temperature for RNA or DNA isolation as shown in Figure 1a and 1b. Before nucleic acid isolation, remove the buffer by centrifugation. Centrifugation is usually done at 5000 x *g* without causing damage to the cells. However not all cell types are tolerant to the same centrifugal forces. If you are unsure, it is recommended to check the centrifugal speed on a disposable sample. DNA or RNA isolation can be performed in conventional kits for downstream analysis.

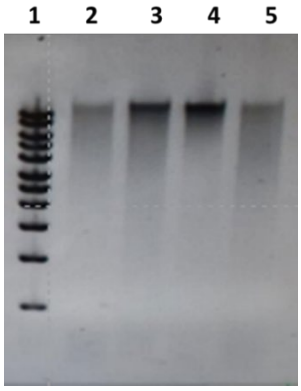

Figure 1a: genomic DNA extracted from mice fecal samples after 10 days incubation at room temperature in DNA/RNA preservation buffer (MBD0054) analyzed by 1.2% agarose gel.

Lane 1: Molecular weight marker (DirectLoad™ 1Kb D3937)

Lane 2: DNA extracted from sample stored in competitors' buffer

Lane 3: DNA extracted from sample stored in **Nucleic Acid Preservation Buffer, Microbial DNA Free** (MBD0054) for 10 days at room temperature

Lane 4: DNA extracted from sample stored in guanidine thiocyanate 4 Molar for 10 days at room temperature

Lane 5: Genomic DNA extracted from sample stored at -80 °C

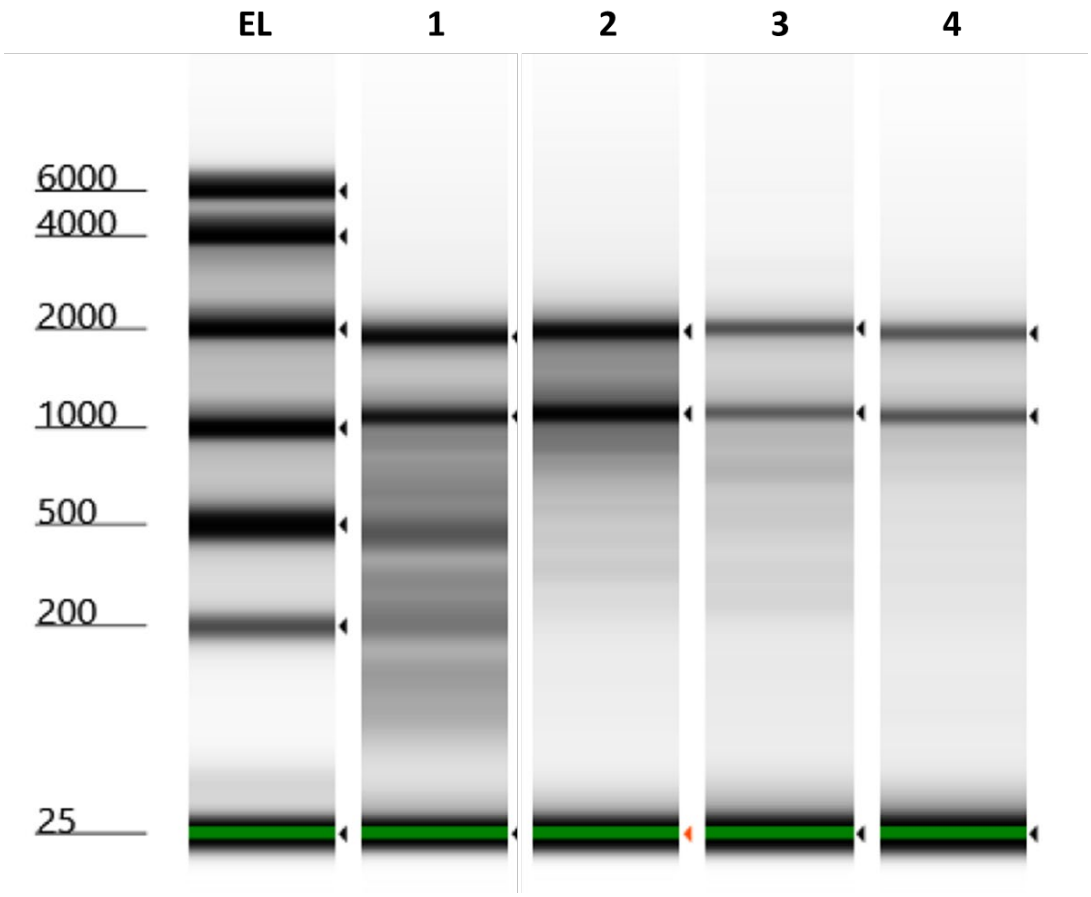

Figure 1b: Total RNA extracted from mice feces after 6 days incubation at room temperature in **Nucleic Acid Preservation buffer, microbial DNA free** (MBD0054) analyzed by Agilent 4150 TapeStation System.

Lane 1: Total RNA extracted from a -80 °C stored sample

Lane 2: Total RNA extracted after 6 days storage in **Nucleic Acid Preservation Buffer, Microbial DNA Free** (MBD0054) at room temperature

Lane 3, 4: Total RNA extracted after 6 days of storage in competitors' preservation buffers

References

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