NAUTIAGENE

Product Information

NautiaZ Bacteria/Fungi DNA Extraction Mini Kit

(100/300 prep)

Cat. No. : NGBAZ-S100/NGBAZ-S300

Sample : 10^9 Bacteria

10^8 Fungus cells

Yield : Up to 50 µg

NGCZ-S100	NautiaZ Culture Cell DNA Extraction Mini Kit (100 prep)
NGCZ-S300	NautiaZ Culture Cell DNA Extraction Mini Kit (300 prep)
NGBZ-S100	NautiaZ Blood DNA Extraction Mini Kit (100 prep)
NGBZ-S300	NautiaZ Blood DNA Extraction Mini Kit (300 prep)
NGBAZ-S100	NautiaZ Bacteria/Fungi DNA Extraction Mini Kit (100 prep)
NGBAZ-S300	NautiaZ Bacteria/Fungi DNA Extraction Mini Kit (300 prep)
NGPZ-S100	NautiaZ Plant DNA Extraction Mini Kit (100 prep)
NGPZ-S300	NautiaZ Plant DNA Extraction Mini Kit (300 prep)
NGTZ-S100	NautiaZ Tissue DNA Extraction Mini Kit (100 prep)
NGTZ-S300	NautiaZ Tissue DNA Extraction Mini Kit (300 prep)
NGST-S100	NautiaZ Stool/Soil DNA Extraction Mini Kit (100 prep)
NGST-S300	NautiaZ Stool/Soil DNA Extraction Mini Kit (300 prep)
NGCF-S100	NautiaZ Cell-Free DNA Extraction Mini Kit (100 prep)
NGPK-S100	NautiaZ Whole Blood DNA Extraction Mini Kit (100 prep)

Contents

	NGBAZ-S100T	NGBAZ-S100	NGBAZ-S300
N1 Buffer	2 ml	20 ml	20 ml
N2 Buffer	1.5 ml	35 ml	95 ml
N3 Buffer	2 ml	45 ml	125 ml
W1 Buffer	2 ml	45 ml	125 ml
W2 Buffer	300 ul x2	15 ml	25 ml x2
Elution Buffer	1 ml	10 ml	30 ml
GZ Column	4 pcs	100 pcs	300 pcs
Collection Tube	4 pcs	100 pcs	300 pcs
User Manual	1	1	1

*Add 1.2 ml x2 / 60 ml / 100 ml x2 ethanol (96-100%) to W2 Buffer prior to the initial use.

Buffer Preparation

• Add ethanol (96-100%) to the Wash Solution prior to first use

	NGBAZ-S100T	NGBAZ-S100	NGBAZ-S300
W2 Buffer ethanol (96 ~ 100%)	300 ul x2 1.2 ml x2	15 ml 60 ml	25 ml x2 100 ml x2

Important Notes

1. Buffers provided in this system contain irritants. Wear gloves and lab coat when handling these buffers.
2. Add ethanol (96- 100 %) to W2 Buffer when first open.
3. Prepare dry baths or water baths before the operation.
4. Resolve any precipitate by warming at 37°C.

Additional Requirements

Fro Gram-positive bacteria sample:

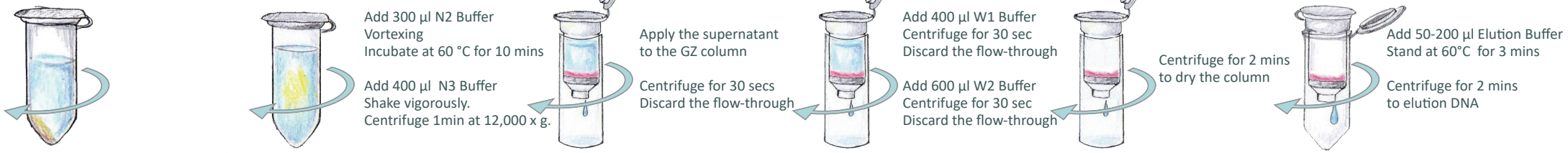
1. Lysozyme Buffer
   - (20 mg/ml lysozyme; 20 mM Tris-HCl, 2 mM EDTA, 1% Triton X-100, pH 8.0) for Gram-Positive Bacteria Sample. Prepare the lysozyme buffer fresh immediately prior to use.

For Fungus sample:

1. Lyticase or Zymolase
2. Sorbitol buffer (1.2 M sorbitol; 10 mM CaCl2; 0.1M Tris-Cl pH 7.5; 35 mM mercaptoethanol)

Description

The NautiaZ Bacteria/Fungi DNA Extraction Mini Kit is designed for rapid extraction of pure genomic DNA from Bacteria and fungus cell. Efficiently remove cellular debris and inhibitors, this kit using column-type tube in purification process through three simple steps of binding, washing and then elution for the safe and convenient extraction of high-purity genomic DNA. The entire process can be completed in less than 1 hour without phenol/chloroform, and the final product can be used in PCR or other downstream experiments.`



For Gram-Positive Bacteria

STEP	PROCEDURE
1 Sample prepare	**Transfer up to 10^9 cultured bacterial cells** to a microcentrifuge tube *(not provided).* Centrifuge 1 min at 12,000 x g. Remove the supernatant completely. Resuspend the cell with **100 µl Lysozyme Buffer** by pipetting. Incubate at 37°C for 30 minutes.

For Gram-Negative Bacteria

STEP	PROCEDURE
1 Sample prepare	**Transfer up to 10^9 cultured bacterial cells** to a microcentrifuge tube *(not provided).* Centrifuge 1 min at 12,000 x g. Remove the supernatant completely. Resuspend the cell with **50 µl N1 Buffer** by pipetting.

For Fungus Cells

STEP	PROCEDURE
1 Sample prepare	**Transfer up to 10^8 fungus cells** to a microcentrifuge tube *(not provided).* Centrifuge 5 mins at 6,000 x g. Remove the supernatant completely. Resuspend the cell with **600 µl Sorbitol Buffer** by pipetting. **Add 200 U of lyticase or zymolase**. Incubate at 30°C for 30 minutes.

PURIFICATION PROTOCOLS

STEP	PROCEDURE
	Centrifuge the mixture for 10 minutes at 2,000 x g, and remove the supernatant completely. Resuspend the cells in **50 µl N1 Buffer** by pipetting.
2 Cell Lysis	**Add 300 µl N2 Buffer** to the sample and mix thoroughly by vortexing. Incubate at 60 °C for 10 mins until the sample lysate is clear. Invert the tube every 3 minutes during incubation. *Preheat required Elution Buffer (50-200 µl per sample) to 60°C.*
Optional Step: RNase	*If RNA-free genomic DNA is required, perform this optional step.* **Add 5 µl of RNase** (10 mg/ ml) to sample lysate and mix by vortexing. Incubate at room temperature for 5 mins.
3 Protein Removal	**Add 400 µl N3 Buffer** to the sample and shake vigorously. Centrifuge 1 min at 12,000 x g.
4 DNA Binding	Place a **GZ column** in Collection Tube. Transfer the supernatant to **GZ column** and centrifuge 30 seconds at 14,000 x g. Discard the flow-through and place **GZ column** back in the Collection tube.
5-1 Wash	**Add 400 µl W1 Buffer** to **GZ column**. Centrifuge at 14,000x g for 30 seconds. Discard the flow-through and place **GZ column** back in the Collection tube.
5-2 Wash	**Add 600 µl W2 Buffer** (ethanol added) to **GZ column**. Centrifuge at 14,000x g for 30 seconds. Discard the flow-through and place **GZ column** back in the Collection tube.
6 Dry	Centrifuge at 14,000x g for 2 minutes to dry the column.
7 Elution	Place **GZ column** to a clean 1.5 ml microcentrifuge tube (not provided). **Add 50-200 µl of preheated Elution Buffer** (60°C) or ddH_2O (pH7.5-8.0) into the center of the column matrix.
	Stand at 60°C for 3 minutes. Centrifuge at 14,000x g for 2 minutes to elute purified DNA.
8 Pure DNA	Store the DNA fragment at 4 °C or -20 °C.