Viral Nucleic Acid Extraction Kit 2.0

SYG404-001/FYG404-100/FYG404-300

Store at RT Ver. T0428

Sample：200 µl Sample (Serum, plasma, body fluids, cell culture supernatant), Swab

Yield：Up to 20 µg

Contents

	SYG404-001 (4 preps)	FYG404-100 (100 preps)	FYG404-300 (300 preps)
VN1 Buffer	1.5 ml	45 ml	125 ml
VN2 Buffer	220 µl	6 ml	16 ml
W1 Buffer	2 ml	45 ml	125 ml
W2 Buffer	300 µl x2	15 ml	25 ml x2
Elution Buffer	1 ml	10 ml	30 ml
VN Column	4 pcs	100 pcs	300 pcs
Collection Tube	4 pcs	100 pcs	300 pcs
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Buffer Preparation

- **Add ethanol (96-100%) to the (VN2 Buffer/W2 Buffer) prior to first use.**

	SYG404-001 (4 preps)	FYG404-100 (100 preps)	FYG404-300 (300 preps)
VN2 Buffer **Ethanol (96-100%)**	220 µl 1650 µl	6 ml 45 ml	16 ml 120 ml
W2 Buffer **Ethanol (96-100%)**	300 µl x2 1.2 ml x2	15 ml 60 ml	25 ml x2 100 ml x2

Additional Requirements

1. PBS
2. DNase/RNase-free microcentrifuge tube

3. Ethanol (96-100%)
4. DNase I and reaction buffer (optional)
5. RNase (10 mg/ml) (optional)

Important Notes

1. Use sterile, RNase-free pipet tips and microcentrifuge tubes. Wear a lab coat and disposable gloves to prevent RNase contamination.
2. Make sure the starting sample amount is under the limit.
3. Add ethanol (96-100%) to **(VN2 Buffer/W2 Buffer)** prior to the initial use.

Purification Protocol：

Liquid samples

Step 1. Sample Preparation (liquid samples, 200 µl)

a. Transfer 200 µl sample (serum, plasma, body fluids or cell cultured supernatant) into a microcentrifuge tube (not provided).

(If the samples is less than 200 µl, adjust the sample volume to 200 µl with PBS.)

Step 2. Cell Lysis

a. Add 400 µl **VN1 Buffer** to the sample, mix by vortexing.
b. Incubate for 10 mins at room temperature.

Note：Preheat the Elution Buffer to 75 ℃ for the Elution step.

Optional Step (Prior to the Step2-c.): RNase treated

(If RNA-free genomic DNA is required, perform this optional step.)

i.Add 5 µl of RNase (10 mg/ml) to sample lysate and mix by vortexing.

ii.Incubate at room temperature for 5 mins.

c. Add 450 µl **VN2 Buffer** (ethanol added) to the sample and shake vigorously.

Swab samples

Step 1. Sample Preparation

a. Soak the swab with 200 µl PBS.

Step 2. Cell Lysis

a. Add 400 µl **VN1 Buffer** to the sample, mix by vortexing for 15 seconds.
b. Incubate for 10 mins at room temperature.

Note：Preheat the Elution Buffer to 75 ℃ for the Elution step.

Optional Step (Prior to the Step2-c.): RNase treated

(If RNA-free genomic DNA is required, perform this optional step.)

i. Add 5 µl of RNase (10 mg/ml) to sample lysate and mix by vortexing.
ii. Incubate at room temperature for 5 mins.

c. Add 450 µl **VN2 Buffer** (ethanol added) to the sample and shake vigorously.

Step 3. Nucleic Acid Binding

a. Place a **VN Column** in a 2 ml **Collection Tube**.
b. Add 700 µl of lysate mixture from previous step to the **VN column**.
c. Centrifuge at full speed (16,000 x g) for 1 min.
d. Discard the flow-through and place the **VN Column** back in the **Collection Tube.**
e. Apply the rest of sample mixture to the same column.
f. Centrifuge at full speed (16,000 x g) for 1 min.
g. Discard the flow-through and place the **VN Column** back in the **Collection Tube**.

Step 4-1. Wash

a. Add 400 µl **W1 Buffer** add to the **VN Column**.
b. Centrifuge at full speed (16,000 x g) for 30 seconds.
c. Discard the flow-through and place the **VN Column** back in the **Collection Tube**.

Optional Step: DNase treated

(If DNA-free RNA is required, perform this optional step.)

i. Add 150 µl **W2 Buffer** (ethanol added) into the **VN column**.
ii. Centrifuge at full speed (16,000 x g) for 30 seconds.
iii. Discard the flow-through and place the **VN Column** back in the **Collection Tube**.
iv. For each isolation reaction, premix 80 µl DNase I Incubation Buffer (not

provided) with 2 µl DNase I (not provided) in a new sterile tube (Do not vortex).

v. Add 82 µl of the DNase I solution to the center of the **VN Column** membrane and incubate at room temperature for 15 mins.

Step 4-2. Wash

a. Add 600 µl **W2 Buffer (ethanol added)** to the **VN Column**.
b. Centrifuge at full speed (16,000 x g) for 30 seconds.
c. Discard the flow-through and place the **VN Column** back in the **Collection Tube**.

Step 5. Dry column

a. Centrifuge at full speed (16,000 x g) for 2 mins to dry the column matrix.

Step 6. Elution

a. Place dried **VN Column** in a clean microcentrifuge tube (DNase-free/RNase-free, not provided).
b. Apply 50-100 µl of pre-Heated Elution Buffer to the center of the column matrix.

Note：For effective elution, make sure that Elution Buffer is dispensed on the membrane center and is absorbed completely.

c. Stand for 2 mins until water absorbed by the matrix.
d. Centrifuge at full speed (16,000 x g) for 2 mins to elute purified nucleic acid.

Step 7. Store nucleic acid

a. Store nucleic acid at -80 °C.

Product Use Limitation & Warranty

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