

NUCQX® Animal Virus Fast DNA/RNA Extraction Kit

Cat. no. LM102147

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Product Information

Cat. No.	Product name	Pack size
LM102147	NUCQX® Animal Virus Fast DNA/RNA Extraction Kit	20 preps/kit (bottled)
		100 preps/kit (bottled)
		32 preps/box (pre-filled, 8 preps/plate × 4 plates)

Two supply formats of the same reagent chemistry: bottled bulk reagents (20/100 preps, for manual extraction or dispensing onto a compatible automated platform) and ready-to-use pre-filled 96-well plates (32 preps/box, for magnetic-rod-based automated platforms). Please state the required format and pack size when ordering.

Kit Contents

Bottled format (20/100 preps)

Component	100 preps	20 preps
Magnetic Bead Suspension (BeaverBeads)	2 mL	0.4 mL
Lysis/Binding Buffer (Buffer LB)	55 mL	11 mL
Wash Buffer 1 (Buffer W1)	60 mL	12 mL
Elution Buffer (Buffer EB)	15 mL	3 mL

Pre-filled format (32 preps/box)

Plate position	Reagent	Fill volume
Position 1	Lysis/Binding Buffer (Buffer LB)	550 µL/well
Position 2	Magnetic Bead Suspension (BeaverBeads)	200 µL/well
Position 3	Wash Buffer 1 (Buffer W1)	600 µL/well
Position 4	Wash Buffer 2 (Buffer W2)	600 µL/well
Position 5	Wash Buffer 2 (Buffer W2)	600 µL/well
Position 6	Elution Buffer (Buffer EB)	70 µL/well

The pre-filled format is supplied as 4 ready-to-use 96-well plates (positions 1–6 as above) plus 4 sets of 8-rod magnetic bar sleeves. Neither format contains Proteinase K.

Storage

Store at 2–35 °C. Shelf life: 12 months. Before use, check each component/plate for precipitation or (for the pre-filled format) leakage, damage or incorrect fill volumes; do not use if any abnormality is found. If

precipitate is observed, warm in a 60 °C water bath for 5 min to redissolve, then equilibrate to room temperature before use.

Applicable Instruments

Bottled format: compatible with the TIANGEN TGuide S32, TIANLONG NP968-C, BEAVER Rosetta 32 and BEAVER Rosetta 96 automated nucleic acid extraction systems; manual (bench-top) extraction is also supported.

Pre-filled format: for use with magnetic-rod-based fully automated nucleic acid extraction systems (e.g. MultiEX 032 and similar platforms).

Applicable Samples

Whole blood, serum, plasma, cell-free body fluids, cell-culture supernatant, viral preservation medium, animal tissue, saliva, swabs, feces and environmental samples.

Introduction

NUCQX® Animal Virus Fast DNA/RNA Extraction Kit uses superparamagnetic microspheres to specifically adsorb nucleic acids; proteins and other impurities are removed by washing, and the Elution Buffer releases the nucleic acid bound to the beads, yielding high-quality purified nucleic acid. A single combined Lysis/Binding Buffer streamlines the workflow to a minimal reagent set. The kit is used for the extraction, enrichment and purification of animal viral nucleic acids; the purified product can be used directly in downstream applications such as PCR amplification and detection.

Features

1. Broad target range — recovers both DNA and RNA from animal viruses in a single, unified workflow.
2. Wide sample compatibility — validated on whole blood, serum, plasma, cell-free body fluids, cell-culture supernatant, viral preservation medium, animal tissue, saliva, swabs, feces and environmental samples.
3. Two interchangeable supply formats — bottled bulk reagents (20/100 preps) for manual extraction or dispensing onto a compatible automated platform, or ready-to-use pre-filled plates (32 preps/box) for magnetic-rod-based automated platforms — same reagent chemistry either way.
4. Simplified reagent set — a single combined Lysis/Binding Buffer replaces separate lysis and Proteinase K steps, reducing hands-on time and pipetting steps.
5. Automation-ready — compatible with the TIANGEN TGuide S32, TIANLONG NP968-C, BEAVER Rosetta 32/96 and magnetic-rod-based platforms (e.g. MultiEX 032), and equally suited to manual extraction.
6. Organic-solvent-free bead chemistry — avoids phenol, chloroform and other hazardous organic reagents (ethanol is used only as a wash solvent).
7. High purity — eluted nucleic acid is suitable for direct use in downstream applications such as PCR/qPCR without further clean-up.

Notes Please be sure to read this precaution before using the kit.

1. Please read this product manual carefully before use.
2. Avoid freezing or centrifuging the magnetic beads.
3. Fully resuspend the magnetic beads by mixing before use.
4. Aspirate the wash buffer as completely as possible before allowing the beads to dry.
5. Avoid over-drying the magnetic beads, as this significantly reduces nucleic acid elution efficiency.

6. Use good-quality microcentrifuge tubes and pipette tips to minimise bead loss from adsorption to plastic surfaces.
7. Before use, check each component (or pre-filled plate) for precipitation; if present, warm in a 60 °C water bath until fully dissolved (and, for the pre-filled format, equilibrate to room temperature) before use.
8. This product is for scientific research use only. Not for use in diagnostic or clinical procedures.

Protocol

A. Sample Pretreatment

1. Animal/plant tissue samples: add an appropriate volume of PBS or physiological saline to the sample, homogenize thoroughly, and centrifuge at 12,000 × g for 5–10 min; take 300 µL of the supernatant as the extraction sample.
2. Fecal samples: add an appropriate volume of PBS or physiological saline to the sample, mix well, and centrifuge at 12,000 × g for 5–10 min; take 300 µL of the supernatant as the extraction sample.
3. Serum, viral preservation medium and other liquid samples: centrifuge at 12,000 × g for 5–10 min; take 300 µL of the supernatant as the extraction sample.

B. Manual Extraction (bottled format)

1. Lysis: to a 1.5 mL microcentrifuge tube, add 300 µL of the pretreated sample and 550 µL Lysis/Binding Buffer (Buffer LB). Vortex at maximum speed for 1 min, then incubate at 60 °C for 5 min.
2. Binding: add 20 µL of the Magnetic Bead Suspension (BeaverBeads), vortex at maximum speed for 1 min, then incubate at 60 °C for 5 min. Place the tube on a magnetic separation rack for 2 min, then remove and discard the supernatant with a pipette, and take the tube off the rack.
3. Wash and dry:
 - a. Add 600 µL Wash Buffer 1 (Buffer W1), vortex at maximum speed for 2 min, then place the tube on the magnetic rack until the solution is clear; remove and discard the supernatant, and take the tube off the rack.
 - b. Add 600 µL 80% ethanol, vortex at maximum speed for 1 min, then place the tube on the magnetic rack until the solution is clear; remove and discard the supernatant, and take the tube off the rack.
 - c. Add 600 µL 80% ethanol, vortex at maximum speed for 1 min, then place the tube on the magnetic rack until the solution is clear; remove the supernatant and keep the tube on the rack, letting it stand at room temperature for 2 min until the beads lose their glossy appearance, then take the tube off the rack. Note: if liquid remains in the tube during drying, remove it with a low-volume pipette.
4. Elution: add 50–100 µL Elution Buffer (Buffer EB), vortex for 2 min or gently pipette up and down to fully resuspend the beads. Incubate at 60 °C for 3 min, then place the tube on the magnetic rack until the solution is clear, and transfer the supernatant to a new 1.5 mL tube — this is the purified nucleic acid, which can be stored at –20 °C.

C. Automated Extraction (pre-filled format)

1. Before use, check the pre-filled plate for leakage, damage or incorrect fill volumes; do not use if any abnormality is found.
2. Centrifuge the plate at low speed, or tap it gently, so all liquid settles to the bottom of each well, then carefully peel back the sealing film.
3. Add 300 µL of pretreated sample to each well of column 1.
4. Using the MultiEX 032 (or an equivalent magnetic-rod extraction instrument) as an example: load the 96-well plate in the correct orientation, insert the magnetic bar sleeves, and run the extraction programme (see the parameter table below).

5. When the programme finishes, the purified nucleic acid is in column 6; it can be used directly for PCR detection, or transferred to microcentrifuge tubes and stored at -20°C .

Automated programme parameters (example, MultiEX 032)

Step	Name	Plate position	Mixing time (s)	Magnetic capture time (s)	Wait time (min)	Mixing speed	Volume (μL)	Temp. ($^{\circ}\text{C}$)
1	Lysis	1	150	0	0	7	820	80
2	Bead capture	2	5	10	0	8	200	OFF
3	Binding	1	150	30	0	7	800	80
4	Wash 1	3	70	20	0	7	600	OFF
5	Wash 2	4	50	15	0	6	500	OFF
6	Wash 3 + dry	5	40	15	1	6	500	OFF
7	Elution	6	180	40	0	4	50	75
8	Bead disposal	2	5	0	0	8	200	OFF

The automated programme parameters above are an example and may be adjusted as needed for other compatible instruments.