

# Perfect Companion for High-Throughput Viral Nucleic Acid Extraction

Simplify your viral nucleic acid purification with Promega® Maxwell® HT Viral TNA Kit on the epMotion® 5075t liquid handler



Recent viral outbreaks and emergence of new viral strains has highlighted the advantages of efficient viral detection workflows. The first step requires a high throughput and reliable viral nucleic acid extraction system. The Promega® Maxwell® HT Viral TNA Kit can be used for high throughput, automated magnetic bead based viral nucleic acid purification from plasma on the epMotion® 5075t liquid handler. This combination provides an optimized for use globally high throughput solution that meets your laboratory needs.

## Features

- > Dispensing tools (1-channel and 8-channel) supporting volume ranges from 0.2 – 1000 uL and gripper function for labware transport
- > Optical sensor for detecting liquid, labware and tips (type and quantity)
- > Automatic exchange of all tools
- > Integrated Eppendorf ThermoMixer® for reliable mixing and temperature control
- > Intuitive epBlue software for programming supported by MultiCon PC controller
- > Optional CleanCap with UV lamp and HEPA filter for decontamination
- > Integrated LED for visual feedback of the system status

## Advantages

- > **Enhance throughput:** Process up to 96 samples for nucleic acid extraction with no manual intervention.
- > **Ensure reproducibility:** Calibrated dispensing tools with optimized pipetting accuracy evades manual errors
- > **Minimize contamination:** Fully autoclavable dispensing tools and additional CleanCap option guarantee sample/user safety
- > **Improve productivity:** Pre-optimised kit protocols with on deck incubation and mixing facility spares time for greater scientific thinking.
- > **Maximize nucleic acid recovery:** Ensure excellent yield from samples with low virus concentration

## Workflow overview



Fig 1. Schematic overview of the common viral nucleic acid based workflows

Steps performed on the epMotion® liquid handler

### Protocol Overview

Method 1

Reagent preparation

Samples

Lysis

NA binding to resin

Lysate removal

Resin wash 3x

Resin drying

Elution

Sample transfer to fresh plates

Fig 2. Viral Nucleic acid extraction from plasma using Maxwell® HT viral total nucleic acid kit optimize on the epMotion® 5075t liquid handler. Up to 96 samples processed in 1:30 Hrs.

On-deck setup

Off-deck setup

### Worktable Configuration

Tip consumption for 96 samples  
1000 µL - 96 tips, 300 µL - 384 tips, 300f µL - 64 tips

Fig. 3 Deck layout for the Maxwell® HT Viral Total Nucleic Acid Kit on the epMotion® 5075 liquid handler

### Application data

Fig 4. Nucleic acid recovery: Cq values of the Virus spiked into human plasma at different concentrations<sup>[1]</sup>

	1	2	3	4	5	6	7	8	9	10	11	12
A	31.5	-	32.9	-	33.1	-						
B	-	31.9	-	32.0	-	32.2						
C	31.4	-	31.7	-	32.1	-						
D	-	31.9	-	32.1	-	32.3						
E	31.4	-	31.7	-	32.0	-						
F	-	31.9	-	32.1	-	32.2						
G	31.5	-	31.6	-	32.3	-						
H	-	32.3	-	32.6	-	32.9						

Fig.5 Cross contaminations study: Average Cq values of plasma samples spiked or unspiked with virus added in checkboard pattern across 6 columns of a deep well plate<sup>[1]</sup>

Reference: [1] Promega Corporation SCIENTIFIC APPLICATIONS NOTE PA226.0518

## Contact Sales Specialist for more details

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