



Nucleic Acid Purification



STANDARDS

ISO 13485

ISO 15189

ISO 18385

ISO 20186

Nucleic Acid Purification - QualiNAP™ 32

Nucleic Acid Purification is the core job of QualiNAP™ 32, a magnetic-bead extraction platform that automates lysis, binding, washing, and elution for up to 32 samples per run. The system uses a magnetic-rod mechanism to move bead-bound nucleic acids through reagent positions, then mixes each step to improve wash efficiency and yield.

Processing volumes from 30–1000 µL support common clinical and research workflows in a 96 deep-well format. Built-in program storage and a touchscreen workflow make it easy to standardize extraction across operators and shifts.

QualiNAP™ 32 is built for labs that want consistent extraction results without repetitive manual pipetting. Magnetic bead recovery is specified above 98%, and purification well-to-well variation is controlled to CV <3% for repeatable downstream performance.

Lysis and elution temperature control up to 120°C supports broad kit compatibility and protocol tuning. UV disinfection plus an exhaust fan help reduce carryover risk in busy molecular labs. The system is positioned for clinical gene testing and molecular biology workflows where throughput and reproducibility matter.

APPLICATIONS

Nucleic Acid Purification - QualiNAP™ 32 Applications

Total nucleic acid purification from mixed sample types

QualiNAP™ 32 supports automated isolation of total nucleic acids from diverse matrices such as blood, tissues, and cells when paired with the correct magnetic-bead kit. This is useful when your workflow needs a single extractor for multiple programs and sample sources.

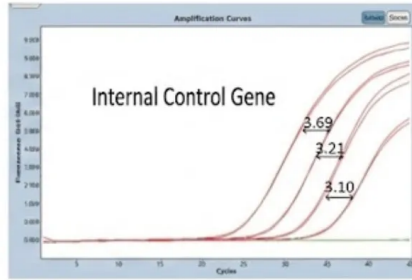
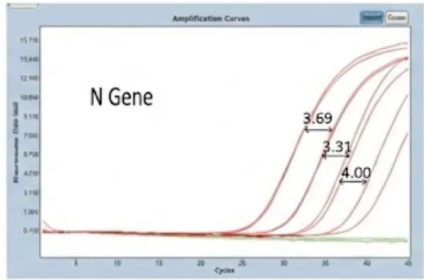
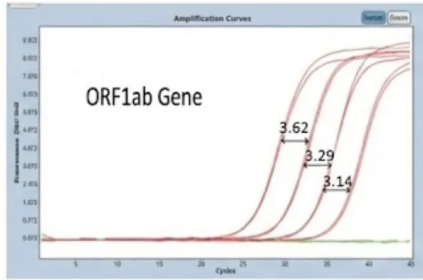
Genomic DNA purification for genetic analysis

Use the system to standardize gDNA extraction across batches for genotyping, screening, and research studies. Controlled mixing and temperature steps help keep results consistent across wells and runs.

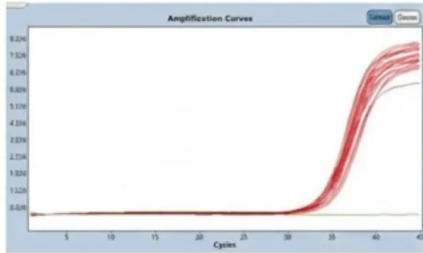
RNA purification for RT-PCR and sequencing prep

RNA workflows benefit from reduced hands-on time and fewer open-tube steps during processing. Pair your extraction SOP with a recognized pre-examination handling standard to improve repeatability from collection through isolation.

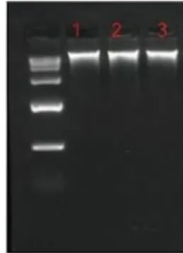
2019-nCoV Reference Product (10^8 , 10^6 , 10^5 , 10^4 copies/ml) Product Amplification Curve After Extraction and Purification by NP-2032



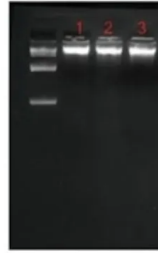
HBV Reference Product (200 IU/ml) After Extraction by NP-2032, 32 Samples Repeatedly Extractate 32/32



Whole Blood GemDNA Effect



Animal Tissue Genomic DNA Effect





Standards

- ISO 20186 series (e.g., ISO 20186-2): Pre-examination guidance that covers specimen handling, storage, processing, and documentation for nucleic-acid-based examinations (helps justify consistent extraction inputs).
- ISO 15189: Medical laboratory quality and competence requirements often used for method control, documentation, and audit readiness.
- ISO 13485: Quality management system standard widely used for medical devices and many IVD-adjacent manufacturing environments.
- ISO 18385 (for forensic workflows): Manufacturing requirements to minimize detectable human DNA contamination for products used in forensic DNA processes.
- CLSI guidance (method validation/verification): Practical validation and verification guidance for nucleic acid testing workflows used in clinical labs. QualiMGCA™

FEATURES

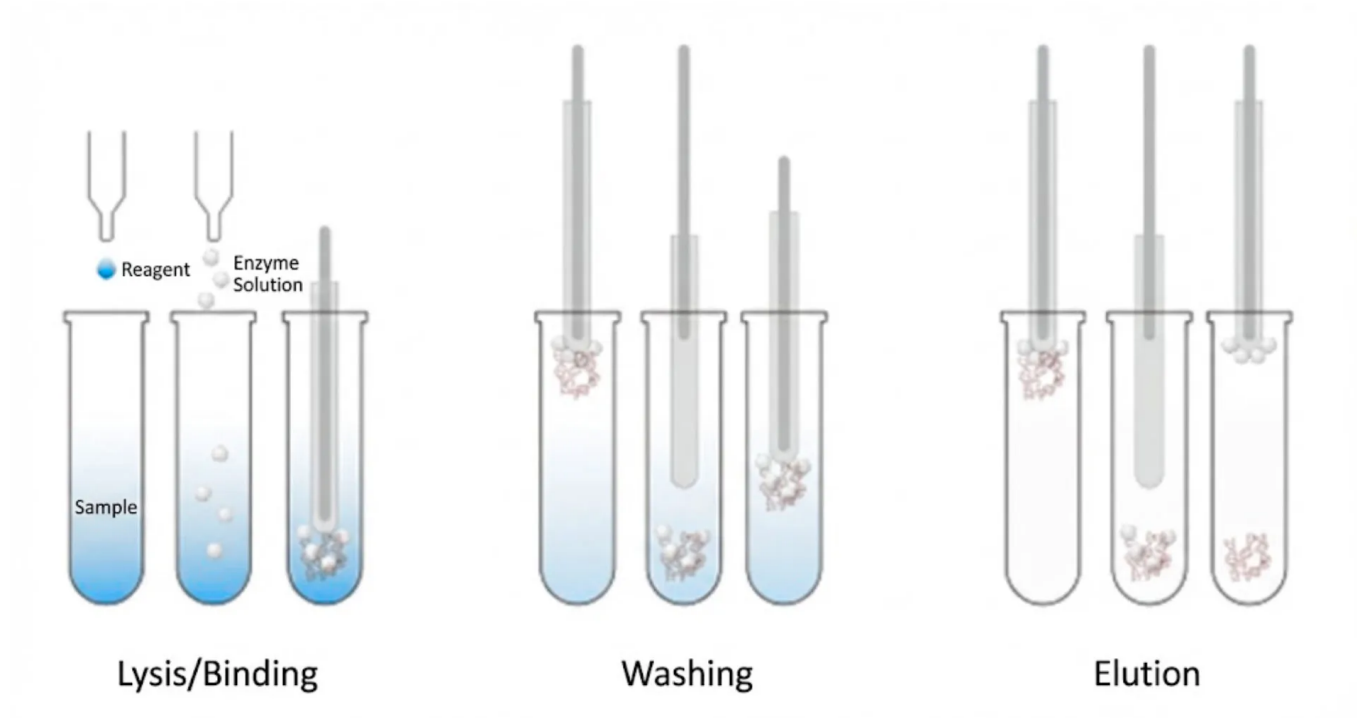
Nucleic Acid Purification - QualiNAP™ 32 Key Features

- 32-sample automation for batch extraction with standardized step timing and reduced hands-on work.
- Wide processing volume range (30–1000 µL) to match common clinical and research sample inputs.
- Magnetic bead and nucleic-acid recovery performance designed for high yield and clean downstream compatibility (>98% bead recovery listed).
- Tight well-to-well consistency with purification inter-well CV listed below 3% for repeatable results.
- Programmable thermal control for lysis and elution up to 120°C to support different kit chemistries and workflows.
- Program flexibility with preset protocols and large internal storage for method standardization across teams.
- Contamination-control helpers such as UV sterilization and exhaust fan design to reduce aerosol risk in routine operation.

THEORY & METHOD

Theory and Method

QualiNAP™ 32 performs magnetic bead-based nucleic acid purification using a magnetic-rod assembly. Nucleic acids bind to functionalized magnetic beads after lysis under kit-defined chemistry. The instrument transports bead-bound targets through wash solutions, then uses programmed mixing to improve impurity removal and recovery.



Elution releases purified DNA/RNA into the final buffer for downstream assays such as PCR, RT-PCR, or sequencing prep. The closed, automated workflow reduces operator-to-operator variability across batches.

TECHNICAL SPECIFICATIONS

Nucleic Acid Purification - QualiNAP™ 32 Technical Specifications

Specification	QualiNAP™ 32 (NP-2032)
Sample throughput	1-32
Processing volume	30-1000 µL
Method	Magnetic rod + magnetic bead
Magnetic rods / columns	32 magnetic rods
Bead recovery rate	>98%
Purification inter-well variation	CV <3%
Consumables	96 deep-well plate + rod sleeves
Lysis temperature	20-120°C
Elution temperature	20-120°C
Mixing / shaking	Multiple mixing methods
Interface	7-inch touchscreen; 8 shortcut program files
Program storage	Preset 8 programs; stores up to 500 programs
Data storage	Internal storage; built-in SD card
Ports	Standard USB
UV disinfection	Yes
Exhaust	Fan

Specification	QualiNAP™ 32 (NP-2032)
Dimensions	422 × 422 × 470 mm
Weight	—

Nucleic Acid Type	Reagent Kit Classification	Specification	Sample Type
Viral Nucleic Acid	Viral DNA/RNA Purification Kit	32T, 48T, 96T	Serum, plasma, lymph, cell-free body fluids, cell culture supernatant, urine, tissue, swabs, or various viral transport media
gDNA	Whole Blood Genomic DNA Purification Kit	32T, 48T, 96T	Mammalian, avian, and amphibian whole blood (EDTA, Heparin, etc.)
	Dried Blood Spot Genomic DNA Extraction Kit	32T, 48T, 96T	Dried blood spots
	Animal Tissue Genomic DNA Kit	32T, 48T, 96T	Liver, kidney, brain, tail, muscle tissue, etc.
	Plant Tissue Genomic DNA Extraction Kit	32T, 48T, 96T	Roots, stems, flowers, leaves, fruits, etc.
	Oral Swab Genomic DNA Extraction Kit	32T, 48T, 96T	Cotton swabs
	Saliva Genomic DNA Extraction Kit	32T, 48T, 96T	Saliva
	Stool Genomic DNA Extraction Kit	32T, 48T, 96T	Stool / Feces
	Bacterial Genomic DNA Extraction Kit	32T, 48T, 96T	Microorganisms, sputum, swab washes, blood, stool, etc.
RNA	Animal Tissue RNA Kit	32T, 48T, 96T	Liver, kidney, brain, tail, muscle tissue, etc.
Plasmid DNA	Plasmid Extraction Kit	32T, 48T, 96T	Bacteria
Product Purification	Gel Recovery Kit	32T, 48T, 96T	Agarose gel electrophoresis samples
	PCR Product Purification Kit	32T, 48T, 96T	PCR amplification products

Nucleic Acid Type	Reagent Kit Classification	Specification	Sample Type
Nucleic Acid Fragment Recovery Kit	32T, 48T, 96T	Fragmented nucleic acids	



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