

DNA & RNA Purification Kits

SILICA FILTER COLUMN TECHNOLOGY



 **omega**
BIO-TEK

omegabiotek.com



A woman in a white lab coat and safety glasses is working in a laboratory. She is standing at a workstation with a piece of equipment. The background shows shelves with various lab supplies. The image is partially obscured by a large blue and green graphic element on the left side.

We deliver high-quality DNA and RNA purification products to help you improve your research results.

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Request your sample kit,
visit www.omegabiotek.com!



Experience



Better Performance

Most products offer performance advantages ranging from increased downstream sensitivity to faster processing times.



Application Support

Consultation, scripting and installation of automated methods onsite by our expert applications scientists. Demos and automated testing available on our in-house platforms.



Flexible Product Solutions

Product sizes that match customer needs, from individual components to customized kits.



Exceptional Value

Quality products and services delivered on time. The average Omega Bio-tek customer realizes a significant reduction in their consumable costs.



Quality

ISO 13485 and 9001 certified for quality manufacturing that allows product Lot traceability with rigorous quality and process controls.

Quality

We are committed to quality. Omega Bio-tek is ISO 9001:2015 and ISO 13485:2016 certified by NSF-ISR. We ensure that all products are properly assembled, tested, recorded, stored, and shipped. We perform rigorous quality checks of our products and thoroughly train our employees to ensure compliance. We also have several quality control steps within our processes to deliver the best consistent product.



NSF-ISR

Registered to ISO 9001
and ISO 13485

Lot Traceability

Our quality system allows for complete traceability from the incoming chemicals from our vendors all the way to Omega Bio-tek's customers' orders. This allows us to know every buffer, component, and even every chemical that is used within our products.

Quality Control

All Omega Bio-tek products have rigorous standards that must be met prior to leaving our door. Each product is checked multiple times in the production process to ensure proper function and packaging. Most of our products are quality controlled using similar methods to which you would be using in the lab.

Process Controls

All equipment used in our manufacturing process must be in calibration prior to use and there is full traceability between the finished product and all the equipment used during its manufacture. Employees are trained, and competency tested to ensure that their work is consistently completed in accordance with standard operating procedures. Our quality system ensures that changes made to the system are thoroughly validated prior to being implemented.

CE-IVD Certified Products

On May 26, 2022, In Vitro Diagnostic Regulation (IVDR 2017/746) became legally binding and requires that products used by laboratories doing genetic testing be either annually certified by the laboratory or be a certified IVDR product (CE-IVD marked). As an ISO 13485:2016 certified manufacturer of nucleic acid purification kits, Omega Bio-tek meets the requirements required to deliver CE-IVD marked products.

Receiving IVDR certification is proof of compliance with current regulations and the standards that go with them. As the manufacturer of a CE-IVD marked product, Omega Bio-tek has validated and continues to validate our product for its intended use and takes actions to improve the product to ensure that they are safe and effective.



E.Z.N.A.[®] Tissue DNA Kit

Fast & reliable isolation of DNA from a wide variety of sample sources

REQUEST
A
SAMPLE

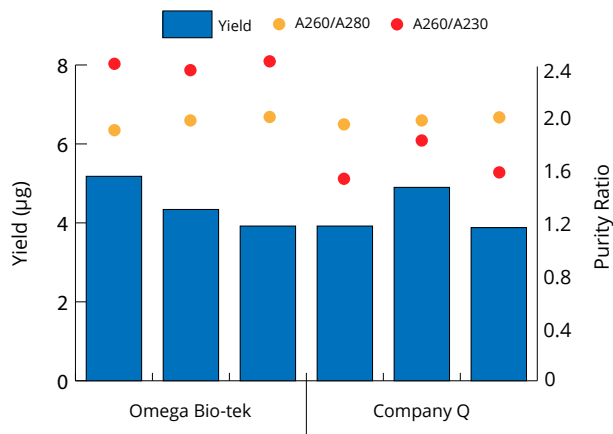
- DNA isolation in less than 20 minutes post-lysis
- Single kit for multiple sample types
- Optimized buffers for higher yields
- No phenol/chloroform extractions

The E.Z.N.A. Tissue DNA Kit offers a versatile and cost-effective method for the isolation of DNA from a wide variety of samples including fresh or frozen animal cultured cells and tissues, buccal swabs, whole blood, mouse tail snips, etc. The DNA purification process is simplified with Silica Mini Spin Column technology into four quick lyse, bind, wash, and elute steps and can be accomplished in less than 20 minutes post-lysis. This convenient spin-column format avoids time-consuming steps like alcohol precipitation, use of toxic compounds such as phenol and chloroform and allows for multiple samples to be processed in parallel. DNA purified using this kit is ready for most downstream applications such as PCR, sequencing, genotyping, southern blot analysis and restriction enzyme digestion.

| Features | Specifications |
|------------------------|--|
| Starting Material | Tissues, cultured cells, mouse tail snips, paraffin-embedded tissues, whole blood, body fluids, buccal swabs |
| Starting Amount | 30 mg, or 5 x 10 ⁶ cultured cells |
| Processing Time | <20 min (post-lysis) |
| Elution Volume | 100 - 200 µL |
| Throughput | 1 - 24 |
| DNA binding technology | Silica Mini Spin Column |
| Downstream Application | PCR, sequencing, genotyping, southern blot analysis and restriction enzyme digestion |

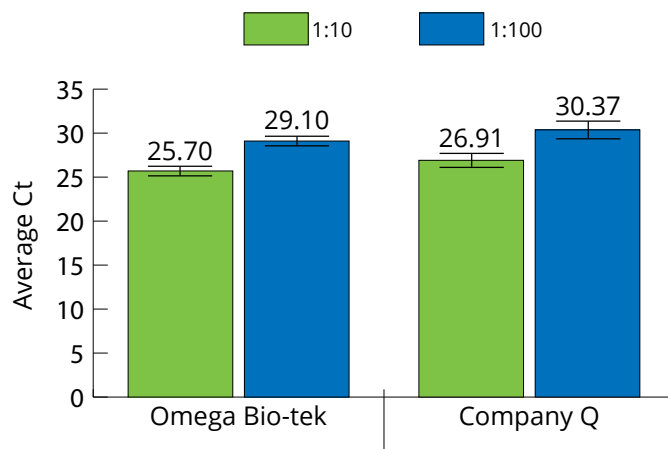
| Product Description | Preps | Catalog No. |
|--------------------------------------|-------|-------------|
| E.Z.N.A. [®] Tissue DNA Kit | 5 | D3396-00 |
| | 50 | D3396-01 |
| | 200 | D3396-02 |

Higher Yields of High-Quality DNA Extracted from Muscle Tissue Compared to Company Q



Genomic DNA was isolated from 22-25 mg of goat muscle (n=3) using Omega Bio-tek's E.Z.N.A.[®] Tissue DNA Kit, as well as an equivalent kit from Company Q. DNA was eluted in 200 µL. DNA concentration was determined by optical density measurements using Thermo Scientific's NanoDrop™ 2000c system. DNA integrity was comparable between kits.

Inhibitor-Free DNA Extraction



Genomic DNA was isolated from 22-25 mg of goat muscle (n=3) using Omega Bio-tek's E.Z.N.A.[®] Tissue DNA Kit, as well as an equivalent kit from Company Q. The extracted DNA was subjected to qPCR to evaluate its suitability for downstream processes. The ΔCt for the extracted genomic DNA was ~3.3 per 10-fold dilution, indicating no PCR inhibition. Ct values were acquired using Applied Biosystems' WuantStudio™ 3 Real-Time PCR System.

E.Z.N.A.[®] Total RNA Kit I

Isolation of total RNA from cultured eukaryotic cells & soft tissues

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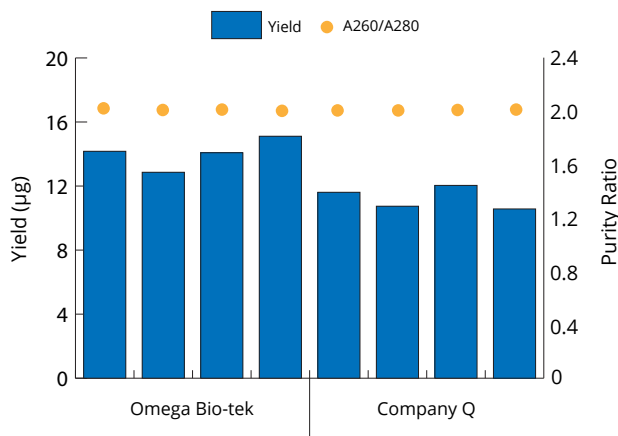
- RNA extraction in 20 minutes or less
- No phenol/ chloroform extractions
- Spin and vacuum formats available
- Purified RNA suitable for a variety of downstream applications

The E.Z.N.A. Total RNA Kit I provides a simple and rapid method for the isolation of up to 100 µg total RNA from cultured eukaryotic cells and soft tissues. Multiple samples of up to 1×10^7 eukaryotic cells or 30 mg of tissue can be processed in parallel in fewer than 20 minutes. Purified RNA can be used in many downstream applications such as RT-PCR, qRT-PCR, Northern blotting, nuclease protection assay, microarrays, *in-vitro* translation, and Next Generation Sequencing.

| Features | Specifications |
|------------------------|---|
| Starting Material | Cultured eukaryotic cells and soft tissues |
| Starting Amount | <1 x 10 ⁷ cells or 30 mg tissue |
| Processing Mode | Manual (Centrifugation or Vacuum) |
| Elution Volume | 40-70 µL |
| Throughput | 1-24 |
| RNA Binding Technology | Silica Mini Spin Column |
| Binding Capacity | 100 µg |
| Downstream Application | PCR, qPCR, real-time RT-PCR, microarray, Northern blot, poly-A purification |

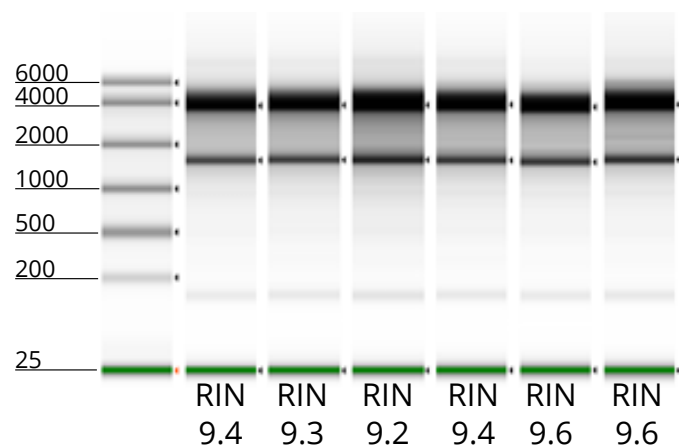
| Product Description | Preps | Catalog No. |
|---------------------------------------|-------|-------------|
| E.Z.N.A. [®] Total RNA Kit I | 5 | R6834-00 |
| | 50 | R6834-01 |
| | 200 | R6834-02 |

Excellent RNA Yield and Purity



Total RNA was isolated from 1×10^6 AD293 cultured cells using E.Z.N.A.[®] Total RNA Kit I with an elution volume of 50 µL. RNA concentrations were quantified with Thermo Scientific's NanoDrop[®] 2000c. A260/A280 ratios were approximately 2.0, consistent with high-purity RNA suitable for various downstream applications..

High Integrity RNA Purification



Total RNA was isolated from 1×10^6 AD293 cultured cells using E.Z.N.A.[®] Total RNA Kit I and eluted in 50 µL. RNA integrity was visualized via the Agilent TapeStation[®] 2200. All samples exhibited high integrity, with RIN values above 9, confirming excellent RNA quality suitable for sensitive downstream applications.

E.Z.N.A.[®] HP Total RNA Kit

Fast and easy purification of RNA from tissue and cells

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A
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- Rapid – RNA isolation in 25 minutes
- Versatile – Spin and vacuum formats available
- Specialized System – Sample Homogenization and gDNA elimination in one step
- Safe – No phenol/chloroform extractions
- High-quality – RNA is suitable for a variety of downstream applications

The E.Z.N.A. HP Total RNA Isolation Kit provides a rapid and easy method for RNA isolation from cultured cells or tissues. The kit includes RNA Homogenizer columns that integrate sample homogenization and genomic DNA elimination into one single step. The RNA purification process is simplified with HiBind[®] Mini Column technology and can be accomplished in 25 minutes. This convenient spin-column format requires no phenol or chloroform, avoids time-consuming steps such as CsCl gradient ultracentrifugation, precipitation with isopropanol or LiCl and allows for multiple samples to be processed in parallel. RNA purified using the E.Z.N.A.[®] HP Total RNA method is ready for applications such as RT-PCR, RT-qPCR, Northern blotting, next-generation sequencing, poly A+ RNA (mRNA) purification, nuclease protection, and in vitro translation.

| Features | Specifications |
|------------------------|---|
| Downstream Application | RT-PCR, RT-qPCR, Northern blotting, next-generation sequencing, poly A+ RNA (mRNA) purification, nuclease protection, and in vitro translation. |
| Starting Material | Cultured cells and tissues |
| Starting Amount | 1 x 10 ⁷ eukaryotic cells or 25-30 mg tissue |
| Elution Volume | 40-70 µL |
| RNA Binding Technology | Silica Mini spin column |
| Processing Mode | Manual (centrifugation or vacuum) |
| Throughput | 1 – 24 |
| Final Purified Product | Total RNA (> 200 nt) |
| RNA Yield | Up to 100 µg |
| Processing Time | 25 min |
| Special Notes | RNA Homogenizer Column that integrates sample homogenization and gDNA elimination into a single step |

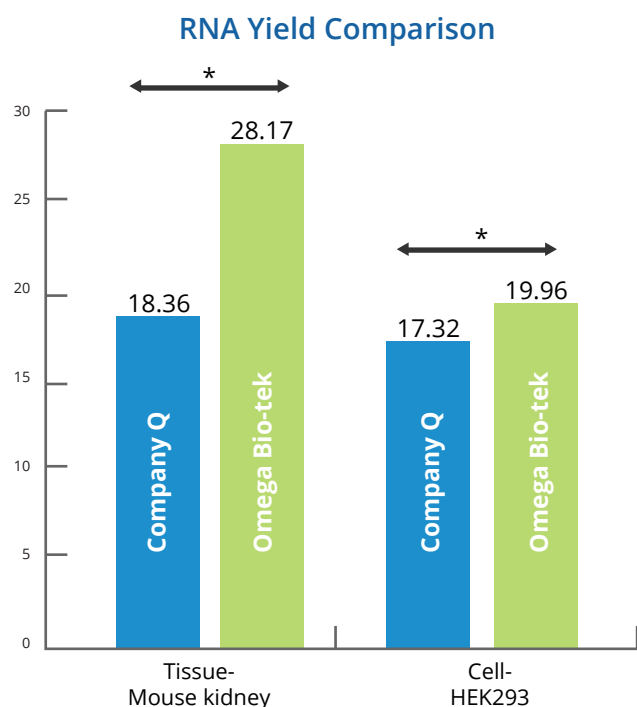


Figure 1. RNA yields obtained using the Omega and Company Q's kits with tissue samples and cultured cell samples. One-way ANOVA followed by Tukey's post-hoc analysis indicates that the RNA yield extracted using Omega Bio-tek's kit was significantly better than that of Company Q's ($p < 0.01$) for both the sample types tested.

| Product Description | Preps | Catalog No. |
|--|-------|-------------|
| E.Z.N.A. [®] HP Total RNA Kit | 5 | R6812-00 |
| | 50 | R6812-01 |
| | 200 | R6812-02 |

E.Z.N.A.® FFPE DNA Kit

Fast and easy purification of DNA from FFPE tissue

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- Isolate DNA from FFPE samples using spin columns

The E.Z.N.A. FFPE DNA Kit is designed for fast and easy purification of DNA from formalin-fixed, paraffin-embedded (FFPE) tissue sections. Paraffin removal can be performed using a xylene and ethanol method or efficient heat treatment. Samples are incubated in a specialized lysis buffer along with Proteinase K to reverse crosslinking, effectively releasing short and long DNA fragments. After adjusting the binding conditions with ethanol, the lysate is applied to the MicroElute® DNA column to bind DNA. Cellular debris and proteins are effectively removed during the wash steps. High quality purified DNA is then eluted in elution buffer or water and is ready for applications such as PCR and next-generation sequencing.

| Features | Specifications |
|-------------------|-------------------------------------|
| Starting Amount | 3-8 paraffin sections 5-10 µm thick |
| Starting Material | FFPE tissue |
| Elution Volume | 50-75 µL |
| Technology | MicroElute® LE DNA Column |
| Processing Mode | Manual |
| Throughput | 1-24 |

| Product Description | Preps | Catalog No. |
|----------------------------|-------|-------------|
| E.Z.N.A.® Plasmid Midi Kit | 5 | D3399-00 |
| | 50 | D3399-01 |

Yield & Quality

| Sample | A_{260}/A_{280} | A_{260}/A_{230} | Yield (µg) |
|--------|-------------------|-------------------|------------|
| O1 | 1.79 | 2.25 | 13.25 |
| O2 | 1.79 | 2.18 | 13.32 |
| O3 | 1.80 | 2.30 | 12.48 |
| A1 | 1.80 | 2.31 | 9.53 |
| A2 | 1.81 | 2.24 | 9.28 |
| A3 | 1.82 | 2.27 | 6.71 |

Figure 1. Quality and yield of DNA with agarose gel analysis comparing Company A's FFPE Kit and Omega Bio-tek's E.Z.N.A.® FFPE DNA Kit. Analysis was completed on a 0.5% agarose gel. Lanes 1-3 represent Company A and lanes 4-6 represent Omega Bio-tek's E.Z.N.A.® FFPE DNA Kit. M: 1 kb marker. FFPE DNA tissue starting material was ~2 mg post-deparaffinization. An overnight digestion was completed at 55°C. Samples were eluted in 60 µL elution buffer. O.D. ratio and yield calculated using a Thermo Fisher NanoDrop® 2000c.

E.Z.N.A.[®] Plasmid DNA Mini Kit

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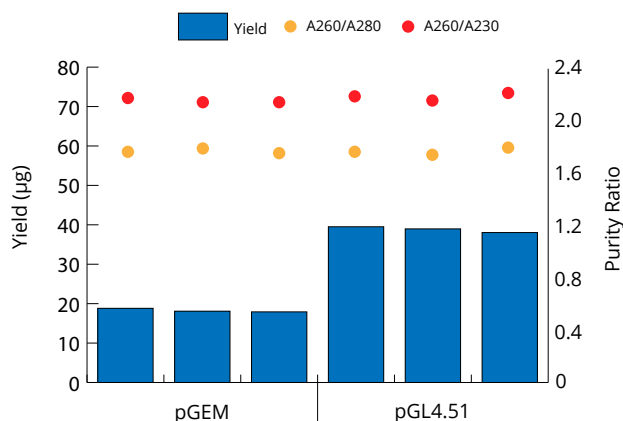
Isolation of 25 µg high-quality plasmid DNA from 1-5 mL bacterial cultures

- Purification of plasmid DNA in less than 30 minutes
- No Phenol/chloroform extractions
- Spin and vacuum formats available
- Plasmid DNA is suitable for a variety of downstream applications

The E.Z.N.A. Plasmid DNA Mini Kit I is designed to isolate up to 25 µg of high-quality plasmid DNA from 1-5 mL of bacterial cultures in 30 minutes or less. Plasmid DNA purification follows the alkaline-lysis method and is simplified with Silica Mini Column technology into three quick steps: bind, wash, and elute. Purified plasmid DNA is ready for a wide variety of downstream applications, including routine screening, restriction enzyme digestions, DNA sequencing, cloning, transformation, and transfection.

| Features | Specifications |
|------------------------|---|
| Starting Material | Bacterial cultures |
| Starting Amount | 1-5 mL LB culture |
| Processing Time | <30 minutes |
| Yield | 15-25 µg for high copy-number; 0.1-5 µg for low copy-number |
| Throughput | 1 - 24 |
| DNA binding Technology | Silica Mini Spin Column |
| Downstream Application | Cloning, sequencing, transformation, PCR, restriction digestion, ligation, <i>in-vitro</i> transcription etc. |
| Processing Mode | Manual (Centrifugation or Vacuum) |

High-Quality Plasmid Extractions



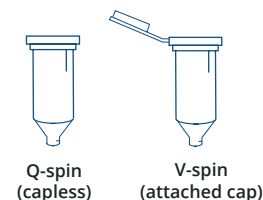
pGEM and pGL4.51 plasmids were purified from 5 mL DH5α cultures and eluted in 100 µL using Omega Bio-tek's E.Z.N.A.[®] Plasmid DNA Mini Kit I. Plasmid DNA concentrations were determined by optical density measurements using Thermo Scientific's NanoDrop™ 2000c system. All samples have ideal A260/A280 (~1.8) and A260/A230 (~2.0) absorbance ratios, indicating high-quality purified DNA.

| Product Description | Preps | Catalog No. |
|--|-------|-------------|
| E.Z.N.A. [®] Plasmid DNA Mini Kit I (Q-spin, capless) | 5 | D6942-00 |
| | 50 | D6942-01 |
| | 200 | D6942-02 |

| Product Description | Preps | Catalog No. |
|---|-------|-------------|
| E.Z.N.A. [®] Plasmid DNA Mini Kit I (V-spin, attached cap) | 5 | D6943-00 |
| | 50 | D6943-01 |
| | 200 | D6943-02 |

Available Formats

The E.Z.N.A. Plasmid DNA Mini Kit I is available with 2 different types of columns: Q-spin columns are capless (D6942), while V-spin columns have an attached cap (D6943). Either column can be used with both the vacuum or centrifugation protocols.



Sequencing-Quality Plasmid Purification

| Plasmid Type | Sample | Trace Score | Continuous Read Length | QV20+ |
|--------------|--------|-------------|------------------------|-------|
| pGEM | 1 | 54 | 955 | 958 |
| | 2 | 53 | 965 | 965 |
| | 3 | 56 | 963 | 967 |
| pGL4.51 | 1 | 56 | 977 | 978 |
| | 2 | 56 | 960 | 963 |
| | 3 | 56 | 962 | 960 |

pGEM and pGL4.51 plasmids were purified from 5 mL DH5α cultures and eluted in 100 µL using Omega Bio-tek's E.Z.N.A.[®] Plasmid DNA Mini Kit I. The plasmids were then used for Sanger Sequencing. DNA was analyzed on an Applied Biosystems 3730XL. All samples display high continuous read length and QV20+ scores, indicating plasmids of high-quality isolated from this kit.

E.Z.N.A.[®] FastFilter Plasmid DNA Mini Kit

REQUEST
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SAMPLE

Isolate high-quality plasmid DNA in just 9 minutes using an innovative lysate clearance column

- Rapid – 9-minute Processing time from a bacterial pellet
- Unique – Lysate Clearance and DNA Binding in 1 step
- Convenient – Lysate Clearance Column eliminates cellular debris pelleting and transfer step
- Versatile – Process up to 5 mL bacterial cultures with different plasmid types and culture medias

E.Z.N.A. FastFilter Plasmid DNA Mini Kit is designed for rapid purification of high-quality plasmid DNA from one simple centrifugation step. Following wash and elute steps, purified plasmid DNA is immediately ready for a wide variety of downstream applications such as routine screening, restriction enzyme digestion, transformation, PCR and DNA sequencing.

| Features | Specifications |
|-------------------------|---|
| Starting Material | Bacteria harboring high-copy or low-copy plasmid in LB culture medium |
| Starting Amount | 1-5 mL LB culture |
| Elution Volume | 50-100 μ L |
| Processing Mode | Manual (centrifugation or vacuum) |
| Throughput | 1-24 |
| DNA binding Technology | Silica Mini Spin Column |
| Processing Time | 9 minutes |
| Downstream Applications | Routine screening, restriction enzyme digestion, transformation, PCR and DNA sequencing |

Faster Processing without Sacrificing Yield and Quality

| Condition | Culture Volume (mL) | Manufacturer | Yield (μ g) | Average A260/A280 | Average A260/A230 |
|----------------------|---------------------|---------------|------------------|-------------------|-------------------|
| Minimum Volume Input | 0.6 | Company Z | 2.18 | 1.92 | 2.20 |
| | | Omega Bio-tek | 2.50 | 1.89 | 2.20 |
| | 1 | Company Q | 4.45 | 1.89 | 2.26 |
| | | Omega Bio-tek | 4.29 | 1.88 | 2.23 |
| Maximum Volume Input | 3 | Company Z | 8.01 | 1.85 | 2.31 |
| | | Omega Bio-tek | 18.11 | 1.85 | 2.33 |
| | 5 | Company Q | 20.00 | 1.86 | 2.28 |
| | | Omega Bio-tek | 18.11 | 1.85 | 2.20 |

Versatility Using Different Plasmid Types and Culture Media

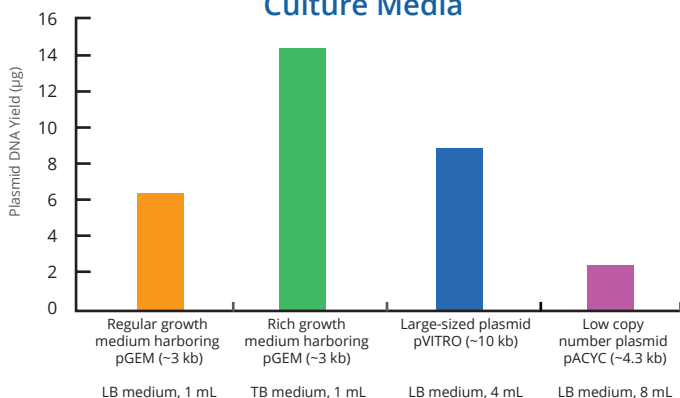


Figure 1. E.Z.N.A.[®] FastFilter Plasmid DNA Mini Kit is capable of handling diverse sample input conditions ranging from plasmid types, culture medium as well as input culture volume. The plasmid yield may vary based on these conditions.

| Product Description | Preps | Catalog No. |
|---|-------|-------------|
| E.Z.N.A. [®] FastFilter Plasmid DNA Mini Kit | 10 | D6944-00 |
| | 100 | D6944-01 |
| | 300 | D6944-02 |

Comparison of Processing Time

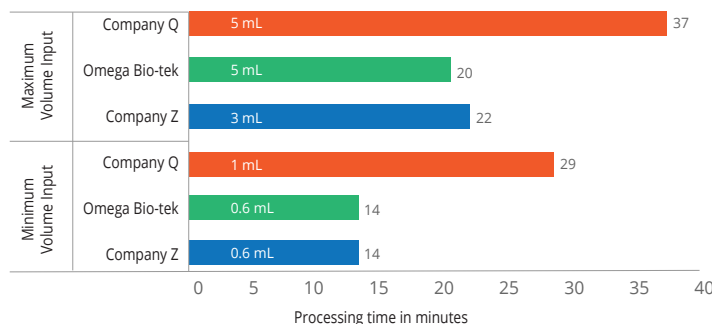


Figure 2. Comparison of Plasmid Purification times (n=4) using kits from Omega Bio-tek, Company Z, or Company Q. The processing time was comparable using kits from Omega Bio-tek and Company Z at minimum culture volume and was lower by 2 min for Omega Bio-tek at maximum volume. The processing times shown are actual timed extractions including all pipetting, centrifugation, and bacterial culture pelleting steps.

E.Z.N.A.[®] Plasmid Midi & Maxi Kits

Purification of high-quality plasmid DNA using filter column technology

REQUEST
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SAMPLE

- Faster when using vacuum protocol
- Purification of plasmid DNA in < 60 min
- No phenol/chloroform extractions
- Spin and vacuum formats available

The E.Z.N.A. Plasmid Midi and Maxi Kits can isolate up to 250 µg and 1.2 mg of plasmid DNA from 50 mL and 200 mL bacterial cultures, respectively. These kits use a modified alkaline lysis method to lyse the cells and separate genomic DNA from plasmid DNA. Cellular debris are removed by centrifugation, and the protocol follows a simple bind, wash, and elute procedure to deliver high-quality plasmid DNA. The system not only eliminates the time-consuming isopropanol precipitation step required by gravity flow columns but also the need for expensive accessories. Purified plasmid DNA is suitable for automated fluorescent DNA sequencing (typical reads exceed 800 bp), restriction enzyme digestion, ligation, PCR, *in-vitro* transcription, transformation, and other applications.

Plasmid DNA Yields from E.Z.N.A. Kits

| E.Z.N.A. Plasmid DNA Midi Kit | | | | |
|--|-------------------|------------------------------------|------------------------------------|------------|
| Sample | Culture Size (mL) | A ₂₆₀ /A ₂₈₀ | A ₂₆₀ /A ₂₃₀ | Yield (µg) |
| 1 | 50 | 1.89 | 2.31 | 192.9 |
| 2 | 50 | 1.90 | 2.40 | 189.0 |
| 3 | 50 | 1.90 | 2.39 | 190.0 |
| 4 | 50 | 1.90 | 2.39 | 187.4 |
| E.Z.N.A. [®] Plasmid DNA Maxi Kit | | | | |
| 1 | 250 | 1.90 | 2.29 | 715.2 |
| 2 | 250 | 1.90 | 2.34 | 697.0 |
| 3 | 250 | 1.90 | 2.35 | 706.5 |
| 4 | 250 | 1.90 | 2.32 | 701.3 |

DH5α cells were transformed with pGEM vector, and replicate bacterial cultures were grown in either 50 mL or 250 mL of LB broth for 24 hours. The E.Z.N.A. Plasmid Midi Kit was used to isolate plasmid DNA from the 50 mL cultures and the E.Z.N.A. Plasmid Maxi Kit was used to isolate plasmid DNA from the 250 mL cultures. Yield was determined by optical density measurements with the NanoDrop 2000c.

Midi Kit

| Features | Specifications |
|-------------------------|---|
| Starting Material | 20-50 mL LB culture with OD600 between 2 and 3; or equivalent |
| Plasmid Type | High-copy, low-copy, cosmid DNA |
| Processing Time | <60 minutes |
| Processing Mode | Manual (centrifugation or vacuum) |
| Yield | 100-250 µg for high-copy number; 10-50 µg for low-copy number |
| Throughput | 1 - 24 |
| DNA binding Technology | Silica Midi Spin Column |
| Lysate clearance Method | Centrifugation |
| Downstream Application | Cloning, sequencing, transformation, PCR, restriction digestion, ligation, <i>in-vitro</i> transcription etc. |

Maxi Kit

| Features | Specifications |
|-------------------------|---|
| Starting Material | 50-200 mL LB culture with OD600 between 2 and 3; or equivalent |
| Plasmid Type | High-copy, low-copy, cosmid DNA |
| Processing Time | <60 minutes |
| Processing Mode | Manual (centrifugation or vacuum) |
| Yield | 600-1200 µg for high-copy number; 50-300 µg for low-copy number |
| Throughput | 1 - 24 |
| DNA Binding Technology | Silica Maxi Spin Column |
| Lysate clearance method | Centrifugation |
| Downstream Application | Cloning, sequencing, transformation, PCR, restriction digestion, ligation, <i>in-vitro</i> transcription etc. |

| Product Description | Preps | Catalog No. |
|--|-------|-------------|
| E.Z.N.A. [®] Plasmid Midi Kit | 2 | D6904-00 |
| | 25 | D6904-03 |
| | 100 | D6904-04 |

| Product Description | Preps | Catalog No. |
|--|-------|-------------|
| E.Z.N.A. [®] Plasmid Maxi Kit | 5 | D6922-01 |
| | 20 | D6922-02 |
| | 100 | D6922-04 |

E.Z.N.A.[®] FastFilter Plasmid Midi & Maxi Kits

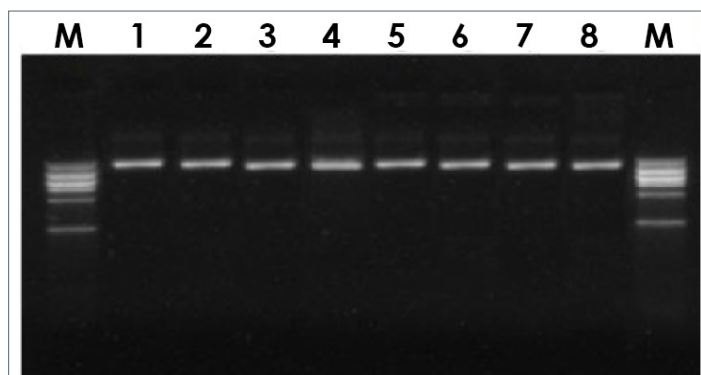
REQUEST
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Isolation of high-quality plasmid DNA in less than 40 minutes

- Cost and time savings compared to anion exchange technology
- Spin and vacuum formats available
- Lysate Clearance Syringes to rapidly clear bacterial lysates post-lysis

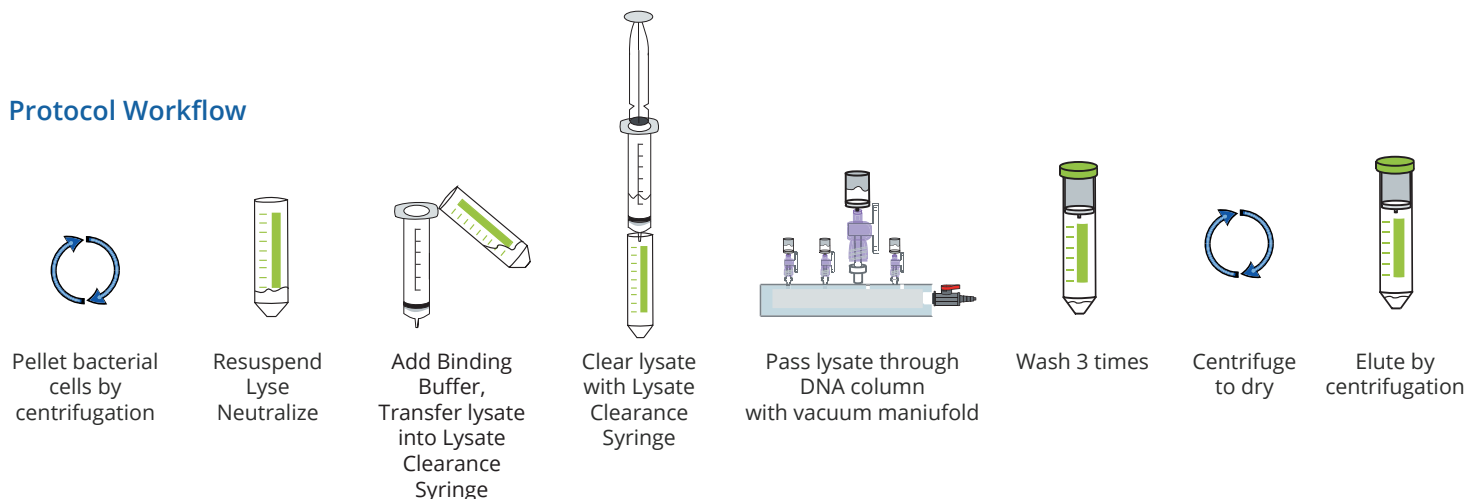
The E.Z.N.A. FastFilter Plasmid Midi Kit combines the convenience of spin columns with the speed of syringe filters to ease large-scale plasmid preparations. The system utilizes Lysate Clearance Filter Syringes instead of centrifugation to rapidly clear bacterial lysates post-alkaline lysis and follows a simple bind, wash, and elute procedure to deliver high-quality plasmid DNA. The system uses centrifugation or vacuum technology for plasmid purification and eliminates the time-consuming alcohol precipitation required by gravity flow columns. Purified plasmid DNA is suitable for automated fluorescent DNA sequencing (typical reads exceed 800 bp), restriction enzyme digestion, ligation, PCR, *in-vitro* transcription, transformation, and other applications.

Agarose Gel Electrophoretic Analysis of Purified Plasmid



Plasmid DNA was isolated from eight 30 mL bacterial cultures grown 16 hours in LB medium using the E.Z.N.A. FastFilter Plasmid Midi Kit and eluted in 300 μ L elution buffer. Plasmid DNA (1% of total purified DNA) was analyzed on a 0.8% agarose gel. Lanes 1-8 represent plasmid DNA from 8 different bacterial cultures and Lane M represents the 1 kb DNA ladder.

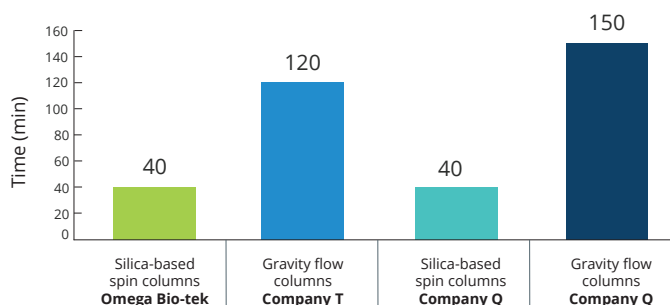
Protocol Workflow



| Product Description | Preps | Catalog No. |
|---|-------|-------------|
| E.Z.N.A. [®] FastFilter Plasmid Midi Kit | 2 | D6905-00 |
| | 25 | D6905-03 |
| | 100 | D6905-04 |

| Product Description | Preps | Catalog No. |
|---|-------|-------------|
| E.Z.N.A. [®] FastFilter Plasmid Maxi Kit | 2 | D6924-00 |
| | 25 | D6924-03 |

Processing Time of Plasmid DNA Isolation Kits



Total time in minutes required for plasmid DNA isolation from pelleting the bacterial cultures to eluting the plasmid using Omega Bio-tek E.Z.N.A. FastFilter Plasmid Maxi Kit and comparable products from other competitors.

E.Z.N.A.[®] Universal Pathogen Kit

REQUEST
A
SAMPLE

Isolation of pathogenic DNA and viral nucleic acids from a variety of sample sources

- Elute in as low as 15 µL
- Prefilled Disruptor Tubes for faster sample homogenization
- No Phenol/chloroform extractions
- High-quality DNA suitable for a variety of downstream applications

The E.Z.N.A. Universal Pathogen DNA Kit allows for rapid and reliable isolation of high-quality host genomic DNA, gram-positive and gram-negative bacterial DNA, fungal spore DNA, yeast DNA, viral DNA and viral RNA from tissues, blood, urine, serum, whole blood, and stool samples.

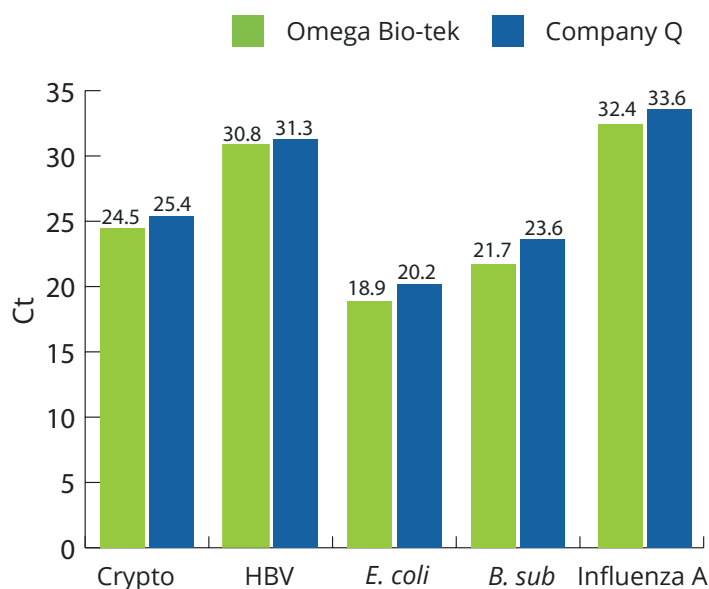
This kit incorporates Omega Bio-tek's Disruptor Tubes pre-filled with glass beads for faster and easier processing. The Disruptor Tubes allow for simultaneous homogenization and lysis of the samples and aid in effective disruption of difficult samples. No detergents are present in the initial lysis buffer, which eliminates foaming issues and provides optimal conditions for homogenization.

This unique buffer system does not require alcohol to bind nucleic acids, allowing for recovery of high-quality DNA/RNA free of PCR inhibitors. Omega Bio-tek's MicroElute LE Spin Columns are used, which support elution volumes as low as 15 µL to obtain high concentration of the eluate.

| Features | Specifications |
|------------------------|---|
| Starting Material | Tissue, urine, serum, and stool sample |
| Starting Amount | 25-30 mg tissue 250 µL stool sample/serum/urine/blood |
| Processing Mode | Manual (Centrifugation or Vacuum) |
| Elution Volume | 15-100 µL |
| DNA Binding Technology | Silica MicroElute Spin Column |
| Note | Host genomic DNA, gram positive and negative bacterial DNA, fungal spore DNA, and viral DNA and RNA |

| Product Description | Preps | Cat. No. |
|--|-------|----------|
| E.Z.N.A. [®] Universal Pathogen Kit | 5 | D4035-00 |
| | 50 | D4035-01 |

qPCR Comparison from Different Extraction Methods



Human stool samples suspended in PBS solution were spiked with corresponding organisms. Stool samples were then processed according to each manufacturer's recommended protocols. qPCR was performed in triplicate for each sample using primers specific for the target organisms. Data shown are averages of triplicate reactions.

E.Z.N.A.[®] Viral RNA Kit

Isolation of viral RNA from plasma, serum, urine, swabs, cell culture supernatant, and saliva

REQUEST
A
SAMPLE

- Viral RNA/DNA purification from wide variety of sample types
- Can be used to clean-up samples in Trizol
- No organic extractions

The E.Z.N.A. Viral RNA Kit is designed for the isolation of viral RNA and DNA from plasma, serum, cell culture supernatant and urine, swabs, and saliva. The procedure completely removes contaminants and enzyme inhibitors making viral RNA isolation fast, convenient and reliable. The purified nucleic acids are ready for direct use in downstream applications such as qPCR, RT-qPCR and more.

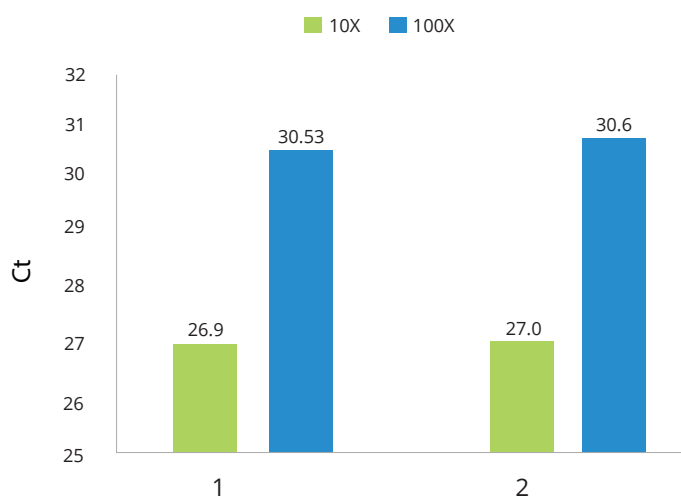
| Features | Specifications |
|---------------------------------|---|
| Starting Material | Plasma, serum, urine, swabs, cell culture supernatant, and saliva |
| Starting Amount | 150 µL |
| Processing Mode | Manual (Centrifugation or Vacuum) |
| Elution Volume | 20-50 µL |
| Throughput | 1-24 |
| Nucleic Acid Binding Technology | Silica Mini Spin Column |

Some of the viruses* detected using our viral kits.

| | | |
|--|--|---------------------------------------|
| Influenza A | Hepatitis E | Sheep pox virus |
| Influenza B | Infectious Bronchitis virus | Murine norovirus 1 |
| West Nile virus | Porcine reproductive and respiratory syndrome Virus (PRRSV) | Canine distemper virus |
| Middle East Respiratory Syndrome Corona-virus (MERS-CoV) | Insect-specific flaviviruses, mononegaviruses, and totiviruses | Rabies virus |
| Zika virus (ZIKAV) | orf virus (ORFV) | Rotavirus |
| SIV | Porcine circovirus type 2 (PCV2) | Coxsackievirus B3 |
| HIV | Arboviruses | Coxsackievirus A6 |
| Influenza A (H1N1) | Dengue virus | Avian leukosis virus subgroup J |
| Hepatitis A virus types 1 and 3 | GB virus C | Avian Encephalomyelitis Virus |
| Hepatitis B virus | Bovine Viral Diarrhea Virus (BVDV) | Crimean-Congo hemorrhagic fever virus |
| SARS-CoV-2 | | |

*References available upon request

Inhibitor-free Viral RNA Extraction Using E.Z.N.A.[®] Viral RNA Kit



25 µL of Zeptomatrix Influenza A/B Positive Control was spiked into 125 µL serum samples and then viral RNA was extracted using the E.Z.N.A. Viral RNA Kit. 2 µL of eluted RNA was used as a template in a 20 µL SYBR qPCR reaction. The Δ Ct between 100-fold and 10-fold dilution is ~3.3 demonstrating good PCR efficiency without inhibition.

| Product Description | Preps | Catalog No. |
|-------------------------------------|-------|-------------|
| E.Z.N.A. [®] Viral RNA Kit | 5 | R6874-00 |
| | 50 | R6874-01 |
| | 200 | R6874-02 |

E.Z.N.A.[®] Cycle Pure Kit

Rapid purification of single- or double-stranded DNA from PCR or other enzymatic reactions

- Purification of PCR products in less than 10 minutes
- No Phenol/chloroform extractions
- Spin and vacuum formats available
- High-quality DNA suitable for a variety of downstream applications

The E.Z.N.A. Cycle-Pure Kit is designed for the rapid purification of single or double-stranded DNA from PCR and other enzymatic reactions. The system follows a bind, wash, and elute procedure and completely removes primers, nucleotides enzymes, salts, and other impurities from a DNA sample. This convenient spin-column format eliminates the need for expensive resins or toxic organic compounds such as phenol and chloroform, thereby making it possible to process multiple samples in parallel. Purified DNA can be used in T-A ligations, sequencing, restriction enzyme digestion, and various other labeling reactions.

| Features | Specifications |
|------------------------|---|
| Starting Material | ssDNA, dsDNA, PCR products |
| Processing Mode | Manual (Centrifugation or Vacuum) |
| Processing Time | <10 minutes |
| Elution Volume | 30-50 µL |
| Throughput | 1-24 |
| DNA Binding technology | Silica Mini Spin Column |
| DNA Recovered | >90% recovery, 100 bp to 10 kb |
| Downstream Application | T-A ligations, sequencing, restriction enzyme digestion, and various other labeling reactions |

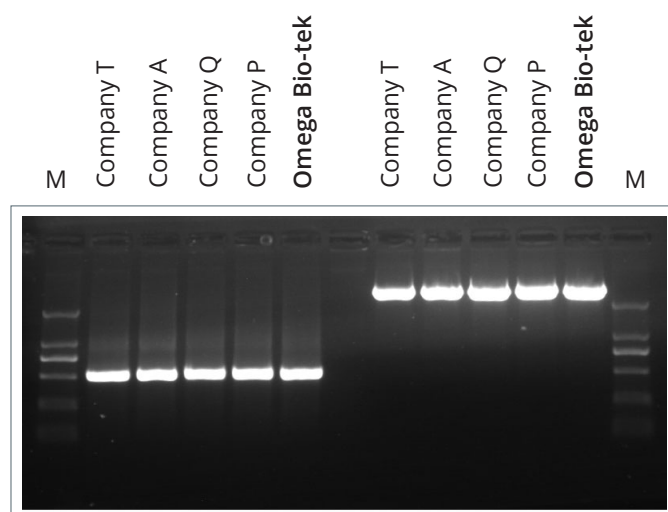
Reliable Sanger Sequencing Performance

| Sample | Continuous Read Length (CRL) | Average Signal Intensity |
|--------|------------------------------|--------------------------|
| 1 | 1042 | 2775 |
| 2 | 1001 | 2948 |
| 3 | 973 | 2675 |
| 4 | 970 | 3056 |
| 5 | 1022 | 3024 |
| 6 | 957 | 2841 |

High-quality Sanger sequencing results of a 1 Kb amplicon purified using the E.Z.N.A.[®] Cycle Pure Kit. Consistent contiguous read lengths and strong average signal intensities demonstrate the kit's ability to deliver clean DNA templates for reliable sequencing on the Applied Biosystems 3730XL platform.

| Product Description | Preps | Catalog No. |
|---|-------|-------------|
| E.Z.N.A. [®] Cycle Pure Kit (V-spin, attached cap) | 5 | D6492-00 |
| | 50 | D6492-01 |
| | 200 | D6492-02 |

Omega Bio-tek's E.Z.N.A. Cycle Pure Kit vs. the Competition



500 bp and 5 kb DNA fragments were purified with 4 different competitor's kits and Omega Bio-tek's E.Z.N.A. Cycle Pure Kit. 10% of eluted product was analyzed on a 0.8% agarose gel and run with a DL2000 DNA ladder.

E.Z.N.A.[®] Gel Extraction Kit

Rapid recovery of DNA fragments > 100 bp from agarose gels in 15 minutes

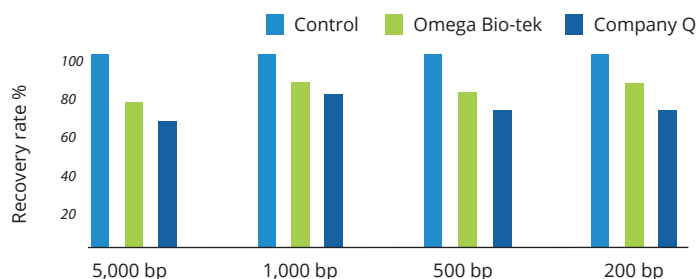
REQUEST
A
SAMPLE

- DNA recovery from an agarose gel in 15 min
- Visual determination of optimum DNA binding for higher yields
- No phenol/chloroform extractions
- Spin and vacuum formats available
- High-quality DNA suitable for a variety of downstream applications

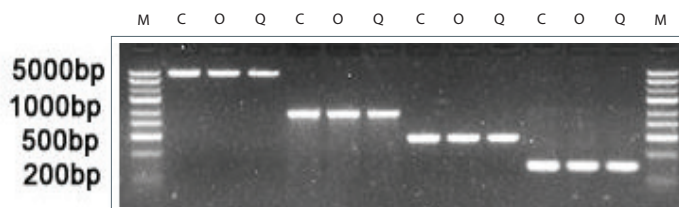
The E.Z.N.A. Gel Extraction Kit uses spin-column technology to purify DNA fragments ranging from 100 bp to 10 kb from all grades of agarose gels with high recovery (> 80%). The kit uses a specialized binding buffer system that not only dissolves the gel slice and binds to the spin column but also includes a pH indicator for a visual representation of optimal pH for DNA binding. The bind step is followed by three rapid wash steps and DNA is eluted with deionized water or elution buffer. Purified DNA is ready for a variety of downstream applications such as ligations, PCR amplification, restriction enzyme digestion, cloning, and various labeling reactions.

| Features | Specifications |
|------------------------|--|
| Starting Material | Agrose gel slice |
| Starting Amount | Up to 25 µg DNA |
| Processing Mode | Manual (Centrifugation or Vacuum) |
| Processing Time | <15 minutes |
| Elution Volume | 30-50 µL |
| Throughput | 1-12 |
| DNA binding Technology | Silica Mini Spin Column |
| DNA Recovered | >80% recovery, 100 bp to 10 kb |
| Downstream Application | Cloning, <i>in-vitro</i> Transcription, Nucleic Acid Labeling, PCR, Real-Time Quantitative PCR (qPCR), Sequencing, Southern Blotting |

| Product Description | Preps | Catalog No. |
|--|-------|-------------|
| E.Z.N.A. [®] Gel Extraction Kit | 5 | D2500-00 |
| | 50 | D2500-01 |
| | 200 | D2500-02 |



DNA ladder and 4 different fragment sizes (200 bp, 500 bp, 1 kb, and 5 kb) were recovered using Omega Bio-tek's E.Z.N.A. Gel Extraction Kit and a comparable kit from Company Q following manufacturer's recommended protocols. DNA was analyzed on a 2% TBE agarose gel with the respective companies eluate being compared to the original amount used in the gel extraction procedure. M: size marker; C: control; O: Omega Bio-tek; Q: company Q. The concentration of the recovered DNA was determined by optical density measurements using Thermo Scientific's NanoDrop™ 2000c system. The purified DNA normalized to input amount is shown above.



E.Z.N.A.[®] Plant DNA DS Kits



Isolation of genomic DNA from plant samples with high amounts of polysaccharides & polyphenols

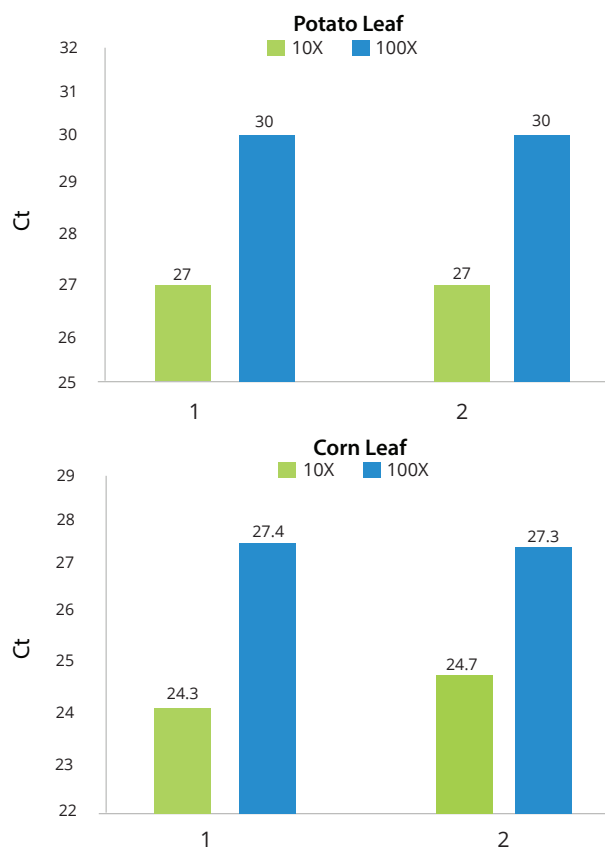
- Homogenizer Columns allow for faster processing
- Reliable results from variety of sample types
- No organic extractions
- High-quality DNA suitable for most applications

The E.Z.N.A. Plant DNA DS Kit is designed for the efficient recovery of genomic DNA up to 30 kb in size from fresh, frozen or dried plant tissue samples rich in polysaccharides, polyphenols, or those with a lower DNA content. Up to 50 mg wet tissue (or 15 mg dry tissue) can be processed in less than 1 hour. These systems combine the reversible nucleic acid-binding properties of the matrix with the speed and versatility of spin column technology to eliminate polysaccharides, phenolic compounds, and enzyme inhibitors from plant tissue lysates. Purified DNA is suitable for PCR, restriction enzyme digestion and hybridization applications.

These procedures rely on the well-established properties of the cationic detergent, cetyltrimethyl ammonium bromide (CTAB), in conjunction with the unique binding system to increase yields and provide high-quality DNA. The system eliminates the need for chloroform extractions traditionally associated with CTAB-based lysis methods. Samples are homogenized and lysed in a high salt buffer containing CTAB and with binding conditions optimized, DNA is purified using a DNA mini column. Salts, proteins, and other contaminants are removed to yield high-quality genomic DNA.

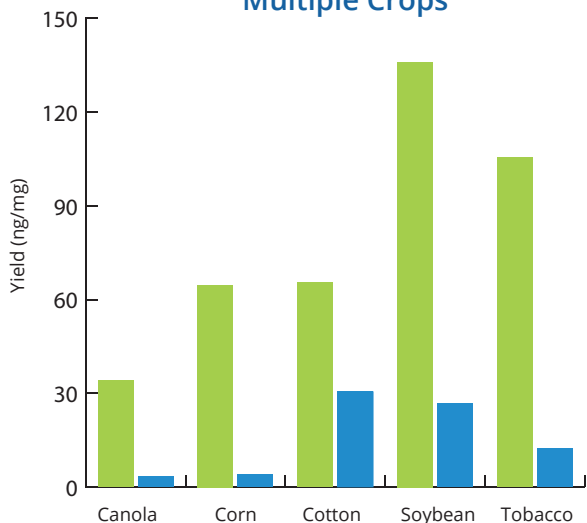
| Features | Specifications |
|------------------------|--|
| Starting Material | Fresh, frozen, or dried plant tissue samples rich in polysaccharides, polyphenols, or those having a lower DNA content |
| Starting Amount | Up to 50 mg wet tissue or 15 mg dry tissue |
| Elution Volume | 50-100 μ L |
| Throughput | 1 - 24 |
| DNA binding Technology | Silica Mini Spin Column |

qPCR Analysis of Purified DNA at 10-fold and 100-fold Dilutions



Genomic DNA was extracted from 50 mg potato leaf and 30 mg corn leaf powder using the E.Z.N.A. Plant DNA DS Kit. 2 μ L of eluted DNA was diluted 10- and 100-fold and used as a template in a 20 μ L SYBR qPCR reaction. The Δ Ct between 100-fold and 10-fold dilution is \sim 3 demonstrating good PCR efficiency without inhibition.

Comparison of DNA Yields from Multiple Crops



40-50 mg of respective leaf tissue was extracted in triplicate according to the manufacturer's recommended protocols and eluted in 100 μ L. DNA was analyzed using fluorescent DNA-based quantification method. Total yield was divided by total tissue amount to show ng of DNA per mg of leaf tissue.

| Product Description | Preps | Catalog No. |
|--|-------|-------------|
| E.Z.N.A. [®] Plant DNA DS Kit | 5 | D2411-00 |
| | 50 | D2411-01 |

E.Z.N.A.® Plant & Fungal DNA Kit

Isolate DNA from plant or fungal samples using filter columns

REQUEST
A
SAMPLE

- Rapid – DNA isolation under 60 minutes
- Reliable – Optimized buffer system ensure the reproducible results
- Safe – No organic extractions
- High-quality – Purified DNA suitable for most downstream applications

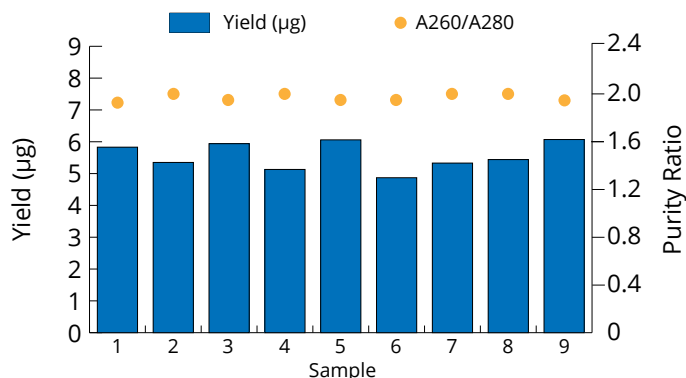
The E.Z.N.A. Plant & Fungal DNA Kit allows for the rapid and reliable isolation of high-quality total cellular DNA from a wide variety of plant or fungal species and tissues. Up to 200 mg wet tissue (or 50 mg dry tissue) can be processed in less than 1 hour. The system combines the reversible nucleic acid-binding properties of Omega Bio-tek's HiBind® matrix with the speed and versatility of spin column technology to eliminate polysaccharides, phenolic compounds, and enzyme inhibitors from plant and fungal tissue lysates. Purified DNA is suitable for PCR, restriction digestion, and hybridization applications. There are no organic extractions thus reducing plastic waste and hands-on time to allow multiple samples to be processed in parallel.

If using the E.Z.N.A. HP Plant & Fungal DNA Kit for the first time, please read the Protocol Manual to become familiar with the procedures. This procedure relies on the well established properties of the cationic detergent, cetyltrimethyl ammonium bromide (CTAB), in conjunction with the selective DNA binding of Omega Bio-tek's HiBind® matrix, to purify high-quality DNA. Samples are homogenized and lysed in a high salt buffer containing CTAB and extracted with chloroform to remove polysaccharides and other components that interfere with many routine DNA isolations and downstream applications. Binding conditions are adjusted and DNA is further purified using HiBind® DNA Mini Columns. In this way, salts, proteins, and other contaminants are removed to yield high-quality genomic DNA suitable for downstream applications such as endonuclease digestion, thermal cycle amplification, and hybridization.

| Features | Specifications |
|-------------------|--|
| Starting Amount | Up to 50 mg wet tissue |
| Starting Material | Fresh, frozen, or dried plant tissue samples rich in polysaccharides, polyphenols, or those having a lower DNA content |
| Elution Volume | 50-100 µL |
| Technology | HiBind® DNA Mini Column |
| Processing Mode | Manual |
| Throughput | 1-24 |
| Note | SDS lysis |

| Product Description | Preps | Catalog No. |
|----------------------------------|-------|-------------|
| E.Z.N.A.® Plant & Fungal DNA Kit | 5 | D3485-00 |
| | 50 | D3485-01 |
| | 200 | D3485-02 |

Consistent DNA Yield and Purity



Genomic DNA was isolated from 50 mg Canola leaf using the E.Z.N.A.® Plant & Fungal DNA Kit and eluted in 100 µL. Purified DNA was quantified with Thermo Scientific's NanoDrop® 2000c. A260/A280 ratios for all samples were approximately 1.8-2.0, indicating high-purity DNA suitable for molecular biology applications.

E.Z.N.A.[®] Plant & Fungal RNA Kit

Isolate total RNA from plant and fungal samples using spin columns

REQUEST
A
SAMPLE

E.Z.N.A. Plant & Fungal RNA Kit provides a convenient and rapid method for the isolation of total RNA from a variety of plant and fungal samples. This kit provides a homogenizer column for filtration and homogenization of viscous plant cell lysate by centrifugation in combination with the HiBind RNA spin column for RNA purification. All the contaminants including polysaccharides and phenolic compounds are effectively removed. Purified RNA can be used for most downstream applications such as RT-PCR, Northern blot analysis, differential display, and poly A+ RNA selection.

| Features | Specifications |
|------------------------|---|
| Downstream Application | PCR, qPCR, real-time RT-PCR, microarray, Northern blot, poly-A purification |
| Elution Volume | 50-100 μ L |
| Starting Material | Plant or fungal tissue |
| Starting Amount | <100 mg |
| RNA Yield | Up to 100 μ g, >200 nt |
| Processing Mode | Spin column |
| Throughput | 1 - 24 |
| RNA Binding Technology | Silica technology |
| Binding Capacity | 100 μ g |

| Product Description | Preps | Catalog No. |
|-------------------------------------|-------|-------------|
| E.Z.N.A. [®] Plant RNA Kit | 5 | R6827-00 |
| | 50 | R6827-01 |
| | 200 | R6827-02 |

Reproducible RNA Yield and Purity

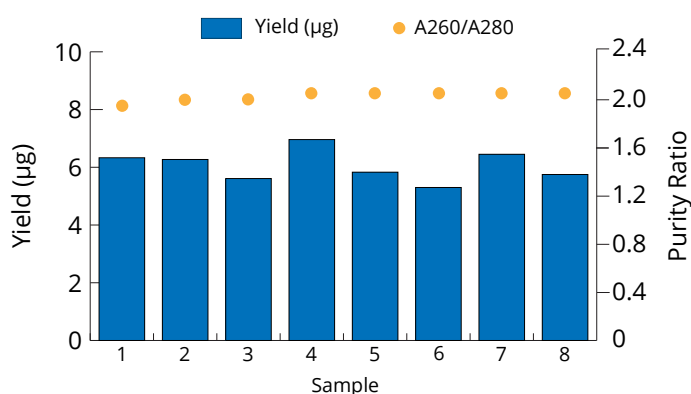


Figure 1. Total RNA was isolated from 20 mg fresh canola using E.Z.N.A.[®] Plant RNA Kit and eluted in 100 μ L. RNA concentrations were quantified via Thermo Scientific's NanoDrop[®] 2000c. A260/A280 ratios were approximately 2.0 suggesting high purity for RNA.

Intact RNA from Tough Plant Samples

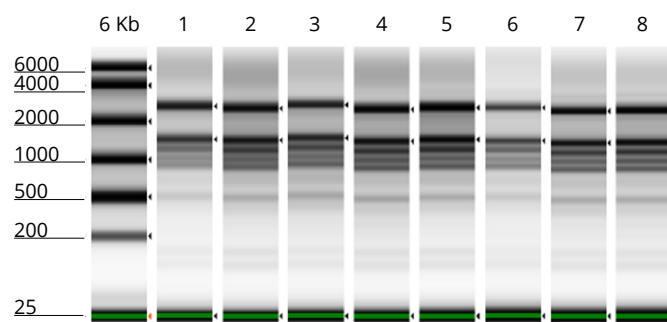


Figure 2. Total RNA was isolated from 20 mg fresh canola using E.Z.N.A.[®] Plant RNA Kit and eluted in 100 μ L. RNA quality was assessed via the Agilent TapeStation[®] 2200.

E.Z.N.A.[®] Bacterial DNA Kit

Isolate DNA from gram-positive and negative bacteria using filter columns

REQUEST
A
SAMPLE

- Reliable – Reproducible DNA purification from a variety of sample sources
- High yield – Glass beads and enzymatic digestion for cell lysis

The E.Z.N.A. Bacterial DNA Kit allows the rapid and reliable isolation of high-quality total cellular DNA from a wide variety of gram-positive and negative bacterial species. This kit uses an optimized lysis condition and up to 1×10^9 bacterial cells can be processed for each column. There are no organic extractions, thus reducing plastic waste and hands-on time to allow multiple samples to be processed in parallel. Bacterial cells are grown to log-phase and harvested. The cell wall is removed by lysozyme digestion and bead beating, followed by protease digestion. Following lysis, binding conditions are adjusted and the sample is applied to a HiBind DNA spin-column. Two rapid wash steps remove trace salts and protein contaminants, and DNA is finally eluted in water or Elution Buffer. Purified DNA can be directly used in downstream applications without the need for further purification.

| Features | Specifications |
|-------------------|-------------------------------------|
| Starting Amount | 1×10^9 cells |
| Starting Material | Bacterial cells |
| Yield | 30 μg |
| Elution Volume | 50-100 μL |
| Technology | HiBind [®] DNA Mini Column |
| Processing Mode | Manual |
| Throughput | 1-24 |

| Product Description | Preps | Catalog No. |
|---|-------|-------------|
| E.Z.N.A. [®] Bacterial DNA Kit | 5 | D3350-00 |
| | 50 | D3350-01 |
| | 200 | D3350-02 |

High DNA Yield & Purity

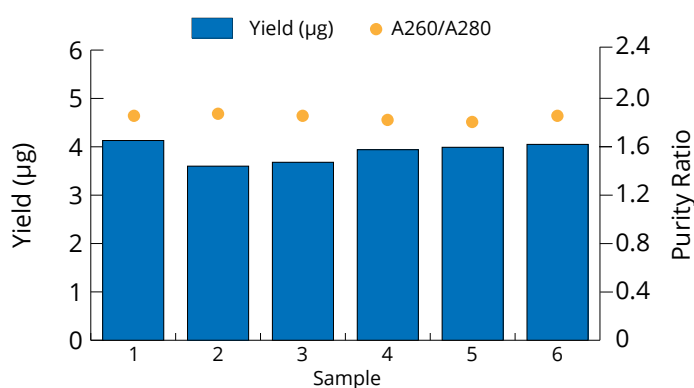


Figure 1. Purified genomic DNA from *B. subtilis* was isolated with the E.Z.N.A.[®] Bacterial DNA Kit and eluted in 100 μL . DNA concentration was quantified via Thermo Scientific's NanoDrop[®] 2000c. A260/A280 ratios were approximately 1.8 suggesting high purity for DNA.

Inhibitor-Free DNA

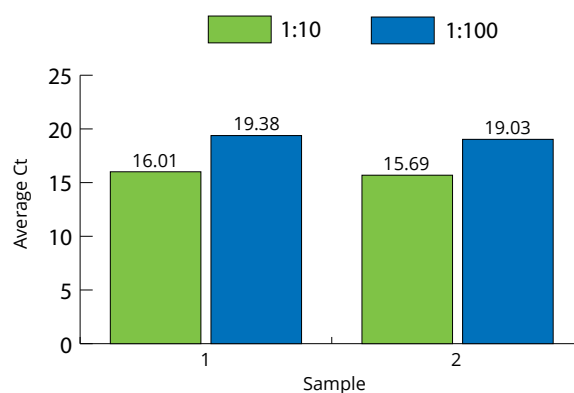


Figure 2. Purified genomic DNA from *B. subtilis* was isolated with the E.Z.N.A.[®] Bacterial DNA Kit and eluted in 100 μL . qPCR results for gDNA extracted using the E.Z.N.A.[®] Bacterial DNA Kit demonstrate an expected ΔCt of ~ 3.3 , reflecting minimal PCR inhibition.

E.Z.N.A.[®] Bacterial RNA Kit

REQUEST
A
SAMPLE

Isolate high-quality RNA from gram-positive or gram-negative bacterial species using silica filter columns

The E.Z.N.A. Bacterial RNA Kit is designed for the isolation of high-quality total RNA from a variety of bacterial strains. Up to 1×10^9 log-phase bacterial cells can be processed. This kit uses an improved lysis procedure to ensure the complete lysis of bacterial cells. Purified RNA is suitable for downstream applications such as RT-PCR and hybridization techniques.

Yield & Quality



Figure 1. Total RNA purified using the E.Z.N.A.[®] Bacterial RNA Kit. RNA was extracted from 2 mL bacterial samples as follows: sample 1 from *Pseudomonas arginosa*, sample 2 from *Enterococcus faecalis*, and sample 3 from *Staphylococcus aureus*. Total RNA (10% of total purified RNA) was analyzed on a 1% agarose gel to demonstrate yield and quality of the RNA. M: CL5000 DNA Marker.

| Features | Specifications |
|------------------------|---|
| Downstream Application | PCR, qPCR, real-time RT-PCR, microarray, Northern blot, poly-A purification |
| Elution Volume | 50-100 μ L |
| Starting Material | Bacteria |
| Starting Amount | Up to 3 mL culture, 1×10^9 cells |
| RNA Yield | up to 100 μ g |
| Processing Mode | Manual, centrifugation/vacuum |
| Throughput | 1 - 24 |
| RNA Binding Technology | Silica Mini spin column |
| Binding Capacity | 100 μ g |

| Product Description | Preps | Catalog No. |
|---|-------|-------------|
| E.Z.N.A. [®] Bacterial RNA Kit | 5 | R6950-00 |
| | 50 | R6950-01 |

Yield & Quality from E.coli

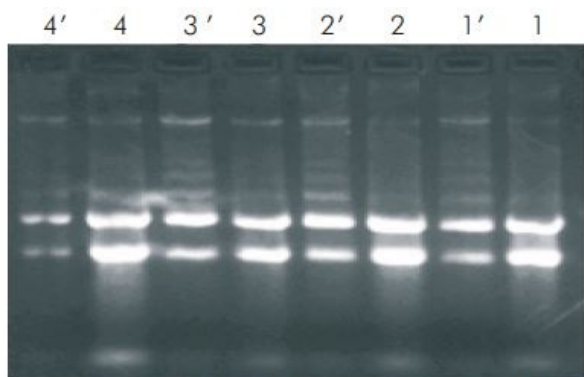


Figure 2. Total RNA purified using the E.Z.N.A.[®] Bacterial RNA Kit. RNA was extracted from lag phase *E. coli* cultures as follows: sample 1 from 0.5 mL culture, sample 2 from 1.0 mL culture, sample 3 from 2 mL culture, and sample 4 from 3 mL culture. Lanes 1-4 represent the first 100 μ L elution. Total RNA (50% of total purified RNA) was analyzed on a denaturing formaldehyde agarose gel to demonstrate yield and quality of the RNA. M: CL5000 DNA Marker.

E.Z.N.A.[®] Stool DNA Kit

Rapid and reliable isolation of DNA samples from fresh frozen stool

REQUEST
A
SAMPLE

- Reliable – Reproducible DNA purification from a variety of sample sources
- High-quality – Inhibitor removal technology provides efficient PCR inhibitor removal
- High yield – Efficient purification of DNA from even specialized samples

The E.Z.N.A. Stool DNA Kit allows rapid and reliable isolation of high-quality total DNA from fresh and frozen stool samples. Up to 200 mg of stool samples can be processed in less than 60 minutes. The system combines the reversible nucleic acid-binding properties of the HiBind matrix with the speed and versatility of spin column technology to eliminate humic acid, polysaccharides, phenolic compounds, and enzyme inhibitors from stool samples. Purified DNA is suitable for PCR, restriction digestion, and hybridization technique.

| Features | Specifications |
|-------------------|-------------------------------------|
| Starting Amount | Up to 200 mg |
| Starting Material | Stool |
| Yield | 100 µg |
| Elution Volume | 50-100 µL |
| Technology | HiBind [®] DNA Mini Column |
| Processing Mode | Manual |
| Throughput | 1-24 |

| Product Description | Preps | Catalog No. |
|-------------------------------------|-------|-------------|
| E.Z.N.A. [®] Stool DNA Kit | 5 | D4015-00 |
| | 50 | D4015-01 |
| | 200 | D4015-02 |

Yield & Quality

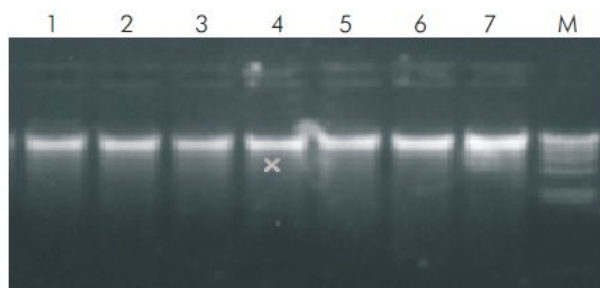


Figure 1. Purified genomic DNA from 7 different 0.1 g stool samples was extracted with the E.Z.N.A.[®] Stool DNA Kit. Genomic DNA (10% of total purified DNA) was analyzed on a 1% agarose gel to demonstrate yield and quality of the DNA. M: Lambda Hind III DNA Marker.

Yield & Quality from E.coli

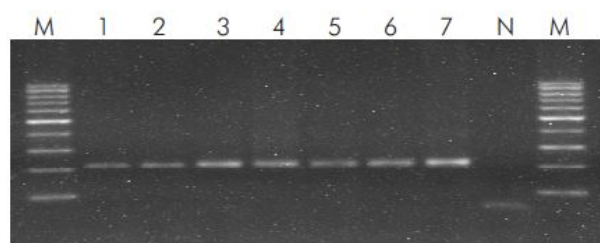


Figure 2. A total of 2 µL of each eluate was amplified with a PCR mastermix and bacterial 16S RNA primers 225 bp to determine whether inhibitors were present in the eluted DNA. Each lane contains 10% of PCR product separated on a 1.5% agarose gel. M: CL5000 DNA Marker. N: Negative control.

E.Z.N.A.[®] Soil DNA Kit

Rapid and reliable isolation of DNA from soil samples

REQUEST
A
SAMPLE

- Reliable – Reproducible DNA purification from a variety of sample sources
- High quality – Ready-to-use DNA eliminating PCR inhibitors using proprietary inhibitor removal technology
- Yield – Efficient purification of DNA from even specialized samples
- Ease of use – Contains glass beads pre-filled in 2 mL vials

The E.Z.N.A. Soil DNA Kit allows rapid and reliable isolation of high-quality genomic DNA from various soil samples. This kit can isolate microbial DNA from yeast, fungi, and grampositive or negative bacteria that inhabit a range of samples including clay, sandy, peaty, chalky, or loamy soil samples. This kit not only includes Disruptor Tubes prefilled with glass beads for efficient sample homogenization but also features a unique inhibitor removal reagent (cHTR Reagent) for effective removal of humic acid and other PCR inhibitors from eluted DNA. The extraction methodology combines the reversible nucleic acid-binding properties of HiBind[®] matrix with the speed and versatility of spin column technology for DNA purification. Up to 250 mg soil samples can be processed in 60 minutes or up to 1g soil samples in 2.5 hours. Purified DNA is suitable for PCR, restriction digestion, and next-generation sequencing.

| Features | Specifications |
|-------------------|-------------------------------------|
| Starting Amount | Up to 1 g |
| Starting Material | Soil |
| Yield | Dependent upon sample |
| Elution Volume | 50-100 μ L |
| Technology | HiBind [®] DNA Mini Column |
| Processing Mode | Manual |
| Throughput | 1-24 |

| Product Description | Preps | Catalog No. |
|------------------------------------|-------|-------------|
| E.Z.N.A. [®] Soil DNA Kit | 5 | D5625-00 |
| | 50 | D5625-01 |
| | 200 | D5625-02 |

High DNA Yield and Purity

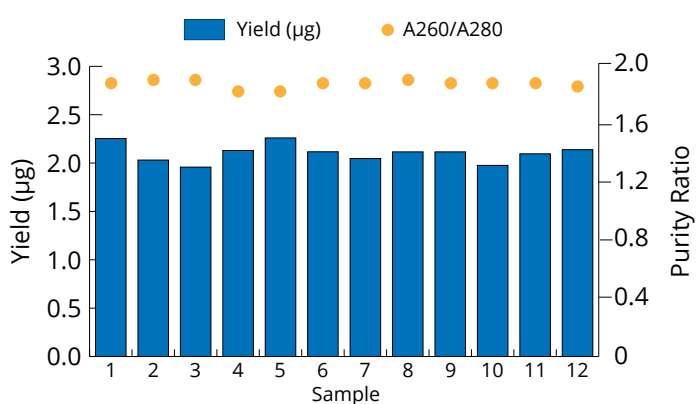


Figure 1. Genomic DNA was isolated from 200 mg soil using E.Z.N.A.[®] Soil DNA Kit and eluted in 100 μ L. Purified DNA was quantified via Thermo Scientific's NanoDrop[®] 2000c. A260/A280 ratios were approximately 1.8 suggesting high purity for DNA.

Inhibitor-Free DNA

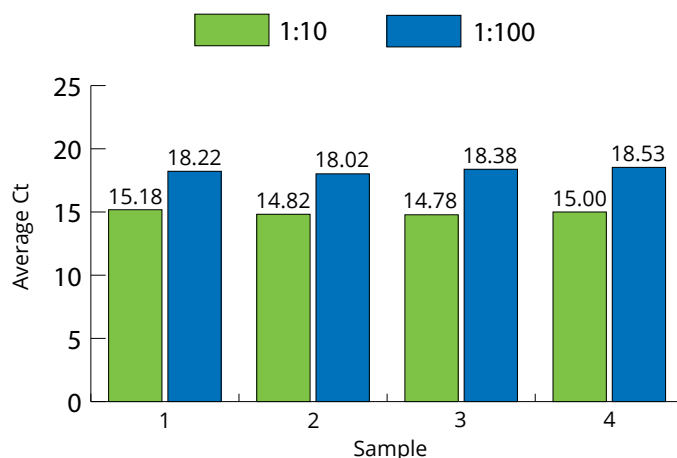


Figure 2. Genomic DNA was isolated from 200 mg soil using the E.Z.N.A.[®] Soil DNA Kit and eluted in 100 μ L. Real-time PCR was performed on 10-fold and 100-fold dilutions of DNA.

E.Z.N.A.[®] Water DNA Kit

Isolate DNA from water samples containing humic acid and inhibitor

REQUEST
A
SAMPLE

- Reliable – Reproducible DNA purification from variety of sample sources
- High quality – Inhibitor Removal Technology provides efficient PCR inhibitor removal
- High yield – Efficient purification of DNA from even specialized samples

The E.Z.N.A. Water DNA Kit is formulated to isolate high-purity cellular DNA from water samples typically containing humic acid and inhibitors of PCR. This kit uses a novel and proprietary method to isolate genomic DNA from variety of environmental samples. This kit has been successfully used to isolate DNA from tough-to-lyse bacteria, fungi, and algae that inhabit a range of samples including tap water, lake water, river water, and sewage samples. Isolated DNA can be used for most downstream applications including PCR, Southern blot, and SNP analysis.

| Features | Specifications |
|-------------------|-------------------------------------|
| Starting Material | Environmental Water |
| Yield | 100 µg |
| Elution Volume | 50-100 µL |
| Technology | HiBind [®] DNA Mini Column |
| Processing Mode | Manual |
| Throughput | 1-24 |

| Product Description | Preps | Catalog No. |
|-------------------------------------|-------|-------------|
| E.Z.N.A. [®] Water DNA Kit | 5 | D5525-00 |
| | 50 | D5525-01 |

Yield & Quality



Figure 1. Purified genomic DNA from 7 different water sources was isolated with the E.Z.N.A.[®] Water DNA Kit. DNA was extracted in duplicate from water samples as follows: sample 1 from 20 L tap water, sample 2 from 5 L air conditioner water, sample 3 from 3 L spring water, sample 4 from 2 L sanitary waste water, sample 5 from 5 L lake water, sample 6 from 6 L pool water, and sample 7 from 3 L industrial sewage water. Genomic DNA (30% of total purified DNA) was analyzed on a 1% agarose gel to demonstrate yield and quality of the DNA. M: Lambda Hind III DNA Marker.

E.Z.N.A.[®] Mollusc & Insect DNA Kit

Isolate DNA from molluscs and insects using filter columns

REQUEST
A
SAMPLE

- Rapid – DNA isolation under 20 minutes following lysis
- Reliable – Optimized buffer system guarantee pure DNA every time
- High-quality – Purified DNA suitable for any application
- Flexible – Optimized buffer system can isolate DNA from a wide range of samples

The E.Z.N.A. Mollusc & Insect DNA Kit is designed for efficient recovery of genomic DNA from molluscs, insects, arthropods, roundworms, flatworms, and other invertebrate tissue samples rich in mucopolysaccharides. This kit can also be used with formalin preserved material or invertebrates frozen or preserved in alcohol or DNE solution.

The procedure relies on the well established properties of the cationic detergent, cetyltrimethyl ammonium bromide (CTAB), in conjunction with the selective DNA binding technology of Omega Bio-tek's HiBind[®] matrix. Samples are homogenized and lysed in a high salt buffer containing CTAB and extracted with chloroform to remove mucopolysaccharides. Following a rapid alcohol precipitation step, DNA is bound to the HiBind[®] DNA Mini Column upon adjustment of binding conditions and further purified through multiple wash steps. In this way, salts, proteins and other contaminants are removed to yield high-quality genomic DNA suitable for downstream applications such as endonuclease digestion, thermal cycle amplification, and hybridization techniques.

| Features | Specifications |
|-------------------|---|
| Starting Amount | 50 mg |
| Starting Material | Molluscs, insects, arthropods, roundworms, flatworms, and other invertebrate tissue samples rich in mucopolysaccharides |
| Yield | 100 µg |
| Elution Volume | 50-100 µL |
| Technology | HiBind [®] DNA Mini Column |
| Processing Mode | Manual |
| Throughput | 1-24 |

| Product Description | Preps | Catalog No. |
|--|-------|-------------|
| E.Z.N.A. [®] Mollusc & Insect DNA Kit | 5 | D3373-00 |
| | 50 | D3373-01 |
| | 200 | D3373-02 |

High Yields of High-Quality DNA Extracted from a Range of Insect & Mollusc Samples

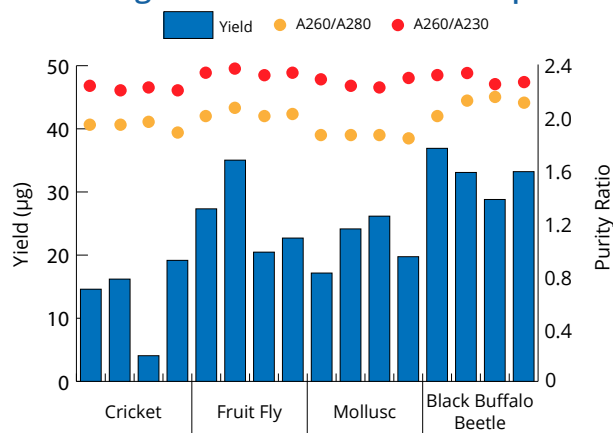


Figure 1. Genomic DNA was extracted from 30 mg of cricket, 20 mg of fruit fly (*Drosophila melanogaster*), 30 mg of mollusc, and 30 mg of Black Buffalo Beetle tissues using the E.Z.N.A.[®] Mollusc & Insect DNA Kit. Genomic DNA was eluted in 100 µL. DNA concentration was determined by optical density measurements using Thermo Scientific's NanoDrop[™] 2000c system.

Inhibitor-Free DNA Extraction from Fruit Fly Samples

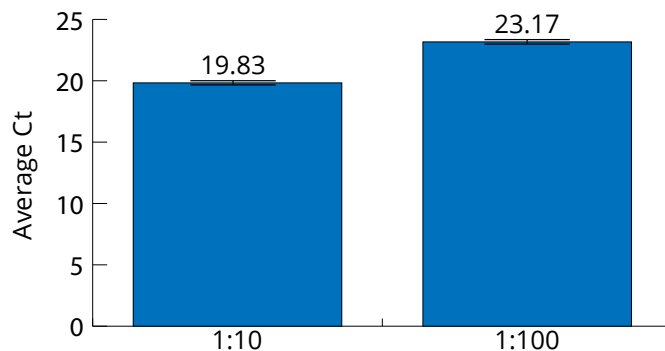


Figure 2. Genomic DNA was extracted from 20 mg of fruit fly (*Drosophila melanogaster*) tissue and was analyzed via qPCR on Applied Biosystems' QuantStudio[™] 3 Real-Time PCR System to evaluate its suitability for downstream processes. The Δ Ct between dilutions was ~3.3, indicating minimal PCR inhibition.

MagBinder® Fit²⁴ Nucleic Acid Purification System

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CE IVD
AVAILABLE

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- Easy-to-use with programmable interface
- Process a wide range of sample types using any Mag-Bind® kit
- Faster setup using pre-filled MB Fit²⁴™ cartridges
- CE-IVD system available for approved countries



Research and IVD Ready

The MagBinder® Fit²⁴ is not just an instrument, it is your solution to more efficient, automated workflows, specifically designed for nucleic acid purification for research applications, and in countries that accept CE-IVD, in vitro diagnostic applications. Tailored for use in laboratories that cannot justify a high-throughput solution, it brings efficiency to your research protocols.

Process a Variety of Sample Types



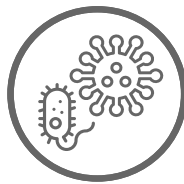
Whole Blood



Saliva



Cell-free DNA



Pathogens



Swab



Fecal



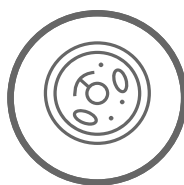
FFPE



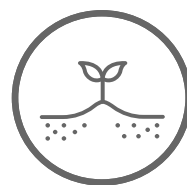
Plasmid



Insect and
Mollusc



Tissue



Plant



Environmental

Turnkey Solution

Designed to work seamlessly with both Omega Bio-tek Mag-Bind® Kits and specially designed MB Fit²⁴™ cartridges complete with pre-loaded protocols. Running these protocols is a breeze. Have any questions about instrument protocols? Reach out to an Omega Bio-tek application specialist for support.



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