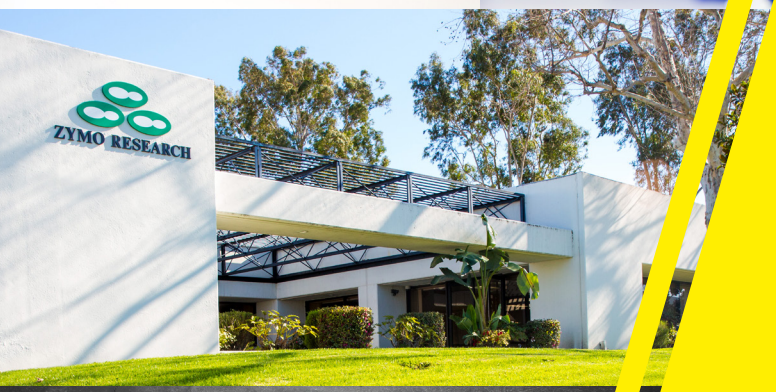
ZYMO RESEARCH

The Beauty of Science is to Make Things Simple®



Most Popular Products from **Zymo Research**

Innovation. Pure & Simple.

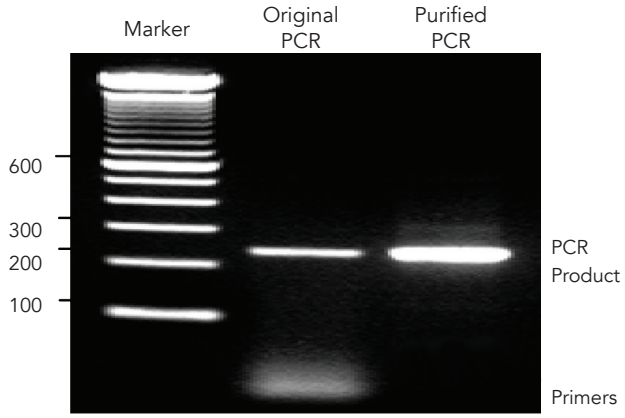
info@zymoresearch.com www.zymoresearch.com Toll Free: (888) 882-9682

DNA Clean-Up & Gel DNA Recovery

DNA Clean & Concentrator® -5 Kit

- Clean and concentrate up to 5 µg DNA and elute with ≥ 6 µl in as little as two minutes with 0 µl wash residue carryover.
- Eluted DNA is optimal for any down stream molecular biology application.

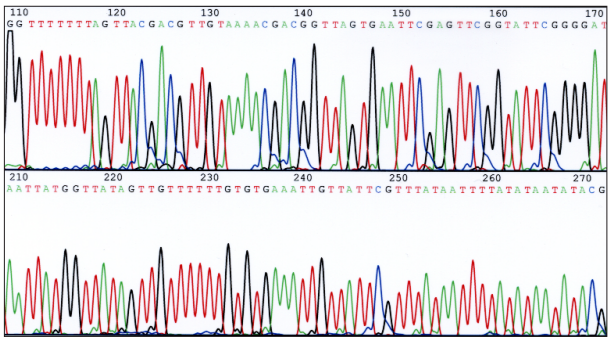
6 µl elution volume, **2** minute procedure, **0** µl retention volume



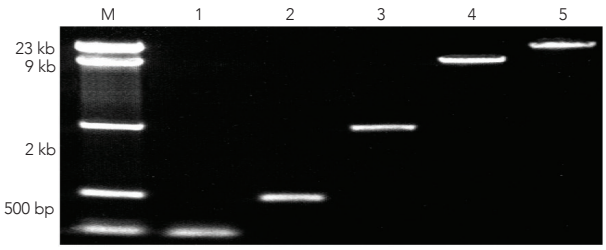
Clean & Concentrated DNA. DNA samples, such as the PCR products shown here, can be efficiently purified and concentrated using the DNA Clean & Concentrator®-5.

Zymoclean™ Gel DNA Recovery Kit

- Quick (15 minute) recovery of ultra-pure DNA from agarose gels into minimal volumes (≥ 6 µl).
- Eluted DNA is well suited for use in DNA ligation, sequencing, labeling, PCR, etc.



DNA sequencing chromatogram of a PCR product recovered using the Zymoclean™ Gel DNA Recovery Kit. DNA was recovered from a 2% (w/v) agarose gel and used directly for sequencing.



DNA fragments recovered from an agarose gel using the Zymoclean™ Gel DNA Recovery Kit. Lanes: M: DNA Ladder; 1-5: individual ladder DNA fragments.

SAMPLES AVAILABLE

Product	Cat. No.	Size	
DNA Clean & Concentrator® -5	D4013	50 preps.	D4003S (10 preps.)
Zymoclean™ Gel DNA Recovery Kit	D4007	50 preps.	D4001S (10 preps.)

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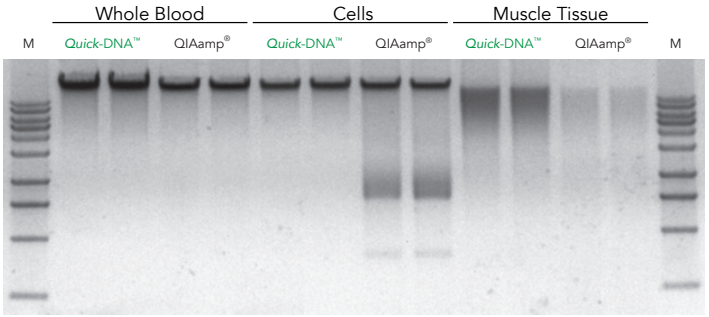
Genomic DNA Isolation

Quick-DNA™ Miniprep Plus Kit

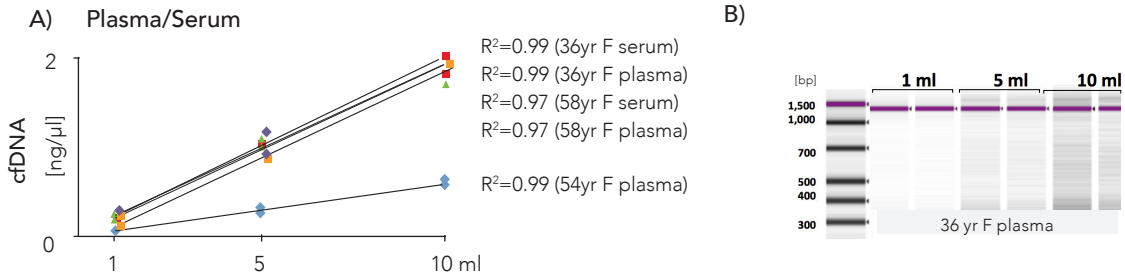
- Purify high-quality DNA easily and reliably from any sample source (biological fluids, cultured/monolayer cells, solid tissues, etc.).
- Zymo-Spin™ technology ensures DNA is ultra-pure and ready for all sensitive downstream applications such as qPCR, DNA-sequencing, arrays, and methylation analysis.



The *Quick*-DNA™ Miniprep Plus Kit yields highly concentrated DNA without RNA contamination when compared to the QIAamp® (Qiagen) utilizing porcine whole blood, HeLa cells, and bovine muscle tissue. The resulting DNA from each sample was analyzed in a 1% (w/v) TAE/agarose/EtBr gel.

Quick-cfDNA™ Serum & Plasma Kit

- High-quality DNA, including cell-free, is easily and robustly purified from up to 10 ml of serum/plasma and other biofluids.
- Zymo-Spin™ Column technology enables elution of DNA in as little as 35 µl that is ready for all sensitive downstream applications such as qPCR and Next-Generation sequencing.



Cell-free DNA recovery scales linearly up to 10 ml using the *Quick*-cfDNA™ Serum & Plasma Kit.
(A) Graphs and (B) gel image show the linear recovery of cfDNA from human plasma and serum (healthy female donors), as measured by Agilent 2200 TapeStation® (in duplicates).

SAMPLES AVAILABLE

Product	Cat. No.	Size	
Quick-DNA™ Miniprep Plus Kit	D4068	50 preps.	D4068S (10 preps.)
Quick-cfDNA™ Serum & Plasma Kit	D4076	50 preps.	–

Plasmid DNA Purification

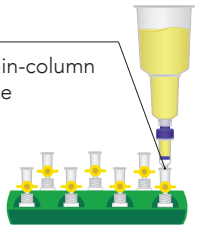
ZymoPURE™ Technology Overview

Our EZ-Load™ technology replaces slow gravity flow columns with rapid binding and washing using a vacuum or centrifuge. The EZ-Elute™ system makes time-consuming alcohol precipitation steps obsolete by enabling elution of highly concentrated plasmid DNA from a spin-column using a microcentrifuge. The EndoZero™ Spin-Column removes endotoxins with a simple 1 minute spin.

Simple 20 minute EndoZero™ Midi/Maxi preps

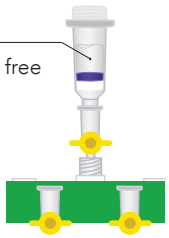
bind

rapid loading onto a spin-column via vacuum or centrifuge



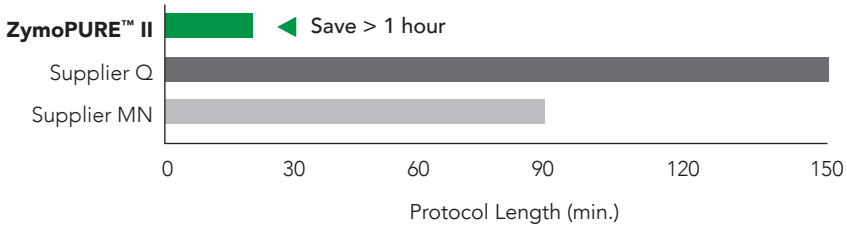
wash

for ultra-pure endotoxin free plasmid DNA



elute

transfection ready from spin-column



ZymoPURE™ Kit Comparison

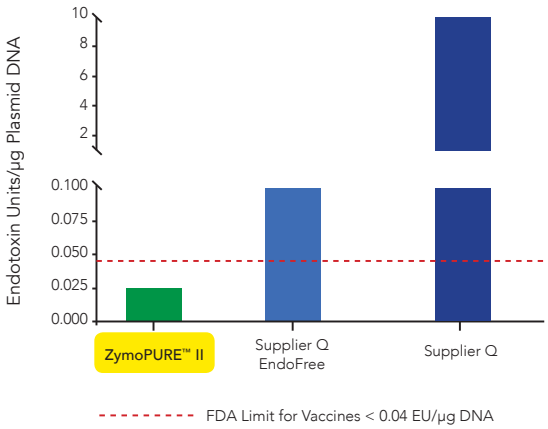
Kit	Processing Time	Culture Volume	Elution Volume	Plasmid Yield	Endotoxins
Miniprep	≤ 15 minutes	≤ 5 ml	≥ 25 µl	100 µg	≤ 1 EU/µg
Midiprep	≤ 20 minutes	50 ml	≥ 100 µl	300 µg	≤ 0.025 EU/µg
Maxiprep	≤ 20 minutes	150 ml	≥ 200 µl	1.2 mg	≤ 0.025 EU/µg
Gigaprep	≤ 50 minutes	2.5 L	≥ 2 ml	10 mg	≤ 0.025 EU/µg

ZymoPURE™ Plasmid Kits (Mini, Midi, Maxi, Giga)

- Fastest: Simple 20 minute Midi/Maxi preps.
- Highest Yield: 6x more plasmid.
- Ultra-Pure: EndoZero™, vaccine grade*, and transfection ready.

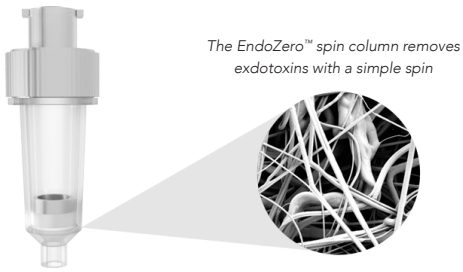
Highest Yield & Lowest Elution Volume

Ultra-pure Vaccine Grade Plasmid DNA



Stated manufacturers' endotoxin levels for the ZymoPURE™ II Maxiprep kit compared to two separate kits from Supplier Q.

** Endotoxins <0.04 EU/µg of plasmid DNA meets the FDA limit for vaccines*



Endotoxins below FDA Limit for Vaccines

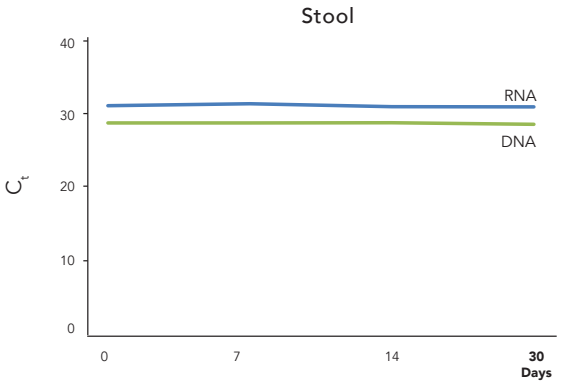
SAMPLES AVAILABLE

Product	Cat. No.	Size	
ZymoPURE™ Plasmid Miniprep Kit	D4209	50 preps.	D4208S (10 preps.)
ZymoPURE™ II Plasmid Midiprep Kit	D4200	25 preps.	D4200S (2 preps.)
ZymoPURE™ II Plasmid Maxiprep Kit	D4202	10 preps.	D4202S (2 preps.)
ZymoPURE™ II Plasmid Gigaprep Kit	D4204	5 preps.	–

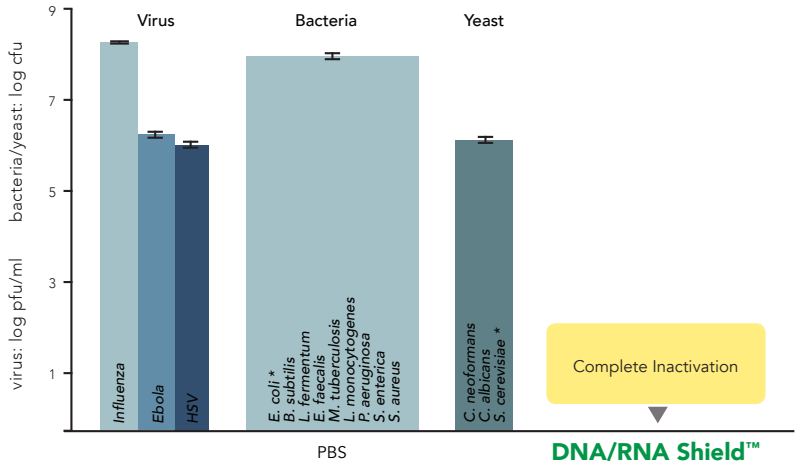
DNA/RNA Stabilization, Storage, and Transportation

DNA/RNA Shield™

- Nucleic acid preservation (at ambient temperature; cold-free) .
- Pathogen inactivation (bacteria, fungus, parasites & viruses).
- Streamlined purification (no reagent removal, universally compatible, automatable).



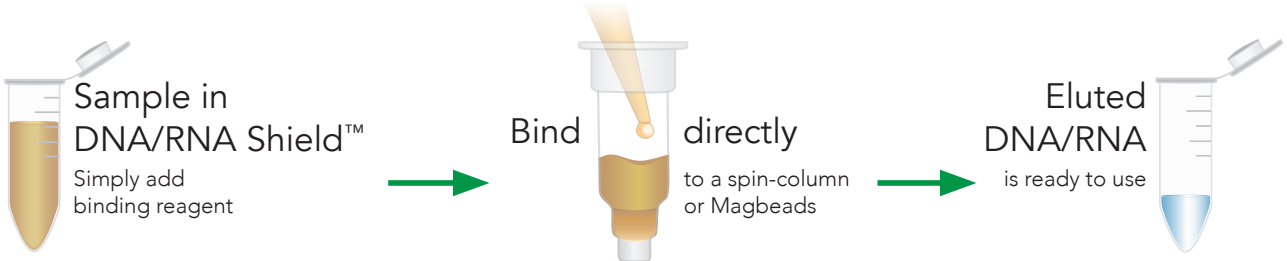
DNA and RNA in stool is effectively stabilized in DNA/RNA Shield™ at ambient temperature. Graphs show: spike-in DNA and RNA controls from stool purified at the indicated time points and analyzed by (RT)qPCR.



Viruses, bacteria and yeast are effectively inactivated by DNA/RNA Shield™. Samples containing the infectious agent (virus, bacteria, yeast) were treated for 5 minutes with DNA/RNA Shield™ or mock (PBS). Titer (PFU) was subsequently determined by plaque assay. Validated by: Influenza A - D. Poole and Prof. A. Mehle, Department of Medical Microbiology and Immunology, University of Wisconsin, Madison; Ebola (Kikwit) - L. Avena and Dr. A. Griffiths, Department of Virology and Immunology, Texas Biomedical Research Institute; HSV-1/2 - H. Oh, F. Diaz and Prof. D. Knipe, Virology Program, Harvard Medical School; *E. coli, L. fermentum, B. subtilis, S. cerevisiae* – Zymo Research).

*Disclaimer: This graph only displays results from *E. coli* inactivation. Each microbe was tested independently and were combined into one graph for brevity. Bacterial cultures were grown between 10^8 - 10^9 cells and yest cultures were grown between 10^7 - 10^8 cells.

No Reagent Removal. Simple, direct purification using Zymo Research Purification Products*.



*Also compatible with most other commercial products.

Product	Cat. No.	Size	
DNA/RNA Shield™	R1100-50	50 ml	R1100-8-S (8 ml)
DNA/RNA Shield™ (2X Concentrate)	R1200-25	25 ml	–

DNA/RNA Shield™ Collection Devices

Blood Collection Tube

Evacuated blood tube (16 x 100 mm) filled with 6 ml of DNA/RNA Shield™ for the direct collection of 3 ml whole-blood (human or animal).

Fecal Collection Tube

15 ml container (prefilled with 9 ml DNA/RNA Shield™) for the direct collection of up to 1 gram and/or 1 ml stool. Collection spoon is included in the container screwcap.

Microbe & Tissue Lysis Tubes

2 ml collection tube (prefilled with 1 ml DNA/RNA Shield™) and BashingBeads™ for the collection and homogenization of microbial or tissue samples.

Swab and Collection Tube

5 ml screwcap container (12 x 80 mm) filled with 1 ml DNA/RNA Shield™ and a sterile swab for specimen collection.

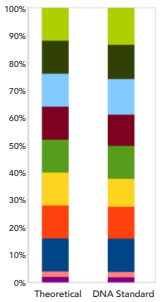
SAMPLES AVAILABLE

Product	Cat. No.	Size	
DNA/RNA Shield™ - Blood Collection Tube	R1150	50 Pack	–
DNA/RNA Shield™ - Fecal Collection Tube	R1101	10 Pack	–
DNA/RNA Shield™ Lysis Tube (Microbe)	R1103	50 Pack	–
DNA/RNA Shield™ Lysis Tube w/ Swab (Microbe)	R1104	50 Pack	–
DNA/RNA Shield™ Lysis Tube (Tissue)	R1105	50 Pack	–
DNA/RNA Shield™ - Swab & Collection Tube	R1106	10 Pack (1 ml fill)	R1106S (10 pack)
	R1107	50 Pack (1 ml fill)	–

Microbial Analysis

ZymoBIOMICS® Microbial Community Standard

- Mock microbial community of well-defined composition.
- Ideal for the validation, optimization, and quality control of microbiomics and metagenomic workflows.
- Perfect for assessing bias of DNA extraction methods since it contains both tough and easy-to-lyse microbes.



Species	Avg. GC (%)	Gram Stain	gDNA Abun. (%)
Pseudomonas aeruinosa	66.2	-	12
Escherichia coli	56.8	-	12
Salmonella enterica	52.2	-	12
Lactobacillus fermentum	52.8	+	12
Enterococcus faecalis	37.5	+	12
Syaphylococcus aureus	32.7	+	12
Listeria monocytogenes	38.0	+	12
Bacillus subtilis	43.8	+	12
Saccharomyces cerevisiae	38.4	Yeast	2
Cryptococcus neoformans	48.2	Yeast	2

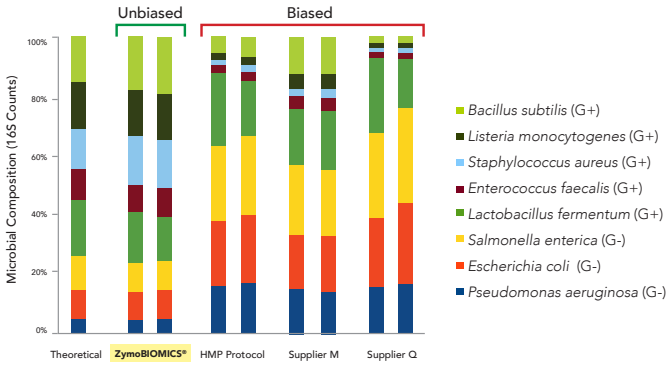
DNA from three Gram-negative bacteria, five Gram-positive bacteria, and two tough-to-lyse yeasts. The ZymoBIOMICS® Microbial Community Standards are perfect for assessing bias in popular extraction methods. The microbial standards are accurately characterized, with a wide GC range (15%-85%) and contain negligible impurities (<0.01%), enabling easy exposure of artifacts, errors, and bias in microbiomics or metagenomic workflows.

ZymoBIOMICS® Microbial Community DNA Standard

- A DNA standard of well-defined composition.
- Ideal for the validation, optimization, and quality control of microbiomics and metagenomics workflows.
- The DNA has a wide GC range of 15% – 85%.

ZymoBIOMICS® DNA Miniprep Kit

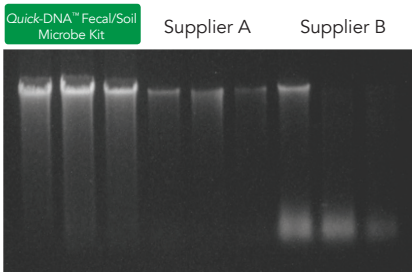
- Ultra-pure, inhibitor-free DNA from many microbiomic sample types (feces, soil, water, biofilms, swabs, body fluid, etc.) that is ideal for all downstream applications including PCR, arrays, 16S rRNA gene sequencing, and shotgun sequencing.
- Innovative lysis system enables efficient and unbiased lysis of microbes including Gram-positive/negative bacteria, fungus, protozoans, and algae for accurate microbial community profiling.



The ZymoBIOMICS® DNA Miniprep Kit provides accurate representation of the organisms extracted from the ZymoBIOMICS® Microbial Community Standard.

Quick-DNA™ Fecal/Soil Microbe Miniprep Kit

- Rapid methods for the isolation of inhibitor-free, PCR-quality DNA from fecal, soil, and microbial samples in minutes including tough-to-lyse bacteria, fungi, algae, and protozoa.
- Zymo-Spin™ Column and unique filtration technologies effectively removes PCR inhibitors from the DNA product.



Comparison of DNA yields from rat feces using the *Quick*-DNA™ Fecal/Soil Microbe Kit and kits from suppliers A and B. Equivalent amounts of feces were processed using each kit and then equal volumes of eluted DNA were analyzed in a 0.8% (w/v) agarose/ethidium bromide gel. Samples were processed in triplicate.

SAMPLES AVAILABLE

Product	Cat. No.	Size	
ZymoBIOMICS® Microbial Community Standard	D6300	10 Preps.	–
ZymoBIOMICS® Microbial Community DNA Standard	D6306	2,000 ng	–
ZymoBIOMICS® DNA Miniprep Kit	D4300	50 Preps.	D4300S (5 preps.)
Quick-DNA™ Fecal/Soil Microbe Miniprep Kit	D6010	50 Preps.	–

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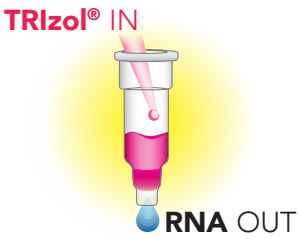
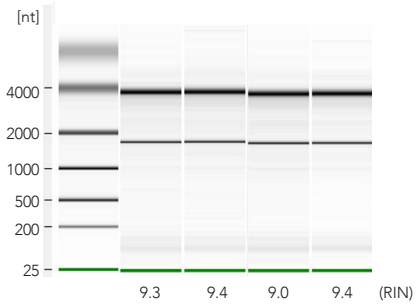
RNA Purification

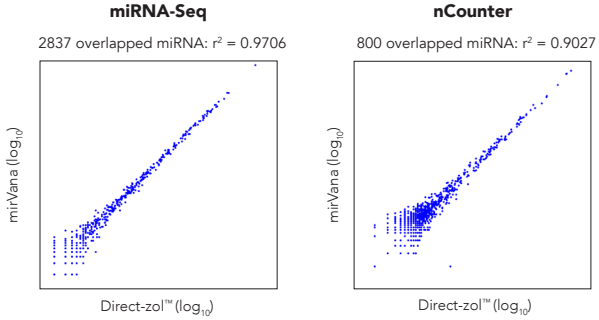
Direct-zol™ RNA Miniprep Kit

- High-quality (DNA-free) total RNA purified directly from samples stored in TRIzol®, TRI Reagent® and all other acid-guanidinium-phenol based reagents.
- Eliminates phase separation and precipitation procedures.
- Efficient, non-biased purification of small and large RNAs from cells, tissues, biological liquids, in vitro transcripts, etc.





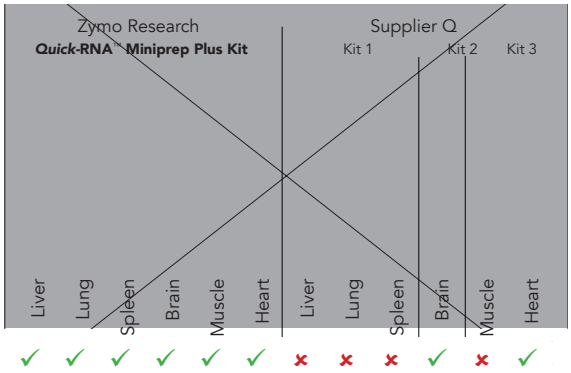
High RNA integrity number (RIN > 9; Bioanalyzer® (Aligent Technologies Inc.)) indicates high-quality RNA was purified from human epithelial cells using the Direct-zol™ RNA Kit.



The non-biased RNA recovery from TRIzol® samples using the Direct-zol™ RNA Miniprep kit (compared to mirVana™, Ambion). Micro-RNA analysis was performed using miRNA-Seq (MiSeq®, Illumina) and a direct hybridization assay (nCounter®, Nanostring).

Quick-RNA™ Miniprep Plus Kit

- High-quality total RNA (including small/micro RNAs) from all tissues, cells, whole blood, and biological fluids.
- Worry-free sample storage at ambient temperatures with provided DNA/RNA Shield™.
- DNA-free RNA is ready for use in any downstream application.



High-quality total RNA is isolated from various tissue types using the Quick-RNA™ Miniprep Plus kit. In comparison, RNA isolated from the same tissue types using three kits recommended by Supplier Q (Agilent 2200 TapeStation®; Red = low quality).

Product	Cat. No.	Size	
Direct-zol™ RNA Miniprep Kit	R2050	50 preps.	–
Direct-zol™ RNA Miniprep Plus Kit	R2070	50 preps.	R2070S (10 preps.)
Quick-RNA™ Miniprep Plus Kit	R1057	50 preps.	–

TRIzol® and TRI Reagent® are registered trademarks of Molecular Research Center, Inc.
U.S. Patent No. 9,051,563 B2 and other pending patents. Direct-zol™ is a trademark of Zymo Research Corp.

RNA Clean-Up

RNA Clean & Concentrator™-5

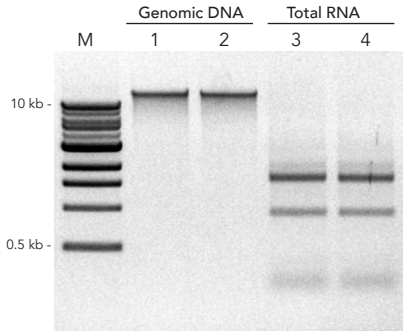
- Quick methods for cleaning and concentrating RNA.
- Zymo-Spin™ Column/Plate technology allows minimal elution volumes.
- Ideal for purification of RNA from aqueous phase following acid phenol extraction.

Product	Cat. No.	Size	
RNA Clean & Concentrator™-5	R1015	50 preps.	R1015S (5 preps.)
RNA Clean & Concentrator™-5 w/ DNase I	R1013	50 preps.	–

DNA/RNA Co-purification

Quick-DNA/RNA™ Miniprep Plus

- Quick isolation and separation of genomic DNA and total RNA from a wide range of sources using Zymo-Spin™ column technology.
- DNA/RNA ready for (RT)PCR, Next-Generation sequencing, and hybridization.
- Omits the use of organic denaturants and proteases.



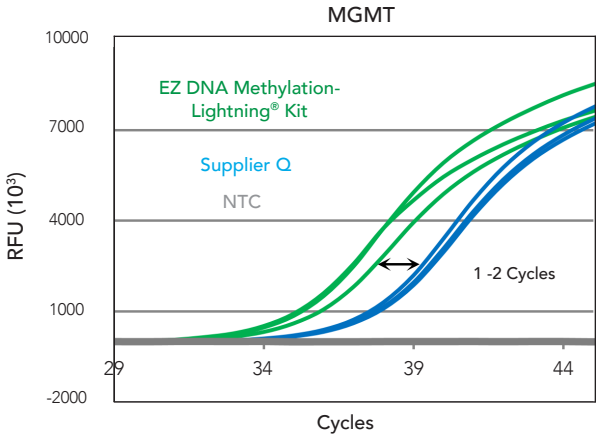
DNA and RNA purified using the *Quick*-DNA/RNA™ Miniprep Kit. Genomic DNA (lane 1, 2) and total RNA (lane 3, 4) isolated from human epithelial cells (HCT 116) with the *Quick*-DNA/RNA™ Miniprep Kit. M is a 1 kb DNA Marker (Zymo Research).

Product	Cat. No.	Size
Quick-DNA/RNA™ Miniprep Plus Kit	D7003	50 preps.

Epigenetics

EZ DNA Methylation-Lightning® Kit

- Fastest method for complete bisulfite conversion of DNA for methylation analysis.
- Ready-to-use conversion reagent is added directly to DNA.
- High-yield, converted DNA is ideal for PCR, MSP, array, bisulfite and Next-Generation sequencing.
- >99.5% conversion efficiency.



The EZ DNA Methylation-Lightning® Kit exhibits more efficient amplification resulting in earlier quantification cycles (Cq) than the comparable kit from Supplier Q.

ChIP DNA Clean & Concentrator® Kit

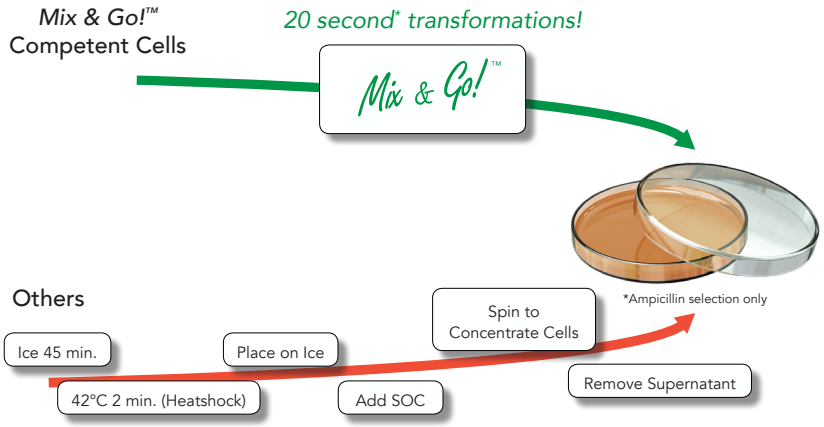
- Two minute DNA clean-up from any step in a standard ChIP protocol.
- DNA is ideal for PCR, arrays, DNA quantification, Southern blot analysis, sequencing, and other molecular applications.

Product	Cat. No.	Size	
EZ DNA Methylation-Lightning® Kit	D5030	50 rxns.	D5030S (10 rxns.)
ChIP DNA Clean & Concentrator® (capped columns)	D5205	50 preps.	–

Competent Cells

Mix & Go!™ Competent Cells (Zymo 5α)

- *Mix & Go!*™ transformation procedure with transformation efficiencies of 10^8 - 10^9 transformants/µg of plasmid DNA.
- Simply add DNA and then spread. DNA transformation in as little as 20 seconds!
- Uses: bacterial transformations, DNA cloning, blue-white screening.



Product	Cat. No.	Size	
Mix & Go! Competent Cells - Zymo 5α (10 x 100 µl)	T3007	10 x 100 µl aliquots (10 tubes)	T3007S (4 tubes)
Mix & Go! Competent Cells - Zymo 5α (96 x 50 µl)	T3009	96 x 50 µl aliquots (12 x 8-tube strips)	–

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The Beauty of Science is to Make Things Simple®

Cat. No. B1011 Version 04

The **BEAUTY** *of* **SCIENCE** *is to Make Things* **SIMPLE**®

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