

FastPrep® Kits for Sample Preparation

Kits for DNA, RNA and protein purification
from dirty, tough or challenging samples



*Dirty, tiny or tough samples?
No problem.*

DNA Isolation and Purification Kits

High performance FastDNA purification kits provide ready-to-use methods for the isolation and subsequent purification of intact DNA from any source. Eluted DNA is ready for digestion, electrophoresis, PCR, and other desired applications.

FastDNA™ Kit – 116540400 and FastDNA™ SPIN Kit – 116540600

- Isolate genomic DNA from plant, animal, bacteria, yeast, algae, and fungi cells
- Process up to 200 mg of tissue or cells with the FastPrep instrument
- Lysing Matrix A tubes, all necessary buffers, and silica-based spin filters are included in the FastDNA SPIN Kit.

The FastDNA SPIN Kit quickly and efficiently isolates genomic DNA from almost any sample (plant and animal tissues, cultured cells, bacteria, yeast, fungi, insects, etc). Up to 200 mg of tissue or cells are processed by the FastPrep-24 with Lysing Matrix A tubes. The kit includes 3 different lysis buffers for the homogenization of a wide variety of sample types and the released DNA is purified by a silica-based spin filter method. Purified DNA is ready for enzyme digestion, electrophoresis, PCR and any other desired application.

References:

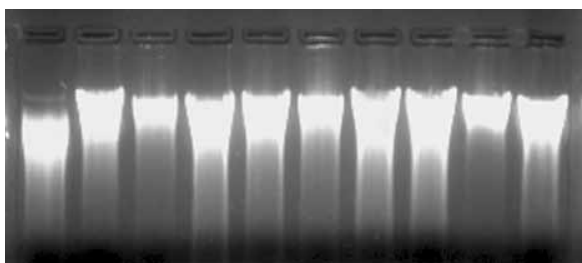
1. Hill J.E. et al (2005). Appl. Environ. Microbiol. Vol 71 : 867-875
2. Moon H. et al (2004). J. Exp. Bot. Vol 55 : 1519-1528
3. Dionisi H.M. et al (2004). Appl. Envir. Microbiol. Vol 70 : 3988-3995

Metagenomic studies involve isolation of nucleic acids from the entire biome of a given sample. Environmental or gut samples can present significant challenges in terms of sample preparation and subsequent isolation and purification. Typical soil, sludge, and fecal samples exhibit variables that can make processing procedures difficult to standardize. These variables include: complex matrices with varying mechanical and rheological properties; diverse biological materials including microorganisms, plant and animal tissue, and other cells; and innate PCR inhibitors and degrading enzymes. The FastPrep system of sample prep instruments and isolation kits simplifies these procedures through automated, quantitative mechanical lysis of even tough gram + bacterial spores and parasitic oocytes. The unique buffer chemistry flocculates and removes inhibitors and is followed by a simple, high capacity solid-phase silica "bind-wash-elute" protocol.

FastDNA™ SPIN Kit for Soil – 116560200

- Isolate bacterial, fungal, plant, and animal genomic DNA from soil and environmental samples
- Lyse difficult cells such as eubacterial spores, endospores, gram (+/-) bacteria, and yeast
- Process up to 500 mg of soil with FastPrep instrument
- Lysing Matrix E tubes, buffers, and silica-based spin filters included

The FastDNA™ SPIN Kit for Soil is designed to efficiently isolate bacterial, fungal, plant, and animal genomic DNA from soil and environmental samples. Up to 500 mg soil are processed by a FastPrep instrument with the Lysing Matrix E tubes, which are designed to efficiently lyse all microorganisms, including difficult sources such as eubacterial spores and endospores, gram positive bacteria, and yeast. The released DNA is purified by a silica-based spin filter method and is suitable for PCR analysis and other downstream applications.



DNA from various soil samples extracted with the FastDNA SPIN Kit for Soil. 20% of the DNA isolated from 500 mg soil was loaded on a 1.2% agarose gel (0.5X TAE). Soil was taken from:
Lane 1 : tomato pot; Lane 2 : sludge
Lane 3 : sandy soil; Lane 4 : under pine tree
Lane 5 : under palm tree; Lane 6 : green garden
Lane 7 : Nile Lilly pot; Lane 8 : lawn grass
Lane 9 : citrus tree; Lane 10 : avocado tree.
DNA ranges from 4-20 kb.

References:

1. Selesi D. et al (2005). Appl. Envir. Microbiol. Vol 71 : 175-184
2. Alexandrino M. et al (2004). Water Research. Vol 38 : 1340 - 1346
3. Mumy K.L. et al (2004). J. of Microbiological Methods. Vol 57 : 259 – 268

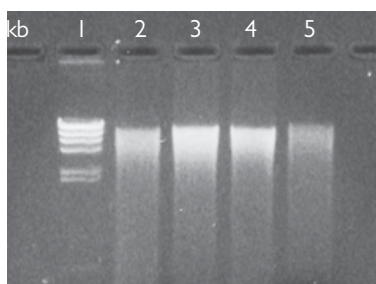
FastDNA™ 50 mL SPIN Kit for Soil – 116560600

- Isolate bacterial, fungal, plant, and animal genomic DNA from soil and environmental samples
- Lyse difficult cells such as eubacterial spores, endospores, gram (+/-) bacteria, and yeast
- Process up to 5 g of soil with FastPrep instrument
- Lysing Matrix E tubes, buffers, and silica-based spin filters included

FastDNA™ SPIN Kit for Feces – 116570200

- Isolate genomic DNA from fecal samples
- Process up to 500 mg of feces with FastPrep instrument
- Lysing Matrix E tubes, buffers, and silica-based spin filters included

The FastDNA™ SPIN Kit for Feces is the newest addition to the evolving FastDNA™ kit family. Prompted by you, our customer, MP Bio has developed a FastDNA™ SPIN Kit designed exclusively for the isolation of genomic DNA from fecal material. With the FastDNA™ SPIN Kit for Feces, you will have everything you need to quickly and efficiently lyse any fecal sample, isolating high quality DNA for immediate use in downstream applications. Used in conjunction with our FastPrep-24 homogenization system, you will be able to completely lyse fecal samples in seconds with no pre-grinding or preparation.



DNA from fecal samples with the FastDNA™ SPIN Kit for Feces. DNA was loaded on a 1.2% agarose gel (0.5X TAE). Lane 1: Lambda HindIII Marker Lane 2: Bovine stool 200 ng DNA Lane 3: Equine stool 200 ng DNA Lane 4: Feline stool 200 ng DNA Lane 5: Avian stool 200 ng DNA

FastDNA™ SPIN Kit for Plant and Animal Tissue – 116540800

- Isolate genomic DNA from plant and animal tissues
- Lysing Matrix D, buffers, and silica-based spin filters included

DNA Isolation and Purification Kit Selection Guide

Kit	Standard Throughput				
	FastDNA	FastDNA SPIN	FastDNA SPIN for Soil	FastDNA SPIN for Feces	FastDNA SPIN for Plant and Animal Tissue
Cat. No.	116540400	116540600	116560200	116570200	116540800
Lysing Matrix Tube	A	A	E	E	D
Samples					
Plants	•	•			•
Animals	•	•			•
Cultured Cells	•	•			
Bacteria	•	•			
Yeast	•	•			
Algae	•	•			
Fungi	•	•			
Insects	•	•			
Soil/Environmental			•		
Feces				•	

FastDNA™-96 Kits

High-throughput FastDNA™-96 purification kits provide ready-to-use methods for the isolation and subsequent purification of intact genomic DNA from virtually any source. Samples can be lysed in approximately 60 seconds using the FastPrep-96 instrument. Eluted DNA is ready for digestion, electrophoresis, PCR, and any other desired application.

FastDNA™-96 Soil and Microbe DNA Kit – 119696200

- Isolate genomic DNA from gram (+/-) bacteria, fungi, plant and animal tissue, algae, spores, and other soil components in approximately 50 minutes

FastDNA™-96 Fungal/Bacterial DNA Kit – 119696300

- Isolate genomic DNA from tough-to-lyse gram (+/-) bacteria, fungi, spores, nematodes, pollen, and mammalian cells in approximately 40 minutes

FastDNA™-96 Fecal DNA Kit – 119696400

- Isolate genomic DNA from microbes, fungi, parasites, and other fecal organisms in approximately 50 minutes

FastDNA™-96 Tissue and Insect DNA Kit – 119696500

- Isolate genomic, viral, and mitochondrial DNA from animal tissues, cultured mammalian cells, whole blood, insects, and arthropods in approximately 40 minutes

FastDNA™-96 Plant and Seed DNA Kit – 119696600

- Isolate genomic DNA from stems, roots, leaves, buds, flowers, fruits, seeds and other plant samples in approximately 50 minutes

DNA Isolation and Purification Kit Selection Guide

Kit	High Throughput				
	FastDNA-96 Soil and Microbe DNA	FastDNA-96 Fungal/Bacterial DNA	FastDNA-96 Fecal DNA	FastDNA-96 Tissue and Insect DNA	FastDNA-96 Plant and Seed DNA
Cat. No.	119696200	119696300	119696400	119696500	119696600
Lysing Matrix Tube	Y	Y	Y	Z	Z
Samples					
Plants					•
Animals				•	
Cultured Cells					
Bacteria		•			
Yeast					
Algae					
Fungi		•			
Insects				•	
Soil/Environmental	•				
Feces			•		

RNA Isolation and Purification Kits

FastRNA™ SPIN Kits quickly and efficiently isolate high-quality, total RNA from bacterial cell culture, yeast strains, fungi, and algae in approximately 15 minutes using a specialized Lysing Matrix for cell lysis and SPIN columns for the purification process.

FastRNA™ SPIN Kit for Microbes – 116020050

- Isolate large and small RNA species from tough-to-lyse bacterial cell cultures

FastRNA™ SPIN Kit for Yeast – 116030050

- Isolate large and small RNA species from tough-to-lyse yeast strains, fungi and algae

The FastRNA™ Pro Soil-Direct and Indirect kits are designed to efficiently isolate total RNA from organic material found in soil samples or soil supernatants. FastRNA™ Pro Soil kits purify RNA in a process that removes humic substances and other inhibitors, and efficiently inactivates cellular RNases during homogenization to prevent RNA degradation. The purified RNA is suitable for RT-PCR analysis and many other downstream applications.

FastRNA™ Pro Soil-Direct Kit – 116070050

- Extract nucleic acids from microorganisms, and other biological samples, directly from soil

FastRNA™ Pro Soil-Indirect Kit – 116075050

- Prior to extraction of nucleic acids, separate microorganisms and other biological samples from the soil
- Permit soil incubation with growth media to amplify under-represented living organisms

The FastRNA™ Pro Kits are designed to quickly and efficiently isolate total RNA from virtually any sample. During the homogenization step, intact total RNA is released in the proprietary RNAPro™ solution where it is immediately stabilized. The RNAPro™ solution inactivates cellular RNases during cell lysis to prevent RNA degradation. RNA is then extracted with chloroform and precipitated with ethanol. DEPC-treated water is provided for re-suspension of total RNA. High quality RNA prepared with FastRNA™ Pro Kits is ready for all downstream applications including RT-PCR, gene expression, and microarray analysis.

FastRNA™ Pro Blue Kit – 116025050

- Isolate total RNA from gram (+/-) bacteria

FastRNA™ Pro Green Kit – 116045050

- Isolate total RNA from plant, animal, and cultured cells

FastRNA™ Pro Red Kit – 116035050

- Isolate total RNA from yeast and fungi

RNA Isolation and Purification Kit Selection Guide

Kit	RNA-Stabilizing				
	FastRNA Pro Soil-Direct	FastRNA Pro Soil-Indirect	FastRNA Pro Blue	FastRNA Pro Red	FastRNA Pro Green
Cat. No.	116070050	116075050	116025050	116035050	116045050
Lysing Matrix Tube	E	E	B	C	D
Samples					
Plants					●
Animals					●
Cultured Cells					●
Bacteria			●		
Yeast				●	
Algae					
Fungi				●	
Soil/Environmental	●	●			

DNA Purification from PCR Reactions and Agarose Gels

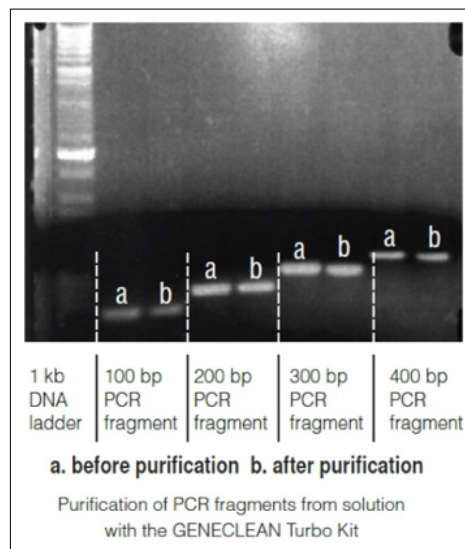
GENECLEAN kits are a proven technology for DNA purification from PCR reactions and agarose gels. Patented GENECLEAN technology simplifies the process of purifying DNA into three easy steps: BIND, WASH and ELUTE. Ethanol precipitation is never required.

GENECLEAN Turbo Kits

GENECLEAN Turbo Kits use a GENECLEAN Turbo Cartridge system designed to simplify the purification process. This system contains a special silica embedded membrane and buffer system optimized for the purification of DNA.

Benefit from the many advantages offered by these kits:

- **High column capacity** – binds up to 10 µg of DNA
- **High yields** – DNA recovery is up to 95%
- **Fast** – 12 samples are processed in 15 minutes
- **Effective** – purified DNA performs well in downstream applications
- **Complete** – kits contain all required columns and solutions



GENECLEAN Turbo for PCR Kit – For purification of PCR products ranging from 100 bp to 10 kb

Description	Size	Cat. No.
GENECLEAN Turbo for PCR Kit	50 preps	111103200
	100 preps	111103400
	300 preps	111103600

GENECLEAN Turbo Kit – For purification of DNA fragments from 100 bp to 300 kb from TAE or TBE buffered agarose gels or solutions

Description	Size	Cat. No.
GENECLEAN Turbo Kit	50 preps	111102200
	100 preps	111102400
	300 preps	111102600

GENECLEAN SPIN Kit

For purification of DNA fragments from 200 bp to 300 kb from TAE or TBE buffered gels or solutions. The GENECLEAN SPIN Kit includes a bulk slurry form of the patented silica matrix that allows for customization and flexibility with respect to the scale of purification required and spin filters whose usage prevents silica particle carry-over into cleaned DNA.



Description	Size	Cat. No.
GENECLEAN SPIN Kit	50 preps	111101200
	100 preps	111101400
	300 preps	111101600

Protein Isolation and Purification Kits

The FastPROTEIN products employ a powerful, patented technology for the rapid lysis of yeast and bacteria. Used in conjunction with any FastPrep instrument, these products offer the fastest way to release expressed proteins from the host organism. FastPROTEIN Kits are perfect for analyzing protein expression conditions using gel analysis. Samples are enclosed during the quick lysis step, thus preventing cross-contamination or sample loss. Total proteins isolated with the FastPROTEIN matrices are native and can be used for a variety of applications including SDS-PAGE, western blotting, immunoprecipitation, gel mobility shift assays, and enzyme activity analysis.

FastPROTEIN™ Blue Matrix – 116550400

- Isolate and purify proteins from gram (+/-) bacteria

FastPROTEIN™ Red Matrix – 116550600

- Isolate and purify proteins from yeast cells

FastGlycoProtein Isolation Kits are designed to quickly and efficiently isolate glycoproteins from complex protein mixtures, including animal and plant tissues, cultured cells, serum, microbes, and insects. The optimized Lysing Matrix A, coupled with any FastPrep instrument, quickly lyses most tissue samples in 40 seconds or less. Following lysis, samples are loaded into the SPIN filter tubes where the resin is washed, and the glycoproteins are eluted with the elution buffer. Eluted glycoproteins are ready for 1-D gel electrophoresis and total protein (Bradford type) assays.

FastGlycoProtein™ Isolation Kit ConA Resin – 116550800

- Utilize the lectin concanavalin A (ConA) immobilized on agarose

FastGlycoProtein™ Isolation Kit WGA Resin – 116550900

- Utilize the lectin wheat germ agglutinin (WGA) immobilized on agarose



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