ZYMO RESEARCH

DNA Purification Made Simple™

Quick-DNA™ Microprep Kit

Rapid and simple isolation of ultra-pure DNA from biological liquids and cells.

Highlights

- Quick purification of high-quality DNA from whole blood, plasma, serum, bodily fluids, buffy coat, lymphocytes, swabs or cultured cells in less than 15 minutes using innovative Zymo-Spin™ Technology.
- Compatible with commonly used anticoagulants (i.e., EDTA, heparin, citrate).
- Unique extraction technology excludes the use of Proteinase K and organic denaturants.
- Isolated DNA is ideal for PCR, endonuclease digestion, bisulfite conversion/methylation detection, sequencing, genotyping, etc.

Catalog Numbers:
D3020, D3021

Scan with your smart-phone camera to view the online protocol/video.

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Product Contents

Quick-DNA™ Microprep Kit	D3020 (50 Preps.)	D3021 (200 Preps.)	Storage Temperature
Genomic Lysis Buffer[1]	50 ml	100 ml (2x)	Room Temp.
DNA Pre-Wash Buffer[2]	15 ml	50 ml	Room Temp.
g-DNA Wash Buffer	50 ml	100 ml	Room Temp.
DNA Elution Buffer	10 ml	10 ml (2x)	Room Temp.
Zymo-Spin™ IC Columns	50	200	Room Temp.
Collection Tubes	100	400	Room Temp.
Instruction Manual	1	1	-

[1] Recommended: Add beta-mercaptoethanol to 0.5%(v/v) i.e., 250 µl per 50 ml *or* 500 µl per 100 ml prior to use.
[2] A precipitate may have formed in the DNA Pre-Wash Buffer during shipping. To completely resuspend the buffer, incubate the bottle at 30-37 ºC for 30 minutes and mix by inversion. DO NOT MICROWAVE.

Specifications

- **Sample Sources**[1] – Whole blood, plasma, or serum from humans, mice, rats, etc. Also, cells from culture, buccal cells, as well as a variety of biological liquids are effectively processed using this kit. Tissue already digested with Proteinase K or mechanically homogenized can also be processed.

- **Workflow Overview** – Unique lysis buffer system omits the need for Proteinase K digestion for biological fluids and cell culture samples.

- **DNA Purity** – High-quality DNA is eluted with **DNA Elution Buffer** or water. DNA is especially well suited for PCR and other downstream applications. A_{260}/A_{280}>1.8

- **DNA Size Limits** – Capable of recovering genomic DNA up to and above 40 kb. In most instances, mitochondrial DNA and viral DNA (if present) will also be recovered.

- **DNA Recovery** – Up to 5 µg total DNA is eluted into ≥ 10 µl (6 µl minimum) **DNA Elution Buffer** or water. Human whole blood will typically yield 1.5-3.5 µg DNA per 50 µl blood sampled. Mammalian tissues already homogenized yield: 1-3 µg DNA per mg skeletal, heart, and brain tissues and 3-5 µg DNA per mg liver, kidney, and lung tissues.

- **Product Detergent Tolerance** – ≤5% Triton X-100, ≤5% Tween-20, ≤5% Sarkosyl, ≤0.1% SDS

- **Equipment** – Microcentrifuge and vortex

[1] For DNA isolation from biological fluids, cell cultures, and solid tissues utilizing Proteinase K, use the ***Quick-DNA™ Microprep Plus Kit*** (D4074).

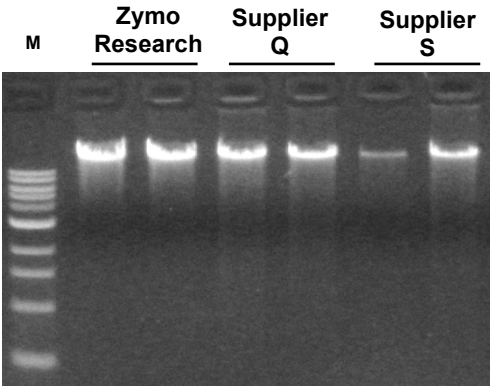
Product Description

The ***Quick*-DNA™ Microprep Kit** is a simple procedure for the rapid isolation of total DNA (e.g., genomic, mitochondrial, viral) from a variety of biological sample sources. This product has been optimized for maximal recovery of ultra-pure DNA without RNA contamination and is compatible with whole blood (fresh or stored), serum, plasma, buffy coat, buccal cells, cells from culture, and many biological liquid samples.

For processing, simply add the specially formulated **Genomic Lysis Buffer** to a sample, vortex, and transfer the mixture to the supplied **Zymo-Spin™ Column**. There is no need for organic denaturants or Proteinase K digestion because of the unique lysis buffer system. The product features **Zymo-Spin™ Technology** to yield high-quality, purified DNA in just minutes (see below). PCR inhibitors are effectively removed during the purification process. DNA purified using the ***Quick*-DNA™ Microprep Kit** is suitable for PCR, nucleotide blotting, DNA sequencing, restriction endonuclease digestion, bisulfite conversion/methylation analysis, and other downstream applications.

Ultra-pure DNA is ideal for…

- ✓ PCR
- ✓ Endonuclease Digestion
- ✓ Genotyping
- ✓ Bisulfite Conversion & Methylation Analysis



High yield/quality DNA is successfully isolated from porcine whole blood using the *Quick*-DNA™ Miniprep Kit (D3024). Equivalent amounts (100 µl) of blood were processed without Proteinase K using the *Quick*-DNA™ Miniprep Kit in half the time as compared to the kits from suppliers Q and S. Equal volumes of eluted DNA were then analyzed (in duplicate) in a 0.8% (w/v) TAE/agarose/ethidium bromide gel. The size marker "M" is a 1 kb ladder (Zymo Research).

Protocol

Buffer Preparation:

- ✓ *Recommended*: Add beta-mercaptoethanol (user supplied) to the **Genomic Lysis Buffer**[1] to a final dilution of 0.5%(v/v) i.e., 250 µl per 50 ml *or* 500 µl per 100 ml.

Whole Blood, Serum, and Plasma Samples

The following is for the purification of DNA from 50 µl whole blood, serum or plasma (the volumes can be adjusted up to 100 µl (max.) depending on your requirements). Fresh, frozen, or preserved blood (in EDTA, citrate, or heparin) can be used. If material cannot be processed immediately, the sample can be "stabilized" for later processing (see page 5) although the immediate processing of blood samples is recommended.

1. Add 200 µl of **Genomic Lysis Buffer** to 50 µl of blood, serum[2], or plasma (4:1)[3]. Mix completely by vortexing 4-6 seconds, then let stand 5-10 minutes at room temperature.

2. Transfer the mixture[4] to a **Zymo-Spin™ IC Column** in a **Collection Tube**. Centrifuge at ≥ 10,000 *x g* for one minute. Discard the Collection Tube with the flow through.

3. Transfer the **Zymo-Spin™ IC Column** to a new Collection Tube. Add 200 µl of **DNA Pre-Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

4. Add 500 µl of **g-DNA Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

5. Transfer the spin column to a clean microcentrifuge tube. Add ≥ 10 µl **DNA Elution Buffer** or water[5,6] to the spin column. Incubate 2-5 minutes at room temperature and then centrifuge at ≥ 10,000 *x g* for 30 seconds to elute the DNA. The eluted DNA can be used immediately for molecular based applications or stored ≤ -20ºC for future use.

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[1] The addition of BME to the Genomic Lysis Buffer is recommended for optimal performance when working with protein rich samples (tissue, whole blood, etc.). If BME is not added, please ensure the sample is thoroughly homogenized in the Genomic Lysis Buffer prior to purification.
[2] For the inclusion of small DNAs from serum, add 0.3 volumes isopropanol to the mixture. (For example, to a 1 ml mixture of serum and Genomic Lysis Buffer add 300 µl isopropanol.)
[3] Add 200 µl Genomic Lysis Buffer to all samples <50 µl.
[4] The column capacity is 800 µl.
[5] Elution of DNA from the column is dependent on pH and temperature. If water is used, ensure the pH is >6.0. Also, the total yield may be improved by eluting the DNA with Elution Buffer or water pre-equilibrated to 60-70ºC.
[6] The **DNA Elution Buffer** contains 10 mM Tris-HCl, pH 8.5, 0.1 mM EDTA. If required, pure water can also be used to elute the DNA.

Delayed Processing (*Stabilization*) of Blood Samples: The immediate processing of blood with this kit is recommended. However, if blood cannot be processed immediately, samples can be "stabilized" in **Genomic Lysis Buffer** for processing at a later time. To do this, add *four* volumes of Genomic Lysis Buffer to *each* volume of whole blood (4:1), then vortex. Blood samples mixed with Genomic Lysis Buffer can be stored at room temperature for 1-2 weeks, 0-4 ˚C for 1-2 months, -20 ˚C for 6 months to a year, or <-70 ˚C for many years. Samples stored at ≤ 4 ˚C should reach room temperature prior to processing. Begin at Step 2 in the standard protocol on page 4 when purifying DNA from blood samples stabilized in Genomic Lysis Buffer.

Buccal Cells and Swabs

Buccal cells can be isolated using a rinse- or swab-based isolation method.

A. **Rinse Method**: Vigorously rinse 10-20 ml of saline solution or mouthwash orally for 30 seconds. The more vigorous the rinsing action, the more cells that will be recovered. Spit the saline into a 50 ml tube and pellet the cells at 1,500 rpm for 5 minutes. Discard the supernatant without disturbing the cell pellet. Add 500 µl of **Genomic Lysis Buffer** to the pellet then vortex 4-6 seconds, then let stand at room temperature for 5-10 minutes.

B. **Swab Isolation Method**: Thoroughly rinse mouth out before isolating cells. Brush the inside of the cheek with a *buccal swab* for 15 seconds (approximately 20 brushes), making sure to cover the entire area of the inner cheek. Rinse the brush into a microcentrifuge tube using 500 µl of **Genomic Lysis Buffer**, vortex 4-6 seconds, and then let stand at room temperature for 5-10 minutes.

1. Transfer the mixture[1] to a **Zymo-Spin™ IC Column** in a **Collection Tube**. Centrifuge at ≥ 10,000 *x g* for one minute. Discard the Collection Tube with the flow through.

2. Transfer the **Zymo-Spin™ IC Column** to a new Collection Tube. Add 200 µl of **DNA Pre-Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

3. Add 500 µl of **g-DNA Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

4. Transfer the spin column to a clean microcentrifuge tube. Add ≥ 10 µl **DNA Elution Buffer** or water[2,3] to the spin column. Incubate 2-5 minutes at room temperature and then centrifuge at ≥ 10,000 *x g* for 30 seconds to elute the DNA. The eluted DNA can be used immediately for molecular based applications or stored ≤ -20 ˚C for future use.

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[1] The column capacity is 800 µl.
[2] Elution of DNA from the column is dependent on pH and temperature. If water is used, ensure the pH is >6.0. Also, the total yield may be improved by eluting the DNA with Elution Buffer or water pre-equilibrated to 60-70ºC.
[3] The **DNA Elution Buffer** contains 10 mM Tris-HCl, pH 8.5, 0.1 mM EDTA. If required, pure water can also be used to elute the DNA.

Solid Tissue Samples

For Proteinase K digested materials (e.g., tailsnips) follow the protocol for ***Cell Suspensions and Proteinase K Digested Samples*** *(see page 8). Otherwise, mechanically homogenize*[1] *up to 5 mg of fresh or frozen tissue in 500 µl of* ***Genomic Lysis Buffer.***

1. Centrifuge the lysate at ≥ 10,000 *x g* for 5 minutes. Making sure not to disturb the pelleted debris, transfer the supernatant[2] to a **Zymo-Spin™ IC Column** in a **Collection Tube** and centrifuge at ≥ 10,000 *x g* for one minute. Discard the Collection Tube with the flow through.

2. Transfer the **Zymo-Spin™ IC Column** to a new Collection Tube. Add 200 µl of **DNA Pre-Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

3. Add 500 µl of **g-DNA Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

4. Transfer the spin column to a clean microcentrifuge tube. Add ≥ 10 µl **DNA Elution Buffer** or water[3,4] to the spin column. Incubate 2-5 minutes at room temperature and then centrifuge at top speed for 30 seconds to elute the DNA. The eluted DNA can be used immediately for molecular based applications or stored ≤ -20 ˚C for future use.

[1] For solid tissues, Proteinase K treatment or mechanical homogenization is required. For purification of up to 5 µg DNA/prep utilizing Proteinase K, we recommend using the **Quick-DNA™ Microprep Plus Kit** (D4074).
[2] The column capacity is 800 µl.
[3] Elution of DNA from the column is dependent on pH and temperature. If water is used, ensure the pH is >6.0. Also, the total yield may be improved by eluting the DNA with Elution Buffer or water pre-equilibrated to 60-70ºC.
[4] The **DNA Elution Buffer** contains 10 mM Tris-HCl, pH 8.5, 0.1 mM EDTA. If required, pure water can also be used to elute the DNA.

Cell Monolayer Samples

The following procedure is designed for up to 1.0x10^6 (max.) monolayer cells[1] (roughly equal to one well of a 6-well plate). Although cell types and culture conditions may vary, the protocol will work with high-density growth cells (e.g., HeLa cells) as well as with low-density growth cells (e.g., neuronal cells). The procedure may be scaled up or down for increases or decreases in the amounts of monolayer cells sampled (see the ***Guidelines for Monolayer Cell DNA Isolation*** *below).*

1. Trypsinize or manually scrape adherent cells[2] from the growth surface of a culture flask or plate. Centrifuge the cell suspension at approximately 500 *x g* for 5 minutes. Remove the supernatant and add 400 µl of **Genomic Lysis Buffer** directly to the cell pellet. Resuspend pellet by vortexing 4-6 seconds and let stand for 5-10 minutes at room temperature.

2. Transfer the mixture[3,4] to a **Zymo-Spin™ IC Column** in a **Collection Tube**. Centrifuge at ≥ 10,000 *x g* for one minute. Discard the Collection Tube with the flow through.

3. Transfer the **Zymo-Spin™ IC Column** to a new Collection Tube. Add 200 µl of **DNA Pre-Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

4. Add 500 µl of **g-DNA Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

5. Transfer the spin column to a clean microcentrifuge tube. Add ≥ 10 µl **DNA Elution Buffer** or water [5,6] to the spin column. Incubate 2-5 minutes at room temperature and then centrifuge at ≥ 10,000 *x g* for 30 seconds to elute the DNA. The eluted DNA can be used immediately for molecular based applications or stored ≤ -20 ˚C for future use.

Guidelines for Monolayer Cell DNA Isolation: The above procedure is designed for the processing of 0.1-1.0x10^6 cells. However, cell numbers (growth densities) can vary between different cell types. Table 1 on page 8 provides an approximation of what can be recovered from different culture containers for high-density growth cells like CV1 and HeLa cells. If processing more than 1.0x10^5 cells, double the volume of **Genomic Lysis Buffer** added (i.e., 800 µl) to the sample.

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[1] Generally, no more than 1.0x10^6 cells should be sampled; larger samples will exceed the binding capacity of the spin column. See **Guidelines for Monolayer Cell Isolation** (see above).
[2] Alternatively: Cells can be lysed directly in the culture container by removing the medium and adding the Genomic Lysis Buffer directly to the monolayer surface.
[3] It may be necessary to centrifuge the sample mixture before transferring the supernatant to the **Zymo-Spin™ IC Column** to remove insoluble material that may clog the column.
[4] The column capacity is 800 µl.
[5] Elution of DNA from the column is dependent on pH and temperature. If water is used, ensure the pH is >6.0. Also, the total yield may be improved by eluting the DNA with Elution Buffer or water pre-equilibrated to 60-70ºC.
[6] The **DNA Elution Buffer** contains 10 mM Tris-HCl, pH 8.5, 0.1 mM EDTA. If required, pure water can also be used to elute the DNA.

Table 1: Culture Plate/Flask Growth Area (cm^2) and Cell Number

Culture Container	Well /Flask Surface Area	Cell Number
96-well plate (each well)	0.32-0.6 cm^2	4-5x10^4
24-well plate (each well)	2 cm^2	1-3x10^5
12-well plate (each well)	4 cm^2	4-5x10^5
6-well plate (each well)	9.5 cm^2	0.5-1x10^6
T25 Culture Flask	25 cm^2	2-3x10^6
T75 Culture Flask	75 cm^2	0.6-1x10^7
T175 Culture Flask	175 cm^2	2-3x10^7

Cell Suspensions and Proteinase K Digested Samples

The following protocol is designed for up to 200 µl of biological liquid sample including CSF, buffy coat, body fluids (semen), and cell suspensions[1] containing less than 1.0x10^6 cells as well as lysates derived from Proteinase K digested samples[2].

1. Add 4 volumes of **Genomic Lysis Buffer** to each volume of liquid sample (4:1). (e.g., add 400 µl of Genomic Lysis Buffer to 100 µl liquid sample). Mix briefly by vortexing, then let stand at room temperature for 5-10 minutes[3].

2. Transfer the mixture[4] to a **Zymo-Spin™ IC Column** in a **Collection Tube**. Centrifuge at ≥ 10,000 *x g* for one minute. Discard the Collection Tube with the flow through.

3. Transfer the Zymo-Spin™ IC Column to a new Collection Tube. Add 200 µl of **DNA Pre-Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

4. Add 500 µl of **g-DNA Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

5. Transfer the spin column to a clean microcentrifuge tube. Add ≥ 10 µl **DNA Elution Buffer** or water[5,6] to the spin column. Incubate 2-5 minutes at room temperature and then centrifuge at ≥ 10,000 *x g* for 30 seconds to elute the DNA. The eluted DNA can be used immediately for molecular based applications or stored ≤ -20ºC for future use.

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[1] Cells should be processed directly from biological fluids or from suspension in PBS, TE, or compatible buffers.
[2] For solid tissues, Proteinase K treatment or mechanical homogenization is required. For purification of up to 5 µg DNA/prep utilizing Proteinase K, we recommend using the ***Quick*-DNA™ Microprep Plus Kit** (D4074).
[3] For Proteinase K digested material, centrifuge the mixture at 10,000 *x g* for 5 minutes after incubating. Transfer up to 800 µl of supernatant to the **Zymo-Spin™ IC** Column in Step 2.
[4] The column capacity is 800 µl.
[5] Elution of DNA from the column is dependent on pH and temperature. If water is used, ensure the pH is >6.0. Also, the total yield may be improved by eluting the DNA with Elution Buffer or water pre-equilibrated to 60-70ºC
[6] The **DNA Elution Buffer** contains 10 mM Tris-HCl, pH 8.5, 0.1 mM EDTA. If required, pure water can also be used to elute the DNA.

Samples in DNA/RNA Shield™

DNA/RNA Shield™ *ensures nucleic acid stability during sample storage/transport at ambient temperatures. There is no need for refrigeration or specialized equipment. DNA/RNA Shield™ effectively lyses cells and inactivates nucleases and infectious agents (virus), and it is compatible with various collection and storage devices (vacutainers, swabs, nasal, buccal, fecal, etc.).*

DNA/RNA Shield™ can be purchased separately (R1100-50 or R1100-250).

See page 10 for performing a Proteinase K Digestion on tissue samples stored in DNA/RNA Shield™.

1. Add 400 µl of **Genomic Lysis Buffer** to 100 µl of the sample/shield mixture prepared according to the **DNA/RNA Shield™** specifications (4:1).

2. Mix completely by vortexing 4-6 seconds, then let stand 5-10 minutes at room temperature[1].

3. Transfer the mixture[2] to a **Zymo-Spin™ IC Column** in a **Collection Tube**. Centrifuge at ≥ 10,000 *x g* for one minute. Discard the Collection Tube with the flow through.

4. Transfer the Zymo-Spin™ IC Column to a new Collection Tube. Add 200 µl of **DNA Pre-Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

5. Add 500 µl of **g-DNA Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

6. Transfer the spin column to a clean microcentrifuge tube. Add ≥ 10 µl **DNA Elution Buffer** or water[3,4] to the spin column. Incubate 2-5 minutes at room temperature and then centrifuge at ≥ 10,000 *x g* for 30 seconds to elute the DNA. The eluted DNA can be used immediately for molecular based applications or stored ≤ -20ºC for future use.

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[1] For Proteinase K digested or homogenized material, centrifuge the mixture at 10,000 *x g* for 5 minutes after incubating. Transfer up to 800 µl of supernatant to the **Zymo-Spin™ IC** Column in Step 3.
[2] The column capacity is 800 µl.
[3] Elution of DNA from the column is dependent on pH and temperature. If water is used, ensure the pH is >6.0. Also, the total yield may be improved by eluting the DNA with Elution Buffer or water pre-equilibrated to 60-70ºC.
[4] The **DNA Elution Buffer** contains 10 mM Tris-HCl, pH 8.5, 0.1 mM EDTA. If required, pure water can also be used to elute the DNA.

Proteinase K Digestion with DNA/RNA Shield™

*The following protocol requires the additional purchase of **DNA/RNA Shield** (R1100-50 or R1100-250), **Proteinase K w/ Storage Buffer Set** (D3001-2-5 or D3001-2-20) and **PK Digestion Buffer** (R1200-1-5 or R1200-1-20).*

Reagent Preparation

✓ Add 260 µl or 1,040 µl **Proteinase K Storage Buffer** to reconstitute the lyophilized **Proteinase K**, 5 mg (D3001-2-5) or 20 mg (D3001-2-20), respectively (final concentration of 20 mg/ml). Vortex to dissolve. Store at -20ºC.

Protocol

1. Add 300 µl of DNA/RNA Shield™ to ≤ 5 mg of solid tissue sample[1]. Tissue samples can be mechanically homogenized for optimal extraction efficiency.

2. Add 30 µl of PK Digestion Buffer and 15 µl Proteinase K to the sample.

3. Mix and then incubate at 55ºC until tissue dissolves or up to 5 hours[2].

4. Add 4 volumes of **Genomic Lysis Buffer** to each volume of Proteinase K digestion (4:1). (e.g., add 1,200 µl of Genomic Lysis Buffer to 300 µl of digestion). Mix briefly by vortexing, then let stand at room temperature for 5-10 minutes. Centrifuge the mixture at ≥ 10,000 *x g* for 5 minutes.

5. Transfer 800 µl of supernatant to the **Zymo-Spin™ IC Column** in a **Collection Tube**. Centrifuge at ≥ 10,000 *x g* for one minute and discard the flow through in the Collection Tube. Repeat this step with the remaining supernatant and discard the Collection Tube with the flow through.

6. Transfer the Zymo-Spin™ IC Column to a new **Collection Tube**. Add 200 µl of **DNA Pre-Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

7. Add 500 µl of **g-DNA Wash Buffer** to the spin column. Centrifuge at ≥ 10,000 *x g* for one minute.

8. Transfer the spin column to a clean microcentrifuge tube. Add ≥ 10 µl **DNA Elution Buffer**[3,4] or water to the spin column. Incubate 2-5 minutes at room temperature and then centrifuge at ≥ 10,000 *x g* for 30 seconds to elute the DNA. The eluted DNA can be used immediately for molecular based applications or stored ≤ -20ºC for future use.

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[1] Solid Tissue Samples should be completely submerged in **DNA/RNA Shield™**, add as needed.
[2] Optimal incubation times may vary with tissue type and homogenization method.
[3] Elution of DNA from the column is dependent on pH and temperature. If water is used, ensure the pH is >6.0. Also, the total yield may be improved by eluting the DNA with Elution Buffer or water pre-equilibrated to 60-70ºC.
[4] The DNA Elution Buffer contains 10 mM Tris-HCl, pH 8.5, 0.1 mM EDTA. If required, pure water can also be used to elute the DNA.

Troubleshooting

Problem	Possible Causes and Suggested Solutions
DNA degradation	Check for DNase contamination. All reagents supplied with the ***Quick*-DNA™ Microprep Kit** are DNase-free. However, DNase contamination could result during the processing of some samples. Check pipets, pipet tips, microcentrifuge tubes, etc., and exercise the appropriate precautions during the DNA purification procedure.
DNA is not performing well in subsequent experiments.	Ensure the correct volume of **Genomic Lysis Buffer** has been added to the sample. Also, make sure all centrifugation steps are completed for the indicated times and speeds (rcfs). Failure to do so may result in incomplete washing, which may cause salts to be eluted with the DNA affecting quantitation and subsequent experiments including enzymatic processes like PCR.
RNA contamination	The buffers in this kit are designed to efficiently hydrolyze and remove RNA during the DNA purification procedure.

Ordering Information

Product Description	Catalog No.	Size
***Quick*-DNA™ Microprep Kit**	D3020 D3021	50 preps. 200 preps.

Individual Kit Components	Catalog No.	Amount
Genomic Lysis Buffer	D3004-1-50 D3004-1-100	50 ml 100 ml
DNA Pre-Wash Buffer	D3004-5-15 D3004-5-30 D3004-5-50	15 ml 30 ml 50 ml
g-DNA Wash Buffer	D3004-2-50 D3004-2-100	50 ml 100 ml
DNA Elution Buffer	D3004-4-10	10 ml
Zymo-Spin™ IC Columns	C1004-50 C1004-250	50 250
Collection Tubes	C1001-50 C1001-500 C1001-1000	50 500 1,000

Complete Your DNA Methylation Workflow

✓ **Rapid Method for Complete Bisulfite Conversion of DNA**

EZ DNA Methylation Kits	Size	Catalog No.
EZ DNA Methylation-Lightning Kit	50 Rxns. 200 Rxns.	D5030 D5031
EZ-96 DNA Methylation-Lightning Kit	2x96 Rxns. (Deep-Well) 2x96 Rxns. (Shallow-Well)	D5032 D5033
EZ DNA Methylation-Lightning Automation Kit	96 Rxns.	D5049
EZ-96 DNA Methylation Lightning MagPrep	4 X 96 Rxns. 8 X 96 Rxns.	D5046 D5047

✓ **Innovative Solutions for Next Generation Sequencing**

Library Prep Kits	Size	Catalog No.
Zymo-Seq WGBS Library Kit	24 Preps.	D5465
Pico Methyl-Seq Library Prep Kit	10 Preps. 25 Preps.	D5455 D5456
Zymo-Seq RRBS Library Kit	24 Preps. 48 Preps.	D5460 D5461

✓ **Optimal Amplification of Bisulfite-Treated DNA**

ZymoTaq Polymerase	Size	Catalog No.
ZymoTaq Premix	50 Rxns. 200 Rxns.	E2003 E2004
ZymoTaq DNA Polymerase	50 Rxns. 200 Rxns.	E2001 E2002
ZymoTaq qPCR Premix	50 Rxns. 200 Rxns.	E2054 E2055

✓ **Industry Leading Tools for Assessing Your DNA Methylation Workflow**

DNA Methylation Standards	Size	Catalog No.
Human Methylated & Non-methylated DNA Set	5 µg/20 µl	D5014
Universal Methylated DNA Standard	Human Mouse	D5011 D5012
Bisulfite-Converted Universal Methylated Human DNA Standard	1 µg/50 µl	D5015
Human Methylated & Non-Methyated (WGA) DNA Set	5 µg/20 µl	D5013

Notes

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Reagents are routinely tested on a lot-to-lot basis to ensure they provide the highest performance and reliability.

This product is for research use only and should only be used by trained professionals. It is not for use in diagnostic procedures. Some reagents included with this kit are irritants. Wear protective gloves and eye protection. Follow the safety guidelines and rules enacted by your research institution or facility.

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