Product Data Sheet

Blood DNA Extraction-Magnetic Kit

Catalog Number: **BDEM-100** | Revision Date: 12/20/2019

For Research Use Only.

Product Description:
The Blood DNA Extraction-Magnetic Kit enables scalable and rapid extraction of genomic DNA from whole blood, plasma, or buffy coat samples. The kit uses magnetic bead technology for the recovery of DNA in elution buffer suitable for various downstream applications. If desired TE Buffer can be added following elution, or used in place of Elution Buffer.

Kit Contents and Storage:
Reagent quantities provided in each kit are sufficient for 100 reactions. All reagents should be stored in the appropriate conditions upon receipt. Product is shipped at ambient temperature.

Component	Catalog No.	Volume	Quantity	Storage
DNA Blood Lysis and Binding Buffer	D-BLBB-40	40 ml	1	15°C to 30°C
DNA/RNA Binding Beads	DRBB-33	33 ml	1	2°C to 8°C
Wash Buffer 1	W1-50	50 ml	1	15°C to 30°C
Elution Buffer	EB-15	15 ml	1	15°C to 30°C

Reagent Preparation:
The following solutions should be prepared prior to performing the extraction procedure:

- 80% Absolute Ethanol

General Guidelines:

- Perform all procedural steps at room temperature (15°C to 30°C) unless otherwise specified.
- When mixing samples by pipetting up and down, avoid creating bubbles.
- Prior to each use, ensure **DNA/RNA Binding Beads** are evenly resuspended by mixing, and confirm no settled material remains at bottom of the bottle.

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Additional Notes:

- Precipitation may occur if certain reagents are stored below indicated storage temperature. We recommend warming the precipitated solutions to 37°C for 15 minutes to eliminate the precipitate.
- When processing high DNA content samples (such as 200ul of Buffy coat), bead clumping may be observed. Use vigorous vertexing to break up major bead clumps. Small bead clumps may still be observed.

DNA Extraction Procedure:

1. Sample Preparation
   - 1.1. Obtain whole blood or blood fractions according to your laboratories established procedures.
   - 1.2. Up to **200 µl** of **plasma, buffy coat**, or **red blood cells** may be used per reaction.
   - 1.3. The following reagent volumes are based on **200 µl** sample starting volumes. If smaller volumes of samples are being processed, adjust the following reagent volumes accordingly.

2. Lysis and Binding
   - 2.1. Add **400 µl** of **DNA Blood Lysis and Binding Buffer** to each sample and **vortex for 10 seconds** and then let mixture sit at **ambient temperature** for **5 minutes**.
   - 2.2. **Vortex for 10 seconds.**
   - 2.3. Prior to each use, ensure **DNA/RNA Binding Beads** are evenly resuspended by mixing, and confirm no settled material remains at bottom of the bottle.
   - 2.4. Add **325 µl** of **DNA/RNA Binding Beads** to each sample and **vortex for 10 seconds** and then let sit at **ambient temperature** for **5 minutes**.
   - 2.5. **Vortex for 10 seconds.**
   - 2.6. Centrifuge samples for **5 minutes** at **4000 RPM**.
   - 2.7. Aspirate **875 µl** of **supernatant** and **discard** from each sample leaving **50 µl** of sample remaining for continued processing.

3. Wash
   - 3.1. Add **500 µl** of **Wash Buffer 1** to each sample and mix thoroughly to resuspend pellet.
   - 3.2. Allow beads to bind to magnet for **2 minutes** and then remove supernatant.
   - 3.3. Add **500 µl** of **80% ethanol** to each sample and mix thoroughly to resuspend pellet.
   - 3.4. Allow beads to bind to magnet for **2 minutes** and then remove supernatant.
   - 3.5. Add **500 µl** of **80% ethanol** to each sample and mix thoroughly to resuspend pellet.
   - 3.6. Allow beads to bind to magnet for **2 minutes** and then remove supernatant.

4. DNA Elution
   - 4.1. Add **150 µl** of **Elution Buffer** to each sample and vortex vigorously to ensure pellet is resuspended. Note that small aggregates may still be observed.

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4.2. Incubate samples at **96°C** for **5-15 minutes**. (If using a heat block 5 minutes is sufficient, if using an incubator, 15 minutes is recommended).

4.3. Vortex samples vigorously and hold at **ambient temperature** for **1.5 minutes** before placing samples on magnet. Perform final elution by removing sample from binding beads and placing into destination tube or 96-well plate position.

4.4. Transfer samples to new 96-well plate or individual tubes for downstream application or long-term storage.

4.4.1. If residual binding beads are present in eluted DNA samples, use magnet to hold beads in place during transfer of samples.

4.4.2. Isolated genomic DNA should be stored at -20°C for long term storage.

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