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ABP Biosciences

7040 Virginia Manor Road
Beltsville, MD 20705, USA
Web: www.abpbio.com
Email: info@abpbio.com

EasyMag DNA Purification Kit from blood

Catalog Number: D110-1, D110-2

Table 1. Kit Components and Storage

Kit Component	D110-1 (50 preps)	D110-2 (200 preps)	Storage	Stability
Buffer AL	15 mL	60 mL	RT	The product is stable for one year when stored as directed.
Buffer DW1*	15 mL	53 mL	RT	
Buffer DW2*	15 mL	2×25 mL	RT	
Buffer AE	15 mL	30 mL	RT	
MagBinding Beads	2.5 mL	10 mL	2-8 ^{o}C	

***** Prior to use, add absolute ethanol to **Buffer DW1, Buffer DW2** according to the bottle label.

Product Description

EasyMag DNA Purification Kit from blood provides rapid total DNA isolation from 10-250 µL of fresh and frozen anticoagulated whole blood. This kit can also be used for the preparation of genomic DNA from buffy coat, serum, plasma, bone marrow, lymphocytes, platelets, and other body fluids. This system combines the reversible nucleic acid binding properties of paramagnetic particles with the time-proven efficiency of ABP's buffer chemistries to provide a fast and convenient method to isolate DNA from a variety of samples. Phenol/chloroform extraction, and time-consuming steps such as precipitation with isopropanol or ethanol have been eliminated. The isolated DNA is ready for applications such as PCR, Southern blotting, or restriction enzyme digestion.

Features

- Fast – DNA purification process in less than 30 min.
- Safe – No Phenol/chloroform extractions.
- High-quality – DNA is suitable for a variety of downstream applications.

Purification Protocol

1. Transfer 250 µL fresh or frozen anticoagulated whole blood, serum, plasma, or other body fluids to a clean 1.5 mL microcentrifuge tube. If the sample volume is less than 250 µL, bring the volume up to 250 µL with PBS buffer, or Buffer AE (provided).

   Note: When processing coagulated blood samples, homogenize the samples with a mechanical or glass homogenizer to fully liquefy them before extracting. Since red blood cells of non-mammalian animals such as birds and fish are nucleated, their DNA content is extremely rich, and the kit can only process 5-20 µL of blood at a time.

2. Add 250 µL Buffer AL to the sample. Vortex at maximum speed for 15-20 seconds, and incubate at 65°C for 15-30 minutes. Vortex briefly once during incubation.

   Note: Buffer AL may be precipitated during storage, if happen, heat it at 50^{o}C to dissolve. If RNA need be removed, add 10 µL RNase A Solution (10 mg/mL) to the sample.

3. Add 250 µL isopropanol and 50 µL MagBinding Beads to the sample, and vortex at maximum speed for 15-20 seconds.

4. Incubate with shaking at RT for 5 min.
5. Transfer the tube to a magnetic rack for an additional 2 min or until beads pellet and supernatant is cleared. With the tube on the magnetic rack remove the supernatant and discard.
6. Add 600 µL of Buffer DW1 to the tube. Resuspend the beads by pipetting up and down or vortexing at 1,500 rpm for 30 seconds. Replace the tube on the magnetic rack for 2 min or until beads pellet. Remove and discard the supernatant.

   Note: Buffer DW1 must be diluted with absolute ethanol according to the bottle label before use.
7. Add 600 µL of Buffer DW2 to the tube. Resuspend the beads by pipetting up and down or vortexing at 1,500 rpm for 30 seconds. Replace the tube on the magnetic rack for 2 min or until beads pellet. Remove and discard the supernatant.

   Note: Buffer DW2 must be diluted with absolute ethanol according to the bottle label before use.
8. Repeat step 7 for a second wash step.
9. Leave the tube on the magnetic rack, open the cap and air dry the beads at RT for 10-15 min.

   Note: This step is critical for removing of trace ethanol that may interfere with downstream applications.
10. Add 50-100 µL Buffer AE to the tube, resuspend the beads by vortexing. Incubate at 55ºC for 5 min, vortex for 15 seconds every 1-2 min for 5 min.
11. Replace the tube on the magnetic rack for 2 min or until beads pellet. Transfer the cleared supernatant to a clean tube.
12. Store the DNA at -20ºC.

Troubleshooting

Problem	Possible cause and suggestions
Low yield	• Inefficient Lysis: Mix the sample thoroughly with Buffer AL and increase incubation time. • Poor Elution: Completely resuspend beads with Buffer AE, and incubate at 55°C for 5 min. • Improper Washing: Buffer DW1, buffer DW2 must be diluted with absolute ethanol before use. • Sample has low DNA content: Increase starting material and volume of all reagents proportionally.
Poor performance in downstream applications	• Salt contamination: Remove any residual liquid with a pipettor after each wash step. • Ethanol contamination: Ensure the beads are completely dried before elution.