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DATA SHEET

Version: 03
Revision date: 25/05/2023

1. Identification

Product name

HigherPurity™ Blood DNA Extraction Kit
(Isolation of DNA from 5 mL – 10mL Whole Blood)

Cat. No **AN0049 (20 - 10 reactions)**

2. Description

HigherPurity™ Blood DNA Extraction kit is a simple and rapid method for high-quality genomic DNA purification from various sources, including: whole blood, buffy coat* and cultured cells*.
The procedure includes: lysis, protein removal, DNA precipitation, washing and hydration.
**Extraction protocols are available at the Canvax Biotech website.*

3. Kit Components

Item	Quantity
S1 Buffer	3 x 100 mL
S2 Buffer	100 mL
S3 Buffer	50 mL
Proteinase K*	100 mg
EB Buffer	15 mL

*Dissolve Proteinase K in water to obtain a 20 mg/mL stock solution. The Proteinase K solution can be stored for several days at 2–8 °C. For longer-term storage, the unused portion of the solution may be stored in aliquots at –20 °C until needed.

4. Storage

Store the kit at room temperature. If any kit reagent forms a precipitate, warm at 55–65 °C until the precipitate dissolves and allow to cool to room temperature before use.

5. Features

- **Safe:** no phenol-chloroform extraction.
- **Efficient:** 3-6 µg of genomic DNA from a 200 µl blood sample (30-90 µg of genomic DNA from a 2mL).
- **Ready to use** genomic DNA, in all molecular biology applications.

6. Applications

High molecular weight genomic DNA purified with the kit is suitable for direct use in all common molecular biology applications: PCR, cloning, DNA sequencing, Southern blot analysis, etc.

7. Quality Certifications

HigherPurity™ Blood DNA Extraction kit is tested on a lotto-lot basis by isolating total DNA from 200µl of whole human blood. DNA purified is analyzed by:
• Spectrophotometer: Ratio 260/ 280 (1.6-1.8)
• Agarose gel electrophoresis.

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8. Further information

Product Use Limitations	This product is developed, designed, and sold exclusively only for research purposes use. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.
Safety Information	When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate material safety data sheets (MSDS). These are available online in convenient and compact PDF format at www.canvaxbio.com where you can find, view, and print the MSDS for each CANVAX kit.

DETAILED PROTOCOL

Choose ■ if processing 5 mL blood samples // **Choose** ▲ if processing 10 mL blood samples.

1. Transfer up to **■ 5 mL** / **▲ 10mL** of sample to a 50 mL tube.

2. Add **■ 15 mL** / **▲ 30 mL** **buffer S1** to the sample and vortex gently or invert tube 6-8 times and leave to incubate for 5-8 minutes at room temperature.

3. Centrifuge at 2500 rpm for 2 minutes. Remove the supernatant using pipette and avoiding damaging the cell visible pellet and leaving 200 µl of residual liquid.

4. Vortex the tube vigorously until the white blood cells are resuspended (10–15 seconds). **This process will help to optimize the cell lysis in the following step.**

5. Add **■ 250 µL**/**▲500 µL** proteinase K and **■ 5 mL** / **▲ 10 mL** **buffer S2** and mixing by pipetting. Transfer all the mix into a new 50 mL tube.

6. Incubate in a water bath at 55 ˚C for 0.5-1 hour, and then cool to room temperature.

7. Add **■ 1.67 mL** / **▲ 3.33 mL** **buffer S3** and mixing with vortex vigorously for 20 seconds.

8. Centrifuge at 2500 rpm for 5 minutes. A dark brown pellet should be visible. If no pellet is observed, incubate on ice for 5 minutes and centrifuge again.

9. Transfer the supernatant to a new 50 mL tube containing **■ 5 mL** / **▲ 10 mL** isopropanol. Mix by gentle inversion 50 times.

10. Centrifuge at 2500 rpm for 3 minutes and remove the supernatant. The DNA will be visible as a small white pellet.

11. Wash with **■ 5 mL** / **▲ 10 mL** **70% ethanol** and centrifuge at 2500 rpm for 1 minute.

12. Remove the supernatant using a pipette and dry the pellet with the tube inverted on absorbent paper for 5-10 minutes.

13. Resuspend the DNA adding **■ 500 µL** / **▲ 1 mL** of **Buffer EB** and vortex for 5 seconds at medium speed to mix. Close the cap and incubate for 1 hour.

14. Store DNA at -20 ˚ C.