

AutoGenPrep 965 Application Guide

Fresh Whole Blood



I. Purpose: To extract DNA from EDTA treated whole blood, acid-citrate-dextrose treated whole blood or heparin treated whole blood.

II. Chemical Principal: Modified GTC (Guanidine thiocyanate) extraction chemistry

III. Protocol Parameters:

A. Sample Volume: Up to 200µl of whole blood (fresh or frozen).

B. Maximum Number of Samples: Up to 384 (4 of 96 plates) samples per run.

C. Processing Time: 4.2 hours for 192 samples
6.4 hours for 384 samples.
Including 60 minutes DNA drying time

D. Yield: 3 - 5 µg of purified gDNA / 200µl of whole blood.

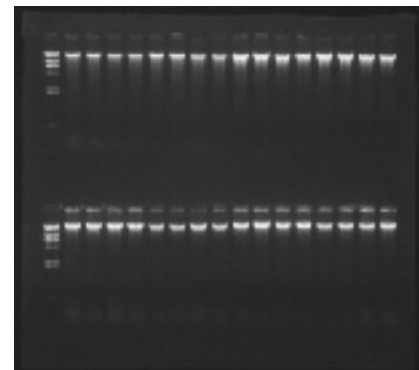
E. Quality: Typical OD260/280 values are 1.7 ~ 1.8. The DNA can be used directly in downstream processes such as PCR, real time PCR, Southern blotting and more*.
** DNA extracted from heparinized whole blood might not be applicable to some downstream applications.*

IV. Running the Protocol:

- A. Load Reagents and Samples
- B. Select a Protocol
- C. Enter Number of Samples
- D. Start the Run

V. Example of genomic DNA obtained from whole blood:

Genomic DNA was extracted using 3 different methods, and then the extracted DNA was compared on the gel.
Starting material: 200µl of EDTA treated whole blood.
Gel condition: 0.7% agarose gel, 1xTBE, 50V x 1hr
Upper Lanes: Competitor's manual kit (left hand side)
Manual extraction (right hand side)
Lower lanes: AutoGenprep 965 WB protocol



VI. Extraction and Purification Process

Process Site	Purpose	System Process
1. Automated	Lyse blood cells	Add Reagent WB-R1* and mix.
2. Automated	Denature protein	Add Reagent WB-R2* and mix.
3. Automated	Precipitate protein	Add Reagent WB-R3* and mix.
4. Automated	Collect DNA	Add Reagent WB-R4*, mix, centrifuge and transfer supernatant to a new plate.
5. Automated	Precipitate DNA	Add Reagent WB-R5*, mix, centrifuge and discard supernatant.
6. Automated	Wash DNA	Add Reagent WB-R6/7/8*, mix, centrifuge and discard supernatant. Repeat 3 times.
7. Automated	Dry DNA	Evaporate residual solvent.
8. Automated	Resuspend DNA	Add Reagent WB-R9*, mix and centrifuge.

* All reagents and consumables are sold as a complete kit for whole blood DNA extraction for the AutoGenprep 965.

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