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ProPrep™ Genomic DNA Whole Blood

Whole Blood DNA Purification System with ProCipitate™

- High Yield – no bound DNA
- Simple – no specialized equipment
- Minimum Handling
- Safe – non-hazardous solid phase
- Fast – no reduction to buffy coat

Direct lysis protocol from 50 µl blood, <15 minutes
PCR suitability down to 1 ng template DNA

Product	Size	Item No.
ProPrep™ Genomic	100, 50 µl blood	PPG-100

ProPrep™ Genomic is a complete nucleic acid purification system based upon the unique protein extraction reagent, ProCipitate™. The basic protocol includes one step lysis of cells, followed by vacuum removal of contaminating proteins and heme with ProCipitate™.

The ProPrep™ Genomic permits the user to customize a massive PCR or SNP strategy without regard to collecting impractical quantities of whole blood. The isolated DNA is of the highest quality, and PCR can be achieved from as little as 1 ng of template DNA. This means that over 1,000 PCR reactions can be obtained from one, 50 µl whole blood sample.

This protocol is easily scaled up or down to accommodate different blood volumes. Simply adjust the reagent volumes proportional to the blood volume, i.e. 1 ml blood requires 20x reagent volumes; 5 µl blood, 10x less reagent volumes.

For high throughput 96 well formats, we can recommend 96 well filters which can be adapted to this protocol.

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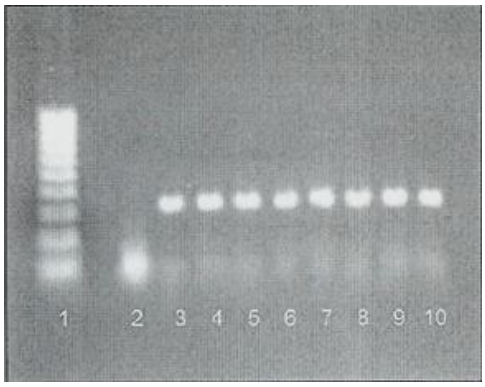

Lane 1: 100-1000 base pair Ladder
Lane 2: Negative Control
Lane 3-10: PCR amplicons from 1 ng template DNA purified from whole blood, randomly selected from 96 wells. Amplicons are 280 base pairs from Human HLA-DR-Beta primers at 32 cycles.

MATERIALS AND SCOPE OF SUPPLY

Items Required	ProPrep™ Genomic 96	Storage
Isopropanol (96-100%)	Optional	----
GL1 Lysis Buffer	Supplied	4°C
TR3 Resuspension Buffer	Supplied	Room Temp.
ProCipitate™	Supplied	4°C
Wide Bore Pipette Tips	Not Supplied	----

PROTOCOL - Based on 50 µl of whole blood

1. Add 100 µls of lysis reagent GL1 to each 50 µl blood sample, tape seal the plate and vortex for 30 seconds, incubate 10 minutes at 65°C and vortex again briefly.

2. Shake ProCipitate™ well to completely resuspend. Using a wide bore pipette tip, add 250 µls of ProCipitate™ to each well, mix by pipetting up and down 8-10 times to insure that each sample is homogeneous. IMPORTANT NOTE: Failure to mix thoroughly will result improper separations and performance.

3. Incubate for 5 minutes at room temperature.

4. Centrifuge at 16,000xg for 10 minutes. Carefully remove the supernatant containing the DNA. If necessary, enzymatic digestion may be performed to remove residual RNA; RNAse is not included as part of this kit.

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Options – The purified DNA is contained within the lysis buffer. The DNA can then be either alcohol precipitated using the "Alcohol Precipitation Protocol", or simply diluted using the "Dilution Protocol", to eliminate inhibitory effects of the lysis buffer.

Alcohol Precipitation Protocol

5. Add 250 µl of isopropanol (room temperature) to each well of collected supernatant.
6. Mix on a shaker for 30 minutes at 100 rpm (room temperature).
7. Centrifuge at 2,000 x g for 10 minutes.
8. Carefully decant supernatant and air dry the pellet at room temperature (≈ 15 min).
9. Resuspend the DNA in 20 - 50 µl of TR3 or other suitable buffer. Incubate at 55°C while shaking at 200 rpm for 30 minutes.

Dilution Protocol

The volume recovered after filtration is approximately 250 µl. A minimum 1:10 dilution is made with DI water. To achieve the maximum number of PCR reactions per sample, dilution up to 1:50 can be made. Typically 10 µl of the diluted purified DNA is utilized as template for PCR.

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CONTACT US

We welcome your questions and comments regarding our products.

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