



BIOTECH SUPPORT GROUP

## ProPrep™ Genomic 960

96 Filter Well Whole Blood DNA Purification System with ProCipitate™

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

| Product              | Size               | Item No. |
|----------------------|--------------------|----------|
| ProPrep™ Genomic 96  | 96, 50ul cultures  | PPG-96   |
| ProPrep™ Genomic 960 | 960, 50ul cultures | PPG-960  |

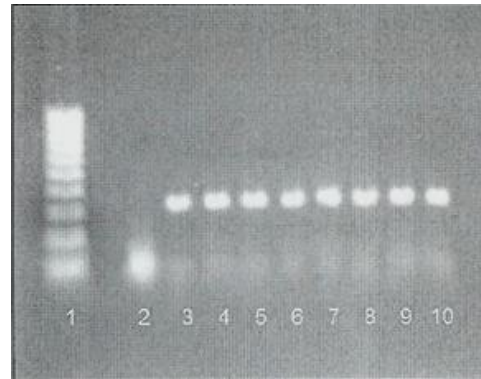
ProPrep™ Genomic 960 is a complete nucleic acid purification system based upon the unique protein extraction reagent, ProCipitate™. The basic protocol includes one step lysis of cells, followed by vacuum removal of contaminating proteins and heme with ProCipitate™.

The ProPrep™ Genomic 960 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.

Centrifugation is optional in the protocol, so it is readily adaptable to automation.

### BENEFITS

- High Yield – no bound DNA
- Simple – no specialized equipment
- Minimum Handling – 96 well format
- Safe – non-hazardous solid phase
- Fast – no reduction to buffy coat



**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 (best if used before date on label) |
| 96 well filter plate    | Supplied            | ----                                    |
| 96 deep well plate      | Supplied            | ----                                    |
| Seal plate              | Supplied            | ----                                    |
| Wide Bore Pipette Tips  | Not Supplied        | ----                                    |
| Vacuum Manifold         | Not Supplied        | Whatmann, Pall Compatible               |



## **PROTOCOL - Based on 50 $\mu$ l of whole blood**

1. Add 100  $\mu$ ls of lysis reagent GL1 to each 50  $\mu$ l 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  $\mu$ ls of ProCipitate™ to each well of UNIPLATE, mix by pipetting up and down 8-10 times to insure that each sample is homogeneous. **IMPORTANT NOTE:** Failure to mix thoroughly will result in improper filtration.
3. Incubate for 5 minutes at room temperature.
4. Transfer each sample to the corresponding well of the FILTER PLATE and either vacuum filter or centrifuge to collect the supernatant. The collected supernatant contains the nucleic acids. If necessary after filtration, enzymatic digestion may be performed to remove residual RNA; RNase not included as part of this kit.

Options – After separation, 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  $\mu$ l 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 ( $\approx$  15 min).
9. Resuspend the DNA in 20 - 50  $\mu$ l of TR3 or other suitable buffer. Incubate at 55°C while shaking at 200 rpm for 30 minutes.

### **Dilution Protocol**

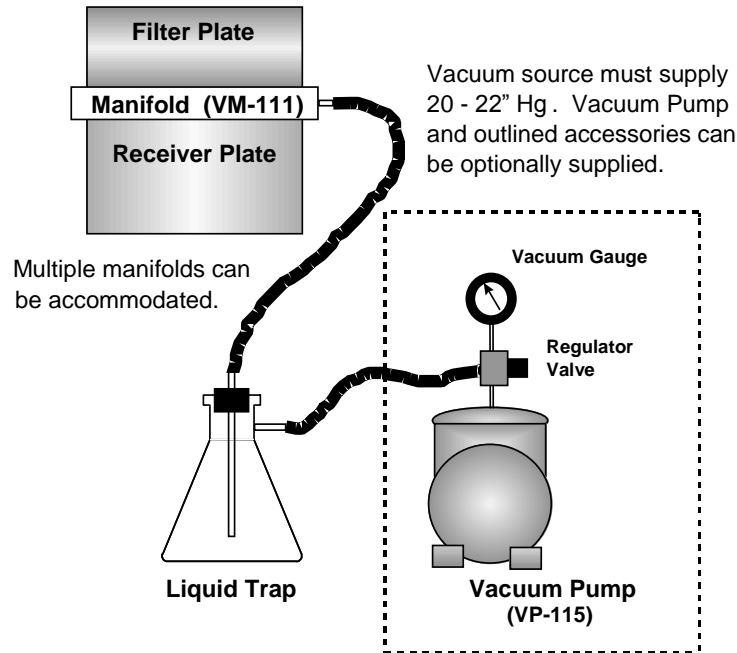
The volume recovered after filtration is approximately 250  $\mu$ l. A minimum 1:10 dilution is made with DI water. To achieve the maximum number of PCR reactions per sample, dilution up to 1:50 can be made. Typically 10  $\mu$ l of the diluted purified DNA is utilized as template for PCR.



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## System Layout

The 96 well Filter Plate System eliminates centrifugation for the removal of all suspended solids, quickly and in one step. Filtrate is subsequently ready for alcohol precipitation.



### General Filtration Techniques for ProPrep™ Genomic 960

Inspect the gasket faces to insure that they are free of any foreign matter. Prior to adding samples, place filter plate on the vacuum manifold over receiver plate.

Transfer each sample to its corresponding filter well using wide bore pipette tips. Apply full vacuum ( $\approx 23$ "Hg) until there is no visible liquid in wells. A cake of solid material will become visible and may crack at the bottom of the wells. This is normal. Continue to apply vacuum for 5 - 15 minutes or until vacuum drops noticeably, greater than 1" Hg.

After filtration is completed and vacuum has been turned off, before removing the plates from the manifold, perform the following: Holding the plates together firmly, raise the assembly approximately 1 inch from the bench top and tap the assembly firmly down onto the bench top. Repeat. This dislodges any remaining supernatant that may remain clinging to the bottom of the plate.

Discard filter plate taking necessary biohazard precautions.

### CONTACT US

We welcome your questions and comments regarding our products.

**Call 732-274-2866, 800-935-0628 (North America) Mon-Fri 9am-6pm EST.**

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