Bio-Fast™ DNA Extraction Kit

Bio-Fast™ DNA Extraction Kit recovers genomic DNA from whole blood in 30 minutes or less. This rapid and reliable method produces RNA contamination free DNA. Typical yield is 5-30 µg of DNA from 500 µl whole blood. This kit provides enough reagents for 200 extractions.

Material Supplied

- Solution A - Cell Lysis Solution
- Solution B - Nuclei Lysis Solution
- Solution C - Protein Precipitation Solution
- Solution D - DNA Resuspension Solution

Additional Material Required

- 70% Ethanol
- 100% Isopropanol
- 1.5 ml Microcentrifuge tubes
- Vortex mixer
- Microcentrifuge
- Water bath

Protocol for DNA Extraction from Whole Blood

1. Add 1 ml of Solution A to 500 µl of EDTA or heparin treated whole blood in a 1.5ml microcentrifuge tube. Vortex the mixture for 20 seconds. Spin down the leukocytes/nuclei at 7,000 rpm for 1 minute. Decant the supernatant and blot dry on a paper towel to remove excess liquid. Wash the pellet by adding 1 ml of Solution A, vortex for another 20 seconds, spin down and remove the supernatant as previously described .

2. Vortex the tube to completely disrupt the pellet. Add 300 µl of Solution B and vortex the tube for 20 seconds to lyse the nuclei. (If the nuclei clumps are visible after vortexing, incubate the tube at 37°C for 3 minutes until the solution is clear.)

3. Add 100 µl of Solution C to the tube and vortex for 10 seconds. Incubate on ice for 3 minutes and follow by centrifugation at 14,000 rpm for 5 minutes to precipitate the proteins. (5-30 minutes is an acceptable incubation time)

4. Carefully transfer the supernatant to a new tube and add 300 µl of Isopropanol. Gently invert the tube to mix the solution until the floculant is present.

5. Spin down the DNA pellet in a microcentrifuge at 14,000 rpm for 2 minutes and decant the supernatant. Rinse the pellet once with 1 ml of 70% ethanol. (Be careful not to disturb the pellet.) Remove as much of the supernatant as possible by blotting dry on a paper towel.

6. Dry the DNA pellet under speed-vacuum for 3 minutes or air dry for over night.

7. Dissolve the DNA in 100 µl of Solution D or ddH_2O. Vortex the tube and spin down the contents. Incubate at 55°C for 10 minutes. (Acceptable incubation time range from 15 minutes to overnight). Repeat vortex the tube and spin down contents . The DNA is now ready for use.