Blood Samples

DNA will be extracted using the method of Ciulla et al. Analytical Biochemistry 174:485-488, 1988. We have used this method with great success over many years and with many thousands of samples. Yields vary greatly depending on the donor white cell count, but average close to 400 µg per 20 ml of blood. The DNA obtained from this protocol has been successfully used in all chemical methods that have been attempted including standard PCR, long-range PCR, restriction enzyme digestion and mechanical shearing. A long-term, ongoing storage experiment with DNA isolated using this method demonstrates that the DNA is stable at -80º for at least 10 years.

Briefly, the method of Ciulla et al. involves lysis of remaining red cells and pelleting of white cell nuclei. The pelleted material is dissolved in a guanidinium isothiocyanate solution. From this solution, DNA is precipitated using isopropanol. The precipitated DNA is washed 2X with 70% EtOH, and then redissolved in 2.00 ml of a Tris-EDTA solution (10 mM Tris, 0.2 mM EDTA, pH 7.7).