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Methodology

An alternate method for DNA and RNA extraction from clotted blood

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ABSTRACT. We developed an alternative method to extract DNA and RNA from clotted blood for genomic and molecular investigations. A combination of the TRIzol method and the QIAamp spin column were used to extract RNA from frozen clotted blood. Clotted blood was sonicated and then the QIAamp DNA Blood Mini Kit was used for DNA extraction. Extracted DNA and RNA were adequate for gene expression analysis and copy number variation (CNV) genotyping, respectively. The purity of the extracted RNA and DNA was in the range of 1.8-2.0, determined by absorbance ratios of A_{260}:A_{280}. Good DNA and RNA integrity were confirmed using gel electrophoresis and automated electrophoresis. The extracted DNA was suitable for qPCR and microarrays for CNV genotyping, while the extracted RNA was adequate for gene analysis using RT-qPCR.

Key words: Clotted blood; DNA extraction; RNA extraction; Sonication

