



Quality Assessment of DNA Extraction Methods from Formalin-Fixed Paraffin-Embedded Tissues

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ABSTRACT DNA extraction from archived formalin-fixed paraffin-embedded (FFPE) tissues represent a great source of information. However, till date, it shows some challenges due to its fragmentation and degradation by formalin. The aim of this study was to assess 3 extraction methods used with 651 FFPE namely QIAamp® DNA FFPE Tissue Qiagen Kit (80%), MagaZorb® DNA Mini-Prep Kit Promega (17.8%) and phenol-chloroform classical extraction (2.2%). Extract concentration mean was 240.05 ng/μl (7-1985 ng/μl) and DNA purity (A260/A280) mean was 1.98 (1.2 - 4). The classical phenol-chloroform method had the most successful DNA concentration ($P < 0.001$) but had the worst DNA purity ratio while the Promega and Qiagen kits DNA purity ratio were within the norms ($P < 0.001$). This assessment showed that even with commercial kits, we should always adjust some parameters to have good DNA extracts which is the first step towards a successful molecular analysis.