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# In-field collection and preservation of decomposing human tissues to facilitate rapid purification and STR typing

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## Highlights

- Tissues were stored in modified TENT preservative or FTA Elute Cards up to 6 months
- Tissues stored in TENT had higher DNA quantities and more complete STR profiles
- PDQeX DNA extraction provided the most complete STR profiles in under 20 minutes
- DNA suspended in TENT facilitated fast purification or direct PCR for fresh tissues

## 1. Introduction

Short tandem repeat (STR) typing is currently the gold standard for human identification. However, successful STR typing is often affected by the presence of inhibitors, low amounts of DNA template, and damaged and/or degraded DNA [1-4]. Refrigeration or freezing of samples is typically used to prevent further DNA damage and degradation [4-8]. In the event of a mass fatality event or in rural casework, refrigeration is often not possible due to a lack of facilities and/or limited electricity [5, 6, 8]. If human remains are left exposed to environmental conditions such as

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