**Amplication success rates of Ancient and Degraded DNA using Shortened Amplicons and Locked Nucleic Acids (LNAs)**

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**Introduction**

Degraded DNA samples are commonly found in forensic science casework and can be extremely difficult to amplify because of damage undergone by the DNA. Non-human (animal) DNA analyses often involve degraded samples and as a result, selected ancient samples such as eroded saxons, peloeggs, processed samples, and partial samples such as tissue and carcass remnants, gas standards and lipids.

**Materials and Methods**

DNA was extracted from 1 oz animal musem and 20 contemporary samples. DNA degradation percentages were determined using the barcoding marker in three overlapping segments and an entire segment using Primer III (see Table 1).

The forward and reverse primer of each segment of the COI barcoding marker were spiked with LNA's using NetPrimer software (Premier Biosoft International). The primers for the entire barcoding marker were prime converted and chips LNA's into, thereby allowing the COI barcoding marker for its potential applications in forensic science.

**Results and Discussion**

The COI segment one, amplified with the primers positioned in the most conserved section of the COI gene, amplified well with the primers positioned in the most conserved section of the COI gene and the 4'-C atom.

**Conclusion**

The study indicates that amplification success is increasing amplification efficiencies are more difficult to implement when amplifying a broad range of species and would be more effective at a single species of animal in molecular studies.

**Affiliations**

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