The use of a DNA stabilizer in human dental tissues stored under different temperature conditions and time intervals

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Abstract (English): OBJECTIVE
The present study evaluated the use of a reagent to stabilize the DNA extracted from human dental tissues stored under different temperature conditions and time intervals.

MATERIAL AND METHODS
A total of 161 teeth were divided into two distinct groups: intact teeth and isolated dental pulp tissue. The samples were stored with or without the product at different time intervals and temperature. After storage, DNA extraction and genomic DNA quantification were performed using real-time PCR; the fragments of the 32 samples that represented each possible condition were analyzed to find the four pre-selected markers in STR analysis.

RESULTS
The results of the quantification showed values ranging from 0.01 to 10,246.88 ng/µL of DNA. The statistical difference in the quantity of DNA was observed when the factors related to the time and temperature of storage were analyzed. In relation to the use of the specific reagent, its use was relevant in the group of intact teeth when they were at room temperature for 30 and 180 days. The analysis of the fragments in the 32 selected samples was possible irrespective of the amount of DNA, confirming that the STR analysis using an automated method yields good results.

CONCLUSIONS
The use of a specific reagent showed a significant difference in stabilizing DNA in samples of intact human teeth stored at room temperature for 30 and 180 days, while the results showed no justification for using the product under the other conditions tested.
