

*Extraction and Amplification of
ancient DNA and
Sex determination in human
medieval assemblages*

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What Can **Ancient DNA** Tell Us

Ancient DNA analysis is a relatively new form of evidence that has great potential to give archaeologists information about past societies.

The major applications of ancient DNA analysis lie in three main areas-

- Sex identification of human remains
- Kinship analysis
- Study of palaeodisease

DNA Based Sex Identification

Juvenile skeletons cannot be sexed with a high degree of confidence

- as juveniles exhibit little sexual dimorphism
- existing morphological methods do not allow for a reliable and dependable id of sex



Ancient DNA Analysis

Verification of results – First need to extract, amplify and sex ancient DNA from **adult remains** and correlate these results with morphological data.

Sex determination

- PCR: Amplifies DNA from the amelogenin gene found on both X and Y chromosomes.
(Amelogenin gene is the sex marker in humans)
- Agarose Gel Electrophoresis: Separates DNA strands according to their size.
- Estimate the size of the separated strands by comparison to known fragment (ladder).



Ladder

