Scan the QR code which will take you to a digital poster.

Look at the graph in the top right and, in your own words, note what can be deduced from it.

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Through palaeogenetics and Svante Pääbo's investigations, fundamental questions about human evolution have been answered. But how does a palaeogeneticist work in concrete terms? What are the challenges of working with DNA from fossils?

Read the following text on palaeogenetics carefully.

Palaeogeneticists are scientists in the field of genetic analysis of historical and prehistoric genetic material. They focus on the extraction, amplification and sequencing of DNA from fossils, mummified organisms, archaeological remains and other samples. This ancient DNA, also known as aDNA, provides important insights into past life forms and evolution.

To begin their work, palaeogeneticists must carefully collect suitable samples or select them from archaeological collections. The samples must then be precisely prepared to minimise contamination that could affect the DNA and falsify the results. Even the smallest amounts of contamination are sufficient for this.

After preparing the samples, palaeogeneticists extract the DNA and purify it thoroughly to ensure that only DNA from the organism they want to study is present. Because the amount of aDNA material is limited, researchers must amplify the material using the polymerase chain reaction (PCR) to sequence it. This method has become known through Covid-19 tests, where the viral genome also has to be amplified first in order to be able to detect it in case of a positive finding.

