**Supplementary Figure 1**

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**Supplementary Figure 1 Performance of two DNA extraction protocols for the purification of DNA from phosphate fractions obtained through incubation at room-temperature (21 °C) and 90 °C incubation.** *Phosphate fractions were obtained from the whale bone using the Supplementary Protocol. DNA was extracted from each fraction using two binding buffer options (‘G’ and ‘D’; [1]). Whereas both binding buffers yielded similar quantities of endogenous DNA (left panel), binding buffer ‘D’ resulted in a skew towards sequences from longer fragments (right panel), especially when applied to the 90 °C phosphate fraction, indicating a loss of short single-stranded DNA molecules. We therefore used binding buffer ‘G’ in all further experiments.*

1. Glocke I, Meyer M. Extending the spectrum of DNA sequences retrieved from ancient bones and teeth*.* *Genome Res.* 27(7), 1230-1237 (2017).