



## **Illuminating Genetic Mysteries of the Dead Sea Scrolls**

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The discovery of the 2,000-year-old Dead Sea Scrolls had an incomparable impact on the historical understanding of Judaism and Christianity. “Piecing together” scroll fragments is like solving jigsaw puzzles with an unknown number of missing parts. We used the fact that most scrolls are made from animal skins to “fingerprint” pieces based on DNA sequences. Genetic sorting of the scrolls illuminates their textual relationship and historical significance.

Disambiguating the contested relationship between Jeremiah fragments supplies evidence that some scrolls were brought to the Qumran caves from elsewhere; significantly, they demonstrate that divergent versions of Jeremiah circulated in parallel throughout Israel (ancient Judea).

Similarly, patterns discovered in non-biblical scrolls, particularly the Songs of the Sabbath Sacrifice, suggest that the Qumran scrolls represent the broader cultural milieu of the period.

Finally, genetic analysis divorces debated fragments from the Qumran scrolls. Our study demonstrates that interdisciplinary approaches enrich the scholar’s toolkit.

Highlights:

- Dead Sea Scrolls fragments made of animal skins are classified based on ancient DNA
- Disambiguating the debated relationship between fragments reveals new insights
- Paleogenomics finds that some scriptural scrolls were brought from outside Qumran
- Qumran and Masada scrolls represent the broad cultural matrix of Greco-Roman Judea

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