

New genetic study defines the genetic map of the Jewish Diasporas

August 6 2012

A new genetic analysis focusing on Jews from North Africa has provided an overall genetic map of the Jewish Diasporas. The findings support the historical record of Middle Eastern Jews settling in North Africa during Classical Antiquity, proselytizing and marrying local populations, and, in the process, forming distinct populations that stayed largely intact for more than 2,000 years. The study, led by researchers at Albert Einstein College of Medicine of Yeshiva University, was published online today in the *Proceedings of the National Academy of Sciences*.

"Our new findings define North African Jews, complete the overall [population](#) structure for the various groups of the Jewish Diaspora, and enhance the case for a biological basis for Jewishness," said study leader Harry Ostrer, M.D. , professor of pathology, of genetics and of pediatrics at Einstein and director of genetic and genomic testing for the division of [clinical pathology](#) at Montefiore Medical Center. Dr. Ostrer noted that obtaining a comprehensive [genetic fingerprint](#) of various Jewish subpopulations can help reveal [genetic links](#) to heart disease, cancer, diabetes and other [common diseases](#).

In a previous [genetic analysis](#), the researchers showed that modern-day Sephardic (Greek and Turkish), Ashkenazi (Eastern European) and Mizrahi (Iranian, Iraqi and Syrian) Jews that originated in Europe and the Middle East are more related to each other than to their contemporary non-Jewish neighbors, with each group forming its own cluster within the larger Jewish population. Further, each group

demonstrated Middle-Eastern ancestry and varying degrees of mixing with surrounding populations. Two of the major Jewish populations—Middle Eastern and European Jews—were found to have diverged from each other approximately 2,500 years ago.

The current study extends that analysis to North African Jews—the second largest Jewish Diaspora group. Their relatedness to each other, to other Jewish Diaspora groups, and to their non-Jewish North African neighbors had not been well defined. The study also included members of Jewish communities in Ethiopia, Yemen and Georgia. In all, the researchers analyzed the genetic make-up of 509 Jews from 15 populations along with [genetic](#) data on 114 individuals from seven North African non-Jewish populations.

North African Jews exhibited a high degree of endogamy, or marriage within their own religious and cultural group in accordance with custom. Two major subgroups within this overall population were identified: Moroccan/Algerian Jews and Djerban (Tunisian)/Libyan Jews. The two subgroups varied in their degree of European mixture, with Moroccan/Algerian Jews tending to be more related to Europeans—most likely stemming from the expulsion of Sephardic Jews from Spain during the Inquisition, starting in 1492. Ethiopian and Yemenite Jewish populations also formed distinctive genetically linked clusters, as did Georgian Jews.

Provided by Albert Einstein College of Medicine

Citation: New genetic study defines the genetic map of the Jewish Diasporas (2012, August 6) retrieved 27 April 2024 from

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