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Y Chromosomes of Jewish Priests

Michael F. Hammer, Karl Skorecki, Sara Selig, Shraga Blazer, Bruce Rappaport Robert Bradman, Neil Bradman, P.J. Waburton, Monic Ismajlowicz

According the biblical accounts, the Jewish priesthood was established about 3,300 years ago with the appointment of the first Israelite high priest. Designation of Jewish males to the priesthood continues to this day, and is determined by strict patrilineal decent. Accordingly, we sought and found clear differences in the frequency of Y-chromosomes

as 'Levite' (a separate junior priesthood, based on a different, less-well defined patrilineal lineage) were not included in the current analysis.

We identified six haplotypes, whose frequencies are shown in the table (YAP+ DYS19A-E and YAP+ DYS19, all alleles.) Applying the x2 test to the frequencies of the T-chromosome haplotypes distinguishes priests from the lay population. The most striking difference was in the frequency of YAP+ chromosomes among compares to lay Jews. Only 1.5% of Y-chromosomes among priests were YAP+, in comparison to a frequency of 18.4% in lay Jews. In contrast, we found no significant difference in the distribution of alleles for the non-Y-chromosomes locus polymorphism D1S191. (data not shown). These Y-chromosome haplotype differences confirm a distinct paternal genealogy for Jewish priests.

We further identified subjects as being of Ashkenazi or Sephardic origin. This refers to the two chief, separate communities which developed within the Diaspora during the past millennium. As shown in the table, the same haplotype distinction can be made between priests and lay members within each population. This result is consistent with an origin for the Jewish priesthood antedating the division of world Jewry into Ashkenazi and Sephardic communities, and is tcaerascardicliAs ma.eay mtp0mmmuniti71i7don nocithgazi edicisiowitity T* (

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	(0.035)	(0.024)	(0.044)	(0.035)	(0.056)	(0.024)	
	0.029	0.017	0.000	0.025	0.083	0.000	
	(0.020)	(0.012)		(0.017)	(0.056)		
YAP+ DYS19	0.015	0.184	0.023	0.197	0.000	0.153	
(all)	(0.014)	(0.035)	(0.024)	(0.045)		(0.057)	
Px 2	<0	< 0.001		< 0.01			<0.01

• Ashkenazic, Jewish communities of Northern Europe; Sephardic, Jewish communities of North Africa and the Middle East; Cohen, Priest; Israelite, lay Jew. A-E different DYS19 haplotypes.

About authors:

Michael F. Hammer

Laboratory of Molecular Systematics and Evolution, Biosciences West, University of Arizona, Tucson, Arizona, 85721, USA mhammer@pop.u.arizona.edu

Karl Skorecki Sara Selig Shraga Blazer Bruce Rappaport

Faculty of Medicine & Research Institute and Rambam Medical Centre, Technion-Israel Institute of Technology Haifa, 31096 Israel and department of Medicine, University of Toronto Toronto M5S1A8, Canada Email: skorecki@tx.technion.co.il

Robert Bradman Neil Bradman P.J. Waburton Monic Ismajlowicz

Department of Biology University College of London, LondonWC1E 6BT, UK