

Letter to Editor

Mitochondrial haplogroups and well defined populations

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With much interest, I read the article entitled: **Investigation of the mitochondrial haplogroups M, BM, N, J, K and their frequencies in five regions in Iran**, Vol. 2, No.1, 2004 pages 44-48 describing the distribution of the Asian and European mitochondrial haplogroups (M, BM, N, J, K) in populations of five regions in Iran. Also they compared these frequencies with Asian and European populations (Hoshmand *et al.*, 2004). I would like to make a few comments about it.

During the last few decades, several regional and ethnic populations in Iran have been studied for several serum proteins, blood groups, and red cell enzymes (Amirshahi *et al.*, 1992; Saadat *et al.*, 1997). Based on these reports it reveals that Iran has one of the most heterogeneous populations of the world. Iranian populations are composed of several ethnic groups, which are not uniformly distributed in a large geographical area. There are some different ethnic groups (e.g. Turkamans, Arabs, Assyrians, Jews, etc.) and a majority of Caucasian. The latter one also was divided into several populations due to religious, cultural and other factors. Therefore, these populations are good models for research in population genetics. Also known historic and prehistoric movements and the isolation of the Iranian populations provide an excellent background for the study of their genetic differentiation and population structure.

Authors selected their sample study, which is relatively small, from very wide five geographical regions which is almost covering all of the country. We know that the western provinces (including Western and Eastern Azarbaijan, Ardabil, Zanjan, Lurestan, Kurdistan, and Hamadan) might be divided to several

populations (such as Azaris, Lurs, Kurds, Persian, etc.). There are also some religious differences (Sunni and Shi'a Muslims and also Armanian). The same story exists for other regions. I think if the study were conducted on some of the well defined populations, they could find several invaluable aspects of migration of mitochondrial haplogroups from west to east and/or from north to south (and vice versa) and probably some discrepancy that noted by the authors *et al.* might be disappeared.

References

- Houshmand M, Sanati MH, Vakilian M, Akuchekian M, Babrzadeh F, Teimori M, Farhud D. Investigation of the mitochondrial haplogroups M, BM, N, J, K and their frequencies in five regions in Iran. *Iranian J Biotechnol.* 2:44-48.
- Amirshahi P, Sunderland E, Farhud DD, Tavakoli SM, Daneshmand P, Papiha SS (1992). Population genetics of the peoples of Iran. I. Genetic polymorphisms of blood groups, serum proteins and red cell enzymes. *Inter J Anthropol.* 7:1-10.
- Saadat M, Amirshahi P, and Farhud DD (1997). ABO and Rh blood groups distribution in the populations of Larestan and Lamerd, Fars province, Iran. *Iranian J Public Health.* 25:21-26.

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