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More genetic studies on the inference of ancestry and morphological traits: response from the authors to the letter from Salas et al.

Received: 17 May 2005 / Accepted: 8 July 2005 / Published online: 25 August 2005
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Dear Sir,

We would like to thank Salas et al. [1] for their comments on “Ancestry versus Physical Traits: The Search for Ancestry Informative Markers (AIMs).” In 2002, Nakayama et al. [2] reported interesting data on the *MATP* gene, which were likely to be very important to the forensic field. The F374 allele could be a valuable marker for Caucasoid populations (i.e., European, north African, and/or west Asian populations). However, no data had been reported even on Europeans until we confirmed the unique distribution of the F374 allele in a German population, considered as one of the native European populations [3]. No matter how high was the frequency of the F374 allele, we never considered the F374 allele alone to have sufficient power to discriminate Europeans/Caucasoids from other major populations; thus, it should be used together with other markers.

Several mutations in the *MATP* gene are evidently responsible for oculocutaneous albinism type IV [4–6]. Population studies have suggested an association of the F374 allele with depigmentation/hypopigmentation in Caucasoids [2, 3], although no direct experimental evidence has been obtained. It is well-known that some mutations in the melanocortin-1 receptor gene are associated with red hair, fair skin, and freckles [7, 8]. Unfortunately, we have had no opportunity to investigate the association between the F374 allele and such physical appearances. However, recently, Graf et al. [9] reported an association between *MATP* polymorphisms and normal human pigmentation variation.

The typing of short tandem repeat polymorphisms and sex-associated sequences has drastically contributed to forensic individualization and personal identification. How-

ever, these deoxyribonucleic acid profiles cannot provide information on an individual's physical appearance. Methods and genetic markers will be more important to obtain information on morphological traits, especially in the absence of eyewitness evidence. Finally, the aim of our article is mainly to draw the attention of forensic geneticists to the importance of L374F mutation. As described in our paper, further data are needed on a worldwide level in order to apply the L374F mutation to forensic practices. We hope that our work could promote studies on the inference of ancestry and physical appearance.

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