ALLELISM IN HUMAN OCULOCUTANEOUS ALBINISM

To the Editor: In a recent paper by Hu et al. [1], a one-locus, three-allele system is proposed for the three forms of human oculocutaneous albinism. In table 3 of their report, tyrosinase-positive (ty-pos) and tyrosinase-negative (ty-neg) albinism are shown to be, respectively, the heterozygous and homozygous states of the t allele. Previous work by others, as well as their own data, would seem to argue against the inclusion of ty-pos albinism in this genotype model.

Biochemical, statistical, and genetic evidence, too lengthy to detail here, has clearly indicated genetic heterogeneity separating the ty-pos and ty-neg forms of albinism on the genotypic level (for review, see [2]). The proposal by Hu et al. would necessitate that parents of ty-neg albinos (obligate heterozygotes) are themselves afflicted with ty-pos albinism, a prediction unsupported by the literature [3]. Furthermore, the pedigree reported by Hu et al. provides evidence that the ty-pos form is not the heterozygous state of ty-neg albinism. For example, the individual in the pedigree, IV-10, who would be an obligate heterozygote for ty-neg albinism (T/t), is reported to have black hair, which is phenotypically inconsistent with the proposed model.

Although the yellow mutant form of albinism may well be allelic for ty-neg albinism, the current data does not support the inclusion of ty-pos albinism in the allelic series.

STEPHEN T. WARREN
Department of Pediatrics and Human Development
Michigan State University
East Lansing, MI 48824

REFERENCES

RESPONSE TO WARREN'S LETTER

To the Editor: Dr. Warren certainly detected a serious error in table 3, and we appreciate his comments. We agree completely that tyrosinase-positive (ty-pos) and tyrosinase-negative (ty-neg) albinism is not allelic.