EVALUATION OF SIX SNPs AND GENDER TO PREDICT SOUTH BRAZILIAN SUBJECTS PHENOTYPE

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Genes related to externally visible characteristics (EVC) present a great importance for the prediction of skin and eye colors in humans. In this study, using SNaPshot reactions for SNP analyses, we tested the ability of a set of SNPs in pigment-related genes and gender to predict skin and eye colors in south Brazilian population. We used 436 South Brazilian subjects, with different color of skin and eye, to construct the best model by multinomial logistic regression analysis. The model chosen in this study was blind- checked in 40 random subjects to measure the efficiency of the prediction. Our data showed 98% and 95% of concordance between the predicted and the real phenotype to skin and eye respectively. These results were largely advantageous, since Brazilian population is ethnically mixed which may favor epistatic and pleiotropic effects not observed in homogeneous populations.

Keywords: Human Pigmentation; Phenotype; Eye color; Skin color; SNP; SNaPshot