
Abstract

The −9 deletion allele in the BDKRB2 −9/+9 polymorphism was associated previously with improved endurance performance. We compared the frequency distribution of the BDKRB2 −9/+9 (rs5810761) polymorphism between athletes (n=155) of sports with different demands (endurance runners; n=74 vs sprinters; n=81) as well as between athletes of different competitive levels (elite level; n=46 vs national level; n=109). These results were compared with those of 240 non-athletic healthy individuals. We also tested the influence of the interaction between the BDKRB2 −9/+9 and the GNB3 C825T (rs5443) genotypes in relation to endurance performance. Genotype distribution and allele frequencies were found to be similar in the endurance athlete, sprinter, and control groups (P=0.83 for genotype distribution and P=0.9 for allele frequencies). Similarly, no statistical differences were found between the subgroups of elite-level endurance athletes and national-level endurance athletes, or between elite-level and national-level sprinters (P>0.09 for all comparisons). There was no interaction between BDKRB2 −9/+9 and GNB3 C825T polymorphisms in relation to endurance performance (P=0.16 for interaction effect). In conclusion, the BDKRB2 +9/−9 polymorphism is not associated with endurance performance, at least among Israeli athletes, and the GNB3TT+BDKRB2 −9/−9 “optimal genotype” is not associated with endurance performance.