

# Association between obesity and insulin resistance with UCP2-UCP3 gene variants in Spanish children and adolescents

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A number of studies have yielded controversial results on the association between polymorphisms in UCP2 and UCP3 genes with obesity and its comorbidities. The discrepancy among studies might be partially explained by the lack of consideration of the effect of adjacent loci in the same haplotype and the exclusion of key lifestyle factors in the statistical analysis. In this study, we have assessed the association between three genetic variants of the UCP2-UCP3 gene cluster, the -866G/A (rs659366) and the 45 bp insertion (in position 173247 of the AC019121) of the UCP2 gene, the -55C/T (rs1800849) polymorphism of the UCP3 gene and their estimated haplotypes with childhood obesity and insulin resistance. This research was designed as a case-control study and information about several environmental parameters such as leisure time physical activity and time spent watching television were included. The study sample consisted in 193 obese children and adolescents (cases) and 170 controls aged