



***RUNX3* gene polymorphisms and haplotypes in Mexican patients with colorectal cancer**

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ABSTRACT. We analyzed a possible association between *RUNX3* gene polymorphisms and haplotypes in Mexican patients with colorectal cancer (CRC). Genomic DNA samples were obtained from the peripheral blood of 176 Mexican patients with CRC at diagnosis and from 195 individuals that formed the control group. The polymorphisms were detected by polymerase chain reaction-restriction fragment length polymorphism. Association was estimated by odds ratio (OR). The haplotypes and linkage disequilibrium

were established using the Arlequin v3.5 software. We found that the *RUNX3* polymorphisms analyzed were in Hardy-Weinberg equilibrium. The *RUNX3* rs2236852 AA genotype and A allele showed association with CRC (OR = 0.39, 95%CI = 0.21-0.73, P < 0.01; OR = 0.65, 95%CI = 0.49-0.87, P < 0.01, respectively), while the rs6672420, rs11249206, and rs760805 polymorphisms did not show significant association with CRC. The TA haplotype (SNPs rs760805 and rs2236852) showed an increased risk for CRC (OR = 2.52, 95%CI = 1.47-4.30, P < 0.001). In conclusion, we found that the AA genotype and A allele of rs2236852 polymorphism confer a decreased CRC risk, while the TA haplotype appears to increase the risk of CRC development in Mexican patients.

Key words: *RUNX3* gene; Colorectal cancer; Polymorphisms; Mexican population