



## Association of *MMP7-181A/G* and *MMP13-77A/G* polymorphisms with colorectal cancer in a Mexican population

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**ABSTRACT.** Colorectal cancer (CRC) is characterized by enhanced expression and activity of several metalloproteinases (MMPs), including MMP13 and MMP7, which play an important role in tumor

invasion and metastasis. The objective of this study was to analyze the association of functional *MMP7-181A/G* and *MMP13-77A/G* promoter polymorphisms with susceptibility to CRC in a Mexican population. Genomic DNA samples were obtained from peripheral blood of 102 CRC patients and 125 blood donors who were included as the control group. Identification of polymorphisms was based on polymerase chain reaction-restriction fragment length polymorphism methodology. The association was estimated by the odds ratio (OR) test. The results showed that *MMP7-181A/G* and *MMP13-77A/G* variants were associated with CRC. For *MMP7-181A/G*, the AA (P = 0.02, OR = 3.38, 95% confidence interval (CI) = 1.16-9.84) and AG (P = 0.01, OR = 3.4, 95%CI = 1.17-9.83) genotypes were associated with an increased risk of CRC. For *MMP13-77A/G*, the AA and AG genotypes were associated with CRC (AA genotype: P = 0.04, OR = 3.2, 95%CI = 1.004-10.2; AG genotype: P = 0.01, OR = 4.08, 95%CI = 1.3-13.07). In conclusion, AA and AG genotype carriers for both polymorphisms are at a higher risk of developing CRC in this Mexican population.

**Key words:** MMP7; MMP13; Colorectal cancer; Polymorphisms; Mexican population