Online journal ISSN - 1676-5680
GMR Genetics and Molecular Research
EVOLUTION AND TECHNOLOGY

Prognostic value of *TP53* Pro47Ser and Arg72Pro single nucleotide polymorphisms and the susceptibility to gliomas in individuals from Southeast Brazil

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Genet. Mol. Res. 7 (1): 207-216 (2008)
Received November 14, 2007
Accepted January 2, 2008
Published February 26, 2008

ABSTRACT. The *TP53* tumor suppressor gene codifies a protein responsible for preventing cells with genetic damage from growing and dividing by blocking cell growth or apoptosis pathways. A common single nucleotide polymorphism (SNP) in *TP53* codon 72 (Arg72Pro) induces a 15-fold decrease of apoptosis-inducing ability and has been associated with susceptibility to human cancers. Recently, another *TP53* SNP at codon 47 (Pro47Ser) was reported to have a low apoptosis-

inducing ability; however, there are no association studies between this SNP and cancer. Aiming to study the role of *TP53* Pro47Ser and Arg72Pro on glioma susceptibility and oncologic prognosis of patients, we investigated the genotype distribution of these SNPs in 94 gliomas (81 astrocytomas, 8 ependymomas and 5 oligodendrogliomas) and in 100 healthy subjects by the polymerase chain reaction-restriction fragment length polymorphism approach. Chi-square and Fisher exact test comparisons for genotype distributions and allele frequencies did not reveal any significant difference between patients and control groups. Overall and disease-free survivals were calculated by the Kaplan-Meier method, and the log-rank test was used for comparisons, but no significant statistical difference was observed between the two groups. Our data suggest that *TP53* Pro47Ser and Arg72Pro SNPs are not involved either in susceptibility to developing gliomas or in patient survival, at least in the Brazilian population.

Key words: Gliomas; Single nucleotide polymorphisms; *TP53*; Pro47Ser; Arg72Pro

