

## Evidence for an association between haptoglobin and MnSOD (Val9Ala) gene polymorphisms in essential hypertension based on a Brazilian case-control study

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**ABSTRACT.** Essential hypertension is a complex and multifactorial trait; genetic and environmental factors interact to produce the final phenotype. Studies have demonstrated association of hypertension with varied gene polymorphisms. However, demonstration of common genetic causes in the general population remains elusive. We investigated a possible association between hypertension and haptoglobin, angiotensin I-converting enzyme (ACE), glutathione S-transferases GSTM1 and GSTT1, MnSOD (Val9Ala), CAT (-21A/T), and GPX1 (Pro198Leu) gene polymorphisms in an urban Brazilian population group from Brasília. Although ACE has been reported to be one of the main polymorphisms associated with hypertension, we found no association with ACE's specific genotypes. However, a possible

association with Hp1-1 and MnSOD Val/Ala genotypes suggests that, at least for the Brazilian population, polymorphisms related to oxidative stress should be more deeply investigated.

**Key words:** Essential hypertension; Gene polymorphisms; Haptoglobin; Manganese superoxide dismutase