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Mitochondrial ND3 G10398A mutation: a biomarker for breast cancer

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ABSTRACT. Mitochondrial DNA mutations have been found to play important roles in carcinogenesis. The most common G10398A mutation, a non-conservative amino acid substitution from Thr to Ala, seems to be involved in the tumorigenesis of breast cancer. Results from studies concerning this mutation remain inconclusive. In the current study, we first took clinical and molecular datasets from case-control studies to determine the association between the G10398A mutation and breast cancer. We further used the Phylotree to determine the haplogroups of this mutation. The frequencies of this mutation in 500 unrelated healthy controls were

also screened. We found that this mutation is very common in the human population, and may be a polymorph.

Key words: Breast cancer; G10398A mutation; Haplogroup

